DYE-M
Cape Dyer, Nunavut
Baseline and First Year Environmental Monitoring Report 2014

Prepared by

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Soil and groundwater monitoring and analytical programs for the former Distant Early Warning (DEW) Line site DYE-M, Cape Dyer, Nunavut, were executed by the Environmental Sciences Group (ESG) of the Royal Military College of Canada (RMC), under the direction of Dr. Kela Weber.

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EXECUTIVE SUMMARY

The Environmental Sciences Group was commissioned by the Department of National Defence to conduct the environmental component of the baseline and year 1 landfill monitoring program for the former DYE-M DEW Line site at Cape Dyer. The objective of the baseline landfill monitoring program is to establish the conditions that existed prior to the initiation of the post-remediation monitoring program so they can serve as a basis for future comparisons. The objective of the first-year and long term monitoring is to ensure landfills and facilities are operating as expected.

The baseline monitoring program was conducted from 2007 to 2013. The sampling for year 1 of the long-term monitoring program was conducted in 2014. There are 12 landfills on site at DYE-M that are included in the long term monitoring program:

- Lower Site Tier II Disposal Facility
- Lower Site Non-hazardous Waste Landfill (NHWL)
- Lower Site Powerhouse Landfill
- Lower Site Crossroads Landfill
- Lower Site Foundation Landfill
- Lower Site North Warning System (NWS) Landfill
- Upper Site Tier II Disposal Facility
- Upper Site Non-hazardous Waste Landfill (NHWL)
- Upper Site North Warning System (NWS) Landfill
- Upper Site South Landfill West
- Upper Site West Landfill
- Upper Site Pallet Line Landfill

The lower and upper site Tier II Disposal Facilities and the NHWLs were constructed as part of the remediation of the site to contain debris and contaminated soil from the cleanup. The other eight landfills were previously-existing low to moderate risk landfills that were left in place and remediated as part of the cleanup project. Remediation for the landfills varied depending on the risk, and may have included placement of additional material and regrading or covering with a liner and regrading.

The environmental monitoring program consists of the collection of soil samples at all facilities at surface and shallow depth (40-50cm) from upgradient and downgradient locations. Contaminated soil areas sampled during delineation were generally located at surface or penetrating to a depth of 30cm to 50cm and monitoring sampling was designed to reflect that finding. The four newly constructed landfills and the Lower Site

Powerhouse Landfill also had monitoring wells installed during the cleanup program, and the environmental monitoring program also includes the collection of groundwater samples from the wells.

Baseline monitoring samples as well as samples collected from the landfill area during the site investigation are used to determine the existing soil chemistry at the landfill area prior to and during remediation in areas upgradient and downgradient of each landfill. The arithmetic mean and the arithmetic mean plus three times the standard deviation of the baseline data is calculated for the baseline data and used as a comparison for future data from the long term monitoring program. Three times the standard deviation is useful as an upper limit of natural variability seen in baseline samples.

The results from the samples collected in the Year 1 monitoring program are compared to the baseline mean and the baseline mean plus 3 standard deviations (mean +3SD) to evaluate the performance over time.

The summary of the results of the year 1 monitoring program for each facility are:

Lower Site Tier II Disposal Facility: The majority of the 2014 soil results were below the baseline mean, and all results were below the mean +3SD. A groundwater sample could only be collected from one downgradient well at this facility as the other wells were dry. The one well sampled had insufficient water to fill the sample bottle for PCB analysis. The concentrations were below the baseline mean for all parameters however, due to a miscommunication with the analytical laboratory, the inorganic elements were analyzed as dissolved instead of total.

Lower Site NHWL: Results for all 2014 soil samples were less than baseline mean +3SD with the exception of one lead result for the surface sample at downgradient MW-05-12 which reported an average concentration of 53 ppm based on two field duplicate samples. Three groundwater samples were collected from two monitoring wells (one upgradient and one downgradient) and two of the samples were analyzed for dissolved inorganic elements while one interlab sample (dowgradient) was analyzed for total inorganic elements at a separate laboratory due to a miscommunication with the analytical laboratory. Results for total copper (0.086 mg/L), cobalt (0.013 mg/L) and chromium (1.8 mg/L) in the interlab sample from downgradient MW-09-27 were higher than the baseline mean +3SDs. All other groundwater results were below the baseline means.

Powerhouse Landfill: Inorganic element and PCB results were below the baseline mean for all samples with the exception of the surface sample at downgradient location

MW-05-05. Concentrations of copper, nickel, cobalt, lead, zinc, chromium and arsenic were all higher than the mean plus three standard deviations at that location. However, results are similar to a baseline surface sample collected at that location in 2012. PHC results for F1 and F2 were elevated in the depth sample from downgradient locations MW-05-06 and MW-05-07. Results were above the baseline mean +3SD for both samples for both F1 and F2 with highest results of 51 and 2800 ppm for F1 and F2 respectively. It should be noted that these two sample locations are in close proximity to a hydrocarbon plume that was left in place at depth as it was determined to pose a low environmental risk. All monitoring wells were dry in 2014 and samples could not be collected.

Crossroads Landfill: Results for most soil samples were below the baseline mean, and all results were below the mean + 3SD.

Foundation Landfill: All soil results were less than the baseline mean +3SD with the exception of the F3 concentration at surface at downgradient location DM-5. The F3 concentration was 170 ppm, while the baseline mean is 118 ppm.

Lower Site NWS Landfill: Soil results were below the baseline mean or the baseline mean +3SD for all analytes, except nickel and chromium at downgradient location DM-9. Concentrations at DM-9 for a number of elements (copper, nickel, chromium, zinc, arsenic) were elevated when compared to the other locations in 2014 and were also elevated at the same location in 2013.

Upper Site Tier II Disposal Facility: Soil results exceeded the baseline mean +3SD at depth at downgradient location MW-08-25 for chromium (710 ppm) and cobalt (43 ppm), and at downgradient location MW07-23 for arsenic at surface (17 ppm). The chromium concentration was higher than the DEW Line Cleanup criteria (250 ppm), and while chromium is naturally elevated in the area of the Tier II disposal facility, the result was higher than the recommended site specific criterion of 513 ppm. All other soil results were below the baseline mean or the baseline mean +3SD. Groundwater samples were collected from two of the five wells as the other three wells were dry. Results were all below the baseline mean and in many cases below the method detection limit however due to a miscommunication with the analytical laboratory, the samples were analyzed for dissolved instead of total inorganic elements.

Upper Site NHWL: Soil results in 2014 were less than the method detection limit or below the baseline mean in the majority of samples and all results were below the baseline mean +3SD. Groundwater samples were collected from two of the four wells as the other two wells were dry. Groundwater results were all below the baseline mean and

in many cases below the method detection limit, however due to a miscommunication with the analytical laboratory, the samples were analyzed for dissolved instead of total inorganic elements.

Upper Site NWS Landfill: Based on a review of the sample locations by the Project Management team, the sampling location for downgradient DM-22 was moved southwest of the original location. The location was modified as the original location was in a boulder field and there was insufficient soil in the area to allow for the collection of soil samples for the duration of the monitoring program. There is sufficient soil present in the new location to allow for all monitoring samples to be collected. All soil results were below the baseline mean +3SD.

Upper Site South Landfill West: Three soil samples from 2014 reported inorganic elements exceeding the baseline mean + 3SD. One sample of the field duplicate pair from downgradient location DM-26 surface for copper was above the mean +3SD however the average of the field duplicate pair was less than the mean + 3SD. Two depth samples at downgradient locations DM-24 and DM-25 contained nickel concentrations higher than the baseline mean plus 3SD. Nickel levels were found to be naturally high in the Upper Site area during the site investigation and concentrations in 2014 were below the site specific criteria for nickel. All other inorganic element results were below the baseline means + 3SD. PCB and PHC results were all below detection, with the exception of a few downgradient F2 results which were at or just above the detection limit.

Upper Site West Landfill: Arsenic levels for three of the downgradient 2014 samples (DM-46 depth and DM-48 surface and depth) exceeded the baseline mean + 3SD but these results are similar to previous arsenic levels in baseline samples for DM-48 in 2009, 2011 and 2013. There were three elevated results for the F2 PHC fraction, at upgradient sampling locations DM-47 (at surface and at depth) and DM-51 (at depth). Upgradient DM-47 is located at an area of partially buried debris containing empty barrels that was excavated in 2013, which may have been the source. Upgradient DM-51 is located within a hydrocarbon plume at depth that was discovered during the site investigation and was left in place because it was considered to pose a low environmental risk. All other results were below the baseline mean +3SD.

Upper Site Pallet Line Landfill: Two sample results at upgradient location DM-50 surface and depth reported chromium levels exceeding the baseline mean + 3SD and also exceeding the DLCU Tier II criteria for chromium. However the results were lower than the recommended site specific target level for chromium at the upper site and results are attributed to the naturally occurring levels. All other results were below the baseline mean or the baseline mean +3SD.

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Glossary and List of Abbreviations

As	arsenic
BMW	background monitoring well
CCME	Canadian Council of Ministers of the Environment
Cd	cadmium
Co	cobalt
Cr	chromium
Cu	copper
CWS	Canada-wide Standard
DEW	Distant Early Warning
DLCC	DEW Line Cleanup Criteria
DLCU	DEW Line Clean Up (Project)
DND	Department of National Defence
ESG	Environmental Sciences Group
EWG	Environmental Working Group
Hg	mercury
LS	Lower Site
MW	monitoring well
N/A	not applicable
NHWL	non-hazardous waste landfill
Ni	nickel
NWS	North Warning System
Pb	lead
PCBs	polychlorinated biphenyls
PHC	petroleum hydrocarbon
PHC F1	First fraction of petroleum hydrocarbons; includes compounds containing six to 10 carbon atoms.
PHC F2	Second fraction of petroleum hydrocarbons; includes compounds containing >10 to 16 carbon atoms.
PHC F3	Third fraction of petroleum hydrocarbons; includes compounds containing >16 to 34 carbon atoms.
PHC F4	Fourth fraction of petroleum hydrocarbons; includes compounds containing >34 to 50 carbon atoms.
ppm	Parts per million; equivalent to µg/g (micrograms of substance per gram of soil) and mg/L (milligrams of substance per litre of aqueous solution).
QA/QC	quality assurance/quality control
RMC	Royal Military College of Canada
SSC	site-specific criterion
SSTL	site-specific target level
TPH	total petroleum hydrocarbon
US	Upper Site
Zn	zinc

I. DYE-M Landfill Monitoring Program

The landfill monitoring program constitutes the final stage of the environmental cleanup of the Distant Early Warning (DEW) Line, as part of the DEW Line Clean Up (DLCU) project. The monitoring program is detailed in the cooperation agreement between the Nunavut Tunngavik Incorporated (NTI) and the Department of National Defence (DND) (DGE 1998). The Environmental Sciences Group (ESG) was commissioned by DND to conduct the environmental component, i.e. soil and groundwater sampling, of the baseline and first-year landfill monitoring program. In addition, AECOM assesses the physical integrity and freeze-back of the landfills on the site. The data collected by ESG and presented in this report will be combined with the visual and thermal assessment data produced by AECOM to prepare the Baseline and First-year Monitoring Report. The objective of the baseline landfill monitoring program is to establish the conditions that existed prior to the initiation of the post-remediation monitoring program so they can serve as a basis for future comparisons. The objective of the first-year and long term monitoring is to ensure landfills and facilities are operating as expected.

The requirements of the long term monitoring program are detailed in the Landfill Monitoring Plan (UMA, 1999) and the monitoring at DYE-M has been completed in accordance with that document. Soil and groundwater samples are collected from permanent monitoring well (MW) locations at newly constructed landfills and at remediated leachate-contained historical landfills, and soil samples are collected from designated monitoring locations at historical landfills that have been regraded. Sampling occurs during the period of maximum thaw (mid- to late August) to capture data when contaminant mobility is potentially greatest. Both soil and groundwater samples are analyzed for nine inorganic elements — copper, nickel, cobalt, cadmium, lead, zinc, chromium, arsenic and mercury — as well as for petroleum hydrocarbons (PHCs), and polychlorinated biphenyls (PCBs). PHCs are analyzed using the Canada-wide Standard (CWS) method as outlined by the Canadian Council of Ministers of the Environment (CCME) (CCME 2001). The baseline monitoring program was conducted from 2007 to 2013. The first-year sampling of the long-term monitoring program was conducted in 2014. This report has been prepared for DND and contains the summarized environmental data from baseline monitoring for all years presented in Section III, the 2014 first-year monitoring presented in Section IV, and a summary of the QA/QC program in Section V.

The former DYE-M DEW Line site is located at Cape Dyer, Nunavut, on the Cumberland Peninsula on the easternmost point of Baffin Island, at 66° 40' N, 61° 21' W (Map I-1). The area where the station is located is situated at the Upper Site, at an

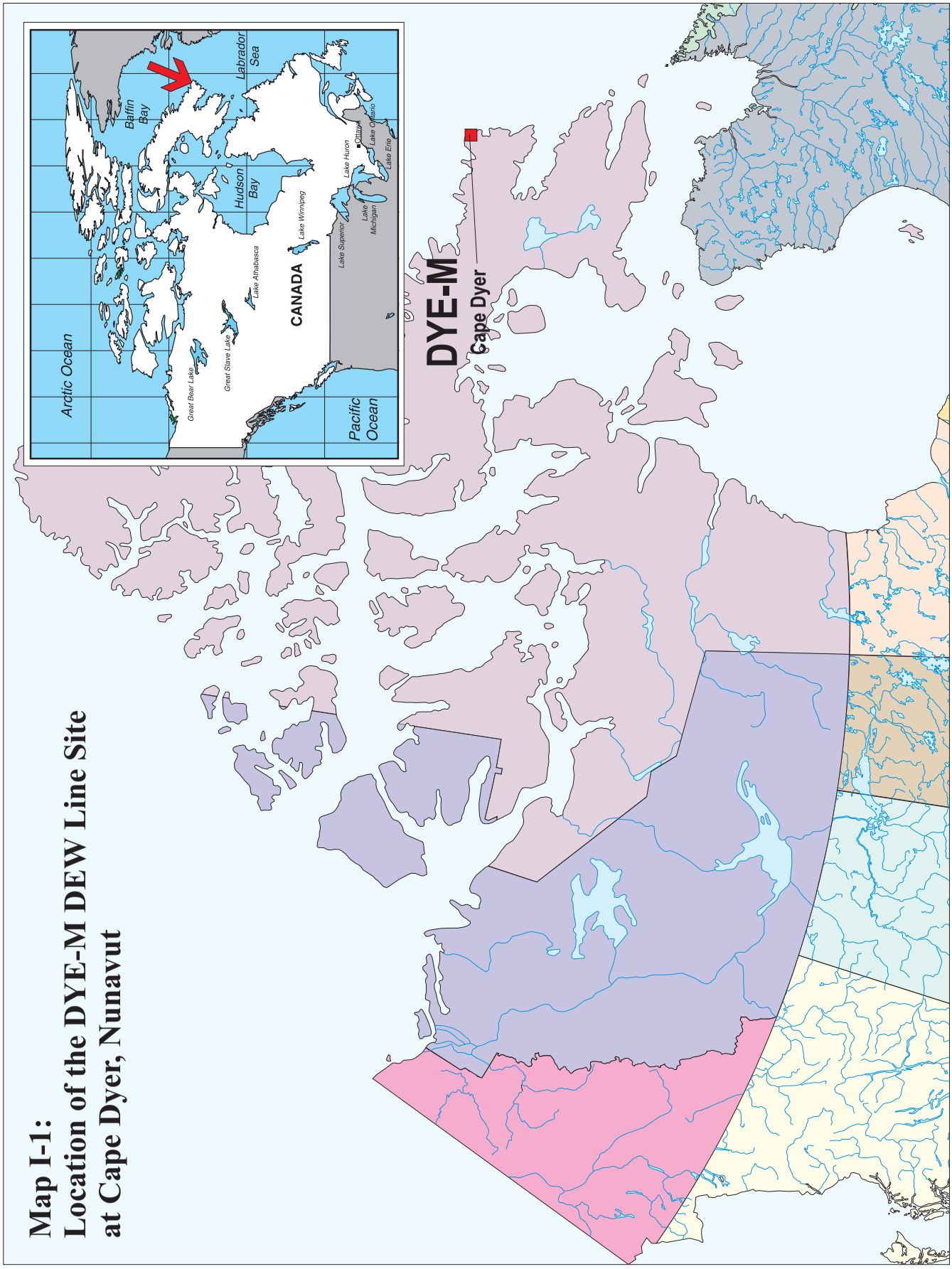
elevation of 740 m. The airstrip is situated at the Lower Site, which is located 13 km from the Upper Site.

The contractor mobilized the camp and equipment to DYE-M by barge in 2004. The site remediation program at DYE-M began in 2005 and the construction phase of the remediation work at DYE-M was reported as completed in 2013. A total of 12 landfills are monitored as part of the long-term monitoring program at DYE-M.

Four new landfills, a non-hazardous waste landfill (NHWL) and a Tier II disposal facility at each of the Lower and Upper Sites, were constructed to contain the debris and contaminated soil as part of the remediation work. The two landfills at the Upper Site were closed at the end of the 2012 field season. The Lower Site landfills were closed at the end of the 2013 field season. These four landfills require soil and groundwater monitoring, as well as thermal monitoring for the Tier II disposal facilities.

The previously existing Powerhouse Landfill at the Lower Site was considered to pose a moderate environmental risk and so a leachate containment system was installed at this landfill as part of the remediation design. This landfill requires thermal, soil and groundwater monitoring. Three previously existing landfills at the Lower Site and four at the Upper Site were classified as low-risk and were remediated by placement of clean soil over the landfills and regrading. The monitoring requirements for these seven facilities consist of soil monitoring. A summary of landfill monitoring requirements is presented in Table I-1.

Soil and groundwater samples are collected from permanent monitoring well (MW) locations and specified soil monitoring locations as identified in Table I-2 and Table I-3. An overview of the site is provided in Map A-1 and A-2 in Appendix A. A total of 22 permanent monitoring wells were installed at the NHWLs, Tier II Disposal Facilities and Powerhouse Landfill between 2005 and 2009 (Table I-2). Two new permanent monitoring wells were installed in 2012, one at the Lower Site Tier II Disposal Facility to replace a damaged well and one at the Upper Site Tier II Disposal Facility to replace the existing background monitoring wells (BMWs) that did not produce water.



Map I-1:
Location of the DYE-M DEW Line Site at Cape Dyer, Nunavut

Baseline monitoring samples were collected from the monitoring wells (Table I-2) and/or soil monitoring locations (Table I-3) between 2007 and 2013. However, monitoring was not conducted at every facility in each year of the baseline monitoring program because of the number of landfills on the site and the extended time frame available for baseline sampling. The baseline monitoring program ended with the completion of the remediation work in 2013. The long-term monitoring program began in 2014.

Table I-1: DYE-M Landfill Monitoring Program Work Elements

Landfill	Landfill type	Visual inspection	Soil sampling	Groundwater sampling	Thermal monitoring
Lower Site Tier II Disposal Facility	New Facility	✓	✓	✓	✓
Lower Site NHWL	New Facility	✓	✓	✓	
Lower Site Powerhouse Landfill	Leachate Contained & Regraded Facility	✓	✓	✓	✓
Lower Site Crossroads Landfill	Regraded Facility	✓	✓		
Lower Site Foundation Landfill	Regraded Facility	✓	✓		
Lower Site NWS Landfill	Regraded Facility	✓	✓		
Upper Site Tier II Disposal Facility	New Facility	✓	✓	✓	✓
Upper Site NWHL	New Facility	✓	✓	✓	
Upper Site NWS Landfill	Regraded Facility	✓	✓		
Upper Site South Landfill West	Regraded Facility	✓	✓		
Upper Site West Landfill	Regraded Facility	✓	✓		
Upper Site Pallet Line Landfill	Regraded Facility	✓	✓		

Table I-2: DYE-M Permanent Monitoring Well Locations

Landfill	Monitoring well locations	Number of locations	Map
Lower Site Tier II Disposal Facility	BMW-05-16, MW-05-13, -05-15, -12-01	4	A-3 & A-16
Lower Site Non-hazardous Waste Landfill	BMW-09-26, MW-05-09, -05-12, -09-27,- 09-28	5	A-4 & A-17
Lower Site Powerhouse Landfill	BMW-05-08, MW-05-05, -05-06, -05-07	4	A-5 & A-18
Upper Site Tier II Disposal Facility	BMW-07-22, -12-02, MW-07-23, -08-24, -08-25	5	A-9 & A-22
Upper Site Non-hazardous Waste Landfill	BMW-06-18, MW-06-19, -06-20, -07-21	4	A-10 & A-23

Table I-3: DYE-M Regraded Landfill Soil Monitoring Locations

Landfill	Soil monitoring locations	Number of locations	Map
Lower Site Crossroads Landfill	DM-1, -2, -3	3	A-6 & A-18
Lower Site Foundation Landfill	DM-4, -5, -6	3	A-7 & A-19
Lower Site North Warning System (NWS) Landfill	DM-7, -8, -9, -10	4	A-8 & A-20
Upper Site North Warning System (NWS) Landfill	DM-18, -19, -20, -21, -22, -23	6	A-11 & A-24
Upper Site South Landfill West	DM-19, -23, -24, -25, -26, -27, -28, -29, -30	9	A-12 & A-24
Upper Site West Landfill — West, Centre and East Lobes and Regrade 16	DM-31, -32, -33, -34, -35, -36, -37, -38, -39, -40, -41, -42, -43, -44, -45, -46, -47, -48, -49, -50, -51 -52	22	A-13 & A-14 & A-25
Upper Site Pallet Line Landfill — Lobes 1, 2, 3 and 4 and Abandoned Lobe	DM-50, -51, -53, -54, -55, -56, -57, -58, -59, -60, -61, -62	12	A-15 & A-26

This report presents the compiled photographs, maps, environmental data and results of the quality assurance/quality control (QA/QC) program for the landfill monitoring program at DYE-M. The analytical methods used in 2014 are stated in section V. Sampling locations are presented in Appendix A, analytical results and sampling logs are presented in Appendix B, QA/QC data for the overall monitoring program are reported in Appendix C, field notes for 2014 are provided in Appendix D, laboratory reports for analysis completed in 2014 are provided in Appendix E, a summary of samples collected as part of the year-1 program in 2014 is provided in Appendix F, and the summary tables of the long-term monitoring data and graphs are provided in Appendix G.



Photograph I-1: Aerial view of the constructed Lower Site Non-hazardous Waste Landfill (inside by yellow circle) and airstrip. Photo taken facing south in 2014.



Photograph I-2: Aerial view of the remediated Upper Site Station Area (inside yellow circle). Photo taken facing north in 2014.

A. Background Soil Composition

a. Site Specific Criteria

Some geologic units, including those in the Cape Dyer region, have naturally high concentrations of various metals. A limited background sampling program conducted in 2000 identified high levels of copper and nickel, and recommended that a detailed background sampling program be conducted at DYE-M (ESG 2002a and 2002b). The results of the detailed background metals program, conducted in 2003, indicated that natural levels of copper, nickel, chromium and cobalt exceeded the DEW Line Cleanup Criteria (DLCC) in many areas at the Upper Site (Love and ESG 2004). The application of the standard DLCC would thus lead to unnecessary excavation and destruction of large portions of natural tundra. While four distinct terrain units were identified and sampled to support the development of terrain-unit specific SSC, it was deemed more appropriate to develop global SSC for the upper site for assessment and confirmatory sampling purposes. However, one of the terrain units, which cover the area around the West Landfill was identified in the 2004 report as enriched in chromium and a site specific target level (SSTL) of 513 ppm was calculated for chromium based on the mean plus three standard deviations. The Environmental Working Group (EWG) approved the site-specific criteria (SSC) developed for copper, nickel and cobalt but decided that a site-specific criterion for chromium was not warranted for the Upper Site area (ESG 2010). The SSTL for chromium was applied by ESG during remediation of the East Lobe of the West Landfill as it was located in the chromium enriched terrain unit. At the Upper Site, the standard DLCC values were used for cadmium, lead, zinc, mercury and arsenic, and SSC that take into account their elevated natural levels were used for copper, nickel, and cobalt. Chromium was reviewed on a case by case basis and the SSTL was used at the upper site if applicable (Table I-1) (Love and ESG 2004).

Table I-4: DLCU Criteria (DLCC) and DYE-M Upper Site Site-specific Criteria

Contaminant	SSC for DYE-M Upper Site[1] (ppm)	DLCC[2] (ppm)		
		Tier I	Tier II	PHC guideline
Arsenic (As)	-	-	30	
Cadmium (Cd)	-	-	5.0	
Chromium (Cr)	513*	-	250	
Cobalt (Co)	153	-	50	
Copper (Cu)	296	-	100	
Lead (Pb)	-	200	500	
Mercury (Hg)	-	-	2.0	
Nickel (Ni)	2,010	-	100	
Zinc (Ni)	-	-	500	
Polychlorinated biphenyls (PCBs)		1.0	5.0	
Total petroleum hydrocarbons (TPH)				2,500

[1]EWG 2004
[2]ESG 1991
*Recommended value based on results of the background sampling program; was not approved for use as an SSC (ESG and Love 2004). SSTL was applied in selected areas around the Upper Site West Landfill as appropriate.

b. Background Concentrations

Samples collected during the background programs conducted in 2000 and 2003 have been tabulated to determine the average background concentration in the area of the Lower Site landfills and for the Upper Site landfills. This information will be used as a basis for comparison of the long term monitoring data for DYE-M. As identified in the previous section, there are some areas at the Upper Site of DYE-M that have naturally elevated inorganic elements, specifically, chromium, cobalt, copper, and nickel. If monitoring results are above the background average, a further review of the monitoring results should be conducted to determine if the landfill is present in a terrain unit with naturally elevated levels.

The analytical data for all samples collected during the two background programs can be found in Appendix G. Summary statistics of the background data are presented in Table I-5 and I-6 for the Lower and Upper Sites respectively. Note that the summary data presented here represents the entire data set available for the site and should not be confused with the statistical calculations conducted for the development of the SSC.

Table I-5: Lower Site Background Soil Statistics

	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)
N value	14	14	14	14	14	14	14	14	6	6
Background Detection Limits	3.0	5.0	5.0	1.0	10	15	20	1.0	0.5	0.0002
Arithmetic Mean	43	38	12	0.72	9.9	84	94	0.58	0.25	0.0047
Arithmetic Mean Corrected for Detection Limits	43	38	12	1.0	10	84	94	1.0	0.50	0.0002
Standard Deviation	30	19	5.1	0.5	9.1	53	55	0.53	0.00	0.0096
Minimum	7.8	18	2.5	0.50	5.0	28	10	0.15	0.25	0.0001
Maximum	93	89	23	1.8	37	213	177	2.4	0.3	0.024
95% Confidence Limit	16	10	0.0	0.0	0.0	0.0	0.0	0.28	0.00	0.008

Table I-6: Upper Site Background Soil Statistics

	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)
N value	108	108	108	108	108	108	108	108	6	6
Background Detection Limits	5.0	5.0	5.0	1.0	10	15	20	1.00	0.5	0.0002
Arithmetic Mean	60	141	20	0.50	7.7	70	90	0.78	0.25	0.0047
Arithmetic Mean Corrected for Detection Limits	60	141	20	1.0	10	70	90	1.0	0.50	0.0002
Standard Deviation	40	230	16	0.0	4.9	33	76	0.65	0.00	0.0096
Minimum	9.9	13	2.5	0.50	5.0	23	10	0.50	0.25	0.0001
Maximum	222	1140	76	0.50	26	186	580	5.9	0.3	0.024
95% Confidence Limit	7.6	43	76	0.5	26	186	580	0.12	0.00	0.008

II. General Approach

The report outlines monitoring work completed in 2007, 2008, 2009, 2011, 2012 and 2013 as part of the baseline monitoring program and in 2014 for year 1 of the long term monitoring program. The 2010 field season focussed on care and maintenance of the camp and roads and as a result no monitoring was completed that year. Because of the large number of facilities that required monitoring and the duration of the remediation phase of the project, baseline monitoring was conducted at select number of the regraded landfills in 2007, 2009 and 2012 and all of the regraded landfills were monitored in 2008, 2011 and 2013. All facilities were monitored in 2014. Table II-1 summarizes the soil sampling program conducted at the regraded landfills during monitoring. Soil and groundwater samples at the four newly constructed landfills were collected in each year except in 2010. The Powerhouse Landfill which was remediated through installation of a leachate containment system was monitored in each of the years of monitoring starting in 2009.

Table II-1: Regrade Landfill Soil Monitoring from 2007 to 2014

Landfill	2007 Baseline	2008 Baseline	2009 Baseline	2011 Baseline	2012 Baseline	2013 Baseline	2014 Year 1
Lower Site Crossroads Landfill	✓	✓		✓		✓	✓
Lower Site Foundation Landfill		✓		✓		✓	✓
Lower Site NWS Landfill		✓		✓		✓	✓
Upper Site NWS Landfill		✓		✓		✓	✓
Upper Site South Landfill West		✓		✓		✓	✓
Upper Site West Landfill		✓	✓	✓	✓	✓	✓
Upper Site Pallet Line Landfill		✓	✓	✓	✓	✓	✓

Baseline monitoring samples (presented in Section III) as well as samples collected from the landfill area during the site investigation are used to determine the existing soil chemistry at the landfill area prior to and during remediation. Baseline and site investigation samples are collected in areas upgradient and downgradient of each landfill and this information is presented in Appendix G. The arithmetic mean and the arithmetic mean plus three times the standard deviation of the baseline data is used as a comparison for future data from the long term monitoring program. Three times the standard deviation is useful as an upper limit of natural variability seen in baseline samples. The baseline arithmetic mean and arithmetic mean plus three standard deviations (+3SD) are presented in the tables in Section IV for comparison with the Year 1 data, as well as in Appendix G. Baseline maximum results are provided in the long term monitoring tables in Appendix G. The results from the samples collected in the Year 1 monitoring program are compared to the baseline mean and the baseline mean +3SD to evaluate the performance over time. The DLCU Tier I and Tier II criteria values are environmental compliance guidelines for remediation and area not meant to assess temporal trends in soil.

Although a large baseline data set has been collected for DYE-M, it is possible that concentrations greater than baseline values could be present around the landfills. The remediation of the site was not conducted to pristine levels and some contaminants could be present around landfills at concentrations below the cleanup guideline values. The monitoring program may periodically pick up these elevated concentrations resulting in

concentrations above the mean or above the mean + 3SD. A few instances of elevated concentrations do not necessarily indicate an issue with the landfill, however if concentrations are increasing over time, then there is a need to further evaluate the landfill to determine the next steps. Results from each year of the monitoring program are summarized in a file (included in Appendix G) and compared with previous data to determine if there is an increasing trend downgradient of each landfill. An increasing trend would indicate that contaminants are migrating from the landfill, however, multiple data points are required to provide confidence in the trend analysis (7 data points is typical).

Soil and groundwater samples were analyzed by analytical firms accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) to the standards of ISO/IEC 17025 for the following parameters:

- Petroleum Hydrocarbons (PHCs): F1-F4 fractions;
- Inorganic elements: arsenic, cadmium, chromium, cobalt, copper, lead, nickel, zinc, mercury; and
- Polychlorinated Biphenyls (PCBs – Total Aroclors).

When discussing contaminant concentrations in the soil and groundwater data tables, the term detectable levels indicates that contaminant concentrations greater than the laboratory detection limits are present.

A. Soil Sampling

Test pits for the collection of soil samples were manually excavated using a shovel or pick-ax. The shovel and pick-as used to dig the test pits were reused between sampling locations after decontamination by a soil rinse nearby the next location. After knocking any loose soil off the tool, a soil rinse is completed at the next locations by digging the tool into the soil a number of times nearby, but not at, the next location to remove any remaining soil. If the soil was very wet on the tools, then the soil was removed using paper towels at the first location, followed by a soil rinse at the next location. A new sterilized plastic disposable scoop was used each time to collect the soil samples and place the soil into the sample containers. The plastic scoop was discarded after use, and all garbage was removed from site at the end of the monitoring program.

Soil samples were collected into one whirlpak® (plastic bag) for the analysis of inorganic elements, one 120 mL amber glass jar for analysis of petroleum hydrocarbons, and one 120 mL clear glass jar for analysis of PCBs and mercury. Soil samples were not preserved.

During baseline monitoring, soil samples were collected in duplicate, at surface (0–10 cm) and at shallow depth (30–50 cm where possible), at least once for each facility between 2007 and 2012 and at all the facilities in 2013. Although samples were collected in duplicate both at surface and at shallow depth, only one sample of the duplicate pair was analyzed; the other sample was archived. In addition, in 10% of duplicate pairs, both samples were analyzed for QA/QC purposes. Archived samples in whirlpaks® are retained in fridges in case future inorganic analysis is required, and jars are retained in freezers in case future analysis for PHC and PCB is required. Additional analysis could be conducted after the review of the results by either ESG or DND. Archive samples are retained until the report is final and then the number of archive samples is reduced to 10% of the total samples for that year, and retained in the fridges and freezers until DND authorizes the disposal.

During the first year of long-term monitoring, conducted in 2014, samples were collected at surface (5–10 cm) and at depth (40–50 cm where possible) at each monitoring location in compliance with monitoring requirements. In addition, samples were collected for quality control purposes as follows: 10% field duplicates, 10% for an interlaboratory comparison and 10% for archival purposes. In 2014, a total of 184 soil samples were collected from 77 locations at the various landfill facilities on the site as summarized in Appendix F. The sample numbers and locations for the archived samples are presented in Table B-179.

The results of the soil analyses are presented in Appendix B, Tables B-1, B-29, B-61, B-83, B-89, B-94, B-99, B-129, B-155, B-160, B-165, and B-172. Information on soil sampling locations, including soil descriptions, are provided in the monitoring well sampling logs and soil logs for each landfill (Tables B-3 to B-28, B-31 to B-60, B-63 to B-82, B-84 to B-88, B-90 to B-93, B-95 to B-98, B-101 to B-128, B-131 to B-154, B-156 to B-159, B-161 to B-164, B-166 to B-171, and B-173 to B-178).

B. Groundwater Sampling

Groundwater samples were collected from all groundwater monitoring wells present on site during each year of the baseline and first year monitoring program between 2007 and 2014, except 2010. Several of the wells were dry at the time of sampling or damaged, therefore water could not be obtained consistently from all wells. The year 2012 is the only year where the majority of the wells produced sufficient water for sample collection. Damaged wells were replaced with new wells as indicated in Table II-2. Sampling was typically conducted between the second and third week of August each year. Dates of sampling can be found for each year in the monitoring well logs in

Appendix B. Dry wells could result from frozen water in the well and/or from limited groundwater flow that year. The depths to the bottom of the well are recorded in the well logs for the wells each year and are included in Appendix B. The dry wells are further discussed in the baseline and first year sections for each facility with monitoring wells.

Groundwater samples were collected from wells with sufficient water present using Teflon waterra tubing with a stainless steel foot valve. The tubing was reused after a decontamination procedure that included one distilled water rinse, one methanol/water solution rinse, one distilled water rinse for the inside of the tubing. The outside of the tubing was also cleaned with a paper towel with distilled water. Water levels, depth to bottom, and presence of free product in the wells were measured using an interface meter. Wells were purged prior to sampling until the pH and conductivity had stabilized. Temperature and turbidity were also recorded in the field.

Groundwater samples were collected into the following containers for analysis:

3 x 40 mL clear glass volatile organic compound vials for PHC F1 analysis,

1 x 125 mL HDPE bottle for inorganic element analysis,

1 x 120 mL clear glass bottle for mercury analysis,

2 x 500 mL amber glass bottles for F2-F4 PHC analysis; and

1 x 1L amber glass bottles for PCB analysis.

Water samples were collected in the order of the bottles listed above. If insufficient water was available to fill all eight bottles, then the team returned after 24 hours or more attempt to fill the remaining bottles. Groundwater samples were not preserved or filtered in the field.

Table II-2 presents a summary of when water could be obtained from each well. The results of the analyses for the groundwater samples collected between 2007 and 2014 are presented in Appendix B, Tables B-2, B-30, B-62, B-100 and B-130.

Table II-2: DYE-M Monitoring Well Groundwater Sampling Events (2007-2014)

Landfill	Monitoring Well	2007	2008	2009	2011	2012	2013	2014
Lower Site Tier II Disposal Facility	BMW-05-16	✓	✓	Dry	✓	✓	Dry	Dry
	MW-05-13	✓	✓	✓	✓	✓	Dry	Dry
	MW-05-14	✓	✓	Dry	Dry	Replaced by MW-12-01		
	MW-05-15	✓	✓	✓	✓	✓	Dry	Dry
	MW-12-01					✓	Dry	✓
Lower Site Non-hazardous Waste Landfill	BMW-05-11	✓	✓	Replaced by MW-09-26				
	BMW-09-26			Dry	✓	✓	✓	✓
	MW-05-10	✓	✓	Replaced by MW-09-27 and 28				
	MW-09-27			Dry	✓	✓	✓	✓
	MW-09-28			Dry	✓	✓	✓	Dry
	MW-05-09	✓	✓	✓	✓	✓	✓	Dry
	MW-05-12	✓	Dry	Dry	✓	✓	Dry	Dry
Lower Site Powerhouse Landfill	BMW-05-08			Dry	✓	✓	Dry	Dry
	MW-05-05			Dry	Dry	✓	Dry	Dry
	MW-05-06			Dry	Dry	✓	Dry	Dry
	MW-05-07			Dry	Dry	✓	Dry	Dry
Upper Site Tier II Disposal Facility	BMW-12-02					✓	Dry	Dry
	BMW-09-22			Dry	Dry	Replaced by MW-12-02		
	BMW-07-22	Dry	Dry	Dry	Dry	Dry	Dry	Dry
	MW-07-23	Dry	✓	✓	✓	✓	Dry	✓
	MW-08-24		Dry	✓	✓	✓	✓	✓
	MW-08-25		Dry	Dry	Dry	Dry	Dry	Dry
Upper Site Non-hazardous Waste Landfill	BMW-06-18	Dry	✓	✓	Dry	✓	Dry	Dry
	MW-06-19	Dry	✓	✓	✓	✓	✓	Dry
	MW-06-20	Dry	✓	✓	Dry	✓	✓	✓
	MW-07-21	Dry	Dry	Dry	✓	✓	✓	✓

✓ = Monitoring well was sampled.
Grey = Well was not installed or decommissioned.

During groundwater sampling, field measurements were collected for temperature, pH, conductivity and turbidity. These measurements, as well as soil descriptions for surface and depth samples, are presented in the individual monitoring well sampling logs in Appendix B (Tables B-3 to B-28, B-31 to B-60, B-63 to B-82, B-100 to B-128, and B-131 to B-154) and data tables.

In groundwater, total or dissolved concentrations of inorganic elements can be measured. Total concentrations of inorganic elements in groundwater have been selected as a conservative measure for the DEW Line landfill monitoring program because both dissolved and particulate-bound inorganic elements are quantified using this method. The analytical request for groundwater samples collected in 2011, 12 and 13 was inadvertently combined with samples collected to assess on-site wastewater prior to discharge and were analyzed for a combination of dissolved and total concentrations of inorganic elements instead of total concentrations only (Table II-3). Total concentrations were measured for arsenic, chromium, zinc and mercury and dissolved concentrations were measured for copper, nickel, cobalt, cadmium and lead. Baseline concentrations for PCBs and petroleum hydrocarbons are available for all landfills. The overall impact on the DYE-M long-term monitoring program is minor.

Baseline total concentration data for arsenic, chromium, zinc and mercury is available for all five landfills. Baseline data for total concentrations of copper, nickel, cobalt, cadmium and lead is available for the Lower Site Tier II Disposal Facility for 2007 to 2009 and for the Upper Site Non-hazardous landfill for 2008 and 2009. Several of the wells at the LS Non-hazardous Landfill and US Tier II Disposal Facility, had to be decommissioned or were dry and therefore baseline data for total concentrations of copper, nickel, cobalt, cadmium and lead is available for only two wells at each of these facilities. The wells at the Powerhouse Landfills were installed in 2008 and the only year in which sufficient water for sampling was present in these wells was 2012. Therefore baseline data for total concentrations of only arsenic, chromium, zinc and mercury is available for this landfill.

Analytical results for dissolved concentrations are presented in separate data tables to ensure future trend analysis will be conducted using only total concentrations.

Because of a miscommunication with the analytical laboratory, eight of the nine groundwater samples that could be collected from the seven wells that yielded sufficient water as part of the first-year monitoring program in 2014 were analyzed for dissolved concentrations of inorganic elements only instead of total concentrations of inorganic elements. The one sample collected at the LS Non-hazardous Waste Landfill that was sent to a different laboratory for inter-laboratory comparison was analyzed for total concentrations of all inorganic elements. A full data set for PCBs and PHCs is available for all nine samples. The overall impact on the landfill monitoring program is minor.

Table II-3: Total versus Dissolved Inorganic Element Analysis at DYE-M

	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg
2007 Baseline Monitoring									
All groundwater samples	Total	Total	Total	Total	Total	Total	Total	Total	Total
2008 Baseline Monitoring									
All groundwater samples	Total	Total	Total	Total	Total	Total	Total	Total	Total
2009 Baseline Monitoring									
All groundwater samples	Total	Total	Total	Total	Total	Total	Total	Total	Total
2011 Baseline Monitoring									
All groundwater samples	Dissolved	Dissolved	Dissolved	Dissolved	Dissolved	Total	Dissolved	Total	Total
2012 Baseline Monitoring									
All groundwater samples	Dissolved	Dissolved	Dissolved	Dissolved	Dissolved	Total	Total	Total	Total
2013 Baseline Monitoring									
All groundwater samples	Dissolved	Dissolved	Dissolved	Dissolved	Dissolved	Total	Total	Total	Total
2014 First Year Monitoring									
14-8187	Total	Total	Total	Total	Total	Total	Total	Total	Total
Remaining eight groundwater samples	Dissolved	Dissolved	Dissolved	Dissolved	Dissolved	Dissolved	Dissolved	Dissolved	Dissolved

III. Baseline Landfill Monitoring Activities

Environmental sampling collection as part of the baseline monitoring program was conducted by the onsite team for the remediation program at DYE-M. Sampling was conducted within the first three weeks of August, period of maximum thaw, for all groundwater sampling. Soil sampling was typically conducted within the same timeframe, but periodically started in July or ended in September.

A. Lower Site Tier II Disposal Facility

The Lower Site (LS) Tier II Disposal Facility is located northwest of the crossroad area, along the road to the LS NWS Landfill. The facility was designed to contain contaminated soil exceeding DLCU Tier II criteria. The design of this facility was based on the characteristics of the contaminants in the soil, the geothermal properties of the area, and the local permafrost regime. Permafrost provides the primary containment barrier: both the Tier II-contaminated soil in the facility and the wet, silty gravel perimeter berms were designed to be continuously frozen. The monitoring program at the Tier II Disposal Facility consists of soil and groundwater sampling as well as collection of thermal data.

In 2005, construction on the LS Tier II Disposal Facility began, and four monitoring wells (MW-05-13, -14 and -15 and BMW-05-16) were installed. In 2006, construction of the Tier II Disposal Facility was completed. Baseline soil and groundwater samples were not collected during either year.

In 2007, baseline monitoring began at the LS Tier II Disposal Facility. A total of 16 soil samples were collected in duplicate, at surface and at shallow depth. Groundwater samples were collected from the four monitoring wells.

In 2008, a total of 16 baseline soil samples were collected in duplicate, at surface and at shallow depth. Groundwater samples were collected from the four monitoring wells.

In 2009, an extension of the LS Tier II Disposal Facility was built. During the expansion, one monitoring well (MW-05-14) was damaged. No soil or groundwater samples were collected from this location in 2009. A total of 12 soil samples were collected in duplicate, at surface and at shallow depth. Groundwater samples were collected from only two of the three remaining wells, MW-05-13 and MW-05-15. BMW-05-16 was dry, so no sample could be collected from it.

In 2011, a total of 12 baseline soil samples were collected in duplicate, at surface and at shallow depth, from three of the four locations. Groundwater samples were collected from the three functional monitoring wells.

The monitoring well damaged in 2009 (MW-05-14) was replaced in 2012 with MW-12-01. In 2012, a total of 16 soil samples from four locations were collected in duplicate, at surface and at shallow depth. Groundwater samples were collected from the four monitoring wells.

The LS Tier II Disposal Facility was closed in 2013. In 2013, a total of 16 soil samples from four locations (MW-05-13, MW-05-15, BMW-05-16 and MW-12-01) were collected in duplicate, at surface and at shallow depth. Groundwater samples were not collected from the four monitoring wells, as all were found to be dry.

Field measurements indicate that there is frozen water in the well from 1.5 to 2.2 m below the top of the well in most years. Ice is present within the screened section of the well and could be limiting the groundwater flow into the well. In 2012, the depth to ice was 2.5 to 2.9 m below the top of the well. The reduction in the ice in the wells may have allowed for the collection of more groundwater samples in 2012 compared with other years.

Results for the analysis of the soil samples collected at the LS Tier II Disposal Facility are presented in Appendix B, Table B-1. Groundwater results are presented in Table B-2. Monitoring well sampling logs are presented in Tables B-3 to B-24. Soil and groundwater data observations may be found below, in Table III-1 and Table III-2. The LS Tier II Disposal Facility baseline monitoring photolog may be found in Table III-3. Sampling locations for the LS Tier II Disposal Facility may be found in Appendix A, Map A-3.

Table III-1: DYE-M Lower Site Tier II Disposal Facility — Baseline Monitoring Soil Data (2007–2013)

Analyte	Maximum concentration observed	Observations and comments
Copper	55 ppm MW-05-15 (depth, 2012)	Fifty-one soil samples were analyzed from five monitoring locations between 2007 and 2013. Concentrations were above the method detection limit (3.0 ppm) at all sampling locations. Concentrations ranged from 16–55 ppm with a mean concentration of 28 ppm.
Nickel	63 ppm MW-05-15 (surface, 2012)	Fifty-one soil samples were analyzed from five monitoring locations between 2007 and 2013. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 24–63 ppm with a mean concentration of 38 ppm.
Cobalt	18 ppm MW-05-15 (surface and depth, 2011)	Fifty-one soil samples were analyzed from five monitoring locations between 2007 and 2013. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Detectable concentrations ranged from 7.3–18 ppm with a mean concentration of 12 ppm.
Cadmium	N/A	Fifty-one soil samples were analyzed from five monitoring locations between 2007 and 2013. All results were below the method detection limit (1.0 ppm).
Lead	N/A	Fifty-one soil samples were analyzed from five monitoring locations between 2007 and 2013. All results were below the method detection limit (10 ppm).
Zinc	71 ppm BMW-05-15 (depth, 2012)	Fifty-one soil samples were analyzed from five monitoring locations between 2007 and 2013. Concentrations were above the method detection limit (15 ppm) at all sampling locations. Concentrations ranged from 32–71 ppm with a mean concentration of 47 ppm.

Table III-1: DYE-M Lower Site Tier II Disposal Facility — Baseline Monitoring Soil Data (2007–2013), cont'd.

Analyte	Maximum concentration observed	Observations and comments
Chromium	110 ppm MW-05-15 (depth, 2012)	Fifty-one soil samples were analyzed from five monitoring locations between 2007 and 2013. Concentrations were above the method detection limit (20 ppm) at all sampling locations. Concentrations ranged from 46–110 ppm with a mean concentration of 72 ppm.
Arsenic	2.5 ppm MW-05-15 (depth, 2012)	Fifty-one soil samples were analyzed from five monitoring locations between 2007 and 2013. Concentrations in 25 samples were below the method detection limit (1.0 ppm from 2007 to 2012 and 0.20 ppm in 2013). Detectable concentrations ranged from 1.0–2.5 ppm with a mean concentration of 1.5 ppm.
Mercury	N/A	Fifty-one soil samples were analyzed from five monitoring locations between 2007 and 2013. All results were below the method detection limit (0.10 ppm).
PCBs	N/A	Fifty-one soil samples were analyzed from five monitoring locations between 2007 and 2013. All results were below the method detection limit (0.0030 ppm from 2007 to 2009 and 0.050 ppm from 2011 to 2013).
PHC F1	N/A	Fifty-one soil samples were analyzed from five monitoring locations between 2007 and 2013. All results were below the method detection limit (10 ppm).
PHC F2	29 ppm BMW-05-16 (depth, 2007)	Fifty-one soil samples were analyzed from five monitoring locations between 2007 and 2013. Concentrations in 28 samples were below the method detection limit (4.0 ppm). Detectable concentrations ranged from 4.1–29 ppm with a mean concentration of 7.8 ppm.

Table III-1: DYE-M Lower Site Tier II Disposal Facility — Baseline Monitoring Soil Data (2007–2013), cont'd.

Analyte	Maximum concentration observed	Observations and comments
PHC F3	50 ppm MW-05-13 (surface, 2011)	Fifty-one soil samples were analyzed from five monitoring locations between 2007 and 2013. Concentrations in 22 samples were below the method detection limit (9.0 ppm). Detectable concentrations ranged from 10–50 ppm with a mean concentration of 24 ppm.
PHC F4	36 ppm MW-05-13 (surface, 2011)	Fifty-one soil samples were analyzed from five monitoring locations between 2007 and 2013. Concentrations in 25 samples were below the method detection limit (8.0 ppm). Detectable concentrations ranged from 8.2–36 ppm with a mean concentration of 15 ppm.

Table III-2: DYE-M Lower Site Tier II Disposal Facility — Baseline Groundwater Monitoring Data (2007–2013)

Analyte	Maximum concentration observed	Observations and comments
Copper (Total)	0.18 mg/L BMW-05-16 (2008)	A total of 11 groundwater samples were analyzed from four monitoring locations between 2007 and 2009. All concentrations were above the method detection limit (0.0050 mg/L). Detectable concentrations ranged from 0.016–0.18 mg/L with a mean concentration of 0.069 mg/L.
Copper (Dissolved)	N/A	A total of eight groundwater samples were analyzed from four monitoring locations between 2011 and 2012. All concentrations were below the method detection limit (0.0050 mg/L).

Table III-2: DYE-M Lower Site Tier II Disposal Facility — Baseline Groundwater Monitoring Data (2007–2013), cont'd.

Analyte	**Maximum concentration observed**	**Observations and comments**
Nickel (Total)	0.36 mg/L MW-05-15 (2008)	A total of 11 groundwater samples were analyzed from four monitoring locations between 2007 and 2009. All concentrations samples were above the method detection limit (0.0050 mg/L). Detectable concentrations ranged from 0.48–0.36 mg/L with a mean concentration of 0.19 mg/L.
Nickel (Dissolved)	0.011 mg/L MW-05-15, MW-12-01 (2012)	A total of eight groundwater samples were analyzed from four monitoring locations between 2011 and 2012. Concentrations in two samples were below the method detection limit (0.0050 mg/L). Detectable concentrations ranged from 0.0060–0.011 mg/L with a mean concentration of 0.0090 mg/L.
Cobalt (Total)	0.041 mg/L MW-05-16 (2008)	A total of 11 groundwater samples were analyzed from four monitoring locations between 2007 and 2009. Concentrations in eight samples were below the method detection limit (0.0030 mg/L). Detectable concentrations ranged from 0.0042–0.041 mg/L with a mean concentration of 0.017 mg/L.
Cobalt (Dissolved)	N/A	A total of eight groundwater samples were analyzed from four monitoring locations between 2011 and 2012. All concentrations were below the method detection limit (0.0030 mg/L).
Cadmium (Total)	0.0014 mg/L MW-05-15 (2009)	A total of 11 groundwater samples were analyzed from four monitoring locations between 2007 and 2009. The concentration of one sample was above the method detection limit (0.0010 mg/L).
Cadmium (Dissolved)	N/A	A total of eight groundwater samples were analyzed from four monitoring locations between 2011 and 2012. All concentrations were below the method detection limit (0.0010 mg/L).

Table III-2: DYE-M Lower Site Tier II Disposal Facility — Baseline Groundwater Monitoring Data (2007–2013), cont'd.

Analyte	**Maximum concentration observed**	**Observations and comments**
Lead (Total)	0.021 mg/L MW-05-13 (2008)	A total of 11 groundwater samples were analyzed from four monitoring locations between 2007 and 2009. Concentrations in 7 samples were below the method detection limit (0.010 mg/L). Detectable concentrations ranged from 0.013–0.021 mg/L with a mean concentration of 0.016 mg/L.
Lead (Dissolved)	N/A	A total of eight groundwater samples were analyzed from four monitoring locations between 2011 and 2012. All concentrations were below the method detection limit (0.010 mg/L in 2011 and 0.0050 mg/L in 2012).
Zinc (Total)	14 mg/L MW-05-16 (2012)	A total of 19 groundwater samples were analyzed from five monitoring locations between 2007 and 2013. Concentrations were above the method detection limit (0.010 mg/L) at all sampling locations. Concentrations ranged from 0.10–14 mg/L with a mean concentration of 2.9 mg/L.
Chromium (Total)	0.80 mg/L MW-05-15 (2008)	A total of 15 groundwater samples were analyzed from five monitoring locations between 2007 and 2013. All concentrations were above the method detection limit (0.0050 mg/L). Detectable concentrations ranged from 0.051–0.80 mg/L with a mean concentration of 0.30 mg/L.
Chromium (Dissolved)	N/A	A total of three groundwater samples were analyzed from three monitoring locations in 2011. All concentrations were below the method detection limit (0.0010 mg/L).

Table III-2: DYE-M Lower Site Tier II Disposal Facility — Baseline Groundwater Monitoring Data (2007–2013), cont'd.

Analyte	**Maximum concentration observed**	**Observations and comments**
Arsenic (Total)	0.0038 mg/L MW-05-16 (2008)	A total of 19 groundwater samples were analyzed from five monitoring locations between 2007 and 2013. The concentrations in 12 samples were below the method detection limit (0.0030 mg/L from 2007 to 2011 and 0.0010 mg/L in 2012 and 2013). Detectable concentrations ranged from 0.0020–0.0038 mg/L with a mean concentration of 0.0026 mg/L.
Mercury (Total)	N/A	A total of 19 groundwater samples were analyzed from five monitoring locations between 2007 and 2013. All results were below the method detection limit (0.00040 mg/L).
PCBs	0.0067 mg/L MW-05-15 (2008)	A total of 19 groundwater samples were analyzed from five monitoring locations between 2007 and 2013. Concentrations in 16 samples were below the method detection limit (0.000020 mg/L from 2007 to 2011 and 0.0030 mg/L in 2012 and 2013). Detectable concentrations ranged from 0.000020–0.00067 mg/L with a mean concentration of 0.00024 mg/L.
PHC F1	N/A	A total of 19 groundwater samples were analyzed from five monitoring locations between 2007 and 2013. All results were below the method detection limit (0.050 mg/L).
PHC F2	N/A	A total of 19 groundwater samples were analyzed from five monitoring locations between 2007 and 2013. All results were below the method detection limit (0.50 mg/L).
PHC F3	N/A	A total of 19 groundwater samples were analyzed from five monitoring locations between 2007 and 2013. All results were below the method detection limit (1.0 mg/L).

Table III-2: DYE-M Lower Site Tier II Disposal Facility — Baseline Groundwater Monitoring Data (2007–2013), cont'd.

Analyte	Maximum concentration observed	Observations and comments
PHC F4	N/A	A total of 19 groundwater samples were analyzed from five monitoring locations between 2007 and 2013. All results were below the method detection limit (1.0 mg/L).

Table III-3: DYE-M Lower Site Tier II Disposal Facility — Baseline Monitoring Photolog (2007–2013)

Photo	File name	Date	Caption
TDF-1	DSC01335	8/15/08	Soil monitoring sample location at MW-05-13 at the LS Tier II.
TDF-2	P8170386	8/17/11	Soil monitoring sample location at MW-05-13 at the LS Tier II. Photograph taken facing west with the facility visible in the background.
TDF-3	DSC04213	7/31/12	Soil monitoring sample location at MW-05-13 at the LS Tier II. Photograph taken facing west with the facility visible in the background.
TDF-4	DSC05091	8/09/13	Soil monitoring sample location at MW-05-13 at the LS Tier II. Photograph taken facing west with the facility visible in the background.
TDF-5	DSC01333	8/15/08	MW-05-14 at the north side of the LS Tier II Facility. Photograph taken facing southeast with the facility visible in the background.
TDF-6	DSC04347	8/14/12	Soil monitoring sample location at MW-12-01 at the LS Tier II. Photograph taken facing southeast with the facility visible in the background.

Table III-3: DYE-M Lower Site Tier II Disposal Facility — Baseline Monitoring Photolog (2007–2013), cont'd.

Photo	File name	Date	Caption
TDF-7	DSC05095	8/09/13	Soil monitoring sample location at MW-12-01 at the LS Tier II. Photograph taken facing south with the facility visible in the background.
TDF-8	IMG_0939	8/19/07	MW-05-15 on the northwest side of the LS Tier II.
TDF-9	DSC01320	8/15/08	MW-05-15 on the northwest side of the LS Tier II. Photograph taken facing southeast with the facility visible in the background.
TDF-10	P8170382	8/17/11	MW-05-15 on the northwest side of the LS Tier II. Photograph taken facing southeast with the facility visible in the background.
TDF-11	DSC04215	7/31/12	Soil monitoring sample location at MW-05-15 LS Tier II. Photograph taken facing southeast with the facility visible in the background.
TDF-12	DSC05105	8/09/13	Soil monitoring sample location at MW-05-15 LS Tier II. Photograph taken facing southeast with the facility visible in the background.
TDF-13	DSC01340	8/16/08	MW-05-16 on the southwest side of the LS Tier II. Photograph taken facing northwest with the facility visible in the background.
TDF-14	DSC02177	8/18/09	BMW-05-16 on the southwest side of the LS Tier II. Photograph taken facing northwest with the facility visible in the background.
TDF-15	P8170387	8/17/11	Soil monitoring sample location at BMW-05-16 at the LS Tier II.
TDF-16	DSC04217	7/31/12	Soil monitoring sample location at BMW-05-16 at the LS Tier II. Photograph taken facing northwest with the facility visible in the background.
TDF-17	DSC05089	8/09/13	Soil monitoring sample location at BMW-05-16 at the LS Tier II. Photograph taken facing northwest with the facility visible in the background.

B. Lower Site Non-hazardous Waste Landfill

The Lower Site Non-hazardous Waste Landfill (LS NHWL) is located on the west side of the road at the Lower Site, beside the airstrip apron. The NHWL was built for the disposal of non-hazardous demolition materials and waste generated during the cleanup operations. The monitoring program at the LS NHWL consists of soil and groundwater monitoring.

In 2005, construction on the NHWL began, and four monitoring wells (MW-05-09, -10 and -12 and BMW-05-11) were installed. In 2006, construction of the NHWL was completed. Baseline soil and groundwater samples were not collected during either year.

In 2007, baseline monitoring began at the NHWL. A total of 16 soil samples were collected in duplicate, at surface and at shallow depth. Groundwater samples were collected from the four monitoring wells at the NHWL.

In 2008, a total of 16 baseline soil samples were collected in duplicate, at surface and at shallow depth. Groundwater samples were collected from three of the four monitoring wells at the NHWL. A sample was not collected from MW-05-12 as there was not enough water present.

In 2009, an extension of the LS NHWL was built. During the expansion, one monitoring well (MW-05-10) was decommissioned because it was within the footprint of the extension, and one monitoring well (BMW-05-11) was damaged. Three new wells were installed, one (BMW-09-26) to replace the damaged well and two (MW-09-27 and MW-09-28) to monitor the area downgradient of the extension. A total of eight soil samples were collected in duplicate, at surface and at shallow depth, at the two remaining original MW locations (MW-05-09 and -05-12). Groundwater samples were collected from one of the two original wells, MW-05-09. A sample could not be collected from MW-05-12 because there was insufficient water. Because of weather-related time constraints, no samples were collected from the three newly installed monitoring wells.

In 2011, a total of 20 baseline soil samples were collected in duplicate, at surface and at shallow depth. Groundwater samples were collected from all five monitoring wells at the LS NHWL.

In 2012, a total of 20 baseline soil samples were collected in duplicate, at surface and at shallow depth. Groundwater samples were collected from all five monitoring wells at the LS NHWL.

The LS NHWL was closed in 2013. In 2013, a total of 20 baseline soil samples were collected in duplicate, at surface and at shallow depth, at MW-05-09, MW-05-12, MW-09-26, MW-09-27 and MW-09-28. Groundwater samples were collected from MW-05-09, MW-09-26, MW-09-27 and MW-09-28. MW-05-12 was dry and so no sample could be collected from it.

Similar to the wells at the LS Tier II facility, there is ice present at the bottom of the wells at the LS NHWL. The depths to the bottom of the wells range from 1.6 to 2.4 m in most years, with the exception of 2012 when the depth ranged from 2.6 to 3.3 m. It is likely that the ice is blocking the groundwater from entering most of the wells in the majority of the years.

Results for the analysis of the soil samples collected at the LS NHWL are presented in Appendix B, Table B-29, and groundwater results are presented in Table B-30. Monitoring well sampling logs are presented in Tables B-31 to B-60. Soil and groundwater data observations may be found below, in Table III-4 and Table III-5. The LS NHWL baseline monitoring photolog may be found in Table III-6. Sampling locations for the Lower Site NHWL may be found in Appendix A, Map A-4.

Table III-4: DYE-M Lower Site Non-hazardous Waste Landfill — Baseline Soil Monitoring Data (2007–2013)

Analyte	Maximum concentration observed	Observations and comments
Copper	55 ppm MW-09-28 (surface, 2013)	A total of 60 soil samples were analyzed from five monitoring locations between 2007 and 2013. Concentrations were above the method detection limit (3.0 ppm) at all sampling locations. Concentrations ranged from 12–55 ppm with a mean concentration of 27 ppm.
Nickel	44 ppm MW-09-28 (surface, 2012)	A total of 60 soil samples were analyzed from five monitoring locations between 2007 and 2013. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Detectable concentrations ranged from 19–44 ppm with a mean concentration of 35 ppm.

Table III-4: DYE-M Lower Site Non-hazardous Waste Landfill — Baseline Soil Monitoring Data (2007–2013), cont'd.

Analyte	**Maximum concentration observed**	**Observations and comments**
Cobalt	14 ppm MW-05-10 (surface and depth, 2007) and MW-09-28 (surface, 2011)	A total of 60 soil samples were analyzed from five monitoring locations between 2007 and 2013. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Detectable concentrations ranged from 6.8–14 ppm with a mean concentration of 10 ppm.
Cadmium	N/A	A total of 60 soil samples were analyzed from five monitoring locations between 2007 and 2013. All results were below the method detection limit (1.0 ppm).
Lead	26 ppm MW-05-12 (surface, 2008)	A total of 60 soil samples were analyzed from five monitoring locations between 2007 and 2013. Concentrations in 35 samples were below the method detection limit (10 ppm). Detectable concentrations ranged from 10–26 ppm with a mean concentration of 15 ppm.
Zinc	210 ppm MW-05-12 (depth, 2009)	A total of 60 soil samples were analyzed from five monitoring locations between 2007 and 2013. Concentrations were above the method detection limit (15 ppm) at all sampling locations. Concentrations ranged from 25–210 ppm with a mean concentration of 56 ppm.
Chromium	98 ppm MW-09-27 (surface, 2013)	A total of 60 soil samples were analyzed from five monitoring locations between 2007 and 2013. Concentrations were above the method detection limit (20 ppm) at all sampling locations. Concentrations ranged from 36–98 ppm with a mean concentration of 68 ppm.

Table III-4: DYE-M Lower Site Non-hazardous Waste Landfill — Baseline Soil Monitoring Data (2007–2013), cont'd.

Analyte	**Maximum concentration observed**	**Observations and comments**
Arsenic	3.4 ppm MW-09-27 (surface, 2013)	A total of 60 soil samples were analyzed from five monitoring locations between 2007 and 2013. Concentrations in 31 samples were below the method detection limit (1.0 ppm from 2007 to 2012 and 0.20 ppm in 2013). Detectable concentrations ranged from 1.1–3.4 ppm with a mean concentration of 1.9 ppm.
Mercury	N/A	A total of 60 soil samples were analyzed from five monitoring locations between 2007 and 2013. All results were below the method detection limit (0.10 ppm).
PCBs	0.56 ppm MW-05-12 (surface, 2009)	A total of 60 soil samples were analyzed from five monitoring locations between 2007 and 2013. Concentrations in 33 samples were below the method detection limits (0.0030 ppm from 2007 to 2009 and 0.050 ppm from 2011 to 2013). Detectable concentrations ranged from 0.0032–0.56 ppm with a mean concentration of 0.14 ppm.
PHC F1	81 ppm MW-05-09 (depth, 2009)	A total of 60 soil samples were analyzed from five monitoring locations between 2007 and 2013. Concentrations in 56 samples were below the method detection limit (10 ppm). Detectable concentrations ranged from 15–81 ppm with a mean concentration of 39 ppm.
PHC F2	520 ppm MW-05-09 (depth, 2009)	A total of 60 soil samples were analyzed from five monitoring locations between 2007 and 2013. Concentrations in 19 samples were below the method detection limit (4.0 ppm). Detectable concentrations ranged from 4.1–520 ppm with a mean concentration of 22 ppm.

Table III-4: DYE-M Lower Site Non-hazardous Waste Landfill — Baseline Soil Monitoring Data (2007–2013), cont'd.

Analyte	**Maximum concentration observed**	**Observations and comments**
PHC F3	430 ppm MW-05-09 (surface, 2009)	A total of 60 soil samples were analyzed from five monitoring locations between 2007 and 2013. Concentrations in 23 samples were below the method detection limit (9.0 ppm). Detectable concentrations ranged from 9.4–430 ppm with a mean concentration of 57 ppm.
PHC F4	360 ppm MW-05-09 (surface, 2009)	A total of 60 soil samples were analyzed from five monitoring locations between 2007 and 2013. Concentrations in 32 samples were below the method detection limit (8.0 ppm). Detectable concentrations ranged from 8.2–360 ppm with a mean concentration of 44 ppm.

Table III-5: DYE-M Lower Site Non-hazardous Waste Landfill — Baseline Groundwater Monitoring Data (2007–2013)

Analyte	Maximum concentration observed	Observations and comments
Copper (Total)	0.039 mg/L MW-05-09 (2009)	A total of nine groundwater samples were analyzed from six monitoring locations between 2007 and 2009. The concentrations all samples were above the method detection limit (0.0050 mg/L). Detectable concentrations ranged from 0.010–0.039 mg/L with a mean concentration of 0.021 mg/L.
Copper (Dissolved)	0.024 mg/L MW-09-28 (2011)	A total of 16 groundwater samples were analyzed from five monitoring locations between 2011 and 2013. The concentrations in five samples were above the method detection limit (0.0050 mg/L). Detectable concentrations ranged from 0.0070–0.024 mg/L with a mean concentration of 0.013 mg/L.
Nickel (Total)	0.21 mg/L BMW-05-11 (2008)	A total of nine groundwater samples were analyzed from six monitoring locations between 2007 and 2009. Concentrations in all samples were above the method detection limit (0.0050 mg/L). Detectable concentrations ranged from 0.056–0.21 mg/L with a mean concentration of 0.11 mg/L.
Nickel (Dissolved)	0.81 mg/L BMW-09-26 (2011)	A total of 16 groundwater samples were analyzed from five monitoring locations between 2011 and 2013. Concentrations in three samples were below the method detection limit (0.0050 mg/L). Detectable concentrations ranged from 0.0060–0.81 mg/L with a mean concentration of 0.027 mg/L.
Cobalt (Total)	0.010 mg/L MW-05-09 (2009)	A total of nine groundwater samples were analyzed from six monitoring locations between 2007 and 2009. Concentrations in three samples were below the method detection limit (0.0030 mg/L). Detectable concentrations ranged from 0.0040–0.010 mg/L with a mean concentration of 0.0057 mg/L.

Table III-5: DYE-M Lower Site Non-hazardous Waste Landfill — Baseline Groundwater Monitoring Data (2007–2013), cont'd.

Analyte	**Maximum concentration observed**	**Observations and comments**
Cobalt (Dissolved)	N/A	A total of 16 groundwater samples were analyzed from five monitoring locations between 2011 and 2013. Concentrations in all samples were below the method detection limit (0.0030 mg/L).
Cadmium (Total)	N/A	A total of nine groundwater samples were analyzed from six monitoring locations between 2007 and 2009. All results were below the method detection limit (0.0010 mg/L).
Cadmium (Dissolved)	N/A	A total of 16 groundwater samples were analyzed from five monitoring locations between 2011 and 2013. All results were below the method detection limit (0.0010 mg/L).
Lead (Total)	0.048 mg/L MW-05-09 (2009)	A total of nine groundwater samples were analyzed from six monitoring locations between 2007 and 2009. Concentrations in seven samples were below the method detection limit (0.010 mg/L). Detectable concentrations ranged from 0.021–0.048 mg/L with a mean concentration of 0.035 mg/L.
Lead (Dissolved)	N/A	A total of 16 groundwater samples were analyzed from five monitoring locations between 2011 and 2013. Concentrations in all samples were below the method detection limit (0.010 mg/L in 2011 and 0.0050 mg/L in 2012 and 2013).

Table III-5: DYE-M Lower Site Non-hazardous Waste Landfill — Baseline Groundwater Monitoring Data (2007–2013), cont'd.

Analyte	**Maximum concentration observed**	**Observations and comments**
Zinc (Total)	23 mg/L MW-05-09 (2013)	A total of 26 groundwater samples were analyzed from seven monitoring locations between 2007 and 2013. Concentrations were above the method detection limit (0.0050 mg/L) at all sampling locations. Detectable concentrations ranged from 0.048–23 mg/L with a mean concentration of 4.2 mg/L. Note that the highest concentration (23 mg/L) was more than double any other concentration found at the Lower Site NHWL during baseline monitoring.
Chromium (Total)	0.45 mg/L MW-09-27 (2012)	A total of 20 groundwater samples were analyzed from seven monitoring locations between 2007 and 2013. Concentrations in all samples were above the method detection limit (0.0050 mg/L). Detectable concentrations ranged from 0.032–0.45 mg/L with a mean concentration of 0.20 mg/L.
Chromium (Dissolved)	N/A	A total of six groundwater samples were analyzed from five monitoring locations in 2011. Concentrations in all samples were below the method detection limit (0.010 mg/L in 2011 and 0.0050 mg/L in 2012 and 2013).
Arsenic (Total)	0.0080 mg/L MW-09-27 (2012)	A total of 26 groundwater samples were analyzed from seven monitoring locations between 2007 and 2013. Concentrations in 15 samples were below the method detection limit (0.0030 mg/L from 2007 to 2011 and 0.0010 mg/L in 2012 and 2013). Detectable concentrations ranged from 0.0010–0.0080 mg/L with a mean concentration of 0.0030 mg/L.
Mercury (Total)	N/A	A total of 26 groundwater samples were analyzed from seven monitoring locations between 2007 and 2013. All results were below the method detection limit (0.00040 mg/L).

Table III-5: DYE-M Lower Site Non-hazardous Waste Landfill — Baseline Groundwater Monitoring Data (2007–2013), cont'd.

Analyte	Maximum concentration observed	Observations and comments
PCBs	0.0011 mg/L BMW-05-11 (2008)	A total of 26 groundwater samples were analyzed from seven monitoring locations between 2007 and 2013. Concentrations in 23 samples were below the method detection limit (0.000020 mg/L from 2007 to 2011 and 0.0030 mg/L in 2012 and 2013). Detectable concentrations ranged from 0.00043–0.0011 mg/L with a mean concentration of 0.00077 mg/L.
PHC F1	N/A	A total of 26 groundwater samples were analyzed from seven monitoring locations between 2007 and 2013. All results were below the method detection limit (0.050 mg/L).
PHC F2	N/A	A total of 26 groundwater samples were analyzed from seven monitoring locations between 2007 and 2013. All results were below the method detection limit (0.50 mg/L).
PHC F3	N/A	A total of 26 groundwater samples were analyzed from seven monitoring locations between 2007 and 2013. All results were below the method detection limit (1.0 mg/L).
PHC F4	N/A	A total of 26 groundwater samples were analyzed from seven monitoring locations between 2007 and 2013. All results were below the method detection limit (1.0 mg/L).

Table III-6: DYE-M Lower Site Non-hazardous Waste Landfill (LS NHWL) — Baseline Monitoring Photolog (2007–2013)

Photo	File name	Date	Caption
NHWL-1	DSC01363	8/18/08	MW-05-09 on the north side of the LS NHWL. Photograph taken facing southeast with the facility visible in the background.

Table III-6: DYE-M Lower Site Non-hazardous Waste Landfill (LS NHWL) — Baseline Monitoring Photolog (2007–2013) cont'd.

Photo	File name	Date	Caption
NHWL-2	DSC02085	8/08/09	MW-05-09 on the north side of the LS NHWL. Photograph taken facing southeast with the facility visible in the background.
NHWL-3	DSC02222	8/15/11	Close-up of MW-05-09 on the north side of the LS NHWL.
NHWL-4	DSC04202	7/31/12	MW-05-09 on the north side of the LS NHWL. Photograph taken facing southeast with the facility visible in the background.
NHWL-5	DSC04962	8/06/13	MW-05-09 on the north side of the LS NHWL. Photograph taken facing southeast with the facility visible in the background.
NHWL-6	DSC01364	8/18/08	Soil monitoring sample location at MW-05-12 on the northeast side of the LS NHWL.
NHWL-7	DSC02081	8/08/09	MW-05-12 on the northeast side of the LS NHWL. Photograph taken facing southwest with the facility visible in the background.
NHWL-8	DSC02227	8/15/11	MW-05-12 on the northeast side of the LS NHWL. Photograph taken facing south with the facility visible in the background.
NHWL-9	DSC04204	7/31/12	MW-05-12 on the northeast side of the LS NHWL. Photograph taken facing southwest with the facility visible in the background.
NHWL-10	DSC04966	8/06/13	MW-05-12 on the northeast side of the LS NHWL. Photograph taken facing southwest with the facility visible in the background.

Table III-6: DYE-M Lower Site Non-hazardous Waste Landfill (LS NHWL) — Baseline Monitoring Photolog (2007–2013) cont'd.

Photo	File name	Date	Caption
NHWL-11	P8160379	8/16/11	MW-09-26 on the south side of the LS NHWL. Photograph taken facing north with the facility visible in the background.
NHWL-12	DSC04206	7/31/12	MW-09-26 on the south side of the LS NHWL. Photograph taken facing north with the facility visible in the background.
NHWL-13	DSC04945	8/06/13	MW-09-26 on the south side of the LS NHWL. Photograph taken facing north with the facility visible in the background.
NHWL-14	P8160377	8/16/11	MW-09-27 on the southwest side of the LS NHWL. Photograph taken facing northeast with the facility visible in the background.
NHWL-15	DSC04208	7/31/12	MW-09-27 on the west side of the LS NHWL. Photograph taken facing east with the facility visible in the background.
NHWL-16	DSC04948	8/06/13	MW-09-27 on the west side of the LS NHWL. Photograph taken facing east with the facility visible in the background.
NHWL-17	P8160375	8/16/11	MW-09-28 on the northwest side of the LS NHWL. Photograph taken facing southeast with the facility visible in the background.
NHWL-18	DSC04210	7/31/12	MW-09-28 on the northwest side of the LS NHWL. Photograph taken facing southeast with the facility visible in the background.
NHWL-19	DSC04956	8/06/13	MW-09-28 on the northwest side of the LS NHWL. Photograph taken facing southeast with the facility visible in the background.

C. Lower Site Powerhouse Landfill

The Lower Site Powerhouse Landfill was created during DEW Line operations. It is located northwest of the lower camp hangar and southeast of the Foundation Landfill. Soils consist of sand and gravel to frozen ground (ESG 2002a). The Lower Site Powerhouse Landfill was assessed as posing a moderate environmental risk, and the remediation design consisted of installation of a leachate containment liner and capping of the surface with clean granular material. Permafrost provides the primary leachate containment barrier for the facility as the contaminated soil in the facility was designed to be continuously frozen. Installation of a geotextile and HDPE liner system provides secondary containment and the protective thermal cover of granular fill completes the facility. The monitoring program at the Lower Site Powerhouse Landfill consists of soil and groundwater monitoring.

In 2005, four monitoring wells (MW-05-05, -06 and -07 and BMW-05-8) were installed around the Lower Site Powerhouse Landfill. No baseline soil or groundwater samples were collected between 2005 and 2008.

In 2009, regrading work at the Lower Site Powerhouse Landfill was completed and baseline monitoring began. A total of 16 baseline soil samples were collected in duplicate, at surface and at shallow depth. No groundwater samples could be collected because all monitoring wells were either frozen or dry.

In 2011, a total of 16 baseline soil samples were collected in duplicate, at surface and at shallow depth. A groundwater sample was collected only from BMW-05-08 because all other wells were frozen.

In 2012, a total of 16 baseline soil samples were collected in duplicate, at surface and at shallow depth. Groundwater samples were collected from all four monitoring wells.

In 2013, a total of 16 baseline soil samples were collected in duplicate, at surface and at shallow depth. No groundwater samples were collected as all four monitoring wells were found to be dry.

Frozen water is present at the bottom of the wells. Depth to bottom ranged from 1.6 to 2.3 in 2011 and 2013, and increased to 2.1 to 2.9 m in 2012.

Results for the analysis of the soil samples collected at the Lower Site Powerhouse Landfill are presented in Table B-61. Results for the analysis of the groundwater samples are presented in Table B-62. Monitoring well sampling logs are

presented in Tables B-63 to B-82. Soil and groundwater data observations may be found below, in Tables III-7 and III-8. The Powerhouse Landfill baseline monitoring photolog may be found in Table III-9. Sampling locations for the Powerhouse Landfill may be found in Appendix A, Map A-5.

Table III-7: DYE-M Lower Site Powerhouse Landfill — Baseline Soil Monitoring Data (2009–2013)

Analyte	Maximum concentration observed	Observations and comments
Copper	83 ppm MW-05-05 (surface, 2012)	A total of 39 soil samples were analyzed from four monitoring locations in 2009, 2011 and 2013. Concentrations were above the method detection limit (3.0 ppm) at all sampling locations. Concentrations ranged from 18–83 ppm with a mean concentration of 28 ppm.
Nickel	82 ppm MW-05-05 (surface, 2012)	A total of 39 soil samples were analyzed from four monitoring locations in 2009, 2011 and 2013. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Detectable concentrations ranged from 27–82 ppm with a mean concentration of 37 ppm.
Cobalt	25 ppm MW-05-05 (surface, 2012)	A total of 39 soil samples were analyzed from four monitoring locations in 2009, 2011 and 2013. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Detectable concentrations ranged from 6.2–25 ppm with a mean concentration of 11 ppm.
Cadmium	N/A	A total of 39 soil samples were analyzed from four monitoring locations in 2009, 2011 and 2013. All results were below the method detection limit (1.0 ppm).
Lead	17 ppm MW-05-07 (depth, 2009)	A total of 39 soil samples were analyzed from four monitoring locations in 2009, 2011 and 2013. Concentrations in 28 samples were below the method detection limit (10 ppm). Detectable concentrations ranged from 10–17 ppm with a mean concentration of 12 ppm.

Table III-7: DYE-M Lower Site Powerhouse Landfill — Baseline Soil Monitoring Data (2009–2013), cont'd.

Analyte	Maximum concentration observed	Observations and comments
Zinc	130 ppm MW-05-05 (surface, 2012)	A total of 39 soil samples were analyzed from four monitoring locations in 2009, 2011 and 2013. Concentrations were above the method detection limit (15 ppm) at all sampling locations. Concentrations ranged from 31–130 ppm with a mean concentration of 51 ppm.
Chromium	120 ppm MW-05-05 (surface, 2012)	A total of 39 soil samples were analyzed from four monitoring locations in 2009, 2011 and 2013. Concentrations were above the method detection limit (20 ppm) at all sampling locations. Concentrations ranged from 49–120 ppm with a mean concentration of 68 ppm.
Arsenic	5.0 ppm MW-05-05 (surface, 2012)	A total of 39 soil samples were analyzed from four monitoring locations in 2009, 2011 and 2013. Concentrations in seven samples were below the method detection limit (1.0 ppm from 2009 to 2012 and 0.20 ppm in 2013). Detectable concentrations ranged from 1.0–5.0 ppm with a mean concentration of 1.6 ppm.
Mercury	N/A	A total of 39 soil samples were analyzed from four monitoring locations in 2009, 2011 and 2013. All results were below the method detection limit (0.10 ppm).
PCBs	0.67 ppm MW-05-08 (surface, 2011)	A total of 39 soil samples were analyzed from four monitoring locations in 2009, 2011 and 2013. Concentrations in 13 samples were below the method detection limits (0.0030 ppm in 2009 and 0.050 ppm from 2011 to 2013). Detectable concentrations ranged from 0.017–0.67 ppm with a mean concentration of 0.14 ppm.

Table III-7: DYE-M Lower Site Powerhouse Landfill — Baseline Soil Monitoring Data (2009–2013), cont'd.

Analyte	**Maximum concentration observed**	**Observations and comments**
PHC F1	14 ppm MW-05-07 (surface, 2009)	A total of 39 soil samples were analyzed from four monitoring locations in 2009, 2011 and 2013. Concentrations in 33 samples were below the method detection limit (10 ppm). Detectable concentrations ranged from 10–14 ppm with a mean concentration of 12 ppm.
PHC F2	360 ppm MW-05-07 (depth, 2013)	A total of 39 soil samples were analyzed from four monitoring locations in 2009, 2011 and 2013. Concentrations in 20 samples were below the method detection limit (4.0 ppm). Detectable concentrations ranged from 5.2–360 ppm with a mean concentration of 48 ppm.
PHC F3	160 ppm MW-05-07 (depth, 2013)	A total of 39 soil samples were analyzed from four monitoring locations in 2009, 2011 and 2013. Concentrations in seven samples were below the method detection limit (9.0 ppm). Detectable concentrations ranged from 9.7–160 ppm with a mean concentration of 54 ppm.
PHC F4	63 ppm MW-05-08 (surface, 2013)	A total of 39 soil samples were analyzed from four monitoring locations in 2009, 2011 and 2013. Concentrations in 13 samples were below the method detection limit (8.0 ppm). Detectable concentrations ranged from 9.2–63 ppm with a mean concentration of 24 ppm.

Table III-8: DYE-M Lower Site Powerhouse Landfill — Baseline Groundwater Monitoring Data (2011–2012)

Analyte	Maximum concentration observed	Observations and comments
Copper (Dissolved)	0.0059 mg/L MW-05-08 (2011)	Five groundwater samples were analyzed from four monitoring locations in 2011 and 2012. The concentration of one sample was above the method detection limit (0.0050 mg/L).
Nickel (Dissolved)	0.0090 mg/L MW-05-05 (2012)	Five groundwater samples were analyzed from four monitoring locations in 2011 and 2012. The concentration of one sample was below the method detection limit (0.0050 mg/L). Detectable concentrations ranged from 0.0061–0.0090 mg/L with a mean concentration of 0.0075 mg/L.
Cobalt (Dissolved)	N/A	Five groundwater samples were analyzed from four monitoring locations in 2011 and 2012. All results were below the method detection limit (0.0030 mg/L).
Cadmium (Dissolved)	N/A	Five groundwater samples were analyzed from four monitoring locations in 2011 and 2012. All results were below the method detection limit (0.0010 mg/L).
Lead (Dissolved	N/A	Five groundwater samples were analyzed from four monitoring locations in 2011 and 2012. All results were below the method detection limit (0.010 mg/L in 2011 and 0.0050 mg/L in 2012).
Zinc (Total)	12 mg/L MW-05-08 (2011)	Five groundwater samples were analyzed from four monitoring locations in 2011 and 2012. All results were above the method detection limit (0.010 mg/L). Concentrations ranged from 1.4–12 mg/L with a mean concentration of 5.0 mg/L.

Table III-8: DYE-M Lower Site Powerhouse Landfill — Baseline Groundwater Monitoring Data (2011–2012), cont'd.

Analyte	Maximum concentration observed	Observations and comments
Chromium (Total)	0.12 mg/L MW-05-05 (2012)	Four groundwater samples were analyzed from four monitoring locations in 2012. The concentrations of all samples were above the method detection limit (0.0050 mg/L). Detectable concentrations ranged from 0.050–0.12 mg/L with a mean concentration of 0.090 mg/L.
Chromium (Dissolved)	N/A	One groundwater sample was analyzed from one monitoring location in 2011. The concentration of the sample was below the method detection limit (0.0050 mg/L).
Arsenic (Total)	0.0063 mg/L MW-05-05 (2012)	Five groundwater samples were analyzed from four monitoring locations in 2011 and 2012. The concentration of one sample was below the method detection limit (0.0030 mg/L in 2011 and 0.0010 mg/L in 2012). Detectable concentrations ranged from 0.0033–0.0063 mg/L with a mean concentration of 0.0042 mg/L.
Mercury (Total)	N/A	Five groundwater samples were analyzed from four monitoring locations in 2011 and 2012. All results were below the method detection limit (0.00040 mg/L).
PCBs	N/A	Five groundwater samples were analyzed from four monitoring locations in 2011 and 2012. All results were below the method detection limit (0.000020 mg/L in 2011 and 0.0030 mg/L in 2012).
PHC F1	N/A	Five groundwater samples were analyzed from four monitoring locations in 2011 and 2012. All results were below the method detection limit (0.050 mg/L).
PHC F2	N/A	Five groundwater samples were analyzed from four monitoring locations in 2011 and 2012. All results were below the method detection limit (0.50 mg/L).

Table III-8: DYE-M Lower Site Powerhouse Landfill — Baseline Groundwater Monitoring Data (2011–2012), cont'd.

Analyte	**Maximum concentration observed**	**Observations and comments**
PHC F3	N/A	Five groundwater samples were analyzed from four monitoring locations in 2011 and 2012. All results were below the method detection limit (1.0 mg/L).
PHC F4	N/A	Five groundwater samples were analyzed from four monitoring locations in 2011 and 2012. All results were below the method detection limit (1.0 mg/L).

Table III-9: DYE-M Lower Site Powerhouse Landfill — Baseline Monitoring Photolog (2007–2013)

Photo	File name	Date	Caption
PHL-1	DSC02127	8/17/09	MW-05-05 on the northwest side of the Powerhouse Landfill. Photograph taken facing south with the facility visible in the background.
PHL-2	P8200424	8/20/11	MW-05-05 on the northwest side of the Powerhouse Landfill. Photograph taken facing south with the facility visible in the background.
PHL-3	DSC04221	7/31/12	MW-05-05 on the northwest side of the Powerhouse Landfill. Photograph taken facing south with the facility visible in the background.
PHL-4	DSC05000	8/08/13	MW-05-05 on the northwest side of the Powerhouse Landfill. Photograph taken facing south with the facility visible in the background.
PHL-5	DSC02120	8/17/09	Soil monitoring sample location at MW-05-06 on the north side of the Powerhouse Landfill. Photograph taken facing south with the facility visible in the background.
PHL-6	DSC04225	7/31/12	MW-05-06 on the north side of the Powerhouse Landfill. Photograph taken facing south with the facility visible in the background.
PHL-7	DSC05005	8/08/13	MW-05-06 on the north side of the Powerhouse Landfill. Photograph taken facing south with the facility visible in the background.
PHL-8	DSC02113	8/17/09	MW-05-07 on the east side of the Powerhouse Landfill. Photograph taken facing southwest with the facility visible in the background.
PHL-9	P8200428	8/20/11	MW-05-07 on the east side of the Powerhouse Landfill. Photograph taken facing southwest with the facility visible in the background.
PHL-10	DSC04227	7/31/12	MW-05-07 on the east side of the Powerhouse Landfill. Photograph taken facing west with the facility visible in the background.

Table III-9: DYE-M Lower Site Powerhouse Landfill — Baseline Monitoring Photolog (2007–2013), cont'd.

Photo	File name	Date	Caption
PHL-11	DSC05009	8/08/13	MW-05-07 on the east side of the Powerhouse Landfill. Photograph taken facing west with the facility visible in the background.
PHL-12	DSC02130	8/17/09	BMW-05-08 on the south side of the Powerhouse Landfill. Photograph taken facing northwest with the facility visible in the background.
PHL-13	DSC04218	7/31/12	BMW-05-08 on the south side of the Powerhouse Landfill. Photograph taken facing northeast with the facility visible in the background.
PHL-14	DSC04996	8/08/13	BMW-05-08 on the south side of the Powerhouse Landfill. Photograph taken facing northeast with the facility visible in the background.

D. Lower Site Crossroads Landfill

The Lower Site Crossroads Landfill was created during DEW Line operations. The landfill is located northwest of the lower camp hangar, in an area of tundra southeast of the landfarm and east of the Lower Site access road. The area has moderate (<50%) vegetation cover. The area is underlain by sand and gravel to frozen ground (ESG 2002a). The landfill was assessed as posing a low environmental risk, and the remediation design was to regrade the surface of the landfill with clean fill. The landfill was regraded in 2007. The monitoring program consists of soil monitoring.

Soil monitoring at the Lower Site Crossroads Landfill began in 2007. A total of 12 baseline soil samples from three locations (DM-1, -2 and -3) were collected in duplicate, at surface and at shallow depth. Sampling was conducted again in 2008 and in 2011; a total of 12 baseline soil samples were collected from three locations during each sampling event. Monitoring was not conducted in 2009 and 2012. In 2013, a total of 12 soil samples from three locations (DM-1, -2 and -3) were collected in duplicate, at surface and at shallow depth.

Results for the analysis of the soil samples collected at the Lower Site Crossroads Landfill are presented in Table B-83. The baseline monitoring log for the Lower Site Crossroads Landfill is presented in Tables B-84 to B-88. Soil data observations may be found below, in Table III-10. The Lower Site Crossroads Landfill baseline monitoring photolog may be found in Table III-11. Sampling locations for the Lower Site Crossroads Landfill may be found in Appendix A, Map A-6.

Table III-10: DYE-M Lower Site Crossroads Landfill Soil — Baseline Soil Monitoring Data (2007–2013)

Analyte	Maximum concentration observed	Observations and comments
Copper	48 ppm DM-3 (surface, 2013)	A total of 28 soil samples were analyzed from three monitoring locations between 2007 and 2013. Concentrations were above the method detection limit (3.0 ppm) at all sampling locations. Concentrations ranged from 16–48 ppm with a mean concentration of 33 ppm.
Nickel	58 ppm DM-3 (surface, 2013)	A total of 28 soil samples were analyzed from three monitoring locations between 2007 and 2013. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 23–58 ppm with a mean concentration of 41 ppm.
Cobalt	16 ppm DM-1 (depth, 2008) and DM-3 (surface, 2008)	A total of 28 soil samples were analyzed from three monitoring locations between 2007 and 2013. Concentrations were above the method detection limit detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 8.3–16 ppm with a mean concentration of 12 ppm.
Cadmium	N/A	A total of 28 soil samples were analyzed from three monitoring locations between 2007 and 2013. All results were below the method detection limit (1.0 ppm).
Lead	22 ppm DM-1 (surface, 2013)	A total of 28 soil samples were analyzed from three monitoring locations between 2007 and 2013. One result was above the method detection limit (10 ppm).
Zinc	61 ppm DM-3 (surface, 2008)	A total of 28 soil samples were analyzed from three monitoring locations between 2007 and 2013. Concentrations were above the method detection limit detection limit (15 ppm) at all sampling locations. Concentrations ranged from 33–61 ppm with a mean concentration of 49 ppm.
Chromium	99 ppm DM-3 (surface, 2013)	A total of 28 soil samples were analyzed from three monitoring locations between 2007 and 2013. Concentrations were above the method detection limit detection limit (20 ppm) at all sampling locations. Concentrations ranged from 44–99 ppm with a mean concentration of 73 ppm.

Table III-10: DYE-M Lower Site Crossroads Landfill Soil — Baseline Soil Monitoring Data (2007–2013), cont'd.

Analyte	Maximum concentration observed	Observations and comments
Arsenic	3.9 ppm DM-3 (surface, 2013)	A total of 28 soil samples were analyzed from three monitoring locations between 2007 and 2013. Concentrations in 16 samples were below the method detection limit (1.0 ppm from 2007 to 2011 and 0.20 ppm in 2013). Detectable concentrations ranged from 1.0–3.9 ppm with a mean concentration of 2.1 ppm.
Mercury	N/A	A total of 28 soil samples were analyzed from three monitoring locations between 2007 and 2013. All results were below the method detection limit (0.10 ppm).
PCBs	N/A	A total of 28 soil samples were analyzed from three monitoring locations between 2007 and 2013. All results were below the method detection limit (0.0030 ppm in 2007 and 2008 and 0.050 ppm in 2011 and 2013).
PHC F1	N/A	A total of 28 soil samples were analyzed from three monitoring locations between 2007 and 2013. All results were below the method detection limit (10 ppm).
PHC F2	160 ppm DM-1 (depth, 2007)	A total of 28 soil samples were analyzed from three monitoring locations between 2007 and 2013. Concentrations in nine samples were below the method detection limit (4.0 ppm). Detectable concentrations ranged from 4.3–160 ppm with a mean concentration of 27 ppm.
PHC F3	190 ppm DM-1 (surface, 2007)	A total of 28 soil samples were analyzed from three monitoring locations between 2007 and 2013. Concentrations in eight samples were below the method detection limit (9.0 ppm). Detectable concentrations ranged from 10–190 ppm with a mean concentration of 34 ppm.
PHC F4	64 ppm DM-1 (depth, 2007)	A total of 28 soil samples were analyzed from three monitoring locations between 2007 and 2013. Concentrations in ten samples were below the method detection limit (8.0 ppm). Detectable concentrations ranged from 11–64 ppm with a mean concentration of 20 ppm.

Table III-11: DYE-M Lower Site Crossroads Landfill — Baseline Monitoring Photolog (2007–2013)

Photo	File name	Date	Caption
CRL-1	P8130322	8/13/11	DM-1 on the southeast side of the LS Crossroads Landfill. Photograph taken facing northwest with the facility visible in the background.
CRL-2	DSCO4578	7/24/13	DM-1 on the southeast side of the LS Crossroads Landfill. Photograph taken facing northwest with the facility visible in the background.
CRL-3	DSC01481	8/30/08	DM-2 on the west side of the LS Crossroads Landfill. Photograph taken facing east with the facility visible in the background.
CRL-4	DSC02194	8/13/11	DM-2 on the west side of the LS Crossroads Landfill. Photograph taken facing east with the facility visible in the background.
CRL-5	DSC04588	7/24/13	DM-2 on the west side of the LS Crossroads Landfill. Photograph taken facing east with the facility visible in the background.
CRL-6	DSC01479	8/30/08	DM-3 on the north side of LS Crossroads Landfill. Photograph taken facing southeast with the facility visible in the background.
CRL-7	DSC02196	8/13/11	DM-3 on the north side of LS Crossroads Landfill. Photograph taken facing southeast with the facility visible in the background.
CRL-8	DSC04591	7/24/13	DM-3 on the north side of LS Crossroads Landfill. Photograph taken facing southeast with the facility visible in the background.

E. Lower Site Foundation Landfill

The Lower Site Foundation Landfill was created during DEW Line operations. The landfill is located southeast of the Crossroads Landfill and north of the Powerhouse Landfill. The surrounding tundra has a moderate amount of vegetation (50 to 60%) with poorly defined drainage. The area is underlain by sand and gravel to frozen ground (ESG

2002a). The landfill was assessed as posing a low environmental risk, and the remediation design was to regrade the surface of the landfill with clean fill. The landfill was regraded in 2008. The monitoring program consists of soil monitoring.

Soil monitoring at the Lower Site Foundation Landfill began in 2008. A total of 12 baseline soil samples from three locations (DM-4, -5 and -6) were collected in duplicate, at surface and at shallow depth. No sampling was conducted in 2009 or 2010. Sampling was conducted again in 2011, with a total of 12 samples collected from three locations. Monitoring was not conducted in 2012. Sampling was conducted in 2013, with a total of 12 samples collected in duplicate, at surface and at shallow depth, from three locations (DM-4, -5 and -6).

Results for the analysis of the soil samples collected at the Lower Site Foundation Landfill are presented in Table B-89. The baseline monitoring log for the Lower Site Foundation Landfill is presented in Tables B-90 to B-93. Soil data observations may be found below, in Table III-12. The Lower Site Foundation Landfill baseline monitoring photolog may be found in Table III-13. Sampling locations for the Lower Site Foundation Landfill may be found in Appendix A, Map A-7.

Table III-12: DYE-M Lower Site Foundation Landfill — Baseline Soil Monitoring Data (2008–2013)

Analyte	Maximum concentration observed	Observations and comments
Copper	36 ppm DM-6 (surface, 2013)	A total of 21 soil samples were analyzed from three monitoring locations between 2008 and 2013. Concentrations were above the method detection limit (3.0 ppm) at all sampling locations. Concentrations ranged from 17–36 ppm with a mean concentration of 28 ppm.
Nickel	46 ppm DM-6 (surface, 2013)	A total of 21 soil samples were analyzed from three monitoring locations between 2008 and 2013. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 26–46 ppm with a mean concentration of 38 ppm.

Table III-12: DYE-M Lower Site Foundation Landfill — Baseline Soil Monitoring Data (2008–2013), cont'd.

Analyte	Maximum concentration observed	Observations and comments
Cobalt	15 ppm DM-5 (surface, 2008), DM-5 (depth, 2011)	A total of 21 soil samples were analyzed from three monitoring locations between 2008 and 2013. Concentrations were above the method detection limit detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 6.2–15 ppm with a mean concentration of 12 ppm.
Cadmium	N/A	A total of 21 soil samples were analyzed from three monitoring locations between 2008 and 2013. All results were below the method detection limit (1.0 ppm).
Lead	21 ppm DM-5 (surface, 2013)	A total of 21 soil samples were analyzed from three monitoring locations between 2008 and 2013. Concentrations in 13 samples were below the method detection limit (10 ppm). Detectable concentrations ranged from 11–21 ppm with a mean concentration of 15 ppm.
Zinc	58 ppm DM-6 (surface, 2013)	A total of 21 soil samples were analyzed from three monitoring locations between 2008 and 2013. Concentrations were above the method detection limit detection limit (15 ppm) at all sampling locations. Concentrations ranged from 34–58 ppm with a mean concentration of 47 ppm.
Chromium	89 ppm DM-6 (surface, 2013)	A total of 21 soil samples were analyzed from three monitoring locations between 2008 and 2013. Concentrations were above the method detection limit detection limit (20 ppm) at all sampling locations. Concentrations ranged from 51–89 ppm with a mean concentration of 72 ppm.

Table III-12: DYE-M Lower Site Foundation Landfill — Baseline Soil Monitoring Data (2008–2013), cont'd.

Analyte	Maximum concentration observed	Observations and comments
Arsenic	2.1 ppm DM-6 (depth, 2013)	A total of 21 soil samples were analyzed from three monitoring locations between 2008 and 2013. Concentrations in 11 samples were below the method detection limit (1.0 ppm in 2008 and 2011, and 0.20 ppm in 2013). Detectable concentrations ranged from 0.70–2.1 ppm with a mean concentration of 1.6 ppm.
Mercury	N/A	A total of 21 soil samples were analyzed from three monitoring locations between 2008 and 2013. All results were below the method detection limit (0.10 ppm).
PCBs	0.17 ppm DM-4 (depth, 2008)	A total of 21 soil samples were analyzed from three monitoring locations between 2008 and 2013. Concentrations in 14 samples were below the method detection limit (0.0030 ppm in 2008 and 0.050 ppm in 2011 and 2013). Detectable concentrations ranged from 0.0060–0.17 ppm with a mean concentration of 0.094 ppm.
PHC F1	N/A	A total of 21 soil samples were analyzed from three monitoring locations between 2008 and 2013. All results were below the method detection limit (10 ppm).
PHC F2	13 ppm DM-6 (surface, 2008)	A total of 21 soil samples were analyzed from three monitoring locations between 2008 and 2013. Concentrations in eight samples were below the method detection limit (4.0 ppm). Detectable concentrations ranged from 4.3–13 ppm with a mean concentration of 7.0 ppm.
PHC F3	110 ppm DM-4 (depth, 2008)	A total of 21 soil samples were analyzed from three monitoring locations between 2008 and 2013. Concentrations in 11 samples were below the method detection limit (9.0 ppm). Detectable concentrations ranged from 12–110 ppm with a mean concentration of 44 ppm.

Table III-12: DYE-M Lower Site Foundation Landfill — Baseline Soil Monitoring Data (2008–2013), cont'd.

Analyte	Maximum concentration observed	Observations and comments
PHC F4	42 ppm DM-5 (surface, 2008)	A total of 21 soil samples were analyzed from three monitoring locations between 2008 and 2013. Concentrations in 15 samples were below the method detection limit (8.0 ppm). Detectable concentrations ranged from 13–42 ppm with a mean concentration of 25 ppm.

Table III-13: DYE-M Lower Site Foundation Landfill — Baseline Monitoring Photolog (2008–2013)

Photo	File name	Date	Caption
FL-1	DSC01488	8/30/08	Soil monitoring sample location DM-4 at the Lower Site Foundation Landfill.
FL-2	P8130325	8/13/11	DM-4 on the south side of the Lower Site Foundation Landfill. Photograph taken facing north with the facility visible in the background.
FL-3	DSC04595	7/24/13	DM-4 on the south side of the Lower Site Foundation Landfill. Photograph taken facing north with the facility visible in the background.
FL-4	DSC01492	8/30/08	Soil monitoring sample location DM-5 at the Lower Site Foundation Landfill.
FL-5	DSC02198	8/13/11	DM-5 on the west side of the Lower Site Foundation Landfill. Photograph taken facing east with the facility visible in the background.
FL-6	DSC04600	7/24/13	DM-5 on the west side of the Lower Site Foundation Landfill. Photograph taken facing east with the facility visible in the background.

Table III-13: DYE-M Lower Site Foundation Landfill — Baseline Monitoring Photolog (2008–2013), cont'd.

Photo	File name	Date	Caption
FL-7	DSC01496	8/30/08	Soil monitoring sample location DM-6 at the Lower Site Foundation Landfill.
FL-8	P8130327	8/13/11	DM-6 on the northeast side of the Lower Site Foundation Landfill. Photograph taken facing southwest with the facility visible in the background.
FL-9	DSC04605	7/24/13	DM-6 on the northeast side of the Lower Site Foundation Landfill. Photograph taken facing southwest with the facility visible in the background.

F. Lower Site NWS Landfill

The Lower Site NWS Landfill was created during DEW Line operations. The landfill is located approximately 1.5 km northwest of the lower camp facilities, 100 m west of the lower camp road. The primary toe of the landfill is less than 20 m from a river that flows north into Exeter Bay. The overall gradient of the surrounding area tends to descend towards the southwest, in the direction of the river and Exeter Bay. The landfill and the disturbed area immediately around the landfill have sparse vegetation (<20%). The landfill is underlain by sand and gravel down to boulders and bedrock at varying depths. The landfill was assessed as posing a low environmental risk, and the remediation design was to regrade the surface with clean fill; this was completed in 2008. The monitoring program consists of soil monitoring.

Soil monitoring at the Lower Site NWS Landfill began in 2008. A total of 12 background soil samples were collected in duplicate, at surface and at shallow depth, from four locations (DM-7, -8, -9 and -10). Monitoring was not conducted in 2009 or 2010. Sampling was conducted again in 2011, with a total of 12 background soil samples collected from four locations. Monitoring was not conducted in 2012. Monitoring was conducted in 2013, with a total of 12 background soil samples collected from four locations.

Results for the analysis of the soil samples collected at the Lower Site NWS Landfill are presented in Table B-94. The baseline monitoring log for the Lower Site NWS Landfill is presented in Tables B-95 to B-98. Soil data observations may be found

below, in Table III-14. The Lower Site NWS Landfill baseline monitoring photolog may be found in Table III-15. Sampling locations for the Lower Site NWS Landfill may be found in Appendix A, Map A-8.

Table III-14: DYE-M Lower Site NWS Landfill — Baseline Soil Monitoring Data (2008–2013)

Analyte	Maximum concentration observed	Observations and comments
Copper	46 ppm DM-9 (depth, 2013)	A total of 28 soil samples were analyzed from four monitoring locations between 2008 and 2013. Concentrations were above the method detection limit (3.0 ppm) at all sampling locations. Concentrations ranged from 12–46 ppm with a mean concentration of 23 ppm.
Nickel	66 ppm DM-9 (depth, 2013)	A total of 28 soil samples were analyzed from four monitoring locations between 2008 and 2013. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 21–66 ppm with a mean concentration of 32 ppm.
Cobalt	19 ppm DM-10 (surface and depth, 2008)	A total of 28 soil samples were analyzed from four monitoring locations between 2008 and 2013. Concentrations were above the method detection limit detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 6.5–19 ppm with a mean concentration of 12 ppm.
Cadmium	N/A	A total of 28 soil samples were analyzed from four monitoring locations between 2008 and 2013. All results were below the method detection limit (1.0 ppm).
Lead	N/A	A total of 28 soil samples were analyzed from four monitoring locations between 2008 and 2013. All results were below the method detection limit (10 ppm).

Table III-14: DYE-M Lower Site NWS Landfill — Baseline Soil Monitoring Data (2008– 2013), cont'd.

Analyte	Maximum concentration observed	Observations and comments
Zinc	77 ppm DM-9 (depth, 2013)	A total of 28 soil samples were analyzed from four monitoring locations between 2008 and 2013. Concentrations were above the method detection limit detection limit (15 ppm) at all sampling locations. Concentrations ranged from 25–77 ppm with a mean concentration of 44 ppm.
Chromium	120 ppm DM-9 (depth, 2013)	A total of 28 soil samples were analyzed from four monitoring locations between 2008 and 2013. Concentrations were above the method detection limit detection limit (20 ppm) at all sampling locations. Concentrations ranged from 38–120 ppm with a mean concentration of 60 ppm.
Arsenic	2.1 ppm DM-9 (depth, 2013)	A total of 28 soil samples were analyzed from four monitoring locations between 2008 and 2013. Concentrations in 16 samples were below the method detection limit (1.0 ppm in 2008 and 2011 and 0.20 ppm in 2013). Detectable concentrations ranged from 0.70–2.1 ppm with a mean concentration of 1.4 ppm.
Mercury	N/A	A total of 28 soil samples were analyzed from four monitoring locations between 2008 and 2013. All results were below the method detection limit (0.10 ppm).
PCBs	0.0097 ppm DM-8 (surface, 2008)	A total of 28 soil samples were analyzed from four monitoring locations between 2008 and 2013. Concentrations in 22 samples were below the method detection limit (0.0030 ppm in 2008 and 0.050 ppm in 2011 and 2013). Detectable concentrations ranged from 0.0033–0.0097 ppm with a mean concentration of 0.0058 ppm.
PHC F1	N/A	A total of 28 soil samples were analyzed from four monitoring locations between 2008 and 2013. All results were below the method detection limit (10 ppm).

Table III-14: DYE-M Lower Site NWS Landfill — Baseline Soil Monitoring Data (2008–2013), cont'd.

Analyte	**Maximum concentration observed**	**Observations and comments**
PHC F2	14 ppm DM-9 (surface, 2013)	A total of 28 soil samples were analyzed from four monitoring locations between 2008 and 2013. Concentrations in 19 samples were below the method detection limit (4.0 ppm). Detectable concentrations ranged from 4.6–14 ppm with a mean concentration of 7.9 ppm.
PHC F3	55 ppm DM-7 (depth, 2011)	A total of 28 soil samples were analyzed from four monitoring locations between 2008 and 2013. Concentrations in 18 samples were below the method detection limit (9.0 ppm). Detectable concentrations ranged from 9.4–55 ppm with a mean concentration of 20 ppm.
PHC F4	33 ppm DM-7 (depth, 2011)	A total of 28 soil samples were analyzed from four monitoring locations between 2008 and 2013. Concentrations in 20 samples were below the method detection limit (8.0 ppm). Detectable concentrations ranged from 8.7–33 ppm with a mean concentration of 15 ppm.

Table III-15: DYE-M Lower Site NWS Landfill — Baseline Monitoring Photolog (2008–2013)

Photo	File name	Date	Caption
NWS-1	DSCN0666	8/27/08	DM-7 on the northwest side of the Lower Site NWS Landfill. Photograph taken facing southeast with the facility visible in the background.
NWS-2	DSCN4920	8/5/13	DM-7 on the northwest side of the Lower Site NWS Landfill. Photograph taken facing southeast with the facility visible in the background.
NWS-3	DSC01440	8/28/08	DM-8 on the northeast side of the Lower Site NWS Landfill. Photograph taken facing southwest with the facility visible in the background.
NWS-4	DSC04924	8/5/13	DM-8 on the northeast side of the Lower Site NWS Landfill. Photograph taken facing southwest with the facility visible in the background.
NWS-5	DSC01444	8/28/08	DM-9 on the southeast side of the Lower Site NWS Landfill. Photograph taken facing west with the facility visible in the background.
NWS-6	P8140345	8/14/11	DM-9 on the southeast side of the Lower Site NWS Landfill. Photograph taken facing northwest with the facility visible in the background.
NWS-7	DSC04928	8/5/13	DM-9 on the southeast side of the Lower Site NWS Landfill. Photograph taken facing northwest with the facility visible in the background.
NWS-8	DSC01448	8/28/08	DM-10 on the southwest side of the Lower Site NWS Landfill. Photograph taken facing north with the facility visible in the background.
NWS-9	P8140347	8/14/11	DM-10 on the southwest side of the Lower Site NWS Landfill. Photograph taken facing north with the facility visible in the background.
NWS-10	DSC04932	8/5/13	DM-10 on the southwest side of the Lower Site NWS Landfill. Photograph taken facing north with the facility visible in the background.

G. Upper Site Tier II Disposal Facility

The Upper Site (US) Tier II Disposal Facility is located on the south side of the road to the Upper Site, approximately 600 m west of the Pallet Line Landfill (ESG 2002b). The facility was designed to contain contaminated soil exceeding DLCU Tier II criteria from the Upper Site areas. The monitoring program at the Upper Site Tier II Disposal Facility consists of soil, groundwater and thermal monitoring.

In 2007, construction of the US Tier II Disposal Facility was completed. Two monitoring wells (BMW-07-22 and MW-07-23) were installed around the facility. No baseline soil and groundwater samples were collected.

In 2008, two additional monitoring wells (MW-08-24 and -25) were installed at the facility and baseline monitoring began. A total of eight baseline soil samples were collected in duplicate, at surface and at shallow depth, at monitoring locations at BMW-07-22 and MW-07-23. One groundwater sample was collected from one of the four monitoring wells, MW-07-23. BMW-07-22 did not contain enough water to be sampled, and no samples were collected from MW-08-24 or MW-08-25 because of seasonal time constraints.

In 2009, a temporary monitoring well (MW-09-22a) was installed at the US Tier II Disposal Facility to determine whether there was a problem with the background monitoring well, BMW-07-22, as it had been dry since it was installed. A total of 12 baseline soil samples were collected in duplicate, at surface and at shallow depth, at monitoring locations MW-07-23, MW-08-24 and MW-08-25. Groundwater samples were collected from two of the four permanent monitoring wells, MW-07-23 and MW-08-24. The other two permanent wells, BMW-07-22 and MW-08-25, and temporary well MW-09-22a did not contain enough water to be sampled.

In 2011, a total of 16 baseline soil samples were collected in duplicate, at surface and at shallow depth, at monitoring locations BMW-07-22, MW-07-23, MW-08-24 and MW-08-25. Groundwater samples were collected from two of the four permanent monitoring wells (MW-07-23 and MW-08-24); the other two permanent wells and the temporary well were dry.

The US Tier II Disposal Facility was closed at the end of the 2012 field season. A new permanent monitoring well (BMW-12-02) was installed upgradient of the facility to replace the dry background monitoring well, BMW-07-22, although BMW-07-22 remains in place. The new well is located between BWM-07-22 and MW-08-25. The temporary well, MW09-22a, was decommissioned, and collection of monitoring soil

samples at that area ceased. A total of 20 soil samples were collected in duplicate, at surface and at shallow depth, from five locations (BMW-07-22, MW-07-23, MW-08-24, MW-08-25 and MW-12-02). Groundwater samples were collected from three monitoring wells, MW-07-23, MW-08-24 and BMW-12-02, and from the temporary well, MW-09-22a.

In 2013, a total of 20 baseline soil samples were collected in duplicate, at surface and at shallow depth, from five locations (BMW-07-22, MW-07-23, MW-08-24, MW-08-25 and MW-12-02). A groundwater sample was collected from one monitoring well (MW-08-24); the four other wells were dry or frozen or had an insufficient water volume for sampling.

The depths to the bottom of the wells ranged from 1.3 to 2.9 in the various years. Unlike the lower site wells, the depth to the bottom of the wells did not increase in 2012, but was consistent with other years. Ice is present within a portion of the screened section of most of the wells.

Results for the analysis of the soil samples collected at the US Tier II Disposal Facility are presented in Table B-99. Results for the analysis of the groundwater samples collected at the US Tier II Disposal Facility are presented in Table B-100. Monitoring well sampling logs are presented in Tables B-101 to B-128. Soil and groundwater data observations may be found below, in Tables III-16 and III-17.

It should be noted that soil concentrations of chromium found at MW-08-25 at surface in 2009 (300 ppm), at depth in 2012 (290 ppm) and at depth in 2013 (560 ppm) exceeded the DLCU Tier II criterion of 250 ppm but did not exceed the recommended SSTL of 513 ppm. During the site investigation, five soil samples in this area were found to have chromium concentrations that exceeded the DLCC. As there are high natural background levels of chromium present in the vicinity of the US Tier II Disposal Facility, it is likely that the exceedances found during baseline monitoring are due to the geology in the area.

The US Tier II Disposal Facility baseline monitoring photolog may be found in Table III-18. Sampling locations for the US Tier II Disposal Facility may be found in Appendix A, Map A-9.

Table III-16: DYE-M Upper Site Tier II Disposal Facility — Baseline Soil Monitoring Data (2008–2013)

Analyte	Maximum concentration observed	Observations and comments
Copper	100 ppm BMW-07-22 (depth, 2011)	A total of 47 soil samples were analyzed from five monitoring locations between 2008 and 2013. Concentrations were above the method detection limit (3.0 ppm) at all sampling locations. Concentrations ranged from 6.3–100 ppm with a mean concentration of 43 ppm.
Nickel	390 ppm MW-07-23 (surface, 2013)	A total of 47 soil samples were analyzed from five monitoring locations between 2008 and 2013. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 27–390 ppm with a mean concentration of 83 ppm.
Cobalt	40 ppm MW-07-23 (surface, 2013)	A total of 47 soil samples were analyzed from five monitoring locations between 2008 and 2013. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 9.9–40 ppm with a mean concentration of 19 ppm.
Cadmium	N/A	A total of 47 soil samples were analyzed from five monitoring locations between 2008 and 2013. All results were below the method detection limit (1.0 ppm).
Lead	110 ppm MW-08-25 (depth, 2013)	A total of 47 soil samples were analyzed from five monitoring locations between 2008 and 2013. Concentrations in 13 samples were below the method detection limit (10 ppm). Detectable concentrations ranged from 10–110 ppm with a mean concentration of 24 ppm.

Table III-16: DYE-M Upper Site Tier II Disposal Facility — Baseline Soil Monitoring Data (2008–2013), cont'd.

Analyte	**Maximum concentration observed**	**Observations and comments**
Zinc	210 ppm MW-08-25 (depth, 2013)	A total of 47 soil samples were analyzed from five monitoring locations between 2008 and 2013. Concentrations were above the method detection limit (15 ppm) at all sampling locations. Concentrations ranged from 26–210 ppm with a mean concentration of 77 ppm.
Chromium	560 ppm MW-12-02 (depth, 2013)	A total of 47 soil samples were analyzed from five monitoring locations between 2008 and 2013. Concentrations were above the method detection limit (20 ppm) at all sampling locations. Concentrations ranged from 42–560 ppm with a mean concentration of 115 ppm.
Arsenic	11 ppm BMW-07-22 (surface, 2008 and 2012)	A total of 47 soil samples were analyzed from five monitoring locations between 2008 and 2013. Concentrations in four samples were below the method detection limit (1.0 ppm from 2008 to 2012 and 0.20 ppm in 2013). Detectable concentrations ranged from 1.0–11 ppm with a mean concentration of 4.0 ppm.
Mercury	N/A	A total of 47 soil samples were analyzed from five monitoring locations between 2008 and 2013. All results were below the method detection limit (0.10 ppm).
PCBs	0.025 ppm MW-08-24 (depth, 2009)	A total of 47 soil samples were analyzed from five monitoring locations between 2008 and 2013. The concentration was above the method detection limit (0.0030 ppm in 2008 and 2009 and 0.050 ppm from 2011 to 2013) in 2009 at one sampling location.

Table III-16: DYE-M Upper Site Tier II Disposal Facility — Baseline Soil Monitoring Data (2008–2013), cont'd.

Analyte	Maximum concentration observed	Observations and comments
PHC F1	24 ppm MW-07-24 (depth, 2012)	A total of 47 soil samples were analyzed from five monitoring locations between 2008 and 2013. Concentrations in 43 samples were below the method detection limit (10 ppm). Detectable concentrations ranged from 13–24 ppm with a mean concentration of 17 ppm.
PHC F2	8.1 ppm BMW-07-22 (depth, 2008)	A total of 47 soil samples were analyzed from five monitoring locations between 2008 and 2013. Concentrations in 34 samples were below the method detection limit (4.0 ppm). Detectable concentrations ranged from 4.0–8.1 ppm with a mean concentration of 5.3 ppm.
PHC F3	26 ppm BMW-07-22 (surface, 2008)	A total of 47 soil samples were analyzed from five monitoring locations between 2008 and 2013. Concentrations in 30 samples were below the method detection limit (9.0 ppm). Detectable concentrations ranged from 9.1–26 ppm with a mean concentration of 15 ppm.
PHC F4	15 ppm BMW-07-22 (surface, 2008)	A total of 47 soil samples were analyzed from five monitoring locations between 2008 and 2013. Concentrations in 39 samples were below the method detection limit (8.0 ppm). Detectable concentrations ranged from 8–15 ppm with a mean concentration of 10 ppm.

Table III-17: DYE-M Upper Site Tier II Disposal Facility — Baseline Groundwater Monitoring Data (2008–2013)

Analyte	Maximum concentration observed	Observations and comments
Copper (Total)	0.12 mg/L MW-07-24 (2009)	A total of three groundwater samples were analyzed from two monitoring locations between 2008 and 2009. Concentrations in all samples were above the method detection limit (0.0050 mg/L). Detectable concentrations ranged from 0.036–0.12 mg/L with a mean concentration of 0.085 mg/L.
Copper (Dissolved)	0.0068 mg/L MW-08-24 (2011)	A total of seven groundwater samples were analyzed from three monitoring locations between 2011 and 2013. The concentration in one sample was above the method detection limit (0.0050 mg/L). The only detectable concentrations was 0.0068 mg/L.
Nickel (Total)	0.41 mg/L MW-07-24 (2009)	A total of three groundwater samples were analyzed from two monitoring locations between 2008 and 2009. Concentrations in all samples were above the method detection limit (0.0050 mg/L). Detectable concentrations ranged from 0.073–0.41 mg/L with a mean concentration of 0.21 mg/L.
Nickel (Dissolved)	N/A	A total of seven groundwater samples were analyzed from three monitoring locations between 2011 and 2013. Concentrations in all samples were below the method detection limit (0.0050 mg/L).
Cobalt (Total)	0.015 mg/L MW-07-23 (2009)	A total of three groundwater samples were analyzed from two monitoring locations between 2008 and 2009. Concentrations in all samples were above the method detection limit (0.0030 mg/L). Detectable concentrations ranged from 0.0080–0.015 mg/L with a mean concentration of 0.012 mg/L.
Cobalt (Dissolved)	N/A	A total of seven groundwater samples were analyzed from three monitoring locations between 2011 and 2013. Concentrations in all samples were below the method detection limit (0.0030 mg/L).

Table III-17: DYE-M Upper Site Tier II Disposal Facility — Baseline Groundwater Monitoring Data (2008–2013), cont'd.

Analyte	**Maximum concentration observed**	**Observations and comments**
Cadmium (Total)	N/A	A total of three groundwater samples were analyzed from two monitoring locations between 2008 and 2009. All results were below the method detection limit (0.0010 mg/L).
Cadmium (Dissolved)	N/A	A total of seven groundwater samples were analyzed from three monitoring locations between 2011 and 2013. All results were below the method detection limit (0.0010 mg/L).
Lead (Total)	0.020 mg/L MW-07-24 (2009)	A total of three groundwater samples were analyzed from two monitoring locations between 2008 and 2009. The concentration in one sample was below the method detection limit (0.010 mg/L). Detectable concentrations ranged from 0.013–0.020 mg/L with a mean concentration of 0.016 mg/L.
Lead (Dissolved)	N/A	A total of seven groundwater samples were analyzed from three monitoring locations between 2011 and 2013. Concentrations in all samples were below the method detection limit (0.010 mg/L in 2011 and 0.0050 mg/L in 2012 and 2013).
Zinc (Total)	5.9 mg/L MW-07-23 (2011)	A total of nine groundwater samples were analyzed from three monitoring locations between 2008 and 2013. Concentrations were above the method detection limit (0.010 mg/L) at all sampling locations. Concentrations ranged from 0.025–5.9 mg/L with a mean concentration of 0.78 mg/L. Note that the highest concentration (5.9 mg/L), collected at MW-07-23 in 2011, was as least 5.61 mg/L greater (20 times greater) than any other concentration found at the Upper Site Tier II Disposal Facility during baseline monitoring.

Table III-17: DYE-M Upper Site Tier II Disposal Facility — Baseline Groundwater Monitoring Data (2008–2013), cont'd.

Analyte	**Maximum concentration observed**	**Observations and comments**
Chromium (Total)	0.52 mg/L MW-07-24 (2009)	A total of six groundwater samples were analyzed from three monitoring locations between 2008 and 2013. Concentrations in all samples were above the method detection limit (0.0050 mg/L). Concentrations ranged from 0.080–0.52 mg/L with a mean concentration of 0.34 mg/L.
Chromium (Dissolved)	N/A	A total of three groundwater samples were analyzed from two monitoring locations in 2011. Concentrations in all samples were below the method detection limit (0.0050 mg/L).
Arsenic (Total)	0.0070 mg/L MW-07-24 (2012)	A total of nine groundwater samples were analyzed from three monitoring locations between 2008 and 2013. Concentrations in six samples were below the method detection limit (0.0030 mg/L from 2008 to 2011 and 0.0010 mg/L in 2012 and 2013). Concentrations ranged from 0.0019–0.0070 mg/L with a mean concentration of 0.0049 mg/L.
Mercury (Total)	N/A	A total of nine groundwater samples were analyzed from three monitoring locations between 2008 and 2013. All results were below the method detection limit (0.00040 mg/L).
PCBs	N/A	A total of nine groundwater samples were analyzed from three monitoring locations between 2008 and 2013. All results were below the method detection limit (0.000020 mg/L from 2008 to 2011 and 0.0030 mg/L in 2012 and 2013).
PHC F1	N/A	A total of nine groundwater samples were analyzed from three monitoring locations between 2008 and 2013. All results were below the method detection limit (0.050 mg/L).

Table III-17: DYE-M Upper Site Tier II Disposal Facility — Baseline Groundwater Monitoring Data (2008–2013), cont'd.

Analyte	**Maximum concentration observed**	**Observations and comments**
PHC F2	N/A	A total of nine groundwater samples were analyzed from three monitoring locations between 2008 and 2013. All results were below the method detection limit (0.50 mg/L).
PHC F3	N/A	A total of nine groundwater samples were analyzed from three monitoring locations between 2008 and 2013. All results were below the method detection limit (1.0 mg/L).
PHC F4	N/A	A total of nine groundwater samples were analyzed from three monitoring locations between 2008 and 2013. All results were below the method detection limit (1.0 mg/L).

Table III-18: DYE-M Upper Site Tier II Disposal Facility — Baseline Monitoring Photolog (2008–2013)

Photo	File name	Date	Caption
US TDF-1	DSC01407	8/19/08	BMW-07-22 on the northeast side of the Upper Site Tier II Disposal Facility. Photograph taken facing southwest with the facility visible in the background.
US TDF-2	DSC04178	7/29/12	BMW-07-22 on the northeast side of the Upper Site Tier II Disposal Facility. Photograph taken facing west with the facility visible in the background.
US TDF-3	DSC05019	8/10/13	BMW-07-22 on the northeast side of the Upper Site Tier II Disposal Facility. Photograph taken facing southwest with the facility visible in the background.
US TDF-4	DSC04337	8/14/12	MW-12-02 on the northeast side of the Upper Site Tier II Disposal Facility. Photograph taken facing south with the facility visible in the background.
US TDF-5	DSC05024	8/10/13	MW-12-02 on the northeast side of the Upper Site Tier II Disposal Facility. Photograph taken facing south with the facility visible in the background.
US TDF-6	DSCN0646	8/19/08	MW-07-23 on the south side of the Upper Site Tier II Disposal Facility. Photograph taken facing north with the facility visible in the background.
US TDF-7	DSC02069	8/07/09	MW-07-23 on the south side of the Upper Site Tier II Disposal Facility. Photograph taken facing north with the facility visible in the background.
US TDF-8	DSC04172	7/29/12	MW-07-23 on the south side of the Upper Site Tier II Disposal Facility. Photograph taken facing north with the facility visible in the background.

Table III-18: DYE-M Upper Site Tier II Disposal Facility — Baseline Monitoring Photolog (2008–2013), cont'd.

Photo	File name	Date	Caption
US TDF-9	DSC05034	8/10/13	MW-07-23 on the south side of the Upper Site Tier II Disposal Facility. Photograph taken facing north with the facility visible in the background.
US TDF-10	P8150364	8/15/11	MW-08-24 on the west side of the Upper Site Tier II Disposal Facility. Photograph taken facing northeast with the facility visible in the background.
US TDF-11	DSC04174	7/29/12	MW-08-24 on the west side of the Upper Site Tier II Disposal Facility. Photograph taken facing northeast with the facility visible in the background.
US TDF-12	DSC05031	8/10/13	MW-08-24 on the west side of the Upper Site Tier II Disposal Facility. Photograph taken facing northeast with the facility visible in the background.
US TDF-13	P8150366	8/15/11	MW-08-25 on the northwest side of the Upper Site Tier II Disposal Facility. Photograph taken facing southeast with the facility visible in the background.
US TDF-14	DSC04176	7/29/12	MW-08-25 on the northwest side of the Upper Site Tier II Disposal Facility. Photograph taken facing southeast with the facility visible in the background.
US TDF-15	DSC05028	8/10/13	MW-08-25 on the northwest side of the Upper Site Tier II Disposal Facility. Photograph taken facing southeast with the facility visible in the background.

H. Upper Site Non-hazardous Waste Landfill

The Upper Site Non-hazardous Waste Landfill (US NHWL) is located on the north side of the road to the Upper Site, adjacent to the NWSO warehouse. The NHWL was built for the disposal of non-hazardous demolition materials and all non-hazardous wastes generated during the Upper Site cleanup operations. The monitoring program at the US NHWL consists of soil and groundwater monitoring.

In 2006, construction of the US NHWL was initiated. Four monitoring wells (BMW-06-18 and MW-06-19, -20 and -21) were installed around the facility. Baseline soil and groundwater samples were not collected.

In 2007, construction of the facility was completed. One monitoring well (MW-07-21) was installed to replace MW-06-21, which was damaged by construction

activities. Baseline monitoring began at the US NHWL. A total of 16 soil samples were collected in duplicate, at surface and at shallow depth, at BMW-06-18, MW-06-19, MW-06-20 and MW-07-21. All monitoring wells had insufficient water to allow collection of groundwater samples.

In 2008, a total of 16 soil samples were collected in duplicate, at surface and at shallow depth, from BMW-06-18, MW-06-19, MW-06-20 and MW-07-21. One groundwater sample was collected from each of BMW-06-18, MW-06-19 and MW-06-20. A sample was not collected from MW-07-21 as there was insufficient water to allow collection of a sample.

In 2009, a total of 16 soil samples were collected in duplicate, at surface and at shallow depth, from BMW-06-18, MW-06-19, MW-06-20 and MW-07-21. One groundwater sample was collected from each of BMW-06-18, MW-06-19 and MW-06-20. MW-07-21 contained insufficient water to allow collection of a sample.

In 2011, a total of 16 baseline soil samples were collected in duplicate, at surface and at shallow depth, from BMW-06-18, MW-06-19, MW-06-20 and MW-07-21. Groundwater samples were collected from MW-06-19 and MW-07-21. There was not enough water in BMW-06-18 and MW-06-20 to allow collection of a sample.

The US NHWL was closed at the end of the 2012 field season. A total of 16 soil samples were collected in duplicate, at surface and at shallow depth, from BMW-06-18, MW-06-19, MW-06-20 and MW-07-21. Groundwater samples were collected from all four monitoring wells.

In 2013, a total of 16 soil samples were collected in duplicate, at surface and at shallow depth, from four locations (BMW-06-18, MW-06-19, MW-06-20 and MW-07-21). Groundwater samples were collected from three (MW-06-19, MW-06-20 and MW-07-21) of the four monitoring wells. A sample was not collected from BMW-06-18 as the well was dry.

The depths to the bottom of the wells ranged from 1.0 to 1.9 m in the various years. The depth to the bottom of the wells increased marginally in 2012 and ranged from 1.5 to 2.0 m. Ice is present within a portion of the screened section of the wells.

Results for the analysis of the soil samples collected at the US NHWL are presented in Table B-129. Results for the analysis of the groundwater samples collected at the NHWL are presented in Table B-130. Monitoring well sampling logs from 2008 to 2013 are presented in Tables B-131 to B-154. Soil and groundwater data observations may be found below, in Table III-19 and Table III-20. The US NHWL baseline monitoring photolog may be found in Table III-21. Sampling locations for the US NHWL may be found in Appendix A, Map A-10.

Table III-19: DYE-M Upper Site Non-hazardous Waste Landfill — Baseline Soil Monitoring Data (2007–2013)

Analyte	Maximum concentration observed	Observations and comments
Copper	35 ppm BMW-06-18 (surface, 2007)	A total of 54 soil samples were analyzed from four monitoring locations between 2007 and 2013. Concentrations were above the method detection limit (3.0 ppm) at all sampling locations. Concentrations ranged from 12–35 ppm with a mean concentration of 20 ppm.
Nickel	120 ppm MW-06-19 (surface, 2007)	A total of 54 soil samples were analyzed from four monitoring locations between 2007 and 2013. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Detectable concentrations ranged from 22–120 ppm with a mean concentration of 58 ppm
Cobalt	20 ppm MW-06-19 (surface, 2007)	A total of 54 soil samples were analyzed from four monitoring locations between 2007 and 2013. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 8.1–20 ppm with a mean concentration of 12 ppm.
Cadmium	N/A	A total of 54 soil samples were analyzed from four monitoring locations between 2007 and 2013. All results were below the method detection limit (1.0 ppm).
Lead	47 ppm MW-06-19 (surface, 2013)	A total of 54 soil samples were analyzed from four monitoring locations between 2007 and 2013. Concentrations in 45 samples were below the method detection limit (10 ppm). Detectable concentrations ranged from 12–47 ppm with a mean concentration of 21 ppm.

Table III-19: DYE-M Upper Site Non-hazardous Waste Landfill — Baseline Soil Monitoring Data (2007–2013), cont'd.

Analyte	Maximum concentration observed	Observations and comments
Zinc	79 ppm BMW-06-18 (surface, 2007)	A total of 54 soil samples were analyzed from four monitoring locations between 2007 and 2013. Concentrations were above the method detection limit (15 ppm) at all sampling locations. Concentrations ranged from 23–79 ppm with a mean concentration of 42 ppm.
Chromium	66 ppm MW-06-18 (surface, 2007)	A total of 54 soil samples were analyzed from four monitoring locations between 2007 and 2013. Concentrations in three samples were below the method detection limit (20 ppm). Detectable concentrations ranged from 20–66 ppm with a mean concentration of 34 ppm.
Arsenic	2.2 ppm BMW-06-19 (depth, 2013)	A total of 54 soil samples were analyzed from four monitoring locations between 2007 and 2013. Concentrations in 36 samples were below the method detection limit (1.0 ppm from 2008 to 2012 and 0.20 ppm in 2013). Detectable concentrations ranged from 0.45–2.2 ppm with a mean concentration of 1.2 ppm.
Mercury	N/A	A total of 54 soil samples were analyzed from four monitoring locations between 2007 and 2013. All results were below the method detection limit (0.10 ppm).
PCBs	0.25 ppm BMW-06-18 (surface, 2012)	A total of 54 soil samples were analyzed from four monitoring locations between 2007 and 2013. Concentrations in 45 samples were below the method detection limit (0.0030 ppm from 2007 to 2011 and 0.050 ppm in 2012 and 2013). Detectable concentrations ranged from 0.0036–0.25 ppm with a mean concentration of 0.069 ppm.

Table III-19: DYE-M Upper Site Non-hazardous Waste Landfill — Baseline Soil Monitoring Data (2007–2013), cont'd.

Analyte	Maximum concentration observed	Observations and comments
PHC F1	N/A	A total of 54 soil samples were analyzed from four monitoring locations between 2007 and 2013. All results were below the method detection limit (10 ppm from 2007–2011 and in 2013 and 30 ppm in 2012).
PHC F2	8.0 ppm MW-06-19 (surface, 2008)	A total of 54 soil samples were analyzed from four monitoring locations between 2007 and 2013. Concentrations in 40 samples were below the method detection limit (4.0 ppm from 2007–2011 and in 2013 and 10 ppm in 2012). Detectable concentrations ranged from 4.0–8.0 ppm with a mean concentration of 5.1 ppm.
PHC F3	1,400 ppm MW-06-19 (surface, 2008)	A total of 54 soil samples were analyzed from four monitoring locations between 2007 and 2013. Concentrations in 24 samples were below the method detection limit (9.0 ppm from 2007–2011 and in 2013 and 10 ppm in 2012). Detectable concentrations ranged from 9.0–1,400 ppm with a mean concentration of 100 ppm.
PHC F4	390 ppm MW-06-19 (surface, 2008)	A total of 54 soil samples were analyzed from four monitoring locations between 2007 and 2013. Concentrations in 30 samples were below the method detection limit (8.0 ppm from 2007–2011 and in 2013 and 10 ppm in 2012). Detectable concentrations ranged from 9.3–390 ppm with a mean concentration of 36 ppm.

Table III-20: DYE-M Upper Site Non-hazardous Waste Landfill — Baseline Groundwater Monitoring Data (2008–2013)

Analyte	Maximum concentration observed	Observations and comments
Copper (Total)	0.50 mg/L MW-06-20 (2009)	A total of six groundwater samples were analyzed from three monitoring locations between 2008 and 2009. Concentrations in all samples were above the method detection limit (0.0050 mg/L). Detectable concentrations ranged from 0.033–0.50 mg/L with a mean concentration of 0.25 mg/L.
Copper (Dissolved)	N/A	A total of nine groundwater samples were analyzed from four monitoring locations between 2011 and 2013. Concentrations in all samples were below the method detection limit (0.0050 mg/L).
Nickel (Total)	0.39 mg/L BMW-06-18 (2009)	A total of six groundwater samples were analyzed from three monitoring locations between 2008 and 2009. Concentrations in all samples were above the method detection limit (0.0050 mg/L). Detectable concentrations ranged from 0.09–0.39 mg/L with a mean concentration of 0.22 mg/L.
Nickel (Dissolved)	0.0089 mg/L MW-06-19 (2011)	A total of nine groundwater samples were analyzed from four monitoring locations between 2011 and 2013. Concentrations in two samples were above the method detection limit (0.0050 mg/L). Detectable concentrations ranged from 0.0061–0.0089 mg/L with a mean concentration of 0.0075 mg/L.
Cobalt (Total)	0.13 mg/L MW-06-20 (2009)	A total of six groundwater samples were analyzed from three monitoring locations between 2008 and 2009. Concentrations in all samples were above the method detection limit (0.0030 mg/L). Detectable concentrations ranged from 0.0088–0.13 mg/L with a mean concentration of 0.065 mg/L.
Cobalt (Dissolved)	N/A	A total of nine groundwater samples were analyzed from four monitoring locations between 2008 and 2009. Concentrations in all samples were below the method detection limit (0.0030 mg/L).

Table III-20: DYE-M Upper Site Non-hazardous Waste Landfill — Baseline Groundwater Monitoring Data (2008–2013), cont'd

Analyte	**Maximum concentration observed**	**Observations and comments**
Cadmium (Total)	0.0033 mg/L MW-06-20 (2009)	A total of six groundwater samples were analyzed from three monitoring locations between 2008 and 2009. Concentrations in twelve samples were below the method detection limit (0.0010 mg/L). Detectable concentrations ranged from 0.0019–0.0033 mg/L with a mean concentration of 0.0027 mg/L.
Cadmium (Dissolved)	N/A	A total of nine groundwater samples were analyzed from four monitoring locations between 2008 and 2009. Concentrations in all samples were below the method detection limit (0.0010 mg/L).
Lead	0.26 mg/L BMW-06-18 (2009)	A total of 15 groundwater samples were analyzed from four monitoring locations between 2008 and 2009. The concentration in one sample was below the method detection limit (0.010 mg/L from 2008 to 2011 and 0.0050 mg/L in 2012 and 2013). Detectable concentrations ranged from 0.031–0.26 mg/L with a mean concentration of 0.097 mg/L.
Lead (Dissolved)	N/A	A total of nine groundwater samples were analyzed from four monitoring locations between 2011 and 2013. Concentrations in all samples were below the method detection limit (0.010 mg/L in 2011 and 0.0050 mg/L in 2012 and 2013).
Zinc (Total)	18 mg/L BMW-06-18 (2009)	A total of 15 groundwater samples were analyzed from four monitoring locations between 2008 and 2013. Concentrations were above the method detection limit (0.010 mg/L) at all sampling locations. Concentrations ranged from 0.050–18 mg/L with a mean concentration of 4.0 mg/L. The highest sample result (18 mg/L) was 6 mg/L higher (50% greater) than any other concentration found at the Lower Site NHWL during baseline monitoring.

Table III-20: DYE-M Upper Site Non-hazardous Waste Landfill — Baseline Groundwater Monitoring Data (2008–2013), cont'd

Analyte	Maximum concentration observed	Observations and comments
Chromium (Total)	0.59 mg/L BMW-06-18 (2009)	A total of 13 groundwater samples were analyzed from four monitoring locations between 2008 and 2013. Concentrations in all samples were above the method detection limit (0.0050 mg/L). Detectable concentrations ranged from 0.070–0.59 mg/L with a mean concentration of 0.26 mg/L.
Chromium (Dissolved)	0.0059 mg/L MW-06-19 (2011)	A total of two groundwater samples were analyzed from two monitoring locations in 2011. Concentration in one sample was above the method detection limit (0.0050 mg/L). The only detectable concentration was 0.0059 mg/L.
Arsenic (Total)	0.033 mg/L BMW-06-18 (2012)	A total of 15 groundwater samples were analyzed from four monitoring locations between 2008 and 2013. Concentrations in five samples were below the method detection limit (0.0030 mg/L from 2008 to 2011 and 0.0010 mg/L in 2012 and 2013). Detectable concentrations ranged from 0.0025–0.033 mg/L with a mean concentration of 0.012 mg/L.
Mercury (Total)	N/A	A total of 15 groundwater samples were analyzed from four monitoring locations between 2008 and 2013. All results were below the method detection limit (0.00040 mg/L).
PCBs	N/A	A total of 15 groundwater samples were analyzed from four monitoring locations between 2008 and 2013. All results were below the method detection limit (0.000020 mg/L from 2008 to 2011 and 0.0030 mg/L in 2012 and 2013).
PHC F1	N/A	A total of 15 groundwater samples were analyzed from four monitoring locations between 2008 and 2013. All results were below the method detection limit (0.050 mg/L).

Table III-20: DYE-M Upper Site Non-hazardous Waste Landfill — Baseline Groundwater Monitoring Data (2008–2013), cont'd

Analyte	**Maximum concentration observed**	**Observations and comments**
PHC F2	N/A	A total of 15 groundwater samples were analyzed from four monitoring locations between 2008 and 2013. All results were below the method detection limit (0.50 mg/L).
PHC F3	N/A	A total of 15 groundwater samples were analyzed from four monitoring locations between 2008 and 2013. All results were below the method detection limit (1.0 mg/L).
PHC F4	N/A	A total of 15 groundwater samples were analyzed from four monitoring locations between 2008 and 2013. All results were below the method detection limit (1.0 mg/L).

Table III-21: DYE-M Upper Site Non-hazardous Waste Landfill — Baseline Monitoring Photolog (2008–2013)

Photo	File name	Date	Caption
US NHWL-1	DSC02049	8/06/09	BMW-06-18 on the south side of the US NHWL. Photograph taken facing north with the facility visible in the background.
US NHWL-2	DSCN0640	8/18/08	BMW-06-18 on the south side of the US NHWL. Photograph taken facing northeast with the facility visible in the background.
US NHWL-3	DSC04022	07/25/12	BMW-06-18 on the south side of the US NHWL. Photograph taken facing north with the facility visible in the background.
US NHWL-4	DSC05038	08/10/13	BMW-06-18 on the south side of the US NHWL. Photograph taken facing north with the facility visible in the background.
US NHWL-5	DSC01399	8/19/08	MW-06-19 on the west side of the US NHWL. Photograph taken facing southeast with the facility visible in the background.
US NHWL-6	DSC02061	8/06/09	MW-06-19 on the west side of the US NHWL. Photograph taken facing north.
US NHWL-7	P8130332	8/13/11	MW-06-19 on the west side of the US NHWL. Photograph taken facing east with the facility visible in the background.
US NHWL-8	DSC04023	07/25/12	MW-06-19 on the west side of the US NHWL. Photograph taken facing east with the facility visible in the background.
US NHWL-9	DSC05041	08/10/13	MW-06-19 on the west side of the US NHWL. Photograph taken facing east with the facility visible in the background.
US NHWL-10	DSC01397	8/19/08	MW-06-20 on the northwest side of the US NHWL. Photograph taken facing south with the facility visible in the background.

Table III-21: DYE-M Upper Site Non-hazardous Waste Landfill — Baseline Monitoring Photolog (2008–2012), cont'd.

Photo	File name	Date	Caption
US NHWL-11	DSC02055	8/06/09	Close-up of MW-06-20 on the northwest side of the US NHWL.
US NHWL-12	DSC04025	07/25/12	MW-06-20 on the northwest side of the US NHWL. Photograph taken facing south with the facility visible in the background.
US NHWL-13	DSC05063	08/11/13	MW-06-20 on the northwest side of the US NHWL. Photograph taken facing south with the facility visible in the background.
US NHWL-14	DSC01394	8/19/08	MW-07-21 on the northeast side of the US NHWL. Photograph taken facing south with the facility visible in the background.
US NHWL-15	DSC02051	8/06/09	MW-07-21 on the northeast side of the US NHWL. Photograph taken facing south with the facility visible in the background.
US NHWL-16	DSC04027	07/25/12	MW-07-21 on the northeast side of the US NHWL. Photograph taken facing south with the facility visible in the background.
US NHWL-17	DSC05069	08/11/13	MW-07-21 on the northeast side of the US NHWL. Photograph taken facing south with the facility visible in the background.

I. Upper Site NWS Landfill

The Upper Site NWS Landfill is located southwest of the Station Area, on the west side of the road. The Upper Site NWS Landfill was created during DEW Line operations. The area has very little vegetative cover (<20%) (ESG 2002b). The Upper Site NWS Landfill was assessed as posing a low environmental risk and was regraded with clean fill in 2008 during the remediation of DYE-M. The monitoring program consists of soil monitoring.

In 2008, 2011 and 2013, a total of 52 soil samples were collected in duplicate, at surface and at shallow depth, from six locations (DM-18 to DM-23). No samples were collected from this landfill in 2009, 2010 or 2012.

Results for the analysis of the soil samples collected at the Upper Site NWS Landfill are presented in Table B-155. Monitoring logs for all Upper Site NWS Landfill soil sampling locations are presented in Tables B-156 to B-158. Soil data observations may be found below, in Table III-22. The Upper Site NWS Landfill baseline monitoring photolog may be found in Table III-23. Sampling locations for the Upper Site NWS Landfill may be found in Appendix A, Map A-11.

Table III-22: DYE-M Upper Site NWS Landfill — Baseline Soil Monitoring Data (2008–2013)

Analyte	Maximum concentration observed	Observations and comments
Copper	56 ppm DM-18 (surface, 2013)	A total of 34 soil samples were analyzed from five monitoring locations between 2008 and 2013. Concentrations were above the method detection limit (3.0 ppm) at all sampling locations. Concentrations ranged from 7.3–56 ppm with a mean concentration of 19 ppm.
Nickel	140 ppm DM-18 (surface and depth, 2013)	A total of 34 soil samples were analyzed from five monitoring locations between 2008 and 2013. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 12–140 ppm with a mean concentration of 39 ppm. The highest concentration (140 ppm) was well below the site-specific criterion for nickel, 2010 ppm, established for the DYE-M Upper Site.

Table III-22: DYE-M Upper Site NWS Landfill — Baseline Soil Monitoring Data (2008–2013)

Analyte	**Maximum concentration observed**	**Observations and comments**
Cobalt	18 ppm DM-18 (surface and depth, 2013)	A total of 34 soil samples were analyzed from five monitoring locations between 2008 and 2013. Concentrations in four samples were below the method detection limit (5.0 ppm). Detectable concentrations ranged from 5.1–18 ppm with a mean concentration of 10 ppm.
Cadmium	N/A	A total of 34 soil samples were analyzed from five monitoring locations between 2008 and 2013. All results were below the method detection limit (1.0 ppm).
Lead	39 ppm DM-20 (depth, 2013)	A total of 34 soil samples were analyzed from five monitoring locations between 2008 and 2013. Concentrations in 24 samples were below the method detection limit (10 ppm). Detectable concentrations ranged from 11–39 ppm with a mean concentration of 16 ppm.
Zinc	87 ppm DM-21 (depth, 2011)	A total of 34 soil samples were analyzed from five monitoring locations between 2008 and 2013. Concentrations were above the method detection limit (15 ppm) at all sampling locations. Concentrations ranged from 30–87 ppm with a mean concentration of 49 ppm.
Chromium	150 ppm DM-18 (surface, 2013)	A total of 34 soil samples were analyzed from five monitoring locations between 2008 and 2013. Concentrations in 17 samples were below the method detection limit (20 ppm). Detectable concentrations ranged from 20–150 ppm with a mean concentration of 63 ppm.

Table III-22: DYE-M Upper Site NWS Landfill — Baseline Soil Monitoring Data (2008–2013)

Analyte	**Maximum concentration observed**	**Observations and comments**
Arsenic	2.9 ppm DM-18 (surface, 2011)	A total of 34 soil samples were analyzed from five monitoring locations between 2008 and 2013. Concentrations in 19 samples were below the method detection limit (1.0 ppm in 2008 and 2011 and 0.20 ppm in 2013). Detectable concentrations ranged from 0.60–2.9 ppm with a mean concentration of 1.6 ppm.
Mercury	N/A	A total of 34 soil samples were analyzed from five monitoring locations between 2008 and 2013. All results were below the method detection limit (0.10 ppm).
PCBs	0.28 ppm DM-19 (surface, 2011)	A total of 34 soil samples were analyzed from five monitoring locations between 2008 and 2013. Concentrations in 30 samples were below the method detection limit (0.0030 ppm in 2008 and 0.050 ppm in 2011 and 2013). Detectable concentrations ranged from 0.0081–0.28 ppm with a mean concentration of 0.14 ppm.
PHC F1	N/A	A total of 34 soil samples were analyzed from five monitoring locations between 2008 and 2013. All results were below the method detection limit (10 ppm).
PHC F2	37 ppm DM-18 (depth, 2008 and 2011)	A total of 34 soil samples were analyzed from five monitoring locations between 2008 and 2013. Concentrations in 24 samples were below the method detection limit (4.0 ppm). Detectable concentrations ranged from 9.5–37 ppm with a mean concentration of 19 ppm.
PHC F3	36 ppm DM-19 (depth, 2013)	A total of 34 soil samples were analyzed from five monitoring locations between 2008 and 2013. Concentrations in 26 samples were below the method detection limit (9.0 ppm). Detectable concentrations ranged from 9.5–36 ppm with a mean concentration of 22 ppm.

Table III-22: DYE-M Upper Site NWS Landfill — Baseline Soil Monitoring Data (2008–2013)

Analyte	Maximum concentration observed	Observations and comments
PHC F4	25 ppm DM-22 (surface, 2013)	A total of 34 soil samples were analyzed from five monitoring locations between 2008 and 2013. Concentrations in 21 samples were below the method detection limit (8.0 ppm). Detectable concentrations ranged from 8.2–25 ppm with a mean concentration of 13 ppm.

Table III-23: DYE-M Upper Site NWS Landfill — Baseline Monitoring Photolog (2008–2013)

Photo	File name	Date	Caption
US NWS L-1	P8100233	8/10/11	DM-18 on the northeast side of the Upper Site NWS Landfill. Photograph taken facing south with the landfill visible in the background.
US NWS L-2	DSCO4869	8/10/13	DM-18 on the northeast side of the Upper Site NWS Landfill. Photograph taken facing south with the landfill visible in the background.
US NWS L-3	P8100237	8/10/11	DM-19 on the south side of the Upper Site NWS Landfill. Photograph taken facing northwest with the landfill visible in the background.
US NWS L-4	DSCO4873	8/10/13	DM-19 on the south side of the Upper Site NWS Landfill. Photograph taken facing northwest with the landfill visible in the background.
US NWS L-5	P8100241	8/10/11	DM-20 on the south side of the Upper Site NWS Landfill. Photograph taken facing northeast with the landfill visible in the background.
US NWS L-6	DSCO4877	8/10/13	DM-20 on the south side of the Upper Site NWS Landfill. Photograph taken facing northeast with the landfill visible in the background.

Table III-23: DYE-M Upper Site NWS Landfill — Baseline Monitoring Photolog (2008–2013), cont'd.

Photo	File name	Date	Caption
US NWS L-7	P8100244	8/10/11	DM-21 on the west side of the Upper Site NWS Landfill. Photograph taken facing northeast with the landfill visible in the background.
US NWS L-8	DSCO4882	8/10/13	DM-21 on the west side of the Upper Site NWS Landfill. Photograph taken facing northeast with the landfill visible in the background.
US NWS L-9	P8100253	8/10/11	DM-22 on the west side of the Upper Site NWS Landfill. Photograph taken facing east with the landfill visible in the background.
US NWS L-10	DSCO4889	8/10/13	DM-22 on the west side of the Upper Site NWS Landfill. Photograph taken facing east with the landfill visible in the background.

J. Upper Site South Landfill West

The Upper Site South Landfill West is located 60 m south and downgradient of the Upper Site NWS Landfill. The Upper Site South Landfill West was created during DEW Line operations. The landfill was assessed as posing a low environmental risk and was regraded with clean fill in 2008 during the remediation of DYE-M. The monitoring program consists of soil monitoring.

In 2008, 2011 and 2013, a total of 96 soil samples were collected in duplicate, at surface and at shallow depth, from eight locations (DM-19 and DM-23 to DM-30). No samples were collected at this landfill in 2009, 2010 or 2012.

Results for the analysis of the soil samples collected at the Upper Site South Landfill West are presented in Table B-160. Monitoring logs for all Upper Site South Landfill West soil sampling locations are presented in Tables B-161 to B-163. Soil data observations may be found below, in Table III-24. The Upper Site South Landfill West baseline monitoring photolog may be found in Table III-25. Sampling locations for the Upper Site South Landfill West may be found in Appendix A, Map A-12.

Table III-24: DYE-M Upper Site South Landfill West — Baseline Soil Monitoring Data (2008–2013)

Analyte	Maximum concentration observed	Observations and comments
Copper	33 ppm DM-24 (surface, 2008 and 2013)	A total of 54 soil samples were analyzed from eight monitoring locations between 2008 and 2013. The concentration in one sample was below the method detection limit (3.0 ppm). Detectable concentrations ranged from 8.5–33 ppm with a mean concentration of 19 ppm.
Nickel	95 ppm DM-24 (depth, 2008)	A total of 54 soil samples were analyzed from eight monitoring locations between 2008 and 2013. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 9.4–95 ppm with a mean concentration of 41 ppm.
Cobalt	19 ppm DM-25 (depth, 2011)	A total of 54 soil samples were analyzed from eight monitoring locations between 2008 and 2013. Concentrations in four samples were below the method detection limit (5.0 ppm). Detectable concentrations ranged from 5.8–19 ppm with a mean concentration of 11 ppm.
Cadmium	N/A	A total of 54 soil samples were analyzed from eight monitoring locations between 2008 and 2013. All results were below the method detection limit (1.0 ppm).
Lead	N/A	A total of 54 soil samples were analyzed from eight monitoring locations between 2008 and 2013. All results were below the method detection limit (10 ppm).
Zinc	120 ppm DM-28 (surface, 2008)	A total of 54 soil samples were analyzed from eight monitoring locations between 2008 and 2013. Concentrations were above the method detection limit (15 ppm) at all sampling locations. Concentrations ranged from 18–120 ppm with a mean concentration of 55 ppm.

Table III-24: DYE-M Upper Site South Landfill West — Baseline Soil Monitoring Data (2008–2013), cont'd.

Analyte	Maximum concentration observed	Observations and comments
Chromium	190 ppm DM-24 (depth, 2008)	A total of 54 soil samples were analyzed from eight monitoring locations between 2008 and 2013. Concentrations in seven samples were below the method detection limit (20 ppm). Detectable concentrations ranged from 20–190 ppm with a mean concentration of 51 ppm.
Arsenic	2.2 ppm DM-27 (depth, 2013)	A total of 54 soil samples were analyzed from eight monitoring locations between 2008 and 2013. Concentrations in 28 samples were below the method detection limit (1.0 ppm in 2008 and 2011 and 0.20 ppm in 2013). Detectable concentrations ranged from 0.69–2.2 ppm with a mean concentration of 1.3 ppm.
Mercury	N/A	A total of 54 soil samples were analyzed from eight monitoring locations between 2008 and 2013. All results were below the method detection limit (0.10 ppm).
PCBs	0.088 ppm DM-26 (surface, 2013)	A total of 54 soil samples were analyzed from eight monitoring locations between 2008 and 2013. Concentrations in 49 samples were below the method detection limit (0.0030 ppm in 2008 and 0.050 ppm in 2011 and 2013). Detectable concentrations ranged from 0.0045–0.088 ppm with a mean concentration of 0.027 ppm.
PHC F1	N/A	A total of 54 soil samples were analyzed from eight monitoring locations between 2008 and 2013. All results were below the method detection limit (10 ppm).

Table III-24: DYE-M Upper Site South Landfill West — Baseline Soil Monitoring Data (2008–2013), cont'd.

Analyte	Maximum concentration observed	Observations and comments
PHC F2	13 ppm DM-27 (surface, 2013)	A total of 54 soil samples were analyzed from eight monitoring locations between 2008 and 2013. Concentrations in 46 samples were below the method detection limit (4.0 ppm). Detectable concentrations ranged from 4.5–13 ppm with a mean concentration of 7.6 ppm.
PHC F3	190 ppm DM-25 (surface, 2008)	A total of 54 soil samples were analyzed from eight monitoring locations between 2008 and 2013. Concentrations in 30 samples were below the method detection limit (9.0 ppm). Detectable concentrations ranged from 9–190 ppm with a mean concentration of 29 ppm.
PHC F4	130 ppm DM-25 (surface, 2008)	A total of 54 soil samples were analyzed from eight monitoring locations between 2008 and 2013. Concentrations in 36 samples were below the method detection limit (8.0 ppm). Detectable concentrations ranged from 8.7–130 ppm with a mean concentration of 23 ppm.

Table III-25: DYE-M Upper Site South Landfill West — Baseline Monitoring Photolog (2008 - 2013)

Photo	File name	Date	Caption
US SLW-1	P8100256	8/10/11	DM-23 on the north side of the Upper Site South Landfill West. Photograph taken facing south with the landfill visible in the background.
US SLW-2	DSCO4819	8/2/13	DM-23 on the north side of the Upper Site South Landfill West. Photograph taken facing south with the landfill visible in the background.
US SLW-3	P8100259	8/10/11	DM-24 on the south side of the Upper Site South Landfill West. Photograph taken facing north with the landfill visible in the background.

Table III-25: DYE-M Upper Site South Landfill West — Baseline Monitoring Photolog (2008–2013), cont'd.

Photo	File name	Date	Caption
US SLW-4	DSCO4824	8/3/13	DM-24 on the south side of the Upper Site South Landfill West. Photograph taken facing north with the landfill visible in the background.
US SLW-5	P8100261	8/10/11	DM-25 on the south side of the Upper Site South Landfill West. Photograph taken facing north with the landfill visible in the background.
US SLW-6	DSCO4828	8/3/13	DM-25 on the south side of the Upper Site South Landfill West. Photograph taken facing north with the landfill visible in the background.
US SLW-7	P8100263	8/10/11	DM-26 on the south side of the Upper Site South Landfill West. Photograph taken facing north with the landfill visible in the background.
US SLW-8	DSCO4832	8/3/13	DM-26 on the south side of the Upper Site South Landfill West. Photograph taken facing north with the landfill visible in the background.
US SLW-9	P8100265	8/10/11	DM-27 on the south side of the Upper Site South Landfill West. Photograph taken facing northeast with the landfill visible in the background.
US SLW-10	DSCO4856	8/3/13	DM-27 on the south side of the Upper Site South Landfill West. Photograph taken facing northeast with the landfill visible in the background.
US SLW-11	P8100268	8/11/11	DM-28 on the west side of the Upper Site South Landfill West. Photograph taken facing northeast with the landfill visible in the background.
US SLW-12	DSCO4837	8/3/13	DM-28 on the west side of the Upper Site South Landfill West. Photograph taken facing northeast with the landfill visible in the background.
US SLW-13	P8100270	8/11/11	DM-29 on the west side of the Upper Site South Landfill West. Photograph taken facing southeast with the landfill visible in the background.

Table III-25: DYE-M Upper Site South Landfill West — Baseline Monitoring Photolog (2008–2013), cont'd.

Photo	File name	Date	Caption
US SLW-14	DSCO4861	8/3/13	DM-29 on the west side of the Upper Site South Landfill West. Photograph taken facing southeast with the landfill visible in the background.
US SLW-15	P8100273	8/11/11	DM-30 on the northwest side of the Upper Site South Landfill West. Photograph taken facing southeast with the landfill visible in the background.
US SLW-16	DSCO4865	8/3/13	DM-30 on the northwest side of the Upper Site South Landfill West. Photograph taken facing southeast with the landfill visible in the background.

No photos were taken in 2008.

L. Upper Site West Landfill

The Upper Site West Landfill is located 800 m west of the Station Area, on the north side of the road. The Upper Site West Landfill was created during DEW Line operations. The surface of the landfill was covered with sand and gravel. Vegetative cover on the surface and in the surrounding area is sparse (ESG 2002b). The West Landfill consisted originally of six lobes: West Lobe RA-11, West Lobe RA-12, West Lobe RA-13, Centre Lobe RA-14, East Lobe RA-15 and East Lobe RA-16. The landfill was assessed as posing a low environmental risk and was regraded with clean fill between 2008 and 2013. In addition, excavation of two areas of West Lobe RA-12 took place in 2009, and excavation of all of West Lobe RA-13 took place in 2011 and 2012. The monitoring program consists of soil monitoring.

In 2008, 2009, 2011, 2012 and 2013, a total of 140 soil samples were collected in duplicate, at surface and at shallow depth, from 22 locations (DM-31 to DM-52). An additional monitoring location, 08-29792, was included adjacent to the original monitoring location for West Lobe RA-13, the smallest lobe of the Upper Site West Landfill, in 2008. However, the new tender document implemented in 2011 called for excavation of RA-13 because of concerns about slope stability, so the monitoring location was no longer required. This location was sampled only once, in 2008, and will not be included in further baseline or long-term monitoring programs.

In 2013, a total of 44 baseline soil samples were collected in duplicate, at surface and at shallow depth, from 22 locations.

Results for the analysis of the soil samples collected at the Upper Site West Landfill are presented in Table B-165. Monitoring logs for all Upper Site West Landfill soil sampling locations are presented in Tables B-166 to B-170. Soil data observations may be found below, in Table III-26. It should be noted that soil concentrations of chromium at monitoring locations DM-48 and DM-49 were measured between 280 and 440 ppm at both surface and depth at several occasions, exceeding the DLCU Tier II criterion of 250 ppm but below the SSTL of 513 ppm. During the site investigation, four soil samples from the Upper Site West Landfill were found to contain elevated concentrations of a number of inorganic elements, including chromium. As there are high naturally occurring levels of inorganic elements present at the Upper Site, the chromium exceedances found during baseline monitoring of the Upper Site West Landfill are attributed to the naturally occurring levels. The cadmium concentration in a surface soil sample collected at DM-46 in 2013 exceeded the DLCU Tier II criterion of 5 ppm. The source of this elevated concentration is undetermined.

The Upper Site West Landfill baseline monitoring photolog may be found in Table III-27. Sampling locations for the Upper Site West Landfill may be found in Appendix A, Map A-13 (West Lobes) and Map A-14 (Center and East Lobes).

Table III-26: DYE-M Upper Site West Landfill — Baseline Soil Monitoring Data (2008–2013)

Analyte	Maximum concentration observed	Observations and comments
Copper	160 ppm DM-49 (depth, 2008) DM-44 (depth, 2009 surface, 2013) DM-48 (depth, 2013)	A total of 158 soil samples were analyzed from 22 monitoring locations between 2008 and 2013. Concentrations were above the method detection limit (3.0 ppm) at all sampling locations. Concentrations ranged from 12–160 ppm with a mean concentration of 73 ppm.

Table III-26: DYE-M Upper Site West Landfill — Baseline Soil Monitoring Data (2008–2013), cont'd.

Analyte	Maximum concentration observed	Observations and comments
Nickel	380 ppm DM-48 (surface, 2011)	A total of 158 soil samples were analyzed from 22 monitoring locations between 2008 and 2013. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 18–380 ppm with a mean concentration of 72 ppm.
Cobalt	50 ppm DM-52 (surface, 2011)	A total of 158 soil samples were analyzed from 22 monitoring locations between 2008 and 2013. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 7.3–50 ppm with a mean concentration of 14 ppm.
Cadmium	7.5 ppm DM-46 (surface, 2013)	A total of 158 soil samples were analyzed from 22 monitoring locations between 2008 and 2013. The concentration at one sampling location was above the method detection limit (1.0 ppm).
Lead	110 ppm DM-38 (surface, 2012)	A total of 158 soil samples were analyzed from 22 monitoring locations between 2008 and 2013. Concentrations in 83 samples were below the method detection limit (10 ppm). Detectable concentrations ranged from 10–110 ppm with a mean concentration of 19 ppm.
Zinc	360 ppm DM-41 (surface, 2008)	A total of 158 soil samples were analyzed from 22 monitoring locations between 2008 and 2013. Concentrations were above the method detection limit (15 ppm) at all sampling locations. Concentrations ranged from 34–360 ppm with a mean concentration of 113 ppm.

Table III-26: DYE-M Upper Site West Landfill — Baseline Soil Monitoring Data (2008–2013), cont'd.

Analyte	Maximum concentration observed	Observations and comments
Chromium	460 ppm DM-48 (surface, 2011)	A total of 158 soil samples were analyzed from 22 monitoring locations between 2008 and 2013. Concentrations were above the method detection limit (20 ppm) at all sampling locations. Concentrations ranged from 27–460 ppm with a mean concentration of 140 ppm.
Arsenic	13 ppm DM-48 (surface, 2009) and DM-48 (surface, 2011)	A total of 158 soil samples were analyzed from 22 monitoring locations between 2008 and 2013. Concentrations in 49 samples were below the method detection limit (1.0 ppm in 2008 and 2011 and 2012 and 0.20 ppm in 2013). Detectable concentrations ranged from 0.40–13 ppm with a mean concentration of 2.6 ppm.
Mercury	N/A	A total of 158 soil samples were analyzed from 22 monitoring locations between 2008 and 2013. All results were below the method detection limit (0.10 ppm).
PCBs	0.19 ppm DM-31 (surface, 2011) and DM-50 (depth, 2011)	A total of 158 soil samples were analyzed from 22 monitoring locations between 2008 and 2013. Concentrations in 137 samples were below the method detection limit (0.0030 ppm from 2008 to 2011 and 0.050 ppm in 2012 and 2013). Detectable concentrations ranged from 0.0030–0.19 ppm with a mean concentration of 0.051 ppm.
PHC F1	50 ppm DM-51 (depth, 2008)	A total of 158 soil samples were analyzed from 22 monitoring locations between 2008 and 2013. Concentrations in 144 samples were below the method detection limit (10 ppm). Detectable concentrations ranged from 21–50 ppm with a mean concentration of 33 ppm.

Table III-26: DYE-M Upper Site West Landfill — Baseline Soil Monitoring Data (2008–2013), cont'd.

Analyte	Maximum concentration observed	Observations and comments
PHC F2	680 ppm DM-47 (surface, 2008)	A total of 158 soil samples were analyzed from 22 monitoring locations between 2008 and 2013. Concentrations in 85 samples were below the method detection limit (4.0 ppm). Detectable concentrations ranged from 4.2–680 ppm with a mean concentration of 30 ppm.
PHC F3	570 ppm DM-51 (depth, 2008)	A total of 158 soil samples were analyzed from 22 monitoring locations between 2008 and 2013. Concentrations in 81 samples were below the method detection limit (9.0 ppm). Detectable concentrations ranged from 9.1–570 ppm with a mean concentration of 65 ppm.
PHC F4	140 ppm DM-51 (depth, 2008)	A total of 158 soil samples were analyzed from 22 monitoring locations between 2008 and 2013. Concentrations in 108 samples were below the method detection limit (8.0 ppm). Detectable concentrations ranged from 8.2–140 ppm with a mean concentration of 20 ppm.

Table III-27: DYE-M Upper Site West Landfill — Baseline Monitoring Photolog (2008–2013)

Photo	File name	Date	Caption
US WL-1	P8110292	8/11/11	DM-31 on the south side of the Upper Site West Landfill, West Lobe RA-11. Photograph taken facing north with the lobe visible in the background.
US WL-2	DSCO5180	8/17/13	DM-31 on the south side of the Upper Site West Landfill, West Lobe RA-11. Photograph taken facing north with the lobe visible in the background.
US WL-3	P8110295	8/11/11	DM-32 on the southwest side of the Upper Site West Landfill, West Lobe RA-11. Photograph taken facing northeast with the lobe visible in the background.

Table III-27: DYE-M Upper Site West Landfill — Baseline Monitoring Photolog (2008–2013), cont'd.

Photo	File name	Date	Caption
US WL-4	DSCO5184	8/17/13	DM-32 on the southwest side of the Upper Site West Landfill, West Lobe RA-11. Photograph taken facing northeast with the lobe visible in the background.
US WL-5	P8110297	8/11/11	DM-33 on the west side of the Upper Site West Landfill, West Lobe RA-11. Photograph taken facing east with the lobe visible in the background.
US WL-6	DSCO5187	8/17/13	DM-33 on the west side of the Upper Site West Landfill, West Lobe RA-11. Photograph taken facing east with the lobe visible in the background.
US WL-7	P8110301	8/11/11	DM-34 on the northwest side of the Upper Site West Landfill, West Lobe RA-11. Photograph taken facing southeast with the lobe visible in the background.
US WL-8	DSCO5192	8/17/13	DM-34 on the northwest side of the Upper Site West Landfill, West Lobe RA-11. Photograph taken facing southeast with the lobe visible in the background.
US WL-9	DSC01461	8/30/08	DM-35 on the southeast side of the Upper Site West Landfill, West Lobe, RA-12. Photograph taken facing northwest with the lobe visible in the background.
US WL-10	P7240427	7/23/12	DM-35 on the southeast side of the Upper Site West Landfill, West Lobe, RA-12. Photograph taken facing west with the lobe visible in the background.
US WL-11	DSC05154	8/17/13	DM-35 on the southeast side of the Upper Site West Landfill, West Lobe, RA-12. Photograph taken facing northwest with the lobe visible in the background.
US WL-12	DSC01466	8/30/08	DM-36 on the south side of the Upper Site West Landfill, West Lobe, RA-12. Photograph taken facing northeast with the lobe visible in the background.
US WL-13	P7240429	7/23/12	DM-36 on the south side of the Upper Site West Landfill, West Lobe, RA-12. Photograph taken facing northeast with the lobe visible in the background.

Table III-27: DYE-M Upper Site West Landfill — Baseline Monitoring Photolog (2008–2013), cont'd.

Photo	File name	Date	Caption
US WL-14	DSC01462	8/17/13	DM-36 on the south side of the Upper Site West Landfill, West Lobe, RA-12. Photograph taken facing northeast with the lobe visible in the background.
US WL-15	DSC01473	8/30/08	DM-37 on the southwest side of the Upper Site West Landfill, West Lobe, RA-12. Photograph taken facing east with the lobe visible in the background.
US WL-16	P7240431	7/23/12	DM-37 on the southwest side of the Upper Site West Landfill, West Lobe, RA-12. Photograph taken facing northeast with the lobe visible in the background.
US WL-17	DSC05167	8/17/13	DM-37 on the southwest side of the Upper Site West Landfill, West Lobe, RA-12. Photograph taken facing northeast with the lobe visible in the background.
US WL-18	DSC01469	8/30/08	DM-38 on the north side of the Upper Site West Landfill, West Lobe, RA-12. Photograph taken facing southeast with the lobe visible in the background.
US WL-19	DM-38-2	7/23/12	DM-38 on the north side of the Upper Site West Landfill, West Lobe, RA-12. Photograph taken facing south with the lobe visible in the background.
US WL-20	DSC05170	8/17/13	DM-38 on the north side of the Upper Site West Landfill, West Lobe, RA-12. Photograph taken facing south with the lobe visible in the background.
US WL-21	P7240437	7/23/12	DM-39 on the southeast side of the Upper Site West Landfill, West Lobe, RA-12. Photograph taken facing west with the lobe visible in the background.
US WL-22	DSC05174	8/17/13	DM-39 on the southeast side of the Upper Site West Landfill, West Lobe, RA-12. Photograph taken facing west with the lobe visible in the background.
US WL-23	DSCN0739	8/29/08	DM-40 on the south side of the Upper Site West Landfill, Centre Lobe. Photograph taken facing west with the lobe visible in the background.

Table III-27: DYE-M Upper Site West Landfill — Baseline Monitoring Photolog (2008–2013), cont'd.

Photo	File name	Date	Caption
US WL-24	DSC02220	8/26/09	DM-40 on the south side of the Upper Site West Landfill, Centre Lobe. Photograph taken facing north with the lobe visible in the background.
US WL-25	DSC03974	7/23/12	DM-40 on the south side of the Upper Site West Landfill, Centre Lobe. Photograph taken facing north with the lobe visible in the background.
US WL-26	DSC05128	8/16/13	DM-40 on the south side of the Upper Site West Landfill, Centre Lobe. Photograph taken facing north with the lobe visible in the background.
US WL-27	DSCN0736	8/29/08	DM-41 on the southwest side of the Upper Site West Landfill, Centre Lobe. Photograph taken facing north with the lobe visible in the background.
US WL-28	DSC03979	7/23/12	DM-41 on the southwest side of the Upper Site West Landfill, Centre Lobe. Photograph taken facing north with the lobe visible in the background.
US WL-29	DSC05130	8/16/13	DM-41 on the southwest side of the Upper Site West Landfill, Centre Lobe. Photograph taken facing north with the lobe visible in the background.
US WL-30	DSC02223	8/26/09	Close-up of soil monitoring location at DM-42 at the Upper Site West Landfill, Centre Lobe.
US WL-31	DSC03981	7/23/12	DM-42 on the west side of the Upper Site West Landfill, Centre Lobe. Photograph taken facing east with the lobe visible in the background.
US WL-32	DSC05133	8/16/13	DM-42 on the west side of the Upper Site West Landfill, Centre Lobe. Photograph taken facing east with the lobe visible in the background.
US WL-33	DSC02224	8/26/09	Close-up of soil monitoring location at DM-43 at the Upper Site West Landfill, Centre Lobe.

Table III-27: DYE-M Upper Site West Landfill — Baseline Monitoring Photolog (2008–2013), cont'd.

Photo	File name	Date	Caption
US WL-34	DSC03985	7/23/12	DM-43 on the northwest side of the Upper Site West Landfill, Centre Lobe. Photograph taken facing south with the lobe visible in the background.
US WL-35	DSC05135	8/16/13	DM-43 on the northwest side of the Upper Site West Landfill, Centre Lobe. Photograph taken facing south with the lobe visible in the background.
US WL-36	DSC02228	8/26/09	Close-up of soil monitoring location at DM-44 at the Upper Site West Landfill, Centre Lobe.
US WL-37	DSC03989	7/23/12	DM-44 on the north side of the Upper Site West Landfill, Centre Lobe. Photograph taken facing south with the regrade visible in the background.
US WL-38	DSC05139	8/16/13	DM-44 on the north side of the Upper Site West Landfill, Centre Lobe. Photograph taken facing south with the lobe visible in the background.
US WL-39	DSC02230	8/26/09	Close-up of soil monitoring location at DM-45 at the Upper Site West Landfill, Centre Lobe.
US WL-40	DSC03991	7/23/12	DM-45 on the north side of the Upper Site West Landfill, Centre Lobe. Photograph taken facing south with the lobe visible in the background.
US WL-41	DSC05143	8/16/13	DM-45 on the north side of the Upper Site West Landfill, Centre Lobe. Photograph taken facing south with the lobe visible in the background.
US WL-42	DSC02231	8/26/09	Close-up of soil monitoring location at DM-46 at the Upper Site West Landfill, Central Lobe.
US WL-43	DSC03996	7/23/12	DM-46 on the northeast side of the Upper Site West Landfill, Centre Lobe. Photograph taken facing south with the lobe visible in the background.

Table III-27: DYE-M Upper Site West Landfill — Baseline Monitoring Photolog (2008–2013), cont'd.

Photo	File name	Date	Caption
US WL-44	DSC05150	8/16/13	DM-46 on the northeast side of the Upper Site West Landfill, Centre Lobe. Photograph taken facing south with the lobe visible in the background.
US WL-45	DSCN0745	8/29/08	DM-47 on the south side of the Upper Site West Landfill, East Lobe. Photograph taken facing northeast with the lobe visible in the background.
US WL-46	DSC04640	7/26/13	DM-47 on the south side of the Upper Site West Landfill, East Lobe. Photograph taken facing northeast with the lobe visible in the background.
US WL-47	P8110287	8/11/11	DM-48 on the north side of the Upper Site West Landfill, East Lobe. Photograph taken facing south with the lobe visible in the background.
US WL-48	DSC04648	7/26/13	DM-48 on the north side of the Upper Site West Landfill, East Lobe. Photograph taken facing south with the lobe visible in the background.
US WL-49	DSCN0747	8/29/08	DM-49 on the east side of the Upper Site West Landfill, East Lobe. Photograph taken facing south with the lobe visible in the background.
US WL-50	P8110290	8/11/11	DM-49 on the east side of the Upper Site West Landfill, East Lobe. Photograph taken facing south with the lobe visible in the background.
US WL-51	DSC04650	7/26/13	DM-49 on the east side of the Upper Site West Landfill, East Lobe. Photograph taken facing south with the lobe visible in the background.
US WL-52	DSCN0727	8/29/08	DM-50 on the east side of the Upper Site West Landfill, East Lobe RA-16. Photograph taken facing southwest with the lobe visible in the background.
US WL-53	P8110275	8/11/11	DM-50 on the east side of the Upper Site West Landfill, East Lobe, RA-16. Photograph taken facing west with the lobe visible in the background.

Table III-27: DYE-M Upper Site West Landfill — Baseline Monitoring Photolog (2008–2013), cont'd.

Photo	File name	Date	Caption
US WL-54	DSC04653	7/26/13	DM-50 on the east side of the Upper Site West Landfill, East Lobe, RA-16. Photograph taken facing northwest with the lobe visible in the background.
US WL-55	DSCN0725	8/29/08	DM-51 on the south side of the Upper Site West Landfill, East Lobe, RA-16. Photograph taken facing northeast with the lobe visible in the background.
US WL-56	P8110277	8/11/11	DM-51 on the west side of the Upper Site West Landfill, East Lobe, RA-16. Photograph taken facing east with the lobe visible in the background.
US WL-57	DSC04655	7/26/13	DM-51 on the west side of the Upper Site West Landfill, East Lobe, RA-16. Photograph taken facing northeast with the lobe visible in the background.
US WL-58	DSCN0733	8/29/08	DM-52 on the northwest side of the Upper Site West Landfill, East Lobe, RA-16. Photograph taken facing east with the lobe visible in the background.
US WL-59	P8110279	8/11/11	DM-52 on the northwest side of the Upper Site West Landfill, East Lobe, RA-16. Photograph taken facing southeast with the lobe visible in the background.
US WL-60	DSC04662	7/26/13	DM-52 on the northwest side of the Upper Site West Landfill, East Lobe, RA-16. Photograph taken facing south with the lobe visible in the background.

M. Upper Site Pallet Line Landfill

The Upper Site Pallet Line Landfill is located approximately 800 m west of the Station Area and on the southern side of the road from the West Landfill. The Upper Site Pallet Line Landfill was created during DEW Line operations. The area was a flat sand and gravel pad (ESG 2002b). The Upper Site Pallet Line Landfill consists of multiple lobes (Lobes 1–5 and the Abandoned Lobe), which were assessed as posing a low environmental risk and were regraded with clean fill in 2008 and 2009 during the remediation of DYE-M. The monitoring program consists of soil monitoring. Lobe 5 does not require monitoring as it was only a small debris area and it is too small to be included in the long term monitoring program.

In 2008, 2009, 2011, 2012 and 2013, a total of 72 soil samples were collected in duplicate, at surface and at shallow depth, from 12 locations (DM-50, DM-51, DM-53 to DM-62). Soil analysis results from the Upper Site West Landfill downgradient monitoring locations DM-50 and DM-51 were included in the summary as upgradient locations for the Upper Site Pallet Line Landfill, as these monitoring locations for the two landfills overlap.

Results for the analysis of the soil samples collected at the Upper Site Pallet Line Landfill are presented in Table B-172. Monitoring logs for all Upper Site Pallet Line Landfill soil sampling locations are presented in Tables B-173 to B-177. Soil data observations may be found below, in Table III-28. The Upper Site Pallet Line Landfill baseline monitoring photolog may be found in Table III-29. Sampling locations for the Upper Site Pallet Line Landfill may be found in Appendix A, Map A-15.

Table III-28: DYE-M Upper Site Pallet Line Landfill — Baseline Soil Monitoring Data (2008–2013)

Analyte	Maximum concentration observed	Observations and comments
Copper	89 ppm DM-50 (surface, 2012)	A total of 87 soil samples were analyzed from 13 monitoring locations between 2008 and 2013. Concentrations were above the method detection limit (3.0 ppm) at all sampling locations. Concentrations ranged from 13–89 ppm with a mean concentration of 35 ppm.
Nickel	140 ppm DM-62 (depth, 2012	A total of 87 soil samples were analyzed from 13 monitoring locations between 2008 and 2013. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 42–140 ppm with a mean concentration of 81 ppm.
Cobalt	79 ppm DM-58 (depth, 2012)	A total of 87 soil samples were analyzed from 13 monitoring locations between 2008 and 2013. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 7.7–79 ppm with a mean concentration of 16 ppm.
Cadmium	N/A	A total of 87 soil samples were analyzed from 13 monitoring locations between 2008 and 2013. All results were below the method detection limit (1.0 ppm).
Lead	79 ppm DM-54 (surface, 2012)	A total of 87 soil samples were analyzed from 13 monitoring locations between 2008 and 2013. Concentrations in 30 samples were below the method detection limit (10 ppm). Detectable concentrations ranged from 10–79 ppm with a mean concentration of 19 ppm.

Table III-28: DYE-M Upper Site Pallet Line Landfill — Baseline Soil Monitoring Data (2008–2013), cont'd.

Analyte	Maximum concentration observed	Observations and comments
Zinc	130 ppm DM-51 (depth, 2012)	A total of 87 soil samples were analyzed from 13 monitoring locations between 2008 and 2013. Concentrations were above the method detection limit (15 ppm) at all sampling locations. Concentrations ranged from 34–130 ppm with a mean concentration of 64 ppm.
Chromium	200 ppm DM-50 (surface, 2012)	A total of 87 soil samples were analyzed from 13 monitoring locations between 2008 and 2013. Concentrations were above the method detection limit (20 ppm) at all sampling locations. Concentrations ranged from 33–200 ppm with a mean concentration of 72 ppm.
Arsenic	3.0 ppm DM-50 (depth, 2012)	A total of 87 soil samples were analyzed from 13 monitoring locations between 2008 and 2013. Concentrations in 28 samples were below the method detection limit (1.0 ppm from 2008 to 2012 and 0.20 ppm in 2013). Detectable concentrations ranged from 0.70–3.0 ppm with a mean concentration of 1.7 ppm.
Mercury	N/A	A total of 87 soil samples were analyzed from 13 monitoring locations between 2008 and 2013. Concentrations in all samples were below the method detection limit (0.1 ppm).
PCBs	0.19 ppm DM-50 (depth, 2011)	A total of 87 soil samples were analyzed from 13 monitoring locations between 2008 and 2013. Concentrations in 79 samples were below the method detection limit (0.0030 ppm in 2008 and 0.050 ppm in 2011 and 2013). Detectable concentrations ranged from 0.0030–0.19 ppm with a mean concentration of 0.051 ppm.

Table III-28: DYE-M Upper Site Pallet Line Landfill — Baseline Soil Monitoring Data (2008–2013), cont'd.

Analyte	Maximum concentration observed	Observations and comments
PHC F1	640 ppm DM-59 (depth, 2013)	A total of 87 soil samples were analyzed from 13 monitoring locations between 2008 and 2013. Concentrations in 79 samples were below the method detection limit (10 ppm). Detectable concentrations ranged from 14–640 ppm with a mean concentration of 131 ppm.
PHC F2	1800 ppm DM-59 (depth, 2013)	A total of 87 soil samples were analyzed from 13 monitoring locations between 2008 and 2013. Concentrations in 48 samples were below the method detection limit (4.0 ppm). Detectable concentrations ranged from 4.1–1800 ppm with a mean concentration of 182 ppm.
PHC F3	2100 ppm DM-54 (depth, 2013)	A total of 87 soil samples were analyzed from 13 monitoring locations between 2008 and 2013. Concentrations in 49 samples were below the method detection limit (9.0 ppm). Detectable concentrations ranged from 9.0–2100 ppm with a mean concentration of 145 ppm.
PHC F4	140 ppm DM-54 (depth, 2008)	A total of 87 soil samples were analyzed from 13 monitoring locations between 2008 and 2013. Concentrations in 66 samples were below the method detection limit (8.0 ppm). Detectable concentrations ranged from 9.3–140 ppm with a mean concentration of 31 ppm.

Table III-29: DYE-M Upper Site Pallet Line Landfill — Baseline Monitoring Photolog (2008–2013)

Photo	File name	Date	Caption
US PLL-1	DSC04599	7/23/12	DM-50 on the north side of the Upper Site Pallet Line Landfill, Lobe 1. Photograph taken facing south with the landfill visible in the background.
US PLL-2	DSC04597	7/23/12	DM-51 on the north side of the Upper Site Pallet Line Landfill, Lobe 1. Photograph taken facing south with the landfill visible in the background.
US PLL-3	DSC04601	7/23/12	DM-53 on the northeast side of the Upper Site Pallet Line Landfill, Lobe 1. Photograph taken facing south with the landfill visible in the background.
US PLL-4	DSC04706	7/29/13	DM-53 on the northeast side of the Upper Site Pallet Line Landfill, Lobe 1. Photograph taken facing south with the landfill visible in the background.
US PLL-5	DSC04604	7/23/12	DM-54 on the south side of the Upper Site Pallet Line Landfill, Lobe 1. Photograph taken facing north with the landfill visible in the background.
US PLL-6	DSC04710	7/29/13	DM-54 on the south side of the Upper Site Pallet Line Landfill, Lobe 1. Photograph taken facing north with the landfill visible in the background.
US PLL-7	P8190399	8/19/11	DM-55 on the west side of the Upper Site Pallet Line Landfill, Abandoned Lobe. Photograph taken facing east with the landfill visible in the background.
US PLL-8	DSC04714	7/29/13	DM-55 on the west side of the Upper Site Pallet Line Landfill, Abandoned Lobe. Photograph taken facing east with the landfill visible in the background.
US PLL-9	P8190397	8/19/11	DM-56 on the southwest side of the Upper Site Pallet Line Landfill, Abandoned Lobe. Photograph taken facing northeast with the landfill visible in the background.

Table III-29: DYE-M Upper Site Pallet Line Landfill — Baseline Monitoring Photolog (2008–2013), cont'd.

Photo	File name	Date	Caption
US PLL-10	DSC04714	7/29/13	DM-56 on the southwest side of the Upper Site Pallet Line Landfill, Abandoned Lobe. Photograph taken facing northeast with the landfill visible in the background.
US PLL-11	P8190402	8/19/11	DM-57 on the south side of the Upper Site Pallet Line Landfill, Abandoned Lobe. Photograph taken facing north with the landfill visible in the background.
US PLL-12	DSC04723	7/29/13	DM-57 on the south side of the Upper Site Pallet Line Landfill, Abandoned Lobe. Photograph taken facing north with the landfill visible in the background.
US PLL-13	P7240413	7/23/12	DM-58 on the southwest side of the Upper Site Pallet Line Landfill, Lobe 2. Photograph taken facing east with the landfill visible in the background.
US PLL-14	DSCO4802	8/02/13	DM-58 on the southwest side of the Upper Site Pallet Line Landfill, Lobe 2. Photograph taken facing northeast with the landfill visible in the background.
US PLL-15	P7240415	7/23/12	DM-59 on the southwest side of the Upper Site Pallet Line Landfill, Lobe 2. Photograph taken facing north with the landfill visible in the background.
US PLL-16	DSCO4806	8/02/13	DM-59 on the southwest side of the Upper Site Pallet Line Landfill, Lobe 2. Photograph taken facing north with the landfill visible in the background.
US PLL-17	DSC04003	7/23/12	DM-60 on the northeast side of the Upper Site Pallet Line Landfill, Lobe 4. Photograph taken facing south with the landfill visible in the background.
US PLL-18	DSC04816	8/02/13	DM-60 on the northeast side of the Upper Site Pallet Line Landfill, Lobe 4. Photograph taken facing south with the landfill visible in the background.

Table III-29: DYE-M Upper Site Pallet Line Landfill — Baseline Monitoring Photolog (2008–2013), cont'd.

Photo	File name	Date	Caption
US PLL-19	DSC04000	7/23/12	DM-61 on the southeast side of the Upper Site Pallet Line Landfill, Lobe 3. Photograph taken facing west with the landfill visible in the background.
US PLL-20	DSC04813	8/02/13	DM-61 on the southeast side of the Upper Site Pallet Line Landfill, Lobe 3. Photograph taken facing northeast with the landfill visible in the background.
US PLL-21	DSC03997	7/23/12	DM-62 on the south side of the Upper Site Pallet Line Landfill, Lobe 2. Photograph taken facing northwest with the landfill visible in the background.
US PLL-22	DSC04851	8/03/13	DM-62 on the south side of the Upper Site Pallet Line Landfill, Lobe 2. Photograph taken facing northwest with the landfill visible in the background.

IV. First-year Landfill Long-term Monitoring Activities — 2014

The environmental sampling at DYE-M for the first year monitoring program was conducted from August 5-13, 2015 by ESG personnel. The team from ESG consisted of:

Shari Reed – Project Leader

Sharilyn Hoobin – Field Leader

Mark Button – Field Technician

Mike Musclow – Medic & Field Technician

The temperature during the field program ranged from 0-5^{o}C, with combinations of sunny and cloudy periods with low to moderate winds on most days. Aug 6, 8, 9, and 12 had foggy periods, with rain and increased fog on Aug 8 and 9.

A. Lower Site Tier II Disposal Facility

In 2014, a total of 12 soil samples, including QA samples, were collected, at surface and at depth, from four locations at the LS Tier II Disposal Facility (MW-05-13, MW-05-15, BMW-05-16 and MW-12-01). A groundwater sample was collected from MW12-01. The three other monitoring wells were found to be dry so no groundwater samples were collected from them. Depths to the bottom of the wells ranged from 2.2 to 2.4 m, with one well (MW-05-13) with a depth to bottom of 0.8 m. There is ice present within a portion of the screen of the wells, and for MW-05-13 the majority of the screen is blocked by ice.

Results for the analysis of the soil samples collected at the LS Tier II Disposal Facility are presented in Appendix B, Table B-1. Groundwater results are presented in Table B-2. Monitoring well sampling logs are presented in Tables B-25 to B-28. Soil and groundwater data observations may be found below, in Table IV-1 and Table IV-2. The LS Tier II Disposal Facility monitoring photolog may be found in Table IV-3. Sampling locations for the LS Tier II Disposal Facility may be found in Appendix A, Map A-16.

The majority of the soil results were below the baseline mean, and all results were below the mean +3SD. A groundwater sample could only be collected from one downgradient well at this facility as the other wells were dry. The one well sampled had insufficient water to fill the sample bottle for PCB analysis. The concentrations were below the baseline mean for all parameters, however the inorganic elements were analyzed as dissolved instead of total inorganic elements.

Table IV-1: DYE-M Lower Site Tier II Disposal Facility — First-year (2014) Long-term Monitoring Soil Data

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Copper	28	52	33 ppm BMW-05-16 (depth) (upgradient)	Nine soil samples (including one averaged field duplicate) were analyzed from four monitoring locations in 2014. Concentrations were above the method detection limit (3.0 ppm) at all sampling locations. Seven downgradient sample results were below the baseline mean and all results were below the baseline mean + 3SD. Concentrations ranged from 14–33 ppm with a mean concentration of 22 ppm.
Nickel	38	64	52 ppm BMW-05-16 (depth) (upgradient)	Nine soil samples were analyzed from four monitoring locations in 2014. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Three results were below the baseline mean however, all results were below the baseline mean + 3SD. Concentrations ranged from 24–52 ppm with a mean concentration of 38 ppm.
Cobalt	12	20	11 ppm BMW-05-16 (depth) (upgradient)	Nine soil samples were analyzed from four monitoring locations in 2014. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. All results were below the baseline mean. Concentrations ranged from 5.4–11 ppm with a mean concentration of 8 ppm.

Table IV-1: DYE-M Lower Site Tier II Disposal Facility — First-year (2014) Long-term Monitoring Soil Data, cont'd.

Analyte	**Baseline Arithmetic Mean (ppm)**	**Baseline Mean + 3SD (ppm)**	**Maximum concentration observed in Year 1**	**Observations and comments**
Cadmium	1.0	1.0 (SD=0)	N/A	Nine soil samples were analyzed from four monitoring locations in 2014. All results were below the method detection limit (1.0 ppm) and below the baseline mean.
Lead	10	10 (SD=0)	N/A	Nine soil samples were analyzed from four monitoring locations in 2014. All results were below the method detection limit (10 ppm) and the baseline mean.
Zinc	47	79	69 ppm BMW-05-16 (depth) (upgradient)	Nine soil samples were analyzed from four monitoring locations in 2014. Concentrations were above the method detection limit (15 ppm) at all sampling locations. Three results were below the baseline mean, and all results were below the mean + 3SD. Concentrations ranged from 30–69 ppm with a mean concentration of 46 ppm.
Chromium	72	120	95 ppm BMW-05-16 (depth) (upgradient)	Nine soil samples were analyzed from four monitoring locations in 2014. Concentrations were above the method detection limit (20 ppm) at all sampling locations. Concentrations ranged from 49–95 ppm with a mean concentration of 71 ppm. Four results were below the baseline mean, and all results were below the mean +3SD.

Table IV-1: DYE-M Lower Site Tier II Disposal Facility — First-year (2014) Long-term Monitoring Soil Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Arsenic	1.0	2.7	1.7 ppm MW-05-15 (downgradient) and BMW-05-16 (upgradient) (both at depth)	Nine soil samples were analyzed from four monitoring locations in 2014. Concentrations in all samples were above the method detection limit (0.20 ppm). Concentrations ranged from 0.80–1.7 ppm with a mean concentration of 1.2 ppm. Three results were below the baseline mean, and all results were below the mean +3SD.
Mercury	0.10	0.10 (SD=0)	N/A	Nine soil samples were analyzed from four monitoring locations in 2014. All results were below the 2014 method detection limit (0.01 ppm) and below the baseline mean.
PCBs	0.050	0.086	N/A	Nine soil samples were analyzed from four monitoring locations in 2014. All results were below the 2014 method detection limit (0.01 ppm) and the baseline mean.
PHC F1	10	10 (SD=0)	N/A	Nine soil samples were analyzed from four monitoring locations in 2014. All results were below the method detection limit (10 ppm).
PHC F2	4.0	18	N/A	Nine soil samples were analyzed from four monitoring locations in 2014. All results were below the method detection limit (10 ppm).
PHC F3	15	55	N/A	Nine soil samples were analyzed from four monitoring locations in 2014. All results were below the method detection limit (10 ppm).
PHC F4	13	32	N/A	Nine soil samples were analyzed from four monitoring locations in 2014. All results were below the method detection limit (10 ppm).

Table IV-2: DYE-M Lower Site Tier II Disposal Facility — First-year (2014) Long-term Groundwater Monitoring Data

Analyte	Baseline Arithmetic Mean (mg/L)	Baseline Mean + 3SD (mg/L)	Maximum concentration observed in Year 1	Observations and comments
Copper - dissolved	0.07	0.23	N/A	One groundwater sample was analyzed from MW 12-01 in 2014. The result was below the method detection limit (0.0010 mg/L).
Nickel - dissolved	0.19	0.52	0.013 mg/L MW-12-01 (downgradient)	One groundwater sample was analyzed from MW 12-01 in 2014. The result was above the method detection limit (0.0010 mg/L) and below the baseline mean.
Cobalt - dissolved	0.017	0.06	0.00037 mg/L MW-12-01 (downgradient)	One groundwater sample was analyzed from MW 12-01 in 2014. The result was above the method detection limit (0.00030 mg/L) and below the baseline mean.
Cadmium - dissolved	0.001	0.0019	N/A	One groundwater sample was analyzed from MW 12-01 in 2014. The result was below the method detection limit (0.000090 mg/L).
Lead - dissolved	0.01	0.027	N/A	One groundwater sample was analyzed from MW 12-01 in 2014. The result was below the method detection limit (0.00050 mg/L).
Zinc - dissolved	3.1	15	N/A	One groundwater sample was analyzed from MW 12-01 in 2014. The result was below the method detection limit (0.0030 mg/L).
Chromium - dissolved	0.3	0.94	N/A	One groundwater sample was analyzed from MW 12-01 in 2014. The result was below the method detection limit (0.00050 mg/L).
Arsenic - dissolved	0.003	0.0058	N/A	One groundwater sample was analyzed from MW 12-01 in 2014. The result was below the method detection limit (0.0010 mg/L).
Mercury - dissolved	0.0004	0.0004 (SD=0)	N/A	One groundwater sample was analyzed from MW 12-01 in 2014. The result was below the method detection limit (0.00010 mg/L).

Table IV-2: DYE-M Lower Site Tier II Disposal Facility — First-year (2014) Long-term Groundwater Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (mg/L)	Baseline Mean + 3SD (mg/L)	Maximum concentration observed in Year 1	Observations and comments
PCBs	0.003	0.0049	N/A	PCBs were not analyzed in 2014 as there was insufficient water to collect a sample for analysis of this parameter.
PHC F1	0.05	0.05 (SD=0)	N/A	One groundwater sample was analyzed from MW 12-01 in 2014. The result was below the method detection limit (0.025 mg/L).
PHC F2	0.5	0.5 (SD=0)	N/A	One groundwater sample was analyzed from MW 12-01 in 2014. The result was below the method detection limit (0.10 mg/L).
PHC F3	1.0	1.0 (SD=0)	N/A	One groundwater sample was analyzed from MW 12-01 in 2014. The result was below the method detection limit (0.25 mg/L).
PHC F4	1.0	1.0 (SD=0)	N/A	One groundwater sample was analyzed from MW 12-01 in 2014. The result was below the method detection limit (0.25 mg/L).

Table IV-3: DYE-M Lower Site Tier II Disposal Facility — First-year (2014) Long-term Monitoring Photolog

Photo	File name	Date	Caption
TDF-18	P8120159	8/12/14	Soil monitoring at MW-05-13 at the LS Tier II Disposal Facility. Photograph taken facing west with the facility visible in the background.
TDF-19	P8120156	8/12/14	Soil monitoring at MW-12-01 at the LS Tier II Disposal Facility. Photograph taken facing south with the facility visible in the background.
TDF-20	P8120152	8/12/14	Soil monitoring at MW-05-15 at the LS Tier II Disposal Facility. Photograph taken facing southeast with the facility visible in the background.
TDF-21	P8120148	8/12/14	Soil monitoring at BMW-05-16 at the LS Tier II Disposal Facility. Photograph taken facing north with the facility visible in the background.

B. Lower Site Non-hazardous Waste Landfill

In 2014, a total of 14 soil samples, including QA samples, were collected, at surface and at depth, from five locations at the LS NHWL (MW-05-09, MW-05-12, BMW-09-26 (upgradient), MW-09-27 and MW-09-28). A groundwater sample was collected from MW-09-27 and MW-09-26. The three other monitoring wells were found to be dry so no groundwater samples were collected from them.

Depth to the bottom of the wells was consistent with the majority of other years of monitoring ranging from 1.9 to 2.4 m. Ice is present within the screened section of the wells.

Results for the analysis of the soil samples collected at the LS NHWL are presented in Appendix B, Table B-25, and groundwater results are presented in Table B-26. Monitoring well sampling logs are presented in Tables B-27 to B-50. Soil and groundwater data observations may be found below, in Table IV-4 and Table IV-5. The LS NHWL monitoring photolog may be found in Table IV-6. Sampling locations for the LS NHWL may be found in Appendix A, Map A-17.

Results for all 2014 soil samples were less than baseline average plus 3SD with the exception of one lead result for the surface sample at downgradient location MW-05-12 which reported an average concentration of 53 ppm based on two field duplicate samples. The baseline mean +3SD for lead in soil is 27 ppm and all baseline lead results were less than 27 ppm. All other analyte results for this sample were within the relative baseline means +3SD.

Groundwater samples were collected from two monitoring wells and due to a communication error, the samples were analyzed for dissolved metals rather than total metals. One duplicate sample was sent for analysis at a different lab and total metals were reported. Results for total copper, cobalt and chromium in the interlab sample from downgradient MW-09-27 were higher than the baseline mean plus 3SD.

Table IV-4: DYE-M Lower Site Non-hazardous Waste Landfill — First-year (2014) Long-term Soil Monitoring Data

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Copper	27	49	44 ppm MW-05-09 and MW-05-12 (both surface) (both downgradient)	A total of twelve soil samples were analyzed from five monitoring locations in 2014 including two field duplicate pairs. Concentrations were above the method detection limit (3.0 ppm) at all sampling locations. Four results were below the baseline mean, and eight downgradient results were above the mean but below the mean +3SD. Concentrations ranged from 20–44 ppm with a mean concentration of 34 ppm.
Nickel	35	50	50 ppm MW-05-09 (surface) (downgradient)	A total of twelve soil samples were analyzed from five monitoring locations in 2014 including two field duplicate pairs. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Three results were below the baseline mean, the remaining 9 results were at or below the mean +3SD (both upgradient and downgradient). Detectable concentrations ranged from 31–50 ppm with a mean concentration of 42 ppm.
Cobalt	10	17	12 ppm MW-05-12 (surface) (downgradient)	A total of twelve soil samples were analyzed from five monitoring locations in 2014 including two field duplicate pairs. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Five results (including the upgradient samples) were below the baseline mean, and all results were below the mean +3SD. Detectable concentrations ranged from 7.0–12 ppm with a mean concentration of 10 ppm.

Table IV-4: DYE-M Lower Site Non-hazardous Waste Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Cadmium	1.0	1.0 (SD=0)	N/A	A total of twelve soil samples were analyzed from five monitoring locations in 2014 including two field duplicate pairs. All results were below the baseline mean, and were also below the method detection limit (1.0 ppm).
Lead	10	27	53 ppm MW-05-12 (surface) (downgradient)	A total of twelve soil samples were analyzed from five monitoring locations in 2014 including two field duplicate pairs. Concentrations in six samples including both upgradient samples were below the method detection limit (10 ppm). Six downgradient results were above the baseline mean, with only two results (field duplicate) higher than the mean +3SD. Detectable concentrations ranged from 13–53 ppm with a mean concentration of 22 ppm.
Zinc	54	135	81 ppm MW-05-12 (surface) (downgradient)	A total of twelve soil samples were analyzed from five monitoring locations in 2014 including two field duplicate pairs. Concentrations were above the method detection limit (15 ppm) at all sampling locations. Four results including the two upgradient samples were below the baseline mean, with all results below the mean +3SD. Concentrations ranged from 35–81 ppm with a mean concentration of 58 ppm.

Table IV-4: DYE-M Lower Site Non-hazardous Waste Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Chromium	69	105	92 ppm MW-05-09 (surface) (downgradient)	A total of twelve soil samples were analyzed from five monitoring locations in 2014 including two field duplicate pairs. Concentrations were above the method detection limit (20 ppm) at all sampling locations. Three results were below the baseline mean, and nine results including the upgradient surface sample were between the baseline mean and the mean +3SD. Concentrations ranged from 54–92 ppm with a mean concentration of 78 ppm.
Arsenic	1.1	3.6	3.2 ppm MW-05-12 (depth) (downgradient)	A total of twelve soil samples were analyzed from five monitoring locations in 2014 including two field duplicate pairs. Concentrations were above the method detection limit (0.20 ppm) at all sampling locations. Three results were below the baseline mean, and all results including the upgradient surface sample were below the baseline mean +3SD. Concentrations ranged from 0.70–3.2 ppm with a mean concentration of 1.7 ppm.
Mercury	0.10	0.10 (SD=0)	0.015 ppm MW-09-28 (surface) (downgradient)	A total of twelve soil samples were analyzed from five monitoring locations in 2014 including two field duplicate pairs. Concentrations in eight samples including the upgradient locations, were below the method detection limit (0.010 ppm), and were below the baseline mean. Detectable concentrations ranged from 0.012–0.015 ppm with a mean concentration of 0.013 ppm.

Table IV-4: DYE-M Lower Site Non-hazardous Waste Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
PCBs	0.05	0.37	0.30 ppm MW-05-12 (surface) (downgradient)	A total of twelve soil samples were analyzed from five monitoring locations in 2014 including two field duplicate pairs. Concentrations in four samples including the upgradient locations were below the method detection limits (0.01 ppm). Eight results were below the baseline mean, and four results were between the baseline mean and the mean +3SD. Detectable concentrations ranged from0.018–0.30 ppm with a mean concentration of 0.10 ppm.
PHC F1	10	43	N/A	A total of twelve soil samples were analyzed from five monitoring locations in 2014 including 2 field duplicate pairs. All results were below the method detection limit (10 ppm).
PHC F2	16	234	11 ppm MW-09-26 (depth) (downgradient)	A total of twelve soil samples were analyzed from five monitoring locations in 2014 including 2 field duplicate pairs. Concentrations in eleven samples were below the method detection limit (10 ppm). The one detectable sample result (upgradient) was below the baseline mean.
PHC F3	36	251	N/A	A total of twelve soil samples were analyzed from five monitoring locations in 2014 including 2 field duplicate pairs. All results were below the method detection limit (10 ppm).
PHC F4	44	277	N/A	A total of twelve soil samples were analyzed from five monitoring locations in 2014. All results were below the method detection limit (10 ppm).

Table IV-5: DYE-M Lower Site Non-hazardous Waste Landfill — First-year (2014) Long-term Groundwater Monitoring Data

Analyte	Baseline Arithmetic Mean (mg/L)	Baseline Mean + 3SD (mg/L)	Maximum concentration observed in Year 1	Observations and comments
Copper	0.021	0.052	0.086 mg/L MW-09-27 (downgradient)	A total of three groundwater samples were analyzed from two monitoring locations in 2014 (one upgradient and one downgradient), including one interlab sample from MW 09-27 (downgradient). Two of these were analyzed for dissolved copper while the third interlab sample was analyzed for total copper. The upgradient dissolved copper result was higher than the baseline mean but less than the baseline mean +3SD. The concentration (dissolved) in one downgradient sample was below the method detection limit (0.0010 mg/). The interlab sample from this location, analyzed for total metals, reported copper result higher than the baseline mean +3SD.
Nickel	0.11	0.27	0.18 mg/L MW-09-27 (downgradient)	A total of three groundwater samples were analyzed from two monitoring locations in 2014 (one upgradient and one downgradient), including one interlab sample from MW-09-27 (downgradient). Two of these were analyzed for dissolved nickel while the third was analyzed for total nickel. Concentrations were above the method detection limit (0.0010 mg/L) at both sampling locations, for all three samples. Concentrations ranged from 0.023–0.180 mg/L with a mean concentration of 0.1 mg/L. The two dissolved nickel results (one upgradient and one downgradient) were below the baseline mean and the total nickel result (downgradient interlab) was less than the baseline mean +3SD.

Table IV-5: DYE-M Lower Site Non-hazardous Waste Landfill — First-year (2014) Long-term Groundwater Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (mg/L)	Baseline Mean + 3SD (mg/L)	Maximum concentration observed in Year 1	Observations and comments
Cobalt	0.003	0.012	0.013 mg/L MW-09-27 (downgradient)	A total of three groundwater samples were analyzed from two monitoring locations in 2014, (one upgradient and one downgradient) including one interlab sample from MW-09-27 (downgradient). Two of these were analyzed for dissolved cobalt while the third interlab sample was analyzed for total cobalt. Concentrations were above the method detection limit (0.00030 mg/L) at both sampling locations. Concentrations ranged from 0.00034–0.013 mg/L with a mean concentration of 0.005 mg/L. The two dissolved cobalt results (one upgradient and one downgradient) were below the baseline mean while the total cobalt result (downgradient interlab) was just over the baseline mean +3SD.
Cadmium	0.001	0.001 (SD=0)	0.00024 mg/L MW-09-26 (upgradient)	A total of three groundwater samples were analyzed from two monitoring locations in 2014, (one upgradient and one downgradient) including one interlab sample from MW-09-27 (downgradient). Two of these were analyzed for dissolved cadmium while the third interlab sample was analyzed for total cadmium. Concentrations in the two downgradient samples were below the method detection limit (0.001 mg/L). Detectable cadmium in the upgradient sample was less than the baseline mean.

Table IV-5: DYE-M Lower Site Non-hazardous Waste Landfill — First-year (2014) Long-term Groundwater Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (mg/L)	Baseline Mean + 3SD (mg/L)	Maximum concentration observed in Year 1	Observations and comments
Lead	0.01	0.057	0.005 mg/L MW-09-27 (downgradient)	A total of three groundwater samples were analyzed from two monitoring locations in 2014, (one upgradient and one downgradient) including one interlab sample from MW-09-27 (downgradient). Two of these were analyzed for dissolved lead while the third interlab sample was analyzed for total lead. Both dissolved results (upgradient and downgradient) were below the method detection limit (0.00050 mg/L). The result for total lead (downgradient interlab) was less than the baseline mean.
Zinc	4.2	21	0.55 mg/L MW-09-26 (upgradient)	A total of three groundwater samples were analyzed from two monitoring locations in 2014, (one upgradient and one downgradient) including one interlab sample from MW-09-27 (downgradient). Two of these were analyzed for dissolved zinc while the third was analyzed for total zinc. Concentrations were above the method detection limit (0.003 mg/L) at both upgradient and downgradient sampling locations. Concentrations ranged from 0.0045–0.55 mg/L with a mean concentration of 0.34 mg/L. All zinc results were below the baseline mean.
Chromium	0.2	0.57	1.8 mg/L MW-09-27 (downgradient)	A total of three groundwater samples were analyzed from two monitoring locations in 2014, (one upgradient and one downgradient) including one interlab sample from MW-09-27 (downgradient). Two of these were analyzed for dissolved chromium while the third interlab sample was analyzed for total chromium. Results for the upgradient and downgradient dissolved chromium were below the method detection limit (0.00050 mg/L). Results for total chromium in the downgradient interlab sample were higher than the baseline mean +3SD.

Table IV-5: DYE-M Lower Site Non-hazardous Waste Landfill — First-year (2014) Long-term Groundwater Monitoring Data, cont'd.

Analyte	**Baseline Arithmetic Mean (mg/L)**	**Baseline Mean + 3SD (mg/L)**	**Maximum concentration observed in Year 1**	**Observations and comments**
Arsenic	0.003	0.008	0.003 mg/L MW-09-27 (downgradient)	A total of three groundwater samples were analyzed from two monitoring locations in 2014, (one upgradient and one downgradient) including one interlab sample from MW-09-27 (downgradient). Two of these were analyzed for dissolved arsenic while the third interlab sample was analyzed for total arsenic. Dissolved results for the upgradient and downgradient samples were below the method detection limit (0.0010 mg/L) while the results for total arsenic in the downgradient interlab sample were equal to the baseline mean.
Mercury	0.0004	0.0004 (SD=0)	N/A	A total of three groundwater samples were analyzed from two monitoring locations in 2014, (one upgradient and one downgradient) including one interlab sample from MW-09-27 (downgradient). Two of these were analyzed for dissolved mercury while the third interlab sample was analyzed for total mercury. All results were below the method detection limit (0.0004 mg/L).
PCBs	0.003	0.005	N/A	A total of three groundwater samples were analyzed from two monitoring locations in 2014 (one upgradient and one downgradient) including one interlab sample from MW-09-27 (downgradient). All results were below the method detection limit (0.003 mg/L).
PHC F1	0.05	0.05 (SD=0)	N/A	A total of three groundwater samples were analyzed from two monitoring locations in 2014 (one upgradient and one downgradient) including one interlab sample from MW-09-27 (downgradient). All results were below the method detection limit (0.05 mg/L).

Table IV-5: DYE-M Lower Site Non-hazardous Waste Landfill — First-year (2014) Long-term Groundwater Monitoring Data, cont'd.

Analyte	**Baseline Arithmetic Mean (mg/L)**	**Baseline Mean + 3SD (mg/L)**	**Maximum concentration observed in Year 1**	**Observations and comments**
PHC F2	0.5	0.5 SD=0	N/A	A total of three groundwater samples were analyzed from two monitoring locations in 2014 (one upgradient and one downgradient) including one interlab sample from MW-09-27(downgradient). All results were below the method detection limit (0.5 mg/L).
PHC F3	1.0	1.0 (SD=0)	N/A	A total of three groundwater samples were analyzed from two monitoring locations in 2014 (one upgradient and one downgradient) including one interlab sample from MW-09-27(downgradient). All results were below the method detection limit (1.0 mg/L).
PHC F4	1.0	1.0 (SD=0)	N/A	A total of two groundwater samples were analyzed from two monitoring locations in 2014(one upgradient and one downgradient) including one interlab sample from MW-09-27(downgradient). All results were below the method detection limit (0.25 mg/L).

Table IV-6: DYE-M Lower Site Non-hazardous Waste Landfill (LS NHWL) — First-year (2014) Long-term Monitoring Photolog

Photo	File name	Date	Caption
NHWL-20	P1010011	8/5/14	MW-05-09 on the north side of the LS NHWL. Photograph taken facing south with the facility visible in the background.
NHWL-21	P1010008	8/5/14	MW-05-12 on the east side of the LS NHWL. Photograph taken facing southwest with the facility visible in the background.
NHWL-22	P1010042	8/6/14	BMW-09-26 on the south side of the LS NHWL. Photograph taken facing north with the facility visible in the background.
NHWL-23	P1010039	8/6/14	MW-09-27 on the west side of the LS NHWL. Photograph taken facing northeast with the facility visible in the background.
NHWL-24	P1010014	8/5/14	MW-09-28 on the north side of the LS NHWL. Photograph taken facing southeast with the facility visible in the background.

C. Lower Site Powerhouse Landfill

In 2014, a total of 16 soil samples, including QA samples, were collected, at surface and at depth, from four locations at the Lower Site Powerhouse Landfill (upgradient BMW-05-08 and downgradient MW-05-05, MW-05-06 and MW-05-07). No groundwater samples were collected at any of the four monitoring wells as they were all found to be dry.

Ice was present in the wells at levels consistent to previous years when samples could not be collected. Depths to the bottom of the wells ranged from 1.9 to 2.4 m.

Results for the analysis of the soil samples collected at the Lower Site Powerhouse Landfill are presented in Table B-61. Results for the analysis of the groundwater samples are presented in Table B-62. Monitoring well sampling logs are presented in Tables B-79 to B-82. Soil data observations may be found below, in Table IV-7. The Powerhouse Landfill monitoring photolog may be found in Table IV-8. Sampling locations for the Powerhouse Landfill may be found in Appendix A, Map A-18.

The results for 2014 soil samples are lower than the baseline mean plus three standard deviations for all inorganic element samples, with the exception of downgradient surface sample 14-8467 at MW-05-05. Concentrations of copper, nickel, cobalt, lead, zinc, chromium and arsenic were all higher than the mean plus three standard deviations. Results from sample 14-8467 are similar to results from sample 12-44842 collected in 2012 at the surface at the same location; downgradient MW-05-05.

Two downgradient soil samples analyzed for hydrocarbons reported levels higher than the baseline mean +3SD: MW-05-07 depth, and MW-05-06 depth sample. F1 PHC results in 2014 reported downgradient MW-05-07 depth concentration of 51 ppm which was over the baseline mean +3SD of 18ppm. All other F1 results were below the mean + 3SD.

In 2014, elevated levels of the F2 PHC were found at depth (40–50 cm) at downgradient locations MW-05-07 (2,800 ppm) and MW-05-06 (2,000 ppm), exceeding the baseline mean +3SD of 302 ppm. The levels of the F2 PHC in 2009 and 2013 (310 ppm and 360 ppm) were slightly over the baseline mean +3SD (302 ppm). F2 PHC concentrations have increased at these two downgradient locations between 2009 and 2014.

The TPH sum concentration at downgradient MW-05-07 was 3,000 ppm in 2014. In 2013, PHCs were detected at depth at MW-05-07 (TPH 580 ppm at 30–40 cm), and in 2009 PHCs were detected at depth at downgradient MW-05-06 (TPH 650 ppm at 30–40 cm), but in both cases the concentrations were below the baseline mean +3SD for TPH (1311 ppm) at this landfill. These two locations are in the vicinity of a hydrocarbon plume that was discovered at depth during the site investigation and was left in place as it was assessed as posing a low environmental risk.

Table IV-7: DYE-M Lower Site Powerhouse Landfill — First-year (2014) Long-term Soil Monitoring Data

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Copper	27	55	69 ppm MW-05-05 (surface) (downgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate pair. Concentrations were above the method detection limit (3.0 ppm) at all sampling locations. One downgradient MW-05-05 result was above the baseline mean and also above the mean +3SD. All other copper results (8 samples) were below the baseline mean. Concentrations ranged from 18–69 ppm with a mean concentration of 27 ppm.
Nickel	34	62	99 ppm MW-05-05 (surface) (downgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate pair. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Four sample results were below the baseline mean. Four downgradient results were above the baseline mean, and one result was above the mean +3SD. Concentrations ranged from 28–99 ppm with a mean concentration of 42 ppm.
Cobalt	10	19	22 ppm MW-05-05 (surface) (downgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate pair. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. One downgradient result at MW-05-05 was above the baseline mean and also above the mean +3SD. All other results were below the baseline mean. Concentrations ranged from 7.1–22 ppm with a mean concentration of 9.3 ppm.

Table IV-7: DYE-M Lower Site Powerhouse Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Cadmium	1.0	1.0 (SD=0)	N/A	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate pair. All results were below the method detection limit (1.0 ppm), and were below the baseline mean.
Lead	10	20	29 ppm MW-05-06 (surface) (downgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate pair Concentrations in eight samples were below the method detection limit (10 ppm). One downgradient result at MW-05-06 (one of the field duplicate pair) was above the baseline mean and the mean +3SD while the second sample of the pair was over the baseline mean. The average for the field duplicates was above the baseline mean +3SD.
Zinc	55	132	140 ppm MW-05-05 (surface) (downgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate pair. Concentrations were above the method detection limit (15 ppm) at all sampling locations. One downgradient result at MW-05-05 was above the baseline mean and the mean +3SD. Concentrations ranged from 33–140 ppm with a mean concentration of 57 ppm.

Table IV-7: DYE-M Lower Site Powerhouse Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Chromium	64	104	130 ppm MW-05-05 (surface) (downgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate pair Concentrations were above the method detection limit (20 ppm) at all sampling locations. Five downgradient results were above the baseline mean, and one result at MW-05-05 was above the mean +3SD. Concentrations ranged from 52–130 ppm with a mean concentration of 72 ppm.
Arsenic	1.2	3.6	4.3 ppm MW-05-05 (surface) (downgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate pair. Concentrations were above the method detection limit (0.20 ppm) at all sampling locations. Seven results (upgradient surface and downgradient samples) were above the baseline mean, and one downgradient result at MW-05-05 was above the mean +3SD. Concentrations ranged from 0.8–4.3 ppm with a mean concentration of 1.6 ppm.
Mercury	0.1	0.1 (SD=0)	0.011 ppm MW-05-08 (surface) (upgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate pair. Concentrations in eight samples were below the method detection limit (0.010 ppm). One upgradient sample at MW-05-08 showed detectable mercury with a concentration of 0.011 ppm, below the baseline mean.

Table IV-7: DYE-M Lower Site Powerhouse Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
PCBs	0.17	0.78	0.46 ppm MW-05-08 (surface) (upgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate pair. Concentrations in five samples were below the method detection limit (0.010 ppm). Detectable concentrations (upgradient surface and downgradient locations) ranged from 0.013–0.46 ppm with a mean concentration of 0.18 ppm. Four results were below the baseline mean while one result (upgradient MW-05-08) was below the baseline mean + 3SD.
PHC F1	10	18	51 ppm MW-05-07 (depth) (downgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate pair. Concentrations in six samples including upgradient surface and depth were below the method detection limit (10 ppm). Detectable concentrations ranged from 14–51 ppm with a mean concentration of 33 ppm. Results for the field duplicate pair were both below the baseline mean +3SD while one sample (downgradient MW-05-07)was over the baseline mean +3SD.

Table IV-7: DYE-M Lower Site Powerhouse Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
PHC F2	32	302	2,800 ppm MW-05-07 (depth) (downgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate pair. Concentrations in seven samples including upgradient surface and depth were below the method detection limit (10 ppm). Detectable concentrations of the two remaining samples (downgradient surface MW-05-06 and MW-05-07) were 2,000 and 2,800 ppm respectively and exceed the baseline mean +3SD.
PHC F3	44	156	130 ppm MW-05-07 (depth) (downgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate pair. Concentrations in four samples were below the method detection limit (10 ppm). Detectable concentrations ranged from 14–130 ppm with a mean concentration of 54 ppm. Three sample results (both upgradient and downgradient) were below the baseline mean while the two remaining results were below the baseline mean + 3SD.
PHC F4	24	70	N/A	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate pair. All results were below the method detection limit (10 ppm).

Table IV-8: DYE-M Lower Site Powerhouse Landfill — First-year (2014) Long-term Monitoring Photolog

Photo	File name	Date	Caption
PHL-15	P8120163	8/12/14	MW-05-05 on the northwest side of the Powerhouse Landfill. Photograph taken facing south with the facility visible in the background.
PHL-16	P8200424	8/12/14	MW-05-06 on the northeast side of the Powerhouse Landfill. Photograph taken facing south with the facility visible in the background.
PHL-17	DSC04221	8/12/14	MW-05-07 on the east side of the Powerhouse Landfill. Photograph taken facing west with the facility visible in the background.
PHL-18	DSC05000	8/12/14	BMW-05-08 on the south side of the Powerhouse Landfill. Photograph taken facing north with the facility visible in the background.

D. Lower Site Crossroads Landfill

In 2014, a total of eight soil samples, including duplicates, were collected, at surface and at shallow depth, from three locations at the Lower Site Crossroads Landfill (DM-1 (upgradient), and downgradient DM-2 and DM-3).

Results for the analysis of the soil samples collected at the Lower Site Crossroads Landfill are presented in Table B-83. Monitoring well sampling logs are presented in Table B-88. Soil data observations may be found below, in Table IV-9. The Lower Site Crossroads Landfill monitoring photolog may be found in Table IV-10. Sampling locations for the Lower Site Crossroads Landfill may be found in Appendix A, Map A-19.

Results for samples from the LS Crossroads Landfill were below the baseline mean in many cases, and below the baseline mean +3SD for all.

Table IV-9: DYE-M Lower Site Crossroads Landfill Soil — First-year (2014) Long-term Soil Monitoring Data

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Copper	30	52	42 ppm DM-2 (depth) (downgradient)	A total of seven soil samples were analyzed from three monitoring locations in 2014 including one field duplicate sample. Concentrations were above the method detection limit (3.0 ppm) at all sampling locations. Concentrations ranged from 21–42 ppm with a mean concentration of 29 ppm. Four sample results including upgradient surface and depth were below the baseline mean and all results were below the baseline mean + 3SD.
Nickel	38	61	45 ppm DM-2 (depth) (downgradient)	A total of seven soil samples were analyzed from three monitoring locations in 2014 including one field duplicate sample. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 28–45 ppm with a mean concentration of 37 ppm. Four sample results including upgradient surface and depth were below the baseline mean and all results were less than the baseline mean + 3SD.
Cobalt	11	19	9.6 ppm DM-2 (surface) (downgradient)	A total of seven soil samples were analyzed from three monitoring locations in 2014. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 7.2 – 9.6 ppm with a mean concentration of 8.7 ppm. Six sample results were below the baseline mean and the seventh cobalt result downgradient at DM-2 depth was equal to the baseline mean.

Table IV-9: DYE-M Lower Site Crossroads Landfill Soil — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	**Baseline Arithmetic Mean (ppm)**	**Baseline Mean + 3SD (ppm)**	**Maximum concentration observed in Year 1**	**Observations and comments**
Cadmium	1.0	1.0 (SD=0)	N/A	A total of seven soil samples were analyzed from three monitoring locations in 2014. All results were below the method detection limit (1.0 ppm).
Lead	10	19	11 ppm DM-2 (depth) (downgradient)	A total of seven soil samples were analyzed from three monitoring locations in 2014. Concentrations in six samples were below the method detection limit (10 ppm). One sample result downgradient at DM-2 depth was just over the baseline mean.
Zinc	47	71	54 ppm DM-2 (depth) (downgradient)	A total of seven soil samples were analyzed from three monitoring locations in 2014. Concentrations were above the method detection limit (15 ppm) at all sampling locations. Concentrations ranged from 31–54 ppm with a mean concentration of 41 ppm. Five zinc results including upgradient surface and depth were below the baseline mean and the remaining two downgradient samples at DM-2 reported results below the baseline mean + 3SD.
Chromium	69	106	94 ppm DM-2 (depth) (downgradient)	A total of seven soil samples were analyzed from three monitoring locations in 2014. Concentrations were above the method detection limit (20 ppm) at all sampling locations. Concentrations ranged from 59–94 ppm with a mean concentration of 71 ppm. Five sample results including upgradient surface and depth were less than or equal to the baseline mean while two samples (DM-2 surface and depth) were below the baseline + 3SD.

Table IV-9: DYE-M Lower Site Crossroads Landfill Soil — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Arsenic	1.0	3.4	3.3 ppm DM-1 (depth) (upgradient)	A total of seven soil samples were analyzed from three monitoring locations in 2014. Concentrations were above the method detection limit (0.20 ppm) at all sampling locations. Concentrations ranged from 0.90–3.3 ppm with a mean concentration of 1.7 ppm. Two sample results were less than or equal to the baseline mean and the remaining five results including upgradient surface and depth were less than the baseline mean + 3SD.
Mercury	0.1	0.1 (SD=0)	N/A	A total of seven soil samples were analyzed from three monitoring locations in 2014. All results were below the method detection limit (0.010 ppm in 2014).
PCBs	0.1	0.16	N/A	A total of seven soil samples were analyzed from three monitoring locations in 2014. All results were below the method detection limit (0.010 ppm in 2014).
PHC F1	5.0	5.0 (SD=0)	N/A	A total of seven soil samples were analyzed from three monitoring locations in 2014. All results were below the method detection limit (10 ppm in 2014).
PHC F2	10	60	56 ppm DM-2 (depth) (downgradient)	A total of seven soil samples were analyzed from three monitoring locations in 2014. Concentrations in six samples were below the method detection limit (10 ppm). One downgradient result at DM-2 depth was above the baseline mean but below the baseline mean + 3SD.

Table IV-9: DYE-M Lower Site Crossroads Landfill Soil — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
PHC F3	22	85	N/A	A total of seven soil samples were analyzed from three monitoring locations in 2014. All results were below the method detection limit (10 ppm).
PHC F4	20	59	N/A	A total of seven soil samples were analyzed from three monitoring locations in 2014. All results were below the method detection limit (10 ppm).

Table IV-10: DYE-M Lower Site Crossroads Landfill — First Year (2014) Long-term Monitoring Photolog

Photo	File name	Date	Caption
CRL-9	P1070063	8/7/14	DM-1 on the southeast side of the LS Crossroads Landfill. Photograph taken facing west with the facility visible in the background.
CRL-10	P1070057	8/7/14	DM-2 on the southwest side of the LS Crossroads Landfill. Photograph taken facing north with the facility visible in the background.
CRL-11	P1070060	8/7/14	DM-3 on the north side of the LS Crossroads Landfill. Photograph taken facing southwest with the facility visible in the background.

E. Lower Site Foundation Landfill

In 2014, a total of seven soil samples, including QA samples, were collected, at surface and at depth, from three locations at the LS Foundation Landfill (upgradient DM-4, and downgradient DM-5 and DM-6).

Results for the analysis of the soil samples collected at the Lower Site Foundation Landfill are presented in Table B-89. The monitoring log for the Lower Site Foundation Landfill is presented in Table B-93. Soil data observations may be found below, in Table IV-11. The Lower Site Foundation Landfill monitoring photolog may be found in Table IV-12. Sampling locations for the Lower Site Foundation Landfill may be found in Appendix A, Map A-20.

Results for all samples were less than the respective baseline means +3SD with the exception of F3 PHC for downgradient location DM-5 surface. F3 PHC for this location was 170 ppm while the baseline mean +3SD is 118 ppm. Total TPH for this location in 2014 was less than the baseline mean (242 ppm). Baseline samples from this general area (BM-5 and between BM-5 and BM-4) taken in 2000 reported results ranging from 330 ppm to 550 ppm, higher than the baseline mean. Samples analyzed in this year were not analyzed as fractions so these higher concentrations did not contribute to the calculation of the F1-F3 baseline means but would have raised the levels for baseline in these PHC fractions.

Table IV-11: DYE-M Lower Site Foundation Landfill — First-year (2014) Long-term Soil Monitoring Data

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Copper	28	67	31 ppm DM-6 (surface) (downgradient)	A total of six soil samples were analyzed from three monitoring locations in 2014. Concentrations were above the method detection limit (3.0 ppm) at all sampling locations. Concentrations ranged from 20–31 ppm with a mean concentration of 27 ppm. Three samples including upgradient surface and depth reported copper levels less than the baseline mean and the remaining three results were less than the baseline mean + 3SD.
Nickel	35	53	43 ppm DM-6 (depth) (downgradient)	A total of six soil samples were analyzed from three monitoring locations in 2014. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 29–43 ppm with a mean concentration of 36 ppm. Two upgradient sample results were below the baseline mean for nickel and the remaining four downgradient results were all less than the baseline mean +3SD.
Cobalt	11	18	11 ppm DM-6 (depth) (downgradient)	A total of six soil samples were analyzed from three monitoring locations in 2014. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 7.2–11 ppm with a mean concentration of 9.0 ppm. All results were less than or equal to the baseline mean.
Cadmium	1.0	1.0 (SD=0)	N/A	A total of six soil samples were analyzed from three monitoring locations in 2014. All results were below the method detection limit (1.0 ppm).

Table IV-11: DYE-M Lower Site Foundation Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	**Baseline Arithmetic Mean (ppm)**	**Baseline Mean + 3SD (ppm)**	**Maximum concentration observed in Year 1**	**Observations and comments**
Lead	10	66	19 ppm DM-5 (surface) (downgradient)	A total of six soil samples were analyzed from three monitoring locations in 2014. Concentrations in five samples including upgradient surface and depth were below the method detection limit (10 ppm). One sample with detectable lead from downgradient DM-5 was less than the baseline mean + 3SD.
Zinc	61	179	49 ppm DM-6, DM-5 (surface, depth) (downgradient)	A total of six soil samples were analyzed from three monitoring locations in 2014. Concentrations were above the method detection limit detection limit (15 ppm) at all sampling locations. Concentrations ranged from 35–49 ppm with a mean concentration of 44 ppm. All results were less than the baseline mean for zinc.
Chromium	67	98	86 ppm DM-6 (depth) (downgradient)	A total of six soil samples were analyzed from three monitoring locations in 2014. Concentrations were above the method detection limit detection limit (20 ppm) at all sampling locations. Concentrations ranged from 59–86 ppm with a mean concentration of 73 ppm. One sample result (upgradient at depth) was less than the baseline mean and all others were less than the baseline mean + 3SD.

Table IV-11: DYE-M Lower Site Foundation Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Arsenic	1.0	2.6	1.6 ppm DM-6 (surface) (downgradient)	A total of six soil samples were analyzed from three monitoring locations in 2014. Concentrations were above the method detection limit (0.20 ppm) at all sampling locations. Concentrations ranged from 1.0–1.6 ppm with a mean concentration of 1.3 ppm. The two upgradient sample results were equal to the baseline mean and the remaining four results were less than the baseline mean + 3SD.
Mercury	0.1	0.1 (SD=0)	0.013 ppm DM-5 (surface) (downgradient)	A total of six soil samples were analyzed from three monitoring locations in 2014. Concentrations in five samples were below the method detection limit (0.01 ppm). The remaining sample result (downgradient surface at DM-5) was less than the baseline mean.
PCBs	0.1	0.42	0.052 ppm DM-5 (surface) (downgradient)	A total of six soil samples were analyzed from three monitoring locations in 2014. Concentrations in three samples were below the method detection limit (0.010 ppm). Detectable concentrations ranged from 0.014–0.052 ppm with a mean concentration of 0.031 ppm. All sample results were less than the baseline mean for PCBs.
PHC F1	10	10 (SD=0)	N/A	A total of six soil samples were analyzed from three monitoring locations in 2014. All results were below the method detection limit (10 ppm).
PHC F2	4.8	14	N/A	A total of six soil samples were analyzed from three monitoring locations in 2014. All results were below the method detection limit (10 ppm).

Table IV-11: DYE-M Lower Site Foundation Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
PHC F3	24	118	170 ppm DM-5 (surface) (downgradient)	A total of six soil samples were analyzed from three monitoring locations in 2014. Concentrations in five samples were below the method detection limit (10 ppm). The remaining sample result from downgradient DM-5 was higher than the baseline mean + 3SD.
PHC F4	25	63	19 ppm DM-5 (surface) (downgradient)	A total of six soil samples were analyzed from three monitoring locations in 2014. Concentrations in five samples were below the method detection limit (10 ppm).

Table IV-12: DYE-M Lower Site Foundation Landfill — First-year (2014) Long-term Monitoring Photolog

Photo	File name	Date	Caption
FL-10	P8070076	8/7/14	Soil monitoring location DM-4 on the south side of the Lower Site Foundation Landfill. Photograph taken facing north with the facility visible in the background.
FL-11	P8070079	8/7/14	DM-5 on the west side of the Lower Site Foundation Landfill. Photograph taken facing east with the facility visible in the background.
FL-12	P8070083	8/7/14	DM-6 on the northeast side of the Lower Site Foundation Landfill. Photograph taken facing southeast with the facility visible in the background.

F. Lower Site NWS Landfill

In 2014, a total of 10 soil samples, including QA samples, were collected, at surface and at shallow depth, from four locations at the Lower Site NWS Landfill (upgradient DM-7, downgradient DM-8, DM-9 and DM-10).

Results for the analysis of the soil samples collected at the Lower Site NWS Landfill are presented in Table B-94. The monitoring log for the Lower Site NWS Landfill is presented in Table B-98. Soil data observations may be found below, in Table IV-13. The Lower Site NWS Landfill monitoring photolog may be found in Table IV-14. Sampling locations for the Lower Site NWS Landfill may be found in Appendix A, Map A-21.

Nickel results for 2014 monitoring samples reported seven of nine results less than the baseline mean +3SD. Two samples, from the same location (downgradient DM-9) surface and depth reported nickel results over the baseline mean +3SD. The depth sample at DM-9 in 2013 also showed nickel results over the baseline mean +3SD but this was not found in previous baseline samples.

Chromium results in one sample of a field duplicate pair from downgradient DM-9 surface location were just over the baseline mean +3SD. Depth results for chromium at DM-9 were just under the baseline mean +3SD. In 2013, chromium results at depth at location DM-9 were also just under the baseline mean +3SD and one location in 2001 reported chromium levels similar to those found in 2014 at the surface of DM-9.

Table IV-13: DYE-M Lower Site NWS Landfill — First-year (2014) Long-term Soil Monitoring Data

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Copper	26	48	40 ppm DM-9 (surface) (downgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate sample. Concentrations were above the method detection limit (3.0 ppm) at all sampling locations. Concentrations ranged from 15–40 ppm with a mean concentration of 25 ppm. Six sample results were less than the baseline mean and the remaining three sample results from downgradient DM-9 were less than the baseline mean + 3SD.
Nickel	34	64	74 ppm DM-9 (surface) (downgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate sample. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 29–74 ppm with a mean concentration of 42 ppm. Five sample results including upgradient surface and depth samples were less than the baseline mean for nickel. Two of the sample results were less than or equal to the baseline mean + 3SD. The final two samples from downgradient DM-9 reported nickel results over the baseline mean + 3SD.

Table IV-13: DYE-M Lower Site NWS Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Cobalt	12	23	16 ppm DM-9 (surface) (downgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate sample. Concentrations were above the method detection limit detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 6.0–16 ppm with a mean concentration of 9.0 ppm. Six sample results including upgradient surface and depth were less than the baseline mean and all results were below the baseline mean + 3SD.
Cadmium	1.0	1.0 (SD=0)	N/A	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate sample. All results were below the method detection limit (1.0 ppm).
Lead	10	22	11 ppm DM-8 (surface) (downgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014. including one field duplicate sample Concentrations in eight samples were below the method detection limit (10 ppm). One sample (downgradient DM-8 surface) was just over the baseline mean and less than the baseline mean + 3SD.
Zinc	51	97	91 ppm DM-9 (surface) (downgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate sample. Concentrations were above the method detection limit detection limit (15 ppm) at all sampling locations. Concentrations ranged from 35–91 ppm with a mean concentration of 53 ppm. Six sample results including upgradient surface and depth were below the baseline mean and all samples were less than the baseline mean +3SD.

Table IV-13: DYE-M Lower Site NWS Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Chromium	65	126	130 ppm DM-9 (surface) (downgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate sample. Concentrations were above the method detection limit detection limit (20 ppm) at all sampling locations. Concentrations ranged from 47–130 ppm with a mean concentration of 74 ppm. Five sample results including upgradient surface and depth samples were less than the baseline mean while three results were less than the baseline mean + 3SD. One of the field duplicate pairs from downgradient DM-9 surface reported chromium just over the baseline mean + 3SD.
Arsenic	1.0	3.0	2.0 ppm DM-9 (surface) (downgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate sample. Concentrations were above the method detection limit (0.20 ppm) at all sampling locations. Concentrations ranged from 0.80–2.0 ppm with a mean concentration of 1.3 ppm. One sample (downgradient DM-10 depth) reported arsenic results less than the baseline mean and all other results were less than the baseline mean + 3SD.
Mercury	0.1	0.1 (SD=0)	N/A	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate sample. All results were below the method detection limit (0.10 ppm).

Table IV-13: DYE-M Lower Site NWS Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	**Baseline Arithmetic Mean (ppm)**	**Baseline Mean + 3SD (ppm)**	**Maximum concentration observed in Year 1**	**Observations and comments**
PCBs	0.1	0.15	0.010 ppm DM-8 (surface) (downgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate sample. Concentrations in eight samples were below the method detection limit (0.010 ppm). One downgradient surface sample at DM-8 reported PCBs equal to the 2014 detection limit of 0.01 ppm, well below the baseline mean.
PHC F1	10	10 (SD=0)	N/A	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate sample. All results were below the method detection limit (10 ppm).
PHC F2	4.0	15	N/A	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate sample. All results were below the method detection limit (10 ppm).
PHC F3	9.0	42	N/A	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate sample All results were below the method detection limit (10 ppm).
PHC F4	15	40	N/A	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate sample. All results were below the method detection limit (10 ppm).

Table IV-14: DYE-M Lower Site NWS Landfill — First-year (2014) Long-term Monitoring Photolog (2014)

Photo	File name	Date	Caption
NWS-11	P1120227	8/12/14	DM-7 on the northwest side of the Lower Site NWS Landfill. Photograph taken facing southeast with the facility visible in the background.
NWS-12	P1120239	8/12/14	DM-8 on the northeast side of the Lower Site NWS Landfill. Photograph taken facing west with the facility visible in the background.
NWS-13	P1120235	8/12/14	DM-9 on the southeast side of the Lower Site NWS Landfill. Photograph taken facing west with the facility visible in the background.
NWS-14	P1120232	8/12/14	DM-10 on the south side of the Lower Site NWS Landfill. Photograph taken facing east with the facility visible in the background.

G. Upper Site Tier II Disposal Facility

In 2014, a total of 14 soil samples, including QA samples, were collected, at surface and at depth, from five locations at the Upper Site Tier II Disposal Facility (upgradient locations BMW-07-22 and BMW-12-02, downgradient locations MW-07-23, MW-08-24 and MW-08-25). Groundwater samples were collected from two monitoring wells (both downgradient: MW-08-24 and MW-07-23). The other three wells were dry or frozen or had an insufficient water volume for sampling so no samples were collected from them. Depths to the bottom of the wells ranged from 1.6 to 2.4 m, which is consistent with previous years of monitoring. Ice is present within a portion of the well screen in all wells.

Results for the analysis of the soil samples collected at the US Tier II Disposal Facility are presented in Table B-99. Results for the analysis of the groundwater samples collected at the US Tier II Disposal Facility are presented in Table B-100. Monitoring well sampling logs are presented in Tables B-124 to B-128. Soil and groundwater data observations may be found below, in Tables IV-15 and IV-16. The US Tier II Disposal Facility monitoring photolog may be found in Table IV-17. Sampling locations for the US Tier II Disposal Facility may be found in Appendix A, Map A-22.

It should be noted that, in 2014, soil concentrations for chromium at depth at downgradient monitoring location MW-8-25 exceeded the DLCU Tier II criterion of 250 ppm. During the site investigation, a detailed background program was conducted and results indicated that natural levels of chromium (among other elements) exceeded the DLCC over a large portion of the site. As part of the background sampling, five soil samples in this area were found to contain chromium concentrations that exceeded the DLCC. As there are high natural background levels of chromium present in the vicinity of the US Tier II Facility, it is likely that the exceedance found during monitoring is natural. However, the 2014 value of 710 ppm at MW-8-25 depth exceeds the suggested SSC of 513 ppm established for certain areas of the Upper Site and exceeds the baseline maximum of 560ppm.

Cobalt results from this same downgradient monitoring location MW-08-25 depth in 2014 were over the baseline mean +3SD while baseline results from 2013 showed cobalt levels that were similar at the surface of MW-08-25 but did not exceed the mean +3SD.

Samples taken at downgradient MW-07-23 in 2014 reported arsenic levels in the surface sample that were higher than the baseline mean +3SD. Baseline results for arsenic in this location were all well under the baseline mean +3SD.

Samples were not collected from the area where MW-09-22a was decommissioned, shown in Photograph I-3 (below the photolog), and no future sampling should be conducted in that location.

Groundwater samples taken in 2014 First Year monitoring were all below the baseline mean and in many cases below the method detection limit, however the samples were analyzed for dissolved instead of total inorganic elements.

Table IV-15: DYE-M Upper Site Tier II Disposal Facility — First-year (2014) Long-term Soil Monitoring Data

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Copper	43	130	84 ppm MW-08-25 (depth) (downgradient)	A total of eleven soil samples were analyzed from five monitoring locations in 2014 including one field duplicate sample. Concentrations were above the method detection limit (3.0 ppm) at all sampling locations. Concentrations ranged from 10–84 ppm with a mean concentration of 49 ppm. Six sample results including upgradient MW-07-22 surface and depth were less than the baseline mean and the remaining five results including upgradient BMW-12-02 were less than the baseline mean + 3SD.
Nickel	83	304	200 ppm MW-08-25 (depth) (downgradient)	A total of eleven soil samples were analyzed from five monitoring locations in 2014 including one field duplicate sample. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 25–200 ppm with a mean concentration of 91 ppm. Seven sample results were less than the baseline mean while the remaining four sample results including one upgradient sample at BMW-12-02 depth were less than the baseline mean + 3SD.

Table IV-15: DYE-M Upper Site Tier II Disposal Facility — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Cobalt	19	40	43 ppm MW-08-25 (depth) (downgradient)	A total of eleven soil samples were analyzed from five monitoring locations in 2014 including one field duplicate sample. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 10–43 ppm with a mean concentration of 18 ppm. Nine sample results (including upgradient surface and depth samples) were less than or equal to the baseline mean. One downgradient sample was less than the baseline mean + 3SD and the remaining downgradient sample from MW-08-25 depth reported cobalt results higher than the baseline mean + 3SD.
Cadmium	1.0	1.0 (SD=0)	N/A	A total of eleven soil samples were analyzed from five monitoring locations in 2014 including one field duplicate sample. All results were below the method detection limit (1.0 ppm).
Lead	18	80	30 ppm BMW-07-22 (depth) (upgradient)	A total of eleven soil samples were analyzed from five monitoring locations in 2014 including one field duplicate sample. Concentrations in four samples were below the method detection limit (10 ppm). Detectable concentrations ranged from 10–30 ppm with a mean concentration of 17 ppm. Five sample results were less than or equal to the baseline mean while the remaining two sample results from upgradient BMW-07-22 surface and depth were less than the baseline mean + 3SD.

Table IV-15: DYE-M Upper Site Tier II Disposal Facility — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Zinc	77	214	110 ppm BMW-12-02 (surface) (upgradient)	A total of eleven soil samples were analyzed from five monitoring locations in 2014 including one field duplicate sample. Concentrations were above the method detection limit (15 ppm) at all sampling locations. Concentrations ranged from 40–110 ppm with a mean concentration of 60 ppm. Nine sample results were less than the baseline mean. Two upgradient samples from BMW-12-02 surface and depth reported zinc results over the baseline mean but both were less than the baseline mean + 3SD.
Chromium	115	398	710 ppm MW-08-25 (depth) (downgradient)	A total of eleven soil samples were analyzed from five monitoring locations in 2014 including one field duplicate sample. Concentrations were above the method detection limit (20 ppm) at all sampling locations. Concentrations ranged from 26–710 ppm with a mean concentration of 154 ppm. Seven sample results were less than the baseline mean. Three sample results including two upgradient samples from BMW-12-02 and one downgradient sample from MW-07-23 were over the baseline mean but less than the baseline mean +3SD. One downgradient sample from MW-08-25 depth reported chromium results higher than the baseline mean + 3SD.

Table IV-15: DYE-M Upper Site Tier II Disposal Facility — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Arsenic	3.7	13	17 ppm MW-07-23 (surface) (downgradient)	A total of eleven soil samples were analyzed from five monitoring locations in 2014 including one field duplicate sample. Concentrations were above the method detection limit (0.20 ppm) at all sampling locations. Concentrations ranged from 1.1–11 ppm with a mean concentration of 5.6 ppm. Seven sample results were less than the baseline mean. Three sample results including two upgradient (BMW-12-02) were higher than the baseline mean but less than the baseline mean + 3SD. One sample from downgradient MW-07-23 reported arsenic results higher than the baseline mean + 3SD.
Mercury	0.05	0.05 (SD=0)	0.019 ppm BMW-12-02 (surface) (upgradient)	A total of eleven soil samples were analyzed from five monitoring locations in 2014 including one field duplicate sample. Concentrations in nine samples were below the method detection limit (0.010 ppm). Detectable concentrations in the remaining two upgradient samples from BMW-12-02 were 0.012 (depth) and 0.019 ppm (surface) with a mean concentration of 0.016 ppm. Both results were less than the baseline mean.
PCBs	0.05	0.085	N/A	A total of eleven soil samples were analyzed from five monitoring locations in 2014 including one field duplicate sample. All results were below the method detection limit (0.010 ppm).
PHC F1	10	21	N/A	A total of eleven soil samples were analyzed from five monitoring locations in 2014 including one field duplicate sample. All results were below the method detection limit (10 ppm).

Table IV-15: DYE-M Upper Site Tier II Disposal Facility — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
PHC F2	10	15	N/A	A total of eleven soil samples were analyzed from five monitoring locations in 2014 including one field duplicate sample. All results were below the method detection limit (10 ppm).
PHC F3	10	28	N/A	A total of eleven soil samples were analyzed from five monitoring locations in 2014 including one field duplicate sample. All results were below the method detection limit (10 ppm).
PHC F4	10	19	N/A	A total of eleven soil samples were analyzed from five monitoring locations in 2014 including one field duplicate sample. All results were below the method detection limit (10 ppm).

Table IV-16: DYE-M Upper Site Tier II Disposal Facility — First-year (2014) Long-term Groundwater Monitoring Data

Analyte	Baseline Arithmetic Mean (mg/L)	Baseline Mean + 3SD (mg/L)	Maximum concentration observed in Year 1	Observations and comments
Copper - dissolved	0.005	0.13	0.0036 mg/L MW-08-24 (downgradient)	A total of two groundwater samples were analyzed from two downgradient monitoring locations in 2014. Concentration in one sample was below the method detection limit (0.0010 mg/L). Detectable results in the other sample were less than the baseline mean.
Nickel - dissolved	0.005	0.53	0.0040 mg/L MW-08-24 (downgradient)	A total of two groundwater samples were analyzed from two downgradient monitoring locations in 2014. Concentrations were above the method detection limit (0.0010 mg/L) at all sampling locations. Concentrations ranged from 0.0025–0.0040 mg/L with a mean concentration of 0.0033 mg/L. Both results were less than the baseline mean.
Cobalt - dissolved	0.003	0.014	N/A	A total of two groundwater samples were analyzed from two downgradient monitoring locations in 2014. All results were below the method detection limit (0.00030 mg/L).
Cadmium - dissolved	0.001	0.001 (SD=0)	N/A	A total of two groundwater samples were analyzed from two downgradient monitoring locations in 2014. All results were below the method detection limit (0.000090 mg/L).
Lead - dissolved	0.01	0.033	N/A	A total of two groundwater samples were analyzed from two downgradient monitoring locations in 2014. All results were below the method detection limit (0.00050 mg/L).
Zinc- dissolved	0.78	6.6	0.022 mg/L MW-07-23 (downgradient)	A total of two groundwater samples were analyzed from two downgradient monitoring locations in 2014. Concentration was below the method detection limit (0.0030 mg/L) at one sampling location. Results for the second sample were less than the baseline mean for zinc.

Table IV-16: DYE-M Upper Site Tier II Disposal Facility — First-year (2014) Long-term Groundwater Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (mg/L)	Baseline Mean + 3SD (mg/L)	Maximum concentration observed in Year 1	Observations and comments
Chromium - dissolved	0.34	1.1	0.00090 mg/L MW-08-24 (downgradient)	A total of two groundwater samples were analyzed from two downgradient monitoring locations in 2014. Concentration was below the method detection limit (0.00050 mg/L) at one sampling location.
Arsenic - dissolved	0.003	0.01	0.0020 mg/L MW-08-24 (downgradient)	A total of two groundwater samples were analyzed from two downgradient monitoring locations in 2014. Concentration was below the method detection limit (0.0010 mg/L) at one sampling location. Results for the second sample were less than the baseline mean.
Mercury - dissolved	0.0004	0.0004 (SD=0)	N/A	A total of two groundwater samples were analyzed from two downgradient monitoring locations in 2014. All results were below the method detection limit (0.00010 mg/).
PCBs	0.003	0.005	N/A	A total of two groundwater samples were analyzed from two downgradient monitoring locations in 2014. All results were below the method detection limit (0.000020 mg/L).
PHC F1	0.05	0.05 (SD=0)	N/A	A total of two groundwater samples were analyzed from two downgradient monitoring locations in 2014. All results were below the method detection limit (0.025 mg/L).
PHC F2	0.5	0.5 (SD=0)	N/A	A total of two groundwater samples were analyzed from two downgradient monitoring locations in 2014. All results were below the method detection limit (0.10 mg/L).
PHC F3	1.0	1.0 (SD=0)	N/A	A total of two groundwater samples were analyzed from two downgradient monitoring locations in 2014. All results were below the method detection limit (0.25 mg/L).
PHC F4	1.0	1.0 (SD=0)	N/A	A total of two groundwater samples were analyzed from two downgradient monitoring locations in 2014. All results were below the method detection limit (0.25 mg/L).

Table IV-17: Upper Site Tier II Disposal Facility — First-year (2014) Long-term Monitoring Photolog (2014)

Photo	File name	Date	Caption
US TDF-16	P8110135	8/19/14	BMW-07-22 on the northeast side of the Upper Site Tier II Disposal Facility. Photograph taken facing southwest with the facility visible in the background.
US TDF-17	P1090107	8/19/14	MW-07-23 on the southeast side of the Upper Site Tier II Disposal Facility. Photograph taken facing northwest with the facility visible in the background.
US TDF-18	P1090110	8/19/14	MW-08-24 on the southwest side of the Upper Site Tier II Disposal Facility. Photograph taken facing southeast with the facility visible in the background.
US TDF-19	P8090104	8/19/14	MW-08-25 on the northwest side of the Upper Site Tier II Disposal Facility. Photograph taken facing south with the facility visible in the background.
US TDF-20	P8090102	8/19/14	BMW-12-02 on the northwest side of the Upper Site Tier II Disposal Facility. Photograph taken facing east with the facility visible in the background.



Photograph I-3: BMW-07-22 and decommissioned BMW-09-22a at the Upper Site Tier II Landfill. Photo taken facing west in 2014. Arrow indicates location of decommissioned well that should not be sampled.

H. Upper Site Non-hazardous Waste Landfill

In 2014, a total of 10 soil samples, including QA samples, were collected, at surface and at depth, from four locations at the US NHWL (upgradient BMW-06-18, and downgradient locations MW-06-19, MW-06-20 and MW-07-21). Groundwater samples were collected from two of the four monitoring wells (both downgradient MW-06-20 and MW-07-21). The other two wells (BMW-06-18 and MW-06-19) were dry so no groundwater samples could be collected from them. Depths to the bottoms of the wells ranged from 1.0 to 2.0 m, which is consistent with majority of the other years of monitoring. Ice is present within the screened section of the wells.

Results for the analysis of the soil samples collected at the US NHWL are presented in Table B-129. Results for the analysis of the groundwater samples collected at the NHWL are presented in Table B-130. Monitoring well sampling logs from 2014 are presented in Tables B-151 to B-154. Soil and groundwater data observations may be found below, in Table IV-18 and Table IV-19. The US NHWL monitoring photolog may be found in Table IV-20. Sampling locations for the US NHWL may be found in Appendix A, Map A-23.

Soil results in 2014 were less than the method detection limit or below the baseline mean in the majority of samples and all results were below the baseline mean +3SD. Groundwater samples taken in 2014 were all below the baseline mean and in many cases below the method detection limit, however the samples were analyzed for dissolved instead of total inorganic elements.

Table IV-18: DYE-M Upper Site Non-hazardous Waste Landfill — First-year (2014) Long-term Soil Monitoring Data

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Copper	27	74	35 ppm MW-06-20 (depth) (downgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate. Concentrations were above the method detection limit (3.0 ppm) at all sampling locations. Concentrations ranged from 16–35 ppm with a mean concentration of 23 ppm. Eight sample results were below the baseline mean. One result from downgradient MW-06-20 was over the baseline mean but less than the mean + 3SD.

Table IV-18: DYE-M Upper Site Non-hazardous Waste Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Nickel	65	178	87 ppm MW-06-19, MW-06-20 (surface, depth) (downgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 49–87 ppm with a mean concentration of 65 ppm. Seven sample results were less than the baseline mean while two downgradient results were higher than the mean but less than the baseline mean + 3SD.
Cobalt	14	31	13 ppm MW-06-19 and MW-06-20 (surface) (downgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 8.8–13 ppm with a mean concentration of 11 ppm. Cobalt results for all nine samples were less than the baseline mean.
Cadmium	1.0	1.0 (SD=0)	N/A	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate. All results were below the method detection limit (1.0 ppm).
Lead	10	33	N/A	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate. All results were below the method detection limit (10 ppm).

Table IV-18: DYE-M Upper Site Non-hazardous Waste Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Zinc	57	148	56 ppm BMW-06-18 (depth) (upgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate. Concentrations were above the method detection limit (15 ppm) at all sampling locations. Concentrations ranged from 30–56 ppm with a mean concentration of 42 ppm. Zinc results for all nine samples were below the baseline mean.
Chromium	41	115	36 ppm MW-06-19 (surface) (downgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate. Concentrations in three samples were below the method detection limit (20 ppm). Detectable concentrations ranged from 24–36 ppm with a mean concentration of 31 ppm. Chromium results for all nine samples were less than the baseline mean.
Arsenic	1.0	2.1	0.90 ppm MW-06-20 (depth) (downgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate. Concentrations were above the method detection limit (0.20 ppm) at all sampling locations. Concentrations ranged from 0.50–0.90 ppm with a mean concentration of 0.71 ppm. Arsenic results for all nine samples were less than the baseline mean.

Table IV-18: DYE-M Upper Site Non-hazardous Waste Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	**Baseline Arithmetic Mean (ppm)**	**Baseline Mean + 3SD (ppm)**	**Maximum concentration observed in Year 1**	**Observations and comments**
Mercury	0.1	0.1 (SD=0)	N/A	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate. All results were below the method detection limit (0.010 ppm).
PCBs	0.05	0.33	0.034 ppm BMW-06-18 (surface) (upgradient)	A total of nine soil samples were analyzed from four monitoring locations in 2014. Concentrations in eight samples were below the method detection limit (0.020 ppm). PCB results were detectable in one upgradient surface sample but results were below the baseline mean.
PHC F1	30	41	N/A	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate. All results were below the method detection limit (10 ppm) and the baseline mean.
PHC F2	10	15	N/A	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate. All results were below the method detection limit (10 ppm) and the baseline mean.
PHC F3	10	648	N/A	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate. All results were below the method detection limit (10 ppm) and the baseline mean.
PHC F4	36	258	N/A	A total of nine soil samples were analyzed from four monitoring locations in 2014 including one field duplicate. All results were below the method detection limit (10 ppm) and the baseline mean.

Table IV-19: DYE-M Upper Site Non-hazardous Waste Landfill — First-year (2014) Long-term Groundwater Monitoring Data

Analyte	Baseline Arithmetic Mean (mg/L)	Baseline Mean + 3SD (mg/L)	Maximum concentration observed in Year 1	Observations and comments
Copper - dissolved	0.005	0.52	N/A	A total of two groundwater samples were analyzed from two monitoring locations in 2014. All results were below the method detection limit (0.0010 mg/L) and the baseline mean.
Nickel - dissolved	0.22	0.59	N/A	A total of two groundwater samples were analyzed from two monitoring locations in 2014. All results were below the method detection limit (0.0010 mg/L in 2014) and the baseline mean.
Cobalt - dissolved	0.003	0.13	N/A	A total of two groundwater samples were analyzed from two monitoring locations in 2014. All results were below the method detection limit (0.00030 mg/L) and the baseline mean.
Cadmium - dissolved	0.001	0.005	N/A	A total of two groundwater samples were analyzed from two monitoring locations in 2014. All results were below the method detection limit (0.000090 mg/L) and the baseline mean.
Lead - dissolved	0.005	0.28	N/A	A total of two groundwater samples were analyzed from two monitoring locations in 2014. All results were below the method detection limit (0.00050).
Zinc - dissolved	4.0	21	0.21 mg/L MW-06-20 (downgradient)	A total of two groundwater samples were analyzed from two monitoring locations in 2014. Concentration was below the method detection limit (0.0030 mg/L) at one sampling location and well below the baseline mean for the detectable result from MW-06-20.
Chromium - dissolved	0.27	0.79	N/A	A total of two groundwater samples were analyzed from two monitoring locations in 2014. All results were below the method detection limit (0.0050 mg/L).

Table IV-19: DYE-M Upper Site Non-hazardous Waste Landfill — First-year (2014) Long-term Groundwater Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (mg/L)	Baseline Mean + 3SD (mg/L)	Maximum concentration observed in Year 1	Observations and comments
Arsenic - dissolved	0.009	0.039	N/A	A total of two groundwater samples were analyzed from two monitoring locations in 2014. All results were below the method detection limit (0.0010 mg/L).
Mercury - dissolved	0.0004	0.0004 (SD=0)	N/A	A total of two groundwater samples were analyzed from two monitoring locations in 2014. All results were below the method detection limit (0.00010 mg/L).
PCBs	0.003	0.0053	N/A	A total of two groundwater samples were analyzed from two monitoring locations in 2014. All results were below the method detection limit (0.000020 mg/L).
PHC F1	0.05	0.05 (SD=0)	N/A	A total of two groundwater samples were analyzed from two monitoring locations in 2014. All results were below the method detection limit (0.025 mg/L).
PHC F2	0.5	0.5 (SD=0)	N/A	A total of two groundwater samples were analyzed from two monitoring locations in 2014. All results were below the method detection limit (0.10 mg/L).
PHC F3	1.0	1.0 (SD=0)	N/A	A total of two groundwater samples were analyzed from two monitoring locations in 2014. All results were below the method detection limit (0.25 mg/L).
PHC F4	1.0	1.0 (SD=0)	N/A	A total of two groundwater samples were analyzed from two monitoring locations in 2014. All results were below the method detection limit (0.25 mg/L).

Table IV-20: DYE-M Upper Site Non-hazardous Waste Landfill — First Year Monitoring Photolog (2014)

Photo	File name	Date	Caption
US NHWL-18	P8060028	8/06/14	BMW-06-18 on the south side of the US NHWL. Photograph taken facing north with the facility visible in the background.
US NHWL-19	P8060036	8/06/14	MW-06-19 on the west side of the US NHWL. Photograph taken facing east with the facility visible in the background.
US NHWL-20	P1010048	8/06/14	MW-06-20 on the north side of the US NHWL. Photograph taken facing southwest with the facility visible in the background.
US NHWL-21	P1010051	8/06/14	MW-07-21 on the north side of the US NHWL. Photograph taken facing southwest with the facility visible in the background.

I. Upper Site NWS Landfill

In 2014, a total of 20 soil samples, including QA samples, were collected at surface and at depth from eight locations at the Upper Site NWS Landfill (upgradient DM-18 and downgradient DM-19 to DM-23 including DM-22old). Three of these samples were collected at downgradient location DM-23 for monitoring of both the Upper Site NWS Landfill and the Upper Site South Landfill. In addition, two soil samples were collected at an eighth sampling location, downgradient DM-22, and were analyzed for inorganic elements and PCBs only. Because the amount of soil at that location would be insufficient for sampling during future monitoring events, the original DM-22 location was changed by the PMO team. In the future, monitoring samples will be collected at the DM-22 sampling location, as indicated on Map A-24. The previous location is indicated on the map and in the tables as DM-22old.

Results for the analysis of the soil samples collected at the Upper Site NWS Landfill are presented in Table B-155. Monitoring logs for Upper Site NWS Landfill soil sampling locations are presented in Table B-159. Soil data observations may be found below, in Table IV-21. The Upper Site NWS Landfill monitoring photolog may be found in Table IV-22. Sampling locations for the Upper Site NWS Landfill may be found in Appendix A, Map A-11.

Sample results for First Year monitoring at the US NWS landfill in 2014 were all below baseline mean +3SD values.

Table IV-21: DYE-M Upper Site NWS Landfill — First-year (2014) Long-term Soil Monitoring Data

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Copper	25	70	43 ppm DM-23 (surface) (downgradient)	A total of 16 soil samples were analyzed from seven monitoring locations in 2014 including two field duplicates. Concentrations were above the method detection limit (3.0 ppm) at all sampling locations. Concentrations ranged from 14–43 ppm with a mean concentration of 24 ppm. Eleven sample results including the two upgradient samples were less than the baseline mean and the remaining 5 sample results were below the baseline mean + 3SD.
Nickel	55	266	72 ppm DM-22 (surface) (downgradient)	A total of 16 soil samples were analyzed from seven monitoring locations in 2014 including two field duplicates. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 13–72 ppm with a mean concentration of 34 ppm. Nickel results for fourteen samples including the two upgradient samples were less than the baseline mean. The two remaining downgradient sample results were less than the baseline mean +3SD.
Cobalt	10	23	13 ppm DM-18 (surface and depth) (upgradient)	A total of 16 soil samples were analyzed from seven monitoring locations in 2014 including two field duplicates. Concentrations in two samples were below the method detection limit (5.0 ppm). Detectable concentrations ranged from 6.4–13 ppm with a mean concentration of 8.9 ppm. Eleven sample results including the two upgradient samples were below the baseline mean for cobalt and the remaining three downgradient samples were below the baseline mean +3SD.

Table IV-21: DYE-M Upper Site NWS Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	**Baseline Arithmetic Mean (ppm)**	**Baseline Mean + 3SD (ppm)**	**Maximum concentration observed in Year 1**	**Observations and comments**
Cadmium	1.0	1.3	N/A	A total of 16 soil samples were analyzed from seven monitoring locations in 2014 including two field duplicates. All results were below the method detection limit (1.0 ppm).
Lead	10	35	33 ppm DM-20 (depth) (downgradient)	A total of 16 soil samples were analyzed from seven monitoring locations in 2014 including two field duplicates. Concentrations in five samples were below the method detection limit (10 ppm). Detectable concentrations ranged from 10–33 ppm with a mean concentration of 16 ppm. Two sample results (both downgradient) were less than the baseline mean and the remaining seven samples including the two upgradient samples were less than the baseline mean +3SD.
Zinc	63	155	120 ppm DM-21 (depth) (downgradient)	A total of 16 soil samples were analyzed from seven monitoring locations in 2014 including two field duplicates. Concentrations were above the method detection limit (15 ppm) at all sampling locations. Concentrations ranged from 36–120 ppm with a mean concentration of 60 ppm. Ten sample results were below the baseline mean and the remaining six samples including upgradient DM-18 depth sample reported zinc levels below the baseline mean + 3SD.

Table IV-21: DYE-M Upper Site NWS Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Chromium	20	126	82 ppm DM-23 (surface) (downgradient)	A total of 16 soil samples were analyzed from seven monitoring locations in 2014 including two field duplicates. Concentrations in four downgradient samples were below the method detection limit (20 ppm). Detectable concentrations ranged from 20–82 ppm with a mean concentration of 33 ppm. Chromium results were equal to the baseline mean in one sample (downgradient DM-19 surface) and the remaining eleven sample results were less than the baseline mean +3SD including the two upgradient samples at DM-18.
Arsenic	1.0	2.7	1.6 ppm DM-21 (depth) (downgradient)	A total of 16 soil samples were analyzed from seven monitoring locations in 2014 including two field duplicates. Concentrations were above the method detection limit (0.20 ppm) at all sampling locations. Concentrations ranged from 0.52–1.6 ppm with a mean concentration of 0.92 ppm. Eleven sample results were less than or equal to the baseline mean. Five samples including upgradient DM-18 surface sample reported arsenic levels less than the baseline mean + 3SD.
Mercury	0.1	0.1 (SD=0)	N/A	A total of 16 soil samples were analyzed from seven monitoring locations in 2014 including two field duplicates. All results were below the method detection limit (0.10 ppm).
PCBs	0.1	0.56	N/A	A total of 16 soil samples were analyzed from seven monitoring locations in 2014 including two field duplicates. All results were below the method detection limit (0.05 ppm).

Table IV-21: DYE-M Upper Site NWS Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
PHC F1	10	10 (SD=0)	N/A	A total of 14 soil samples were analyzed from seven monitoring locations in 2014 including two field duplicates. All results were below the method detection limit (10 ppm).
PHC F2	4.0	34	N/A	A total of 14 soil samples were analyzed from seven monitoring locations in 2014 including two field duplicates. All results were below the method detection limit (10 ppm).
PHC F3	9.0	39	N/A	A total of 14 soil samples were analyzed from seven monitoring locations in 2014 including two field duplicates. All results were below the method detection limit (10 ppm).
PHC F4	13	29	N/A	A total of 14 soil samples were analyzed from seven monitoring locations in 2014 including two field duplicates. All results were below the method detection limit (10 ppm).

Table IV-22: DYE-M Upper Site NWS Landfill — First-year (2014) Long-term Monitoring Photolog

Photo	File name	Date	Caption
US NWS L-11	P806006	8/6/14	DM-18 on the northeast side of the Upper Site NWS Landfill. Photograph taken facing south with the landfill visible in the background.
US NWS L-12	P806010	8/6/14	DM-19 on the south side of the Upper Site NWS Landfill. Photograph taken facing north with the landfill visible in the background.
US NWS L-13	P806017	8/6/14	DM-20 on the south side of the Upper Site NWS Landfill. Photograph taken facing north with the landfill visible in the background.
US NWS L-14	P806023	8/6/14	DM-21 on the south side of the Upper Site NWS Landfill. Photograph taken facing north with the landfill visible in the background.
US NWS L-15	P806026	8/6/14	DM-22Old on the west side of the Upper Site NWS Landfill. Photograph taken facing north with the landfill visible in the background.
US NWS L-16	P8110143	8/6/14	DM-22 on the northwest side of the Upper Site NWS Landfill. Photograph taken facing north with the landfill visible in the background.
US NWS L-17	P806014	8/6/14	DM-23 on the south side of the Upper Site NWS Landfill. Photograph taken facing north with the landfill visible in the background.

J. Upper Site South Landfill West

In 2014, a total of 27 soil samples, including QA samples, were collected, at surface and at shallow depth, from nine locations at the Upper Site South Landfill West (upgradient DM-19 and downgradient DM-23 to DM-30). DM-19 is a shared soil location (downgradient) with the Upper Site NWS Landfill.

Results for the analysis of the soil samples collected at the Upper Site South Landfill West are presented in Table B-160. Monitoring logs for Upper Site South Landfill West soil sampling locations are presented in Table B-164. Soil data observations may be found below, in Table IV-23. The Upper Site South Landfill West monitoring photolog may be found in Table IV-24. Sampling locations for the Upper Site South Landfill West may be found in Appendix A, Map A-24.

Three samples from 2014 reported inorganic elements exceeding the baseline mean +3SD. One sample of the field duplicate pair 8260/61 from downgradient DM-26 surface contained copper concentrations higher than the baseline mean +3SD. The average of the field duplicate pair was less than the baseline mean +3SD. Baseline results for this location were all less than the baseline mean +3SD. Two other 2014 monitoring samples (downgradient locations DM-24 and DM-25 depth samples) contained nickel concentrations higher than the baseline mean +3SD. Nickel levels were found to be naturally high in the Upper Site area during the site investigation. All other inorganic element results were below the baseline means +3SD. PCB and PHC results were all below detection, with the exception of a few downgradient F2 results which were at or just above the detection limit.

Table IV-23: DYE-M Upper Site South Landfill West — First-year (2014) Long-term Soil Monitoring Data

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Copper	26	88	95 ppm DM-26 (depth) (downgradient)	A total of 21 soil samples were analyzed from nine monitoring locations in 2014. Concentrations in all samples were above the method detection limit (3.0 ppm). Detectable concentrations ranged from 15–95 ppm with a mean concentration of 36 ppm. Ten sample results including three upgradient samples were less than the baseline mean and ten results including the fourth upgradient sample at DM-23 depth were less than the baseline mean + 3SD. One sample result (one of duplicate pair 8260/61 from downgradient DM-26 surface) was greater than the baseline mean + 3SD.

Table IV-23: DYE-M Upper Site South Landfill West — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Nickel	42	102	170 ppm DM-24 (depth) (downgradient)	A total of 21 soil samples were analyzed from nine monitoring locations in 2014. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 14–170 ppm with a mean concentration of 58 ppm. Seven sample results including three of the upgradient samples were less than the baseline mean and 12 results including the fourth upgradient sample were below the baseline mean +3SD. Two samples from downgradient DM-24 and DM-25 depth reported nickel levels over the baseline mean +3SD
Cobalt	13	52	20 ppm DM-24 (surface) (downgradient)	A total of 21 soil samples were analyzed from nine monitoring locations in 2014. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations but one which reported results below the method detection limit (5.0 ppm). Concentrations ranged from 6.2–20 ppm with a mean concentration of 11 ppm. Fifteen sample results including all four upgradient samples were below the baseline mean and all other results were less than the baseline mean + 3SD.
Cadmium	1.0	21	N/A	A total of 21 soil samples were analyzed from nine monitoring locations in 2014. All results were below the method detection limit (1.0 ppm).

Table IV-23: DYE-M Upper Site South Landfill West — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Lead	10	92	11 ppm DM-23 (surface) (downgradient)	A total of 21 soil samples were analyzed from nine monitoring locations in 2014. Concentrations in 20 samples were below the method detection limit (10 ppm). One sample concentration at downgradient DM-23 surface was just over the baseline mean.
Zinc	84	227	110 ppm DM-24 (depth) (downgradient)	A total of 21 soil samples were analyzed from nine monitoring locations in 2014. Concentrations were above the method detection limit (15 ppm) at all sampling locations. Concentrations ranged from 27–110 ppm with a mean concentration of 66 ppm. Sixteen samples including the upgradient surface and depth samples reported zinc levels equal to or below the baseline mean. All other results were less than the baseline mean + 3SD.
Chromium	56	179	170 ppm DM-24 (depth) (downgradient)	A total of 21 soil samples were analyzed from nine monitoring locations in 2014. Concentrations in two samples including one upgradient sample were below the method detection limit (20 ppm). Detectable concentrations ranged from 23–170 ppm with a mean concentration of 60 ppm. Nine sample results including two upgradient samples were less than the baseline mean while the remaining 10 sample results including one upgradient sample at DM-23 surface were below the baseline mean + 3SD.

Table IV-23: DYE-M Upper Site South Landfill West — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Arsenic	2.3	47	1.5 ppm DM-26 (depth) (downgradient)	A total of 21 soil samples were analyzed from nine monitoring locations in 2014. Concentrations were above the method detection limit (0.20 ppm) at all sampling locations. Concentrations ranged from 0.30–1.5 ppm with a mean concentration of 0.79 ppm. All sample results were below the baseline mean.
Mercury	0.1	0.1 (SD=0)	N/A	A total of 21 soil samples were analyzed from nine monitoring locations in 2014. All results were below the method detection limit (0.010 ppm).
PCBs	0.05	0.56	N/A	A total of 21 soil samples were analyzed from nine monitoring locations in 2014. All results were below the method detection limit (0.010 ppm).
PHC F1	10	10 (SD=0)	N/A	A total of 21 soil samples were analyzed from nine monitoring locations in 2014. All results were below the method detection limit (10 ppm).
PHC F2	4.0	11	16 ppm DM-24 (depth) (downgradient)	A total of 21 soil samples were analyzed from nine monitoring locations in 2014. Concentrations in 19 samples were below the method detection limit (10 ppm). Detectable concentrations ranged from 10–16 ppm in three downgradient samples with a mean concentration of 12 ppm. Results were below the baseline mean +3SD in two of the detectable samples while the third (downgradient DM-24 depth) reported levels over the baseline mean +3SD.
PHC F3	9.0	97	N/A	A total of 21 soil samples were analyzed from nine monitoring locations in 2014. All results were below the method detection limit (10 ppm).

Table IV-23: DYE-M Upper Site South Landfill West — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
PHC F4	23	113	N/A	A total of 21 soil samples were analyzed from nine monitoring locations in 2014. All results were below the method detection limit (10 ppm).

Table IV-24: DYE-M Upper Site South Landfill West — First-year (2014) Long-term Monitoring Photolog

Photo	File name	Date	Caption
US SLW-17	P806015	8/6/14	DM-23 on the north side of the Upper Site South Landfill West. Photograph taken facing south with the landfill visible in the background.
US SLW-18	P1010020	8/6/14	DM-24 on the south side of the Upper Site South Landfill West. Photograph taken facing northwest with the landfill visible in the background.
US SLW-19	P1010023	8/6/14	DM-25 on the south side of the Upper Site South Landfill West. Photograph taken facing north with the landfill visible in the background.
US SLW-20	P1010026	8/6/14	DM-26 on the south side of the Upper Site South Landfill West. Photograph taken facing north with the landfill visible in the background.
US SLW-21	P1010029	8/6/14	DM-27 on the south side of the Upper Site South Landfill West. Photograph taken facing northeast with the landfill visible in the background.
US SLW-22	P1010032	8/6/14	DM-28 on the west side of the Upper Site South Landfill West. Photograph taken facing southeast with the landfill visible in the background.
US SLW-23	P1010035	8/6/14	DM-29 on the northwest side of the Upper Site South Landfill West. Photograph taken facing southeast with the landfill visible in the background.
US SLW-24	DSCO4832	8/6/14	DM-30 on the northwest side of the Upper Site South Landfill West. Photograph taken facing south southeast with the landfill visible in the background.

L. Upper Site West Landfill

In 2014, a total of 63 soil samples, including 30% duplicates and including QA samples, were collected, at surface and at depth, from 22 locations at the Upper Site West

Landfill (Upgradient DM-35, DM-39, DM-40, DM-47, DM-50, DM-51, DM-52 and downgradient DM-31 to DM-34, DM-36-DM-38, DM-41 to DM-46, DM-48 to DM-49).

Upgradient DM-50 and DM-51 were shared with the Upper Site Pallet Line Landfill (also upgradient).

It should be noted that the first-year (2014) monitoring results indicate soil concentrations of chromium that exceeded the DLCU Tier II criterion (250 ppm) at sampling locations upgradient locations DM-40 (at depth), DM-47 (at surface), and DM-50 (at surface and depth) and downgradient location DM-48 (at surface and at depth). During the site investigation, a detailed background program was conducted and results indicated that natural levels of chromium (among other elements) exceeded the DLCC over a large portion of the site. As part of the background sampling, four soil samples from the Upper Site West Landfill were found to contain elevated concentrations of inorganic elements, including chromium. As there are naturally high levels of inorganic elements present at the Upper Site, the chromium exceedances found during first-year monitoring of the Upper Site West Landfill are attributed to the naturally occurring levels. 2014 Sample results reported all but one chromium result (downgradient DM-48 surface) below the baseline mean +3SD. All results were below the baseline maximum of 460ppm.

Arsenic levels for three of the 2014 samples (downgradient DM-46 depth and DM-48 surface and depth) exceeded the baseline mean plus 3SD but these results are similar to previous arsenic levels in baseline samples for DM-48. Results for arsenic in this location (surface and depth) in 2009, 2011 and 2013 also exceeded the baseline mean +3SD.

There were three elevated results for the F2 PHC fraction, at sampling locations upgradient DM-47 (at surface (2100ppm) and at depth (617ppm)) and upgradient DM-51 (at depth (1500ppm)). DM-47 is located at an area of partially buried debris containing empty barrels that was excavated in 2013. The empty barrels that were excavated could have been a source of elevated hydrocarbons in this area. At the time of excavation, confirmatory sampling was not required because there was no indication of contamination and debris at shallow depth; it was treated as partially buried surface debris. DM-51 is located within a hydrocarbon plume at depth that was discovered during the site investigation and was left in place because it was considered to pose a low environmental risk. Results for these samples were greater than the baseline mean.

Results for the analysis of the soil samples collected at the Upper Site West Landfill are presented in Table B-165. Monitoring logs for Upper Site West Landfill soil sampling locations are presented in Table B-171. Soil data observations may be found below, in Table IV-25. The Upper Site West Landfill monitoring photolog may be found in Table IV-26. Sampling locations for the Upper Site West Landfill may be found in Appendix A, Map A-25.

Table IV-25: DYE-M Upper Site West Landfill — First-year (2014) Long-term Soil Monitoring Data

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Copper	68	157	190 ppm DM-44 (depth) (downgradient)	A total of 51 soil samples were analyzed from 22 monitoring locations in 2014. Concentrations were above the method detection limit (3.0 ppm) at all sampling locations. Concentrations ranged from 24–190 ppm with a mean concentration of 81 ppm. Twenty-two sample results were below the baseline mean while another twenty eight (11 of them upgradient) samples were below the baseline mean + 3SD. Two samples (downgradient depth samples from DM-44 and DM-46) reported copper results over the baseline mean + 3SD.
Nickel	61	203	320 ppm DM-48 (surface) (downgradient)	A total of 51 soil samples were analyzed from 22 monitoring locations in 2014. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 30–320 ppm with a mean concentration of 78 ppm. Thirty samples reported results below the baseline mean. Eighteen sample results (half upgradient, half downgradient) were less than the baseline mean + 3SD and three sample results (upgradient DM-52 surface and depth and downgradient DM-48 surface) exceeded the baseline mean + 3SD.

Table IV-25: DYE-M Upper Site West Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Cobalt	16	37	43 ppm DM-48 (surface) (downgradient)	A total of 51 soil samples were analyzed from 22 monitoring locations in 2014. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 7.3–43 ppm with a mean concentration of 15 ppm. Forty sample results were less than or equal to the baseline mean while nine sample results (4 upgradient) were less than the baseline mean + 3SD. Two sample results (surface samples upgradient DM-52 and downgradient DM-42) exceeded the baseline mean + 3SD.
Cadmium	1.0	2.2	N/A	A total of 51 soil samples were analyzed from 22 monitoring locations in 2014. All results were below the method detection limit (5.0 ppm).
Lead	10	57	100 ppm DM-38 (depth) (downgradient)	A total of 51 soil samples were analyzed from 22 monitoring locations in 2014. Concentrations in 26 samples were below the method detection limit (10 ppm). Detectable concentrations ranged from 10–100 ppm with a mean concentration of 23 ppm. Twenty-three sample results (including eight upgradient) were less than the baseline mean + 3SD and two sample results (downgradient DM-38 surface and depth) exceeded the baseline mean + 3SD.

Table IV-25: DYE-M Upper Site West Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Zinc	115	254	280 ppm DM-38 (surface) (downgradient)	A total of 51 soil samples were analyzed from 22 monitoring locations in 2014. Concentrations were above the method detection limit (15 ppm) at all sampling locations. Concentrations ranged from 44–280 ppm with a mean concentration of 130 ppm. Twenty-five sample results were less than the baseline mean and twenty-four sample results (including six upgradient) were below the baseline mean + 3SD. Two sample results (downgradient DM-38 surface and depth)exceeded the baseline mean + 3SD.
Chromium	133	310	450 ppm DM-48 (surface) (downgradient)	A total of 51 soil samples were analyzed from 22 monitoring locations in 2014. Concentrations were above the method detection limit (20 ppm) at all sampling locations. Concentrations ranged from 37–450 ppm with a mean concentration of 150 ppm. It has been observed that high concentrations of chromium occur naturally at the Upper Site, and 2014 results are likely natural. Twenty-four sample results were less than the baseline mean and twenty-six sample results (including eight upgradient) were below the baseline mean + 3SD. One sample (downgradient surface DM-48) reported chromium levels exceeding the baseline mean + 3SD.

Table IV-25: DYE-M Upper Site West Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Arsenic	1.3	8.3	15 ppm DM-48 (surface) (downgradient)	A total of 51 soil samples were analyzed from 22 monitoring locations in 2014. Concentrations were above the method detection limit (0.20 ppm) at all sampling locations. Concentrations ranged from 3.0–15 ppm with a mean concentration of 0.60 ppm. Twenty sample results were less than the baseline mean while twenty-seven sample results (including 10 upgradient) were below the baseline mean + 3SD. Four samples (downgradient DM-46 depth and DM-48 surface and depth) reported arsenic exceeding the baseline mean + 3SD.
Mercury	0.1	0.12	0.030 ppm DM-45 (surface)	A total of 51 soil samples were analyzed from 22 monitoring locations in 2014. Concentrations in 44 samples were below the method detection limit (0.010 ppm). Detectable concentrations ranged from 0.015–0.030 ppm with a mean concentration of 0.021 ppm. Seven detectable results (including two upgradient surface samples) were below the baseline mean.
PCBs	0.1	0.46	0.066 ppm DM-51 (depth)PCBs (upgradient)	A total of 50 soil samples were analyzed from 22 monitoring locations in 2014. Concentrations in 47 samples were below the method detection limit (0.010 ppm). Detectable concentrations ranged from 0.018–0.066 ppm with a mean concentration of 0.048 ppm. Three detectable sample results (all upgradient) were less than the baseline mean.

Table IV-25: DYE-M Upper Site West Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
PHC F1	30	46	19 ppm DM-51 (depth) (upgradient)	A total of 51 soil samples were analyzed from 22 monitoring locations in 2014. Concentrations in 48 samples were below the method detection limit (10 ppm). Detectable concentrations ranged from14–19 ppm with a mean concentration of 16 ppm. Three samples (two upgradient, one downgradient) reported detectable levels and all were below the baseline mean.
PHC F2	10	264	2,100 ppm DM-47 (surface) (upgradient)	A total of 51 soil samples were analyzed from 22 monitoring locations in 2014. Concentrations in 46 samples were below the method detection limit (10 ppm). Detectable concentrations ranged from 19–2100 ppm with a mean concentration of 890 ppm. Two samples (downgradient DM-36 and DM-49) reported detectable levels below the baseline mean +3SD. Three sample results (upgradient locations DM-47 surface and depth and DM-51 depth) exceeded the baseline mean + 3SD.
PHC F3	10	217	390 ppm DM-51 (depth) (upgradient)	A total of 51 soil samples were analyzed from 22 monitoring locations in 2014. Concentrations in 45 samples were below the method detection limit (10 ppm). Detectable concentrations ranged from12–390 ppm with a mean concentration of 81 ppm. Five samples (upgradient and downgradient) reported detectable levels below the baseline mean + 3SD. One sample result (upgradient DM-51 depth) exceeded the baseline mean + 3SD.

Table IV-25: DYE-M Upper Site West Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
PHC F4	20	86	N/A	A total of 51 soil samples were analyzed from 22 monitoring locations in 2014. Concentrations of all samples were less than the method detection limit in 2014 (10 ppm)

Table IV-26: DYE-M Upper Site West Landfill — First-year (2014) Long-term Monitoring Photolog

Photo	File name	Date	Caption
US WL-61	P8110129	8/11/14	DM-31 on the south side of the Upper Site West Landfill, West Lobe RA-11. Photograph taken facing north with the lobe visible in the background.
US WL-62	P8110126	8/11/14	DM-32 on the south side of the Upper Site West Landfill, West Lobe RA-11. Photograph taken facing northeast with the lobe visible in the background.
US WL-63	P1100186	8/10/14	DM-33 on the west side of the Upper Site West Landfill, West Lobe RA-11. Photograph taken facing east with the lobe visible in the background.
US WL-64	P1100189	8/10/14	DM-34 on the northwest side of the Upper Site West Landfill, West Lobe RA-11. Photograph taken facing northeast with the lobe visible in the background.
US WL-65	P1110221	8/11/14	DM-35 on the southeast side of the Upper Site West Landfill, West Lobe RA-12. Photograph taken facing west with the lobe visible in the background.
US WL-66	P1110224	8/11/14	DM-36 on the south side of the Upper Site West Landfill, West Lobe RA-12. Photograph taken facing east with the lobe visible in the background.
US WL-67	P8110132	8/11/14	DM-37 on the south side of the Upper Site West Landfill, West Lobe RA-11. Photograph taken facing northeast with the lobe visible in the background.
US WL-68	P1100192	8/10/14	DM-38 on the north side of the Upper Site West Landfill, West Lobe RA-12. Photograph taken facing south with the lobe visible in the background.
US WL-69	P1100195	8/10/14	DM-39 on the northeast side of the Upper Site West Landfill, West Lobe, RA-12. Photograph taken facing west with the lobe visible in the background.

Table IV-26: DYE-M Upper Site West Landfill — First-year (2014) Long-term Monitoring Photolog, cont'd.

Photo	File name	Date	Caption
US WL-70	P1100173	8/10/14	DM-40 on the south side of the Upper Site West Landfill, Centre Lobe, RA-14. Photograph taken facing northwest with the lobe visible in the background.
US WL-71	P1100176	8/10/14	DM-41 on the southeast side of the Upper Site West Landfill, Centre Lobe, RA-14. Photograph taken facing northeast with the lobe visible in the background.
US WL-72	P1100182	8/10/14	DM-42 on the west side of the Upper Site West Landfill, Centre Lobe, RA-14. Photograph taken facing east with the lobe visible in the background.
US WL-73	P1100147	8/10/14	DM-43 on the north side of the Upper Site West Landfill, Centre Lobe, RA-14. Photograph taken facing southeast with the lobe visible in the background.
US WL-74	P1100150	8/10/14	DM-44 on the north side of the Upper Site West Landfill, Centre Lobe, RA-14. Photograph taken facing southeast with the lobe visible in the background.
US WL-75	P1100158	8/10/14	DM-45 on the north side of the Upper Site West Landfill, Centre Lobe, RA-14. Photograph taken facing southeast with the lobe visible in the background.
US WL-76	P1100161	7/23/12	DM-46 on the north side of the Upper Site West Landfill, Centre Lobe, RA-14. Photograph taken facing south with the regrade visible in the background.
US WL-77	P1100138	8/10/14	DM-47 on the south side of the Upper Site West Landfill, East Lobe, RA-15. Photograph taken facing northeast with the regrade visible in the background.
US WL-78	P1100144	8/10/14	DM-48 on the north side of the Upper Site West Landfill, East Lobe, RA-15. Photograph taken facing south with the regrade visible in the background.
US WL-79	P1100141	8/10/14	DM-49 on the northeast side of the Upper Site West Landfill, East Lobe, RA-15. Photograph taken facing southwest with the regrade visible in the background.
US WL-80	P1100135	8/10/14	DM-50 on the east side of the Upper Site West Landfill, RA-16. Photograph taken facing west with the regrade visible in the background.

Table IV-26: DYE-M Upper Site West Landfill — First-year (2014) Long-term Monitoring Photolog, cont'd.

Photo	File name	Date	Caption
US WL-81	P1100164	8/10/14	DM-51 on the southwest side of the Upper Site West Landfill, RA-16. Photograph taken facing east with the regrade visible in the background.
US WL-82	P1100170	8/10/14	DM-52 on the south side of the Upper Site West Landfill, RA-14. Photograph taken facing north with regrade-14 visible in the background.

M. Upper Site Pallet Line Landfill

In 2014, a total of 35 soil samples, including 30% duplicates and including QA samples, were collected, at surface and at shallow depth, from 12 locations at the Upper Site Pallet Line Landfill (upgradient locations DM-50, DM-51, DM-53 and DM-60 and downgradient locations DM-54 to DM-59, DM-61 and DM-62). Soil analysis results from the Upper Site West Landfill downgradient monitoring locations DM-50 and DM-51 were included in the summary as upgradient locations for the Upper Site Pallet Line Landfill, as these monitoring locations for the two landfills overlap.

Results for the analysis of the soil samples collected at the Upper Site Pallet Line Landfill are presented in Table B-172. Monitoring logs for the Upper Site Pallet Line Landfill soil sampling locations are presented in Table B-178. Soil data observations may be found below, in Table IV-27. The Upper Site Pallet Line Landfill monitoring photolog may be found in Table IV-28. Sampling locations for the Upper Site Pallet Line Landfill may be found in Appendix A, Map A-26.

Two sample results for chromium in 2014 at monitoring location upgradient DM-50 surface and depth reported chromium levels exceeding the baseline mean +3SD. Naturally high levels of inorganic elements were found at the Upper Site during the background investigation so the chromium exceedances found during first-year monitoring of the Upper Site Pallet Landfill could be attributed to the naturally occurring levels.

Table IV-27: DYE-M Upper Site Pallet Line Landfill — First-year (2014) Long-term Soil Monitoring Data

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Copper	37	88	120 ppm DM-50 (depth) (upgradient)	A total of 28 soil samples were analyzed from 12 monitoring locations in 2014. Concentrations were above the method detection limit (3.0 ppm) at all sampling locations. Concentrations ranged from 18–120 ppm with a mean concentration of 43 ppm. Results for sixteen samples were less than the baseline mean while nine samples (including three upgradient) reported results less than the baseline mean + 3SD. Three sample results (upgradient DM-50 surface and depth) exceeded the baseline mean + 3SD but were within the Upper Site - specific criteria for copper.
Nickel	75	150	150 ppm DM-62 (surface) (downgradient)	A total of 28 soil samples were analyzed from 12 monitoring locations in 2014. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 54–150 ppm with a mean concentration of 86 ppm. Eight sample results were less than the baseline mean while twenty samples (including three upgradient samples) were less than or equal to the baseline mean + 3SD.
Cobalt	17	35	19 ppm DM-62 (surface) (downgradient)	A total of 28 soil samples were analyzed from 12 monitoring locations in 2014. Concentrations were above the method detection limit (5.0 ppm) at all sampling locations. Concentrations ranged from 10–19 ppm with a mean concentration of 15 ppm. Twenty five sample results were less than or equal to the baseline mean while three samples (all downgradient) were less than the baseline mean + 3SD.

Table IV-27: DYE-M Upper Site Pallet Line Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	**Baseline Arithmetic Mean (ppm)**	**Baseline Mean + 3SD (ppm)**	**Maximum concentration observed in Year 1**	**Observations and comments**
Cadmium	1.0	1.4	N/A	A total of 28 soil samples were analyzed from 12 monitoring locations in 2014. All results were below the method detection limit (1.0 ppm).
Lead	10	82	28 ppm DM-55 (surface and depth) (downgradient)	A total of 28 soil samples were analyzed from 12 monitoring locations in 2014. Concentrations in ten samples were below the method detection limit (10 ppm). Detectable concentrations ranged from 10–28 ppm with a mean concentration of 17 ppm. Seventeen detectable sample results (including seven upgradient samples) were below the baseline mean +3SD.
Zinc	75	175	100 ppm DM-51 (depth) (upgradient)	A total of 28 soil samples were analyzed from 12 monitoring locations in 2014. Concentrations were above the method detection limit (15 ppm) at all sampling locations. Concentrations ranged from 43–100 ppm with a mean concentration of 68 ppm. Nineteen sample results were below the baseline mean and the remaining nine samples (including five upgradient samples) were less than the baseline mean + 3SD.

Table IV-27: DYE-M Upper Site Pallet Line Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
Chromium	72	179	260 ppm DM-50 (surface and depth) (upgradient)	A total of 28 soil samples were analyzed from 12 monitoring locations in 2014. Concentrations were above the method detection limit (20 ppm) at all sampling locations. Concentrations ranged from 36–260 ppm with a mean concentration of 83 ppm. Nineteen sample results were below the baseline mean and six other samples (including five upgradient samples) were below the baseline mean + 3SD. Three samples (two locations – upgradient DM-50 surface and depth) exceeded the baseline mean + 3SD. It has been observed that high concentrations of chromium occur naturally at the Upper Site.
Arsenic	1.0	2.8	4.3 ppm DM-50 (depth) (upgradient)	A total of 28 soil samples were analyzed from 12 monitoring locations in 2014. Concentrations were above the method detection limit (0.20 ppm) at all sampling locations Concentrations ranged from 0.60–4.3 ppm with a mean concentration of 1.6 ppm. Ten sample results were less than or equal to the baseline mean and fifteen samples (including five upgradient) were below the baseline mean + 3SD. Three sample results (upgradient DM-50 surface and depth) exceeded the baseline mean + 3SD.
Mercury	0.1	0.12	N/A	A total of 28 soil samples were analyzed from 12 monitoring locations in 2014. All results were below the method detection limit (0.010 ppm).

Table IV-27: DYE-M Upper Site Pallet Line Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
PCBs	0.05	0.44	0.066 ppm DM-51 (depth) (upgradient)	A total of 28 soil samples were analyzed from 12 monitoring locations in 2014. Concentrations in 25 samples were below the method detection limit (0.010 ppm). Detectable concentrations ranged from 0.013–0.066 ppm with a mean concentration of 0.032 ppm. Detectable results were all from upgradient locations including DM-51 surface and depth and DM-53 surface. Two sample results were below the baseline mean and the third detectable sample (DM-51 depth) was well below the baseline mean + 3SD.
PHC F1	30	261	28 ppm DM-59 (depth) (downgradient)	A total of 28 soil samples were analyzed from 12 monitoring locations in 2014. Concentrations in 26 samples were below the method detection limit (10 ppm). Detectable concentrations ranged from 19–28 ppm with a mean concentration of 24 ppm. Two detectable sample results were below the baseline mean.
PHC F2	10	888	1,500 ppm DM-51 (depth) (upgradient)	A total of 28 soil samples were analyzed from 12 monitoring locations in 2014. Concentrations in 25 samples were below the method detection limit (10 ppm). Detectable concentrations ranged from 210–1,500 ppm with a mean concentration of 810 ppm. Two sample results (downgradient DM-59 surface and depth) were less than the baseline mean + 3SD while the third detectable result (upgradient DM-51 depth) exceeded the baseline mean + 3SD.

Table IV-27: DYE-M Upper Site Pallet Line Landfill — First-year (2014) Long-term Soil Monitoring Data, cont'd.

Analyte	Baseline Arithmetic Mean (ppm)	Baseline Mean + 3SD (ppm)	Maximum concentration observed in Year 1	Observations and comments
PHC F3	10	806	390 ppm DM-51 (depth) (upgradient)	A total of 28 soil samples were analyzed from 12 monitoring locations in 2014. Concentrations in 25 samples were below the method detection limit (10 ppm). Detectable concentrations ranged from 29–390 ppm with a mean concentration of 150 ppm. Three detectable results (upgradient DM-51 depth and downgradient DM-59 surface and depth) were less than the baseline mean + 3SD.
PHC F4	27	127	N/A	A total of 28 soil samples were analyzed from 12 monitoring locations in 2014. Concentrations were below the method detection limit (10.0 ppm) at all sampling locations.

Table IV-28: DYE-M Upper Site Pallet Line Landfill — First-year (2014) Long-term Monitoring Photolog

Photo	File name	Date	Caption
US PLL-24	P1080098	8/8/14	DM-53 on the north side of the Upper Site Pallet Line Landfill, Lobe 1. Photograph taken facing south with the landfill visible in the background.
US PLL-25	P8080078	8/8/14	DM-54 on the south side of the Upper Site Pallet Line Landfill, Lobe 1. Photograph taken facing north with the landfill visible in the background.
US PLL-26	P8080067	8/8/14	DM-55 on the west side of the Upper Site Pallet Line Landfill, RA-18. Photograph taken facing east with the landfill visible in the background.
US PLL-27	P8080070	8/8/14	DM-56 on the west side of the Upper Site Pallet Line Landfill, RA-18. Photograph taken facing east with the landfill visible in the background.
US PLL-28	P8080073	8/8/14	DM-57 on the south side of the Upper Site Pallet Line Landfill, RA-18. Photograph taken facing north with the landfill visible in the background.
US PLL-29	P1080085	8/8/14	DM-58 on the southwest side of the Upper Site Pallet Line Landfill, RA-19. Photograph taken facing east with the landfill visible in the background.
US PLL-30	P1080088	8/8/14	DM-59 on the south side of the Upper Site Pallet Line Landfill, RA-19. Photograph taken facing north with the landfill visible in the background.
US PLL-31	P1080101	8/8/14	DM-60 on the north side of the Upper Site Pallet Line Landfill, RA-20. Photograph taken facing south with the landfill visible in the background.
US PLL-32	P1080094	8/8/14	DM-61 on the southeast side of the Upper Site Pallet Line Landfill, RA-20. Photograph taken facing northeast with the landfill visible in the background.
US PLL-33	P1080091	8/8/14	DM-62 on the southeast side of the Upper Site Pallet Line Landfill, RA-20. Photograph taken facing northwest with the landfill visible in the background.

V. Quality Assurance and Quality Control 2014

Details on the quality assurance and quality control program are provided in Appendix C for the duration of the monitoring program from 2007 to 2014. From 2007 to 2013 the QA/QC program was implemented in accordance with the internal ESG Quality Assurance Project Plan. The QA/QC program for DYE-M in 2014 was implemented following the intent of the QA/QC requirements in the TOR for FOX-4, FOX-5, FOX-M. The following section provides details on the specific elements that were included in the DYE-M QA/QC program. The QA/QC results from 2007 to 2014 and the significance of the results are discussed in detail in Appendix C.

The analytical laboratories used in 2014 are accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) to the standards of ISO/IEC 17025. The analytical methods used by the laboratories are based on the methods listed below.

Analytical Services Unit – Queen's University, Kingston, ON

Soil:

Inorganic elements – USEPA method 200.7

PHCs - CCME reference Method for Canada Wide Standard for Petroleum Hydrocarbons in Soil, June 2000

Water:

Inorganic elements – USEPA method 200.7

Analytical Services Group – Royal Military College, Kingston, ON

Soil:

PCBs – USEPA 8081

Mercury – USEPA 7470A

Water:

PCBs – USEPA 8082 and EPA 617

Mercury - USEPA 7470A

ALS Environmental – London, ON

Soil:

Inorganic elements – USEPA 200.2/6020A

Mercury – USEPA 7471

PHCs - CCME CWS-PHC Dec 2000 – Pub# 1310-S

PCBs – USEPA 8082

Water:

Inorganic elements – USEPA 200.8

Mercury – USEPA SW846 7470A

PHCs – CCME CWS-PHC Dec 2000 – Pub# 1310-L

PCBs – USEPA 8082

B. Field QA/QC

All samples were given sequential, numerical codes before submission to the analytical firms; these codes mask any information concerning sample location, sample type or possible concentration of the sample.

Sampling precision is measured and controlled by the collection and analysis of field duplicates. These are samples of the same material that are collected in the field and submitted blind as separate samples for analysis. In 2014 a total of 24 soil field duplicates and one water field duplicate were collected.

Field blanks (or equipment rinsate blanks) are samples collected using known clean material that are passed through the reused sampling equipment to confirm that decontamination procedures are effective and give a measure of the quantity of any contamination that may be added to the sample (if any). One field blank for water was collected by running distilled water through the reusable equipment and then analyzed. This field blank also provides information on the sampling and shipping process and whether any contaminants are added to the sample by the process. Only disposable scoops were used for the soil sampling and therefore field blanks were not required for soil.

C. Intra-Laboratory QA/QC

Accuracy is measured and controlled by instrument calibration, the use of control standards, control spikes and the collection and analysis of analytical blanks.

Control standards and control spikes are reference materials with known concentrations. After analysis of a control standard or spike, the instrument calibration is evaluated based on comparison of the results with the target concentration.

Analytical blanks are processed through extraction/digestion and analysis procedures. These blanks give a measure of the quantity of any contaminant (analyte) that may be added to the overall result during the analysis.

Laboratory precision is measured and controlled by the analysis of analytical duplicates. Analytical duplicates are replicate preparations and analyses of the same sample.

No additional samples were collected for Intra-laboratory QA/QC

D. Inter-Laboratory QA/QC

Inter-laboratory samples are samples that are collected in duplicate and sent to the labs as blind samples. One sample is sent to the lab where the majority of the analysis was completed, and the duplicate sample is sent to a second lab for the same analysis. Results are then compared to confirm the performance of the main lab.

In 2014 a total of 23 soil samples and one groundwater sample were collected for inter-laboratory QA/QC purposes.

E. QA/QC Comparison

Intra-laboratory, inter-laboratory and field precision are evaluated using a comparison of the average relative standard deviations (RSD%), also known as coefficients of variation, which are calculated as the standard deviation divided by the mean. Acceptable limits are generally considered to be less than 40 percent RSD for inorganics, 30 percent for other analyses, with 20 percent or less considered good agreement.

F. Archive Samples

An additional 10% of soil samples are collected in duplicate to be archived by the Owner's Representative in case of a requirement for future verifications. In 2014 a total of 23 soil samples were collected and stored in the appropriate fridges or freezers at ESG for archive purposed. A list of the archive samples and locations are provided in Appendix B, Table B-179.

VI. References

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Appendix A: Sampling Locations

List of Maps

Baseline Maps

Map A-1: DYE-M Lower Site Monitoring Overview

Map A-2: DYE-M Upper Site Monitoring Overview

Map A-3: Lower Site Tier II Disposal Facility Baseline Soil and Groundwater Monitoring Sample Locations

Map A-4: Lower Site Non-hazardous Waste Landfill Baseline Soil and Groundwater Monitoring Sample Locations

Map A-5: Lower Site Powerhouse Landfill Baseline Soil and Groundwater Monitoring Sample Locations

Map A-6: Lower Site Crossroads Landfill Baseline Soil Monitoring Sample Locations

Map A-7: Lower Site Foundation Landfill Baseline Soil Monitoring Sample Locations

Map A-8: Lower Site NWS Landfill Baseline Soil Monitoring Sample Locations

Map A-9: Upper Site Tier II Disposal Facility Baseline Soil and Groundwater Monitoring Sample Locations

Map A-10: Upper Site Non-hazardous Waste Landfill Baseline Soil and Groundwater Monitoring Sample Locations

Map A-11: Upper Site NWS Landfill Baseline Soil Monitoring Sample Locations

Map A-12: Upper Site South Landfill West Baseline Soil Monitoring Sample Locations

Map A-13: Upper Site West Landfill (West Lobes) Baseline Soil Monitoring Sample Locations

Map A-14: Upper Site West Landfill (Center & East Lobes) Baseline Soil Monitoring Sample Locations

Map A-15: Upper Site Pallet Line Landfill Baseline Soil Monitoring Sample Locations

Year 1 Maps:

Map A-16: Lower Site Tier II Disposal Facility Year 1 Soil and Groundwater Monitoring Sample Locations

Map A-17: Lower Site Non-hazardous Waste Landfill Year 1 Soil and Groundwater Monitoring Sample Locations

Map A-18: Lower Site Powerhouse Landfill Year 1 Soil and Groundwater Monitoring Sample Locations

Map A-19: Lower Site Crossroads Landfill Year 1 Soil Monitoring Sample Locations

Map A-20: Lower Site Foundation Landfill Year 1 Soil Monitoring Sample Locations

Map A-21: Lower Site NWS Landfill Year 1 Soil Monitoring Sample Locations

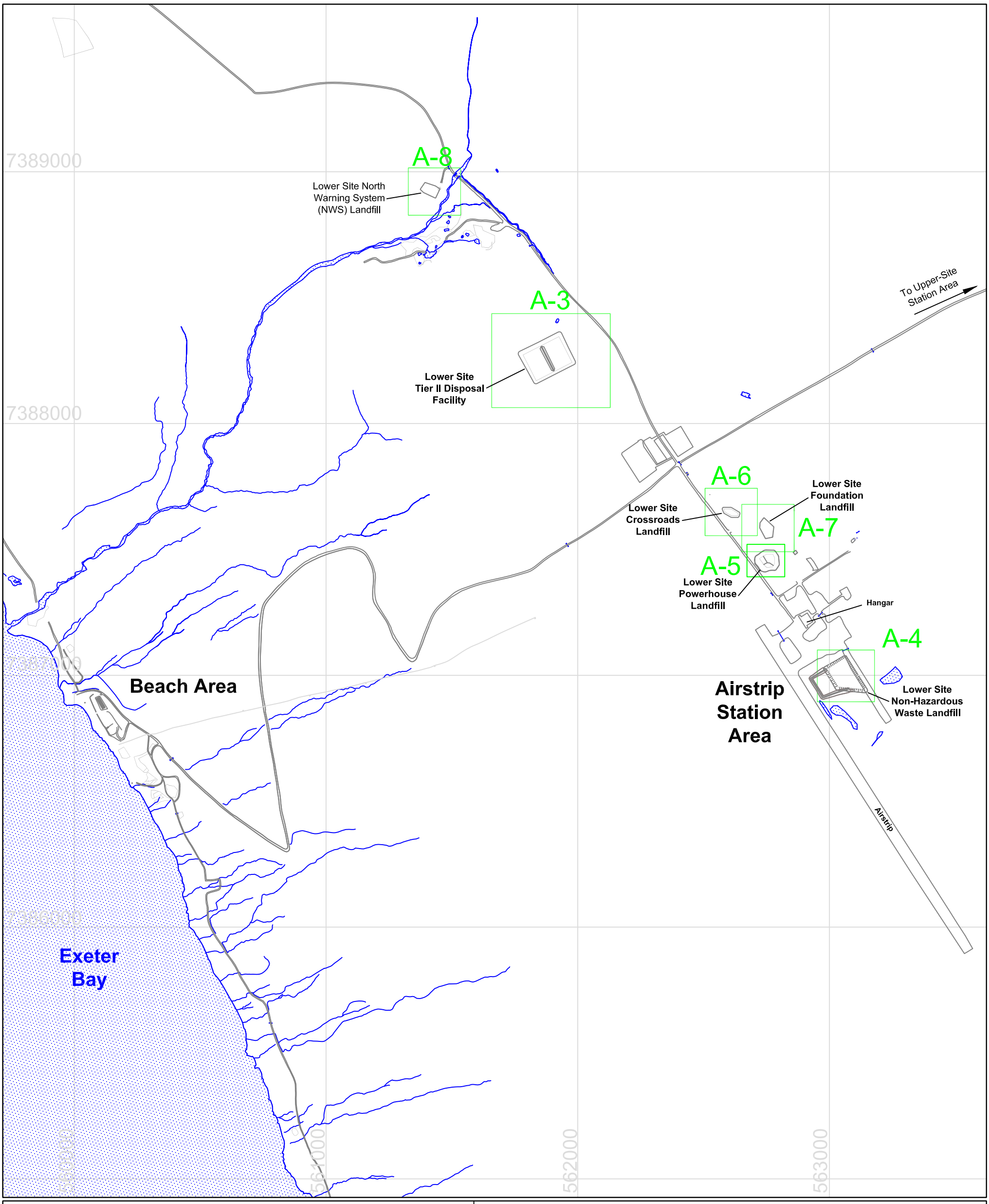
Map A-22: Upper Site Tier II Disposal Facility Year 1 Soil and Groundwater Monitoring Sample Locations

Map A-23: Upper Site Non-hazardous Waste Landfill Year 1 Soil and Groundwater Monitoring Sample Locations

Map A-24: Upper Site NWS Landfill and South Landfill West Year 1 Soil Monitoring Sample Locations

Map A-25: Upper Site West Landfill Year 1 Soil Monitoring Sample Locations

Map A-26: Upper Site Pallet Line Landfill Year 1 Soil Monitoring Sample Locations



LEGEND:

- A-2 — Map Number
- Roads
- Shoreline
- Landfill

Map A-1: DYE-M Lower Site Monitoring Overview

LOCATION



NOTES:

UPDATED: OCT. 16 2014

Alaina Leslie
GIS Technician

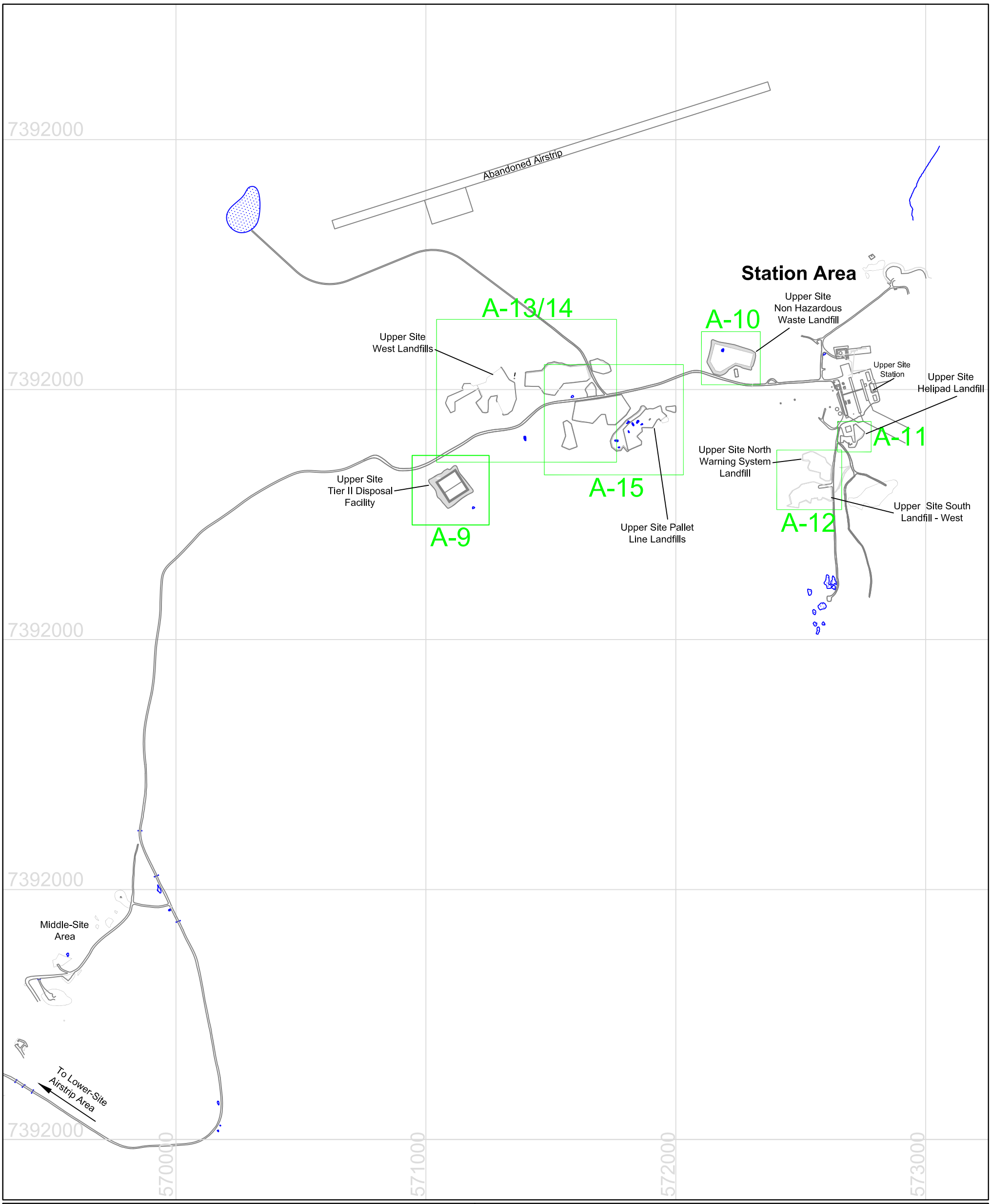
N W E S

Grid Scale: 1000 m
Projection: UTM NAD83 Zone 20W

Original Source:
AECOM
Environmental Sciences Group

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LEGEND:

- A-2 — Map Number
- Roads
- Shoreline
- Landfill

Map A-2: DYE-M Upper Site Monitoring Overview

LOCATION



NOTES:

UPDATED: OCT. 16 2014

Alaina Leslie
GIS Technician

N
W E
S

Grid Scale: 1000 m
Projection: UTM NAD83
Zone 20W

Original Source:
UMA Engineering Ltd.
Environmental Sciences Group

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Map A-3: Lower Site Tier II Disposal Facility Soil Baseline Sample Locations



LOCATION



N
W E
S

Grid Scale: 100 m

Projection: UTM NAD83 Zone 20W

Original Source:
UMA Engineering Ltd.
Environmental Sciences Group

LEGEND:

- 13-00000 — 2013 Sample Location
- 12-00000 — 2012 Sample Location
- 11-00000 — 2011 Sample Location
- 09-00000 — 2009 Sample Location
- 08-00000 — 2008 Sample Location
- 07-00000 — 2007 Sample Location
- 02-00000 — 2002 Sample Location
- 01-00000 — 2001 Sample Location
- 00-00000 — 2000 Sample Location
- 00-00000 — Not Analyzed
- 00-00000 — Analyzed
- 00-00000 — Water Sample
- MW 00-01 — Monitoring Well
- MW 00-01 — Former Monitoring Well
- DM-00 — Soil Location
- Landfill

NOTES:
* MW 05-14 was destroyed in 2009 and was replaced by MW 12-01 in 2012

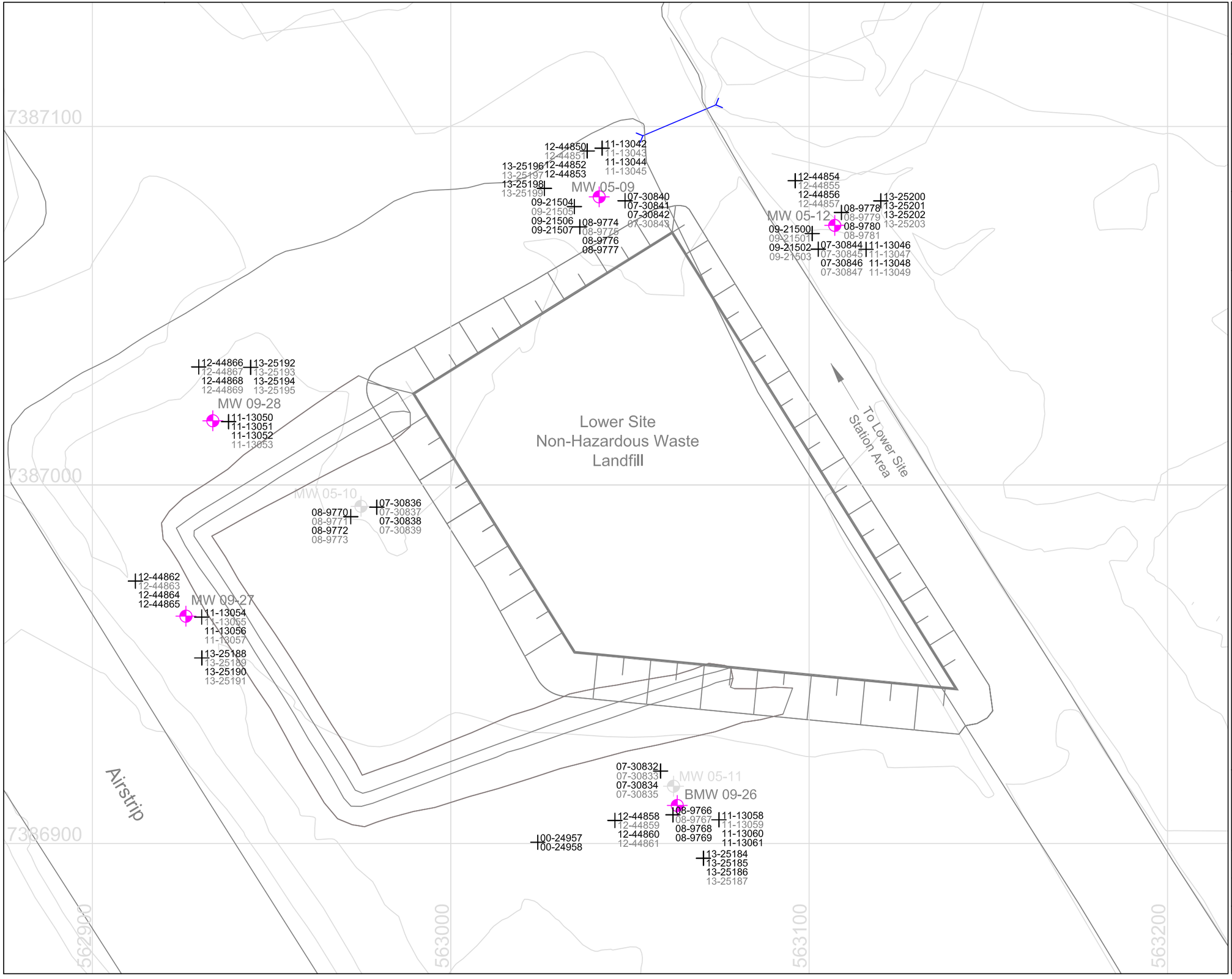
UPDATED: April 14 2015

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GIS Technician

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Map A-4: Lower Site Non-Hazardous Waste Landfill Baseline Monitoring Sample Locations



LOCATION



N
W E
S

Grid Scale: 100 m
Projection: UTM NAD83 Zone 20W
Original Source:
UMA Engineering Ltd.
Environmental Sciences Group

LEGEND:

- 13-00000 — 2013 Sample Location
- 12-00000 — 2012 Sample Location
- 11-00000 — 2011 Sample Location
- 09-00000 — 2009 Sample Location
- 08-00000 — 2008 Sample Location
- 07-00000 — 2007 Sample Location
- 02-00000 — 2002 Sample Location
- 01-00000 — 2001 Sample Location
- 00-00000 — 2000 Sample Location
- 00-00000 — Not Analyzed
- 00-00000 — Analyzed
- 00-00000 — Water Sample
- MW 00-01 — Monitoring Well
- MW 00-01 — Former Monitoring Well
- DM-00 — Soil Location
- Landfill

NOTES:
* As a result of the construction of a second cell, MW-05-09 and -05-10 were decomissioned and MW-09-25, -09-26 and -09-27 were installed.

UPDATED: April 14 2015

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Map A-5: Lower Site Powerhouse Landfill Baseline Sample Locations

LOCATION



N
W E
S

Grid Scale: 100 m
Projection: UTM NAD83 Zone 20W
Original Source:
UMA Engineering Ltd.
Environmental Sciences Group

LEGEND:

- 13-00000 — 2013 Sample Location
- 12-00000 — 2012 Sample Location
- 11-00000 — 2011 Sample Location
- 09-00000 — 2009 Sample Location
- 08-00000 — 2008 Sample Location
- 07-00000 — 2007 Sample Location
- 02-00000 — 2002 Sample Location
- 01-00000 — 2001 Sample Location
- 00-00000 — 2000 Sample Location
- 00-00000 — Not Analyzed
- 00-00000 — Analyzed
- 00-00000 — Water Sample
- MW 00-01 — Monitoring Well
- MW 00-01 — Former Monitoring Well
- DM-00 — Soil Location
- Landfill

NOTES:
*Monitoring sampling was not initiated in 2008.

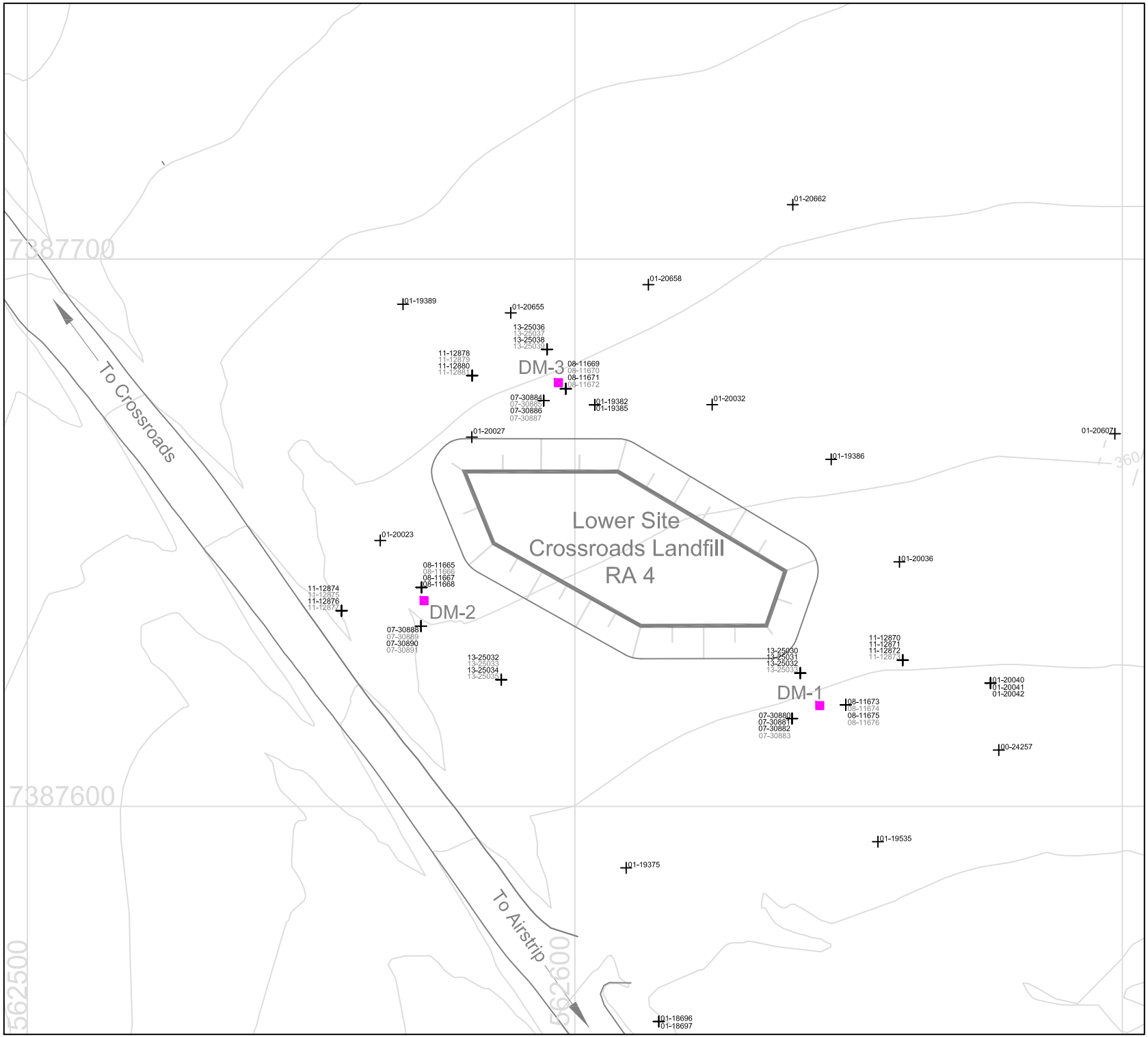
UPDATED: April 14 2015

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DM-4
MW 05-06
MW 05-05
MW 05-07
BMW 05-08
Lower Site Powerhouse Landfill
To Crossroads
To Airstrip
7387000
7386900
562700
562800
365
00-24245
00-24253
01-5350
01-5352
11-12846
11-12847
11-12848
11-12849
13-25208
13-25209
13-25210
13-25211
97-7206
00-24973
12-44886
12-44887
12-44888
12-44889
09-21536
09-21537
09-21538
09-21539
01-5327
01-5328
00-24233
01-18699
11-12469
11-12470
11-12471
11-12845
13-25204
13-25205
13-25206
13-25207
00-24252
00-24038
00-24247
01-19302
97-7172
12-44882
12-44883
12-44884
12-44885
09-21540
09-21541
09-21542
09-21543
00-24643
97-7159
01-5346
01-5347
11-38120
11-38121
11-38122
11-38123
13-25212
13-25213
13-25214
13-25215
01-5336
01-5337
00-24248
12-44890
12-44891
12-44892
12-44893
09-21532
09-21533
09-21534
09-21535
00-23800
00-24001
00-23777
01-19298
00-24249
00-2403
00-24647
01-19532
01-4483
01-4485
00-24267
00-23774
00-2404
01-4441
00-24005
01-4445
01-18702
00-23773
01-4134
01-4135
01-4444
01-4432
01-4437
00-24710
00-24711
00-24712
01-20628
00-24076
00-24268
09-21544
09-21545
09-21546
09-21547
13-25216
13-25217
13-25218
13-25219
00-24007
01-4436
01-4433
01-20606
01-20627
00-24075
00-23770
00-23771
12-44894
12-44895
12-44896
12-44897
11-38124
11-38125
11-38126
11-38127
00-24049
01-19334
00-24009
01-19335
01-18710
01-18711
01-18715
00-23767
00-24010



Map A-6: Lower Site Crossroads Landfill Baseline Sample Locations

LOCATION



N
W E
S

Grid Scale: 100 m
Projection: UTM NAD83 Zone 20W
Original Source:
UMA Engineering Ltd.
Environmental Sciences Group

LEGEND:

- 13-00000 2013 Sample Location
- 12-00000 2012 Sample Location
- 11-00000 2011 Sample Location
- 09-00000 2009 Sample Location
- 08-00000 2008 Sample Location
- 07-00000 2007 Sample Location
- 02-00000 2002 Sample Location
- 01-00000 2001 Sample Location
- 00-00000 2000 Sample Location
- 00-00000 Not Analyzed
- 00-00000 Analyzed
- 00-00000 Water Sample
- MW 00-01 Monitoring Well
- MW 00-01 Former Monitoring Well
- DM-00 Soil Location
- Landfill

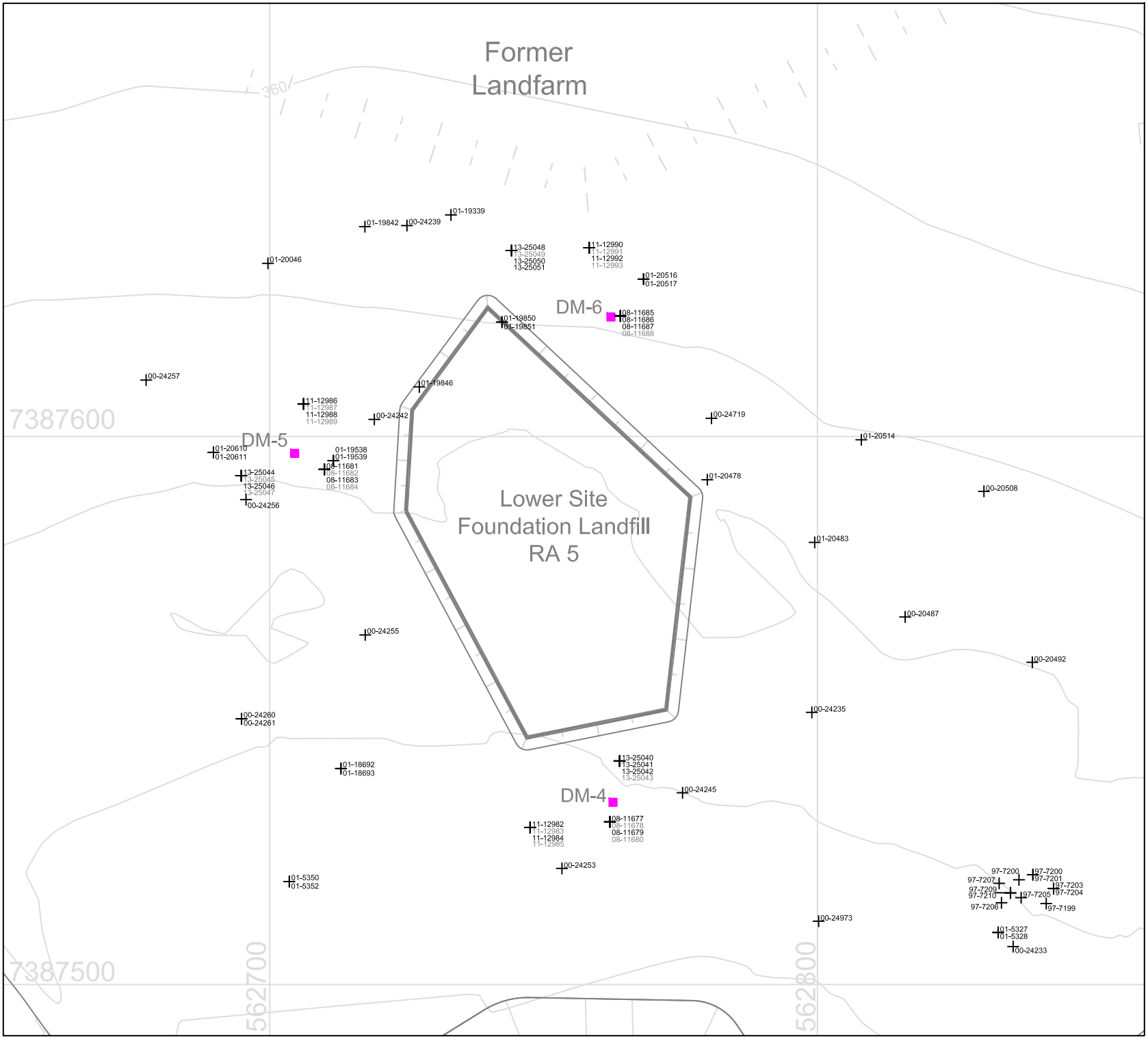
NOTES:

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Map A-7: Lower Site Foundation Landfill Baseline Soil Sample Locations

LOCATION



N
W E
S

Grid Scale: 100 m
Projection: UTM NAD83 Zone 20W
Original Source:
UMA Engineering Ltd.
Environmental Sciences Group

LEGEND:

- 13-00000 2013 Sample Location
- 12-00000 2012 Sample Location
- 11-00000 2011 Sample Location
- 09-00000 2009 Sample Location
- 08-00000 2008 Sample Location
- 07-00000 2007 Sample Location
- 02-00000 2002 Sample Location
- 01-00000 2001 Sample Location
- 00-00000 2000 Sample Location
- 00-00000 Not Analyzed
- 00-00000 Analyzed
- 00-00000 Water Sample
- MW 00-01 Monitoring Well
- MW 00-01 Former Monitoring Well
- DM-00 Soil Location
- Landfill

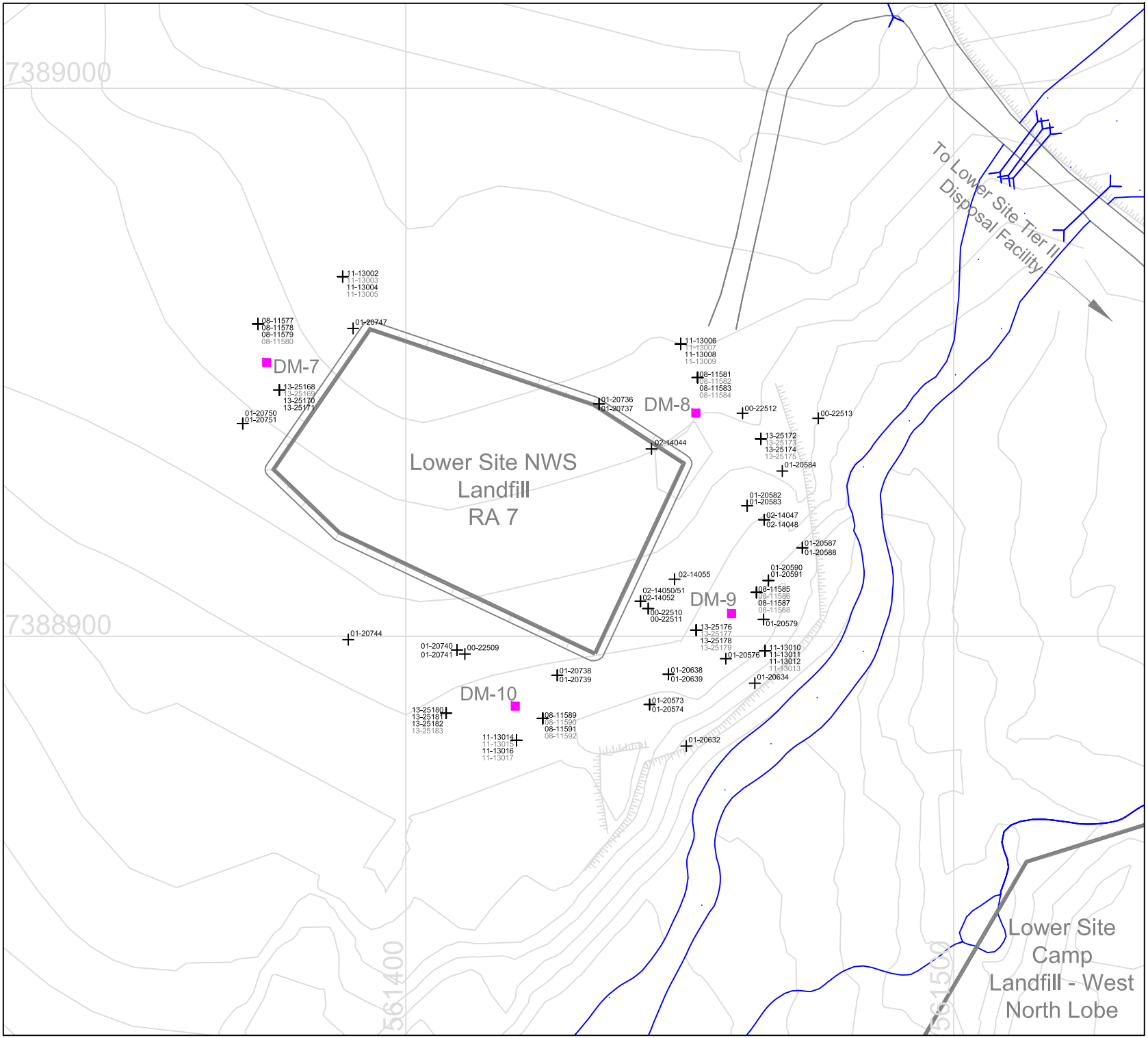
NOTES:

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Map A-8: Lower Site NWS Landfill
Baseline Soil Sample Locations

LOCATION



N
W E
S

Grid Scale: 100 m
Projection: UTM NAD83 Zone 20W
Original Source:
UMA Engineering Ltd.
Environmental Sciences Group

LEGEND:

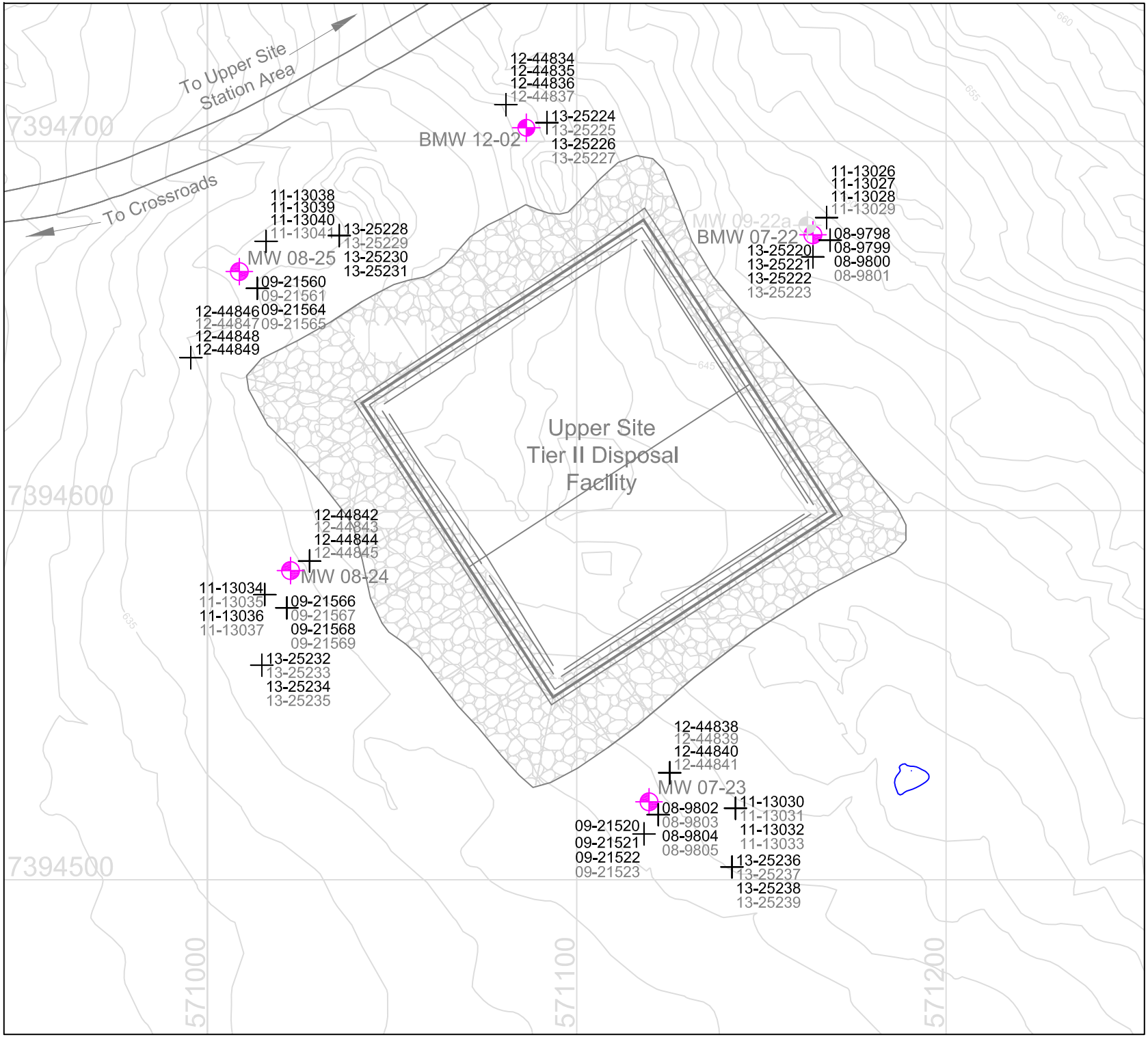
- 13-00000 2013 Sample Location
- 12-00000 2012 Sample Location
- 11-00000 2011 Sample Location
- 09-00000 2009 Sample Location
- 08-00000 2008 Sample Location
- 07-00000 2007 Sample Location
- 02-00000 2002 Sample Location
- 01-00000 2001 Sample Location
- 00-00000 2000 Sample Location
- 00-00000 Not Analyzed
- 00-00000 Analyzed
- 00-00000 Water Sample
- MW 00-01 Monitoring Well
- MW 00-01 Former Monitoring Well
- DM-00 Soil Location
- Landfill

NOTES:

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Map A-9: Upper Site Tier II Disposal Facility Baseline Soil Sample Locations

LOCATION



N
W E
S

Grid Scale: 100 m
Projection: UTM NAD83 Zone 20W
Original Source:
UMA Engineering Ltd.
Environmental Sciences Group

LEGEND:

- 13-00000 2013 Sample Location
- 12-00000 2012 Sample Location
- 11-00000 2011 Sample Location
- 09-00000 2009 Sample Location
- 08-00000 2008 Sample Location
- 07-00000 2007 Sample Location
- 02-00000 2002 Sample Location
- 01-00000 2001 Sample Location
- 00-00000 2000 Sample Location
- 00-00000 Not Analyzed
- 00-00000 Analyzed
- 00-00000 Water Sample
- MW 00-01 Monitoring Well
- MW 00-01 Former Monitoring Well
- DM-00 Soil Location
- Landfill

NOTES:

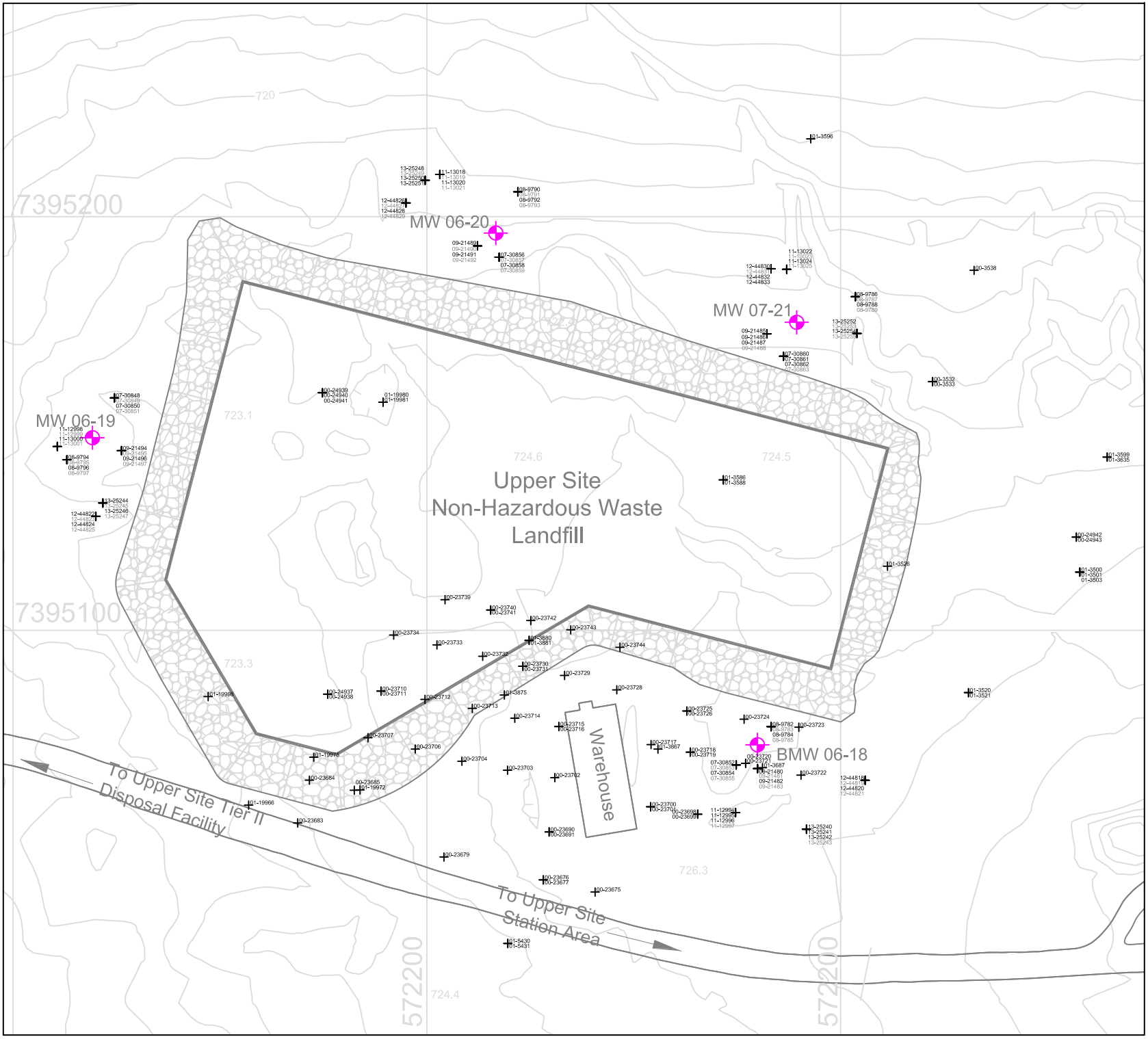
*Monitoring well 09-22a was a temporary well which was decommissioned in 2012. Avoid collecting soil samples from this area

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Map A-10: Upper Site Non-Hazardous Waste Landfill Baseline Soil Sample Locations

LOCATION



N
W E
S

Grid Scale: 100 m
Projection: UTM NAD83 Zone 20W
Original Source:
UMA Engineering Ltd.
Environmental Sciences Group

LEGEND:

- 13-00000 2013 Sample Location
- 12-00000 2012 Sample Location
- 11-00000 2011 Sample Location
- 09-00000 2009 Sample Location
- 08-00000 2008 Sample Location
- 07-00000 2007 Sample Location
- 02-00000 2002 Sample Location
- 01-00000 2001 Sample Location
- 00-00000 2000 Sample Location
- 00-00000 Not Analyzed
- 00-00000 Analyzed
- 00-00000 Water Sample
- MW 00-01 Monitoring Well
- MW 00-01 Former Monitoring Well
- DM-00 Soil Location
- Landfill

NOTES:

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Map A-11: Upper Site NWS Landfill Baseline Soil Sample Locations

LOCATION



N
W E
S

Grid Scale: 50 m
Projection: UTM NAD83 Zone 20W
Original Source:
UMA Engineering Ltd.
Environmental Sciences Group

LEGEND:

- 13-00000 2013 Sample Location
- 12-00000 2012 Sample Location
- 11-00000 2011 Sample Location
- 09-00000 2009 Sample Location
- 08-00000 2008 Sample Location
- 07-00000 2007 Sample Location
- 02-00000 2002 Sample Location
- 01-00000 2001 Sample Location
- 00-00000 2000 Sample Location
- 00-00000 Not Analyzed
- 00-00000 Analyzed
- 00-00000 Water Sample
- MW 00-01 Monitoring Well
- MW 00-01 Former Monitoring Well
- DM-00 Soil Location
- Landfill

NOTES:

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730

7394700

7394600

572500

572600

To Upper Site Station Area

Upper Site NWS Landfill
RA 9

Upper Site South Landfill
(West)

DM-22Old
DM-22
DM-21
DM-18
DM-20
DM-23
DM-19
DM-30

11-12894 11-12895 11-12896 11-12897
08-11835 08-11836 08-11837 08-11838
13-25164 13-25165 13-25166 13-25167
13-25160 13-25161 13-25162 13-25163
01-5280 01-5281
00-23553 00-23554
01-5277
01-5268
11-12890 11-12891 11-12892 11-12893
08-11831 08-11832 08-11833 08-11834
00-23264
00-23552
01-5265
01-5253
00-23549 00-23550 00-23551
01-5409
08-11827 08-11828 08-11829 08-11830
13-25156 13-25157 13-25158 13-25159
01-5295 01-5296
01-5285 01-5287
01-5292
01-5264 01-5260 01-5261 01-5256
01-5263
01-5262
11-12886 11-12887 11-12888 11-12889
01-5406
01-5259 01-5258
01-5288 01-5290 01-5291
01-5419 01-5420 01-5421
01-5416 01-5417
01-5413
13-25148 13-25149 13-25150 13-25151
08-11819 08-11820 08-11821 08-11822
01-23259 01-23260 01-23261
11-12878 11-12879 11-12880 11-12881
01-23122 01-23123
97-6898
01-5300 01-5301
97-6899
01-5246 01-5247
00-23547
01-5243
97-6900
13-25152 13-25153 13-25154 13-25155
08-11823 08-11824 08-11825 08-11826
11-12898 11-12899 11-12900 11-12901
97-7744 97-7745
97-7768 97-7742
97-7748
97-7749
00-23126
97-7769 97-7752
97-7754
00-23342
97-7753
97-7760 97-7761
00-23349 00-23347
01-4905 01-4903 00-23348 97-7762
01-4904
01-4908
01-4909 00-23356
00-23355
01-4907
01-4906 00-23352 00-23353
00-20649
00-23358
00-23359
97-7647 97-7652
00-23369
00-23368
00-23360 00-23361
00-23367
97-7665 97-7649
00-23362
97-7664
97-5874 97-5875 97-7650 97-7651
00-23363
97-7656
97-5876 97-7666
0144922
97-7659 97-5869
97-7662
00-23372
01-4916 01-4917
97-7672
97-7657
97-7653
01-4918
01-4943 01-4944
01-4946 01-4947

Map A-12: Upper Site South Landfill (West) Baseline Soil Sample Locations

LOCATION



N
W E
S

Grid Scale: 300 m
Projection: UTM NAD83 Zone 20W
Original Source:
UMA Engineering Ltd.
Environmental Sciences Group

LEGEND:

- 13-00000 2013 Sample Location
- 12-00000 2012 Sample Location
- 11-00000 2011 Sample Location
- 09-00000 2009 Sample Location
- 08-00000 2008 Sample Location
- 07-00000 2007 Sample Location
- 02-00000 2002 Sample Location
- 01-00000 2001 Sample Location
- 00-00000 2000 Sample Location
- 00-00000 Not Analyzed
- 00-00000 Analyzed
- 00-00000 Water Sample
- MW 00-01 Monitoring Well
- MW 00-01 Former Monitoring Well
- DM-00 Soil Location
- Landfill

NOTES:

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Map A-13: Upper Site West Landfills (West Lobes) Baseline Soil Monitoring Sample Locations

LOCATION



N
W E
S

Grid Scale: 100 m
Projection: UTM NAD83 Zone 20W
Original Source:
UMA Engineering Ltd.
Environmental Sciences Group

Upper Site West Landfills

DM-34
DM-33
DM-32
DM-38
DM-31
DM-37
DM-39
DM-36
DM-35
DM-42

West Lobe RA 12
West Lobe RA 11
Centre Lobe RA 14

7395100
7394900
571100
571300

To Upper Site Station Area
To Upper Site Tier II Disposal Facility

LEGEND:

- 13-00000 2013 Sample Location
- 12-00000 2012 Sample Location
- 11-00000 2011 Sample Location
- 09-00000 2009 Sample Location
- 08-00000 2008 Sample Location
- 07-00000 2007 Sample Location
- 02-00000 2002 Sample Location
- 01-00000 2001 Sample Location
- 00-00000 2000 Sample Location
- 00-00000 Not Analyzed
- 00-00000 Analyzed
- 00-00000 Water Sample
- MW 00-01 Monitoring Well
- MW 00-01 Former Monitoring Well
- DM-00 Soil Location
- Landfill

NOTES:

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Map A-14: Upper Site West Landfills (Centre and East Lobes) Baseline Soil Monitoring Sample Locations

LOCATION



N
W E
S

Grid Scale: 100 m
Projection: UTM NAD83 Zone 20W
Original Source:
UMA Engineering Ltd.
Environmental Sciences Group

LEGEND:

- 13-00000 2013 Sample Location
- 12-00000 2012 Sample Location
- 11-00000 2011 Sample Location
- 09-00000 2009 Sample Location
- 08-00000 2008 Sample Location
- 07-00000 2007 Sample Location
- 02-00000 2002 Sample Location
- 01-00000 2001 Sample Location
- 00-00000 2000 Sample Location
- 00-00000 Not Analyzed
- 00-00000 Analyzed
- 00-00000 Water Sample
- MW 00-01 Monitoring Well
- MW 00-01 Former Monitoring Well
- DM-00 Soil Location
- Landfill

NOTES:

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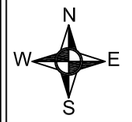
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Map A-15: Upper Site Pallet Line Landfills Baseline Soil Monitoring Sample Locations

LOCATION





Grid Scale: 300 m
Projection: UTM NAD83 Zone 20W
Original Source:
UMA Engineering Ltd.
Environmental Sciences Group

LEGEND:

13-00000	2013 Sample Location
12-00000	2012 Sample Location
11-00000	2011 Sample Location
09-00000	2009 Sample Location
08-00000	2008 Sample Location
07-00000	2007 Sample Location
02-00000	2002 Sample Location
01-00000	2001 Sample Location
00-00000	2000 Sample Location
00-00000	Not Analyzed
00-00000	Analyzed
00-00000	Water Sample
MW 00-01	Monitoring Well
MW 00-01	Former Monitoring Well
DM-00	Soil Location
	Landfill

NOTES:

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Map A-16: Lower Site Tier II Disposal Facility Soil and Groundwater Year 1 Monitoring Sample Locations

LOCATION



N
W E
S

Grid Scale: 100 m
Projection: UTM NAD83 Zone 20W
Original Source:
UMA Engineering Ltd.
Environmental Sciences Group

LEGEND:

- 14-00000 — 2014 Sample Location
- 00-00000 — Not Analyzed
- 00-00000 — Analyzed
- 00-00000 — Water Sample
- MW 00-01 — Monitoring Well
- MW 00-01 — Former Monitoring Well
- DM-00 — Soil Location
- Landfill
- I-00 — Photo Location and Direction

NOTES:
* MW 05-14 was destroyed in 2009 and was replaced by MW 12-01 in 2012

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7388400
7388300
7388200
7388100
561700
561800
561900
562000
562100

To Lower Site Camp Construction Landfills
To Crossroads

Lower Site Tier II Disposal Facility

MW 12-01
MW 05-14
14-8185
14-8462
14-8463

MW 05-13
14-8464
14-8465
14-8466

MW 05-15
14-8458
14-8459
14-8460
14-8461

BMW 05-16
14-8455
14-8456
14-8457

TDF-1
TDF-2
TDF-3
TDF-4
TDF-5
TDF-6
TDF-7
TDF-8
TDF-9
TDF-10
TDF-11
TDF-12
TDF-13
TDF-14
TDF-15
TDF-16
TDF-17
TDF-18
TDF-19
TDF-20
TDF-21

Map A-17: Lower Site Non-Hazardous Waste Landfill Soil and Groundwater Year 1 Monitoring Sample Locations

LOCATION



N
W E
S

Grid Scale: 100 m
Projection: UTM NAD83 Zone 20W
Original Source:
UMA Engineering Ltd.
Environmental Sciences Group

LEGEND:

- 14-00000 — 2014 Sample Location
- 00-00000 — Not Analyzed
- 00-00000 — Analyzed
- 00-00000 — Water Sample
- MW 00-01 — Monitoring Well
- MW 00-01 — Former Monitoring Well
- DM-00 — Soil Location
- Landfill
- 100 — Photo Location and Direction

NOTES:
* As a result of the construction of a second cell, MW-05-09 and -05-10 were decomissioned and MW-09-25, -09-26 and -09-27 were installed.

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7387100
7387000
7386900
562900
563000
563100
563200
Lower Site Non-Hazardous Waste Landfill
To Lower Site Station Area
Airstrip
MW 05-09
14-8243
14-8244
MW 05-12
14-8240
14-8241
14-8242
MW 05-10
MW 09-28
14-8245
14-8246
14-8247
MW 09-27
14-8248
14-8249
14-8250
14-8251
14-8186
MW 05-11
BMW 09-26
14-8188
14-8252
14-8253
NHWL -20
NHWL -4
NHWL -5
NHWL -2
NHWL -1
NHWL-3
NHWL -8
NHWL -21
NHWL -10
NHWL -9
NHWL -7
NHWL-6
NHWL -24
NHWL -18
NHWL -17
NHWL -19
NHWL -15
NHWL -16
NHWL -14
NHWL -23
NHWL -12
NHWL -22
NHWL -13
NHWL -11

Map A-18: Lower Site Powerhouse Landfill Soil and Groundwater Year 1 Monitoring Sample Locations

LOCATION



N
W E
S

Grid Scale: 100 m
Projection: UTM NAD83 Zone 20W
Original Source:
UMA Engineering Ltd.
Environmental Sciences Group

LEGEND:

- 14-00000 — 2014 Sample Location
- 00-00000 — Not Analyzed
- 00-00000 — Analyzed
- 00-00000 — Water Sample
- MW 00-01 — Monitoring Well
- MW 00-01 — Former Monitoring Well
- DM-00 — Soil Location
- Landfill
- I-00 — Photo Location and Direction

NOTES:
*Monitoring sampling was not initiated in 2008.

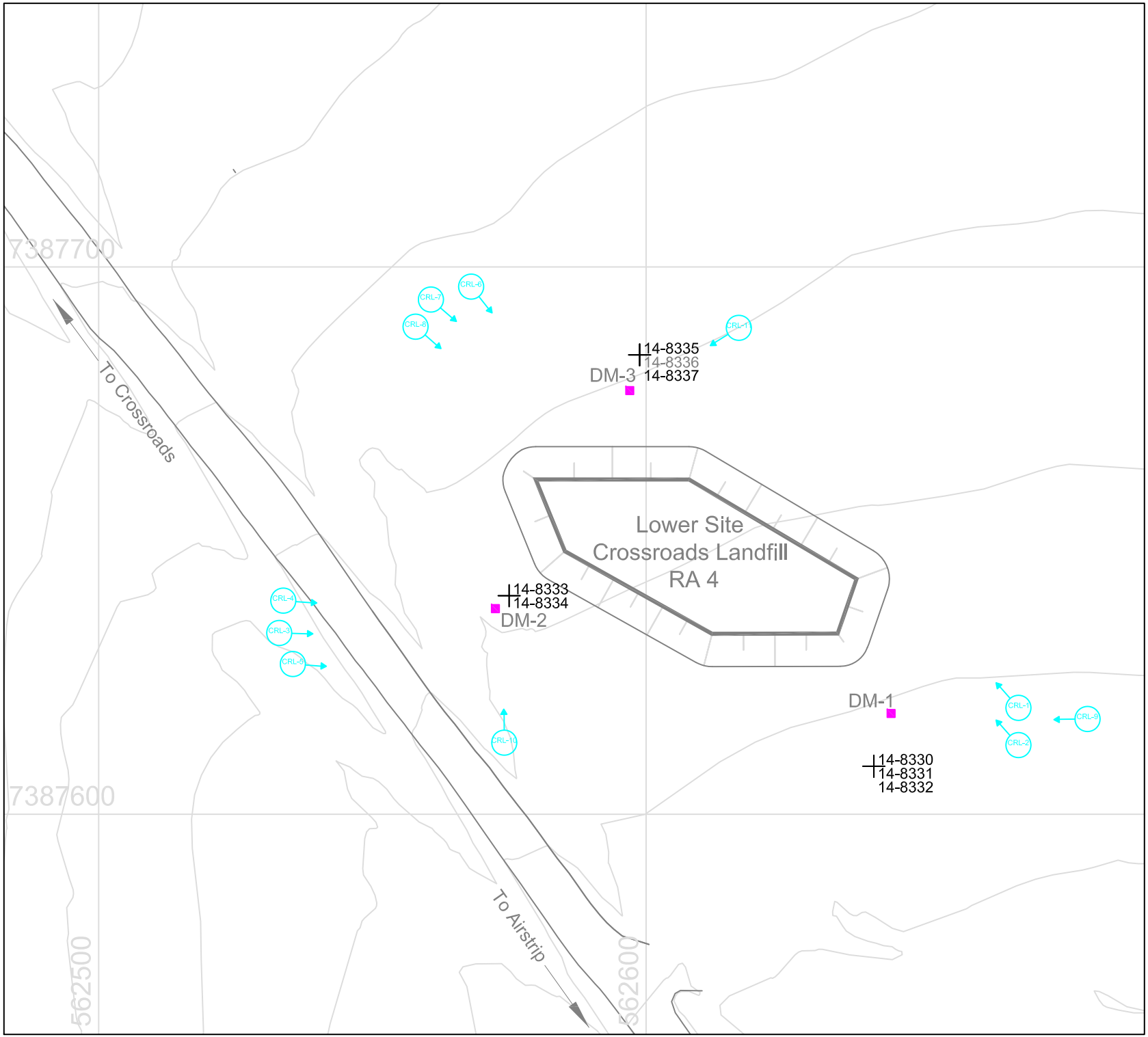
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PHL-15
PHL-4
PHL-3
PHL-2
PHL-1
FL-10
PHL-5
PHL-6
PHL-7
PHL-16
MW 05-06
14-8470
14-8471
14-8472
MW 05-05
14-8467
14-8468
14-8469
7387000
To Crossroads
Lower Site Powerhouse Landfill
PHL-9
14-8473
14-8474
MW 05-07
PHL-8
PHL-17
PHL-10
PHL-11
14-8475
14-8476
14-8477
BMW 05-08
To Airstrip
7386900
PHL-13
PHL-14
PHL-18
PHL-12
365
562700
562800



Map A-19: Lower Site Crossroads Landfill Year 1 Soil Monitoring Sample Locations

LOCATION



N
W E
S

Grid Scale: 100 m
Projection: UTM NAD83 Zone 20W
Original Source:
UMA Engineering Ltd.
Environmental Sciences Group

LEGEND:

- 14-00000 — 2014 Sample Location
- 00-00000 — Not Analyzed
- 00-00000 — Analyzed
- 00-00000 — Water Sample
- MW 00-01 — Monitoring Well
- MW 00-01 — Former Monitoring Well
- DM-00 — Soil Location
- Landfill
- H0 — Photo Location and Direction

NOTES:
* Monitoring was not conducted in 2012

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Map A-20: Lower Site Foundation Landfill Year 1 Soil Monitoring Sample Locations

LOCATION



N
W E
S

Grid Scale: 100 m
Projection: UTM NAD83 Zone 20W
Original Source:
UMA Engineering Ltd.
Environmental Sciences Group

LEGEND:

- 14-00000 — 2014 Sample Location
- 00-00000 — Not Analyzed
- 00-00000 — Analyzed
- 00-00000 — Water Sample
- MW 00-01 — Monitoring Well
- MW 00-01 — Former Monitoring Well
- DM-00 — Soil Location
- Landfill
- H00 — Photo Location and Direction

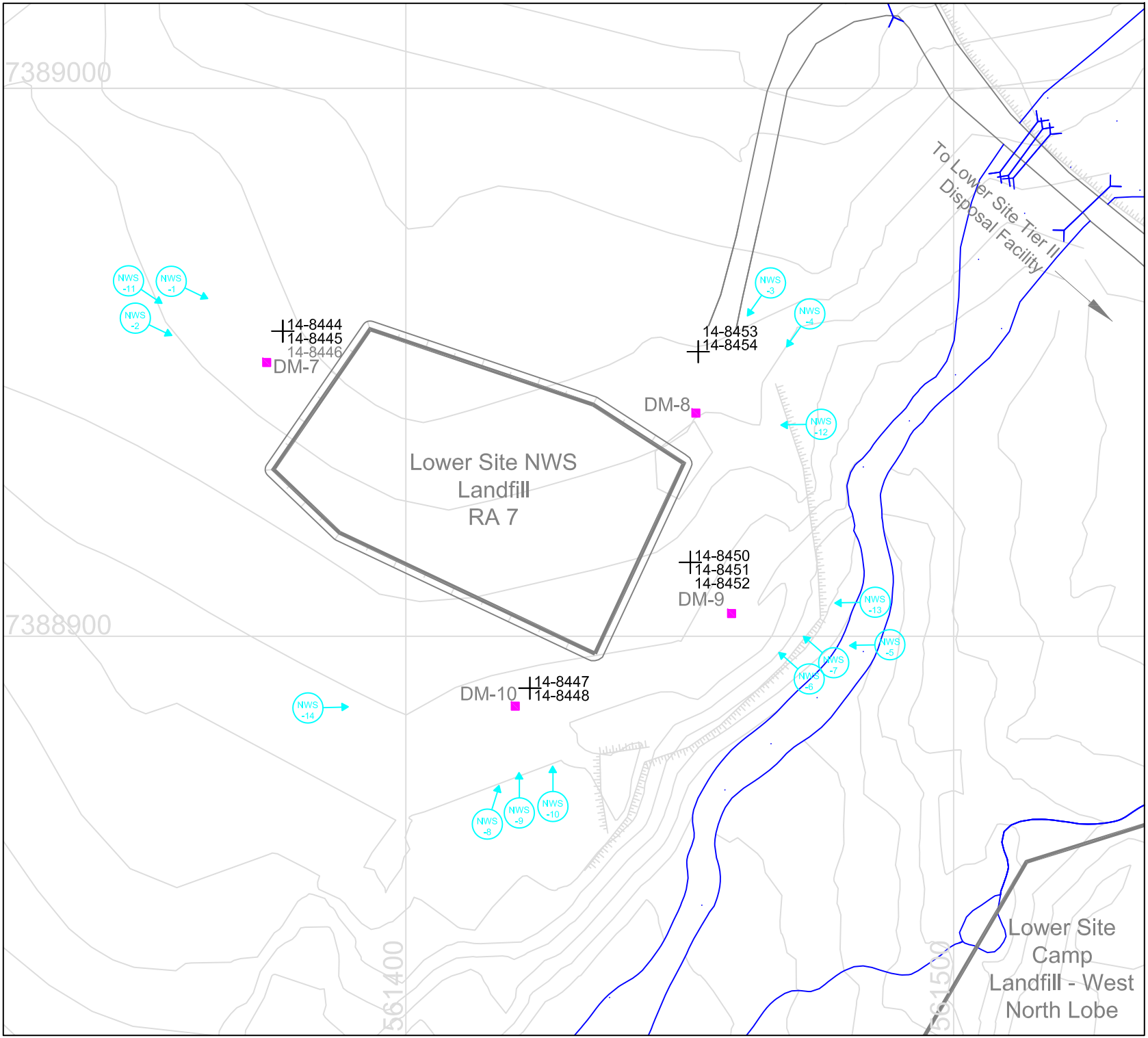
NOTES:

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Map A-21: Lower Site NWS Landfill
Year 1 Monitoring Photo Locations

LOCATION



N
W E
S

Grid Scale: 100 m
Projection: UTM NAD83 Zone 20W
Original Source:
UMA Engineering Ltd.
Environmental Sciences Group

LEGEND:

- 14-00000 — 2014 Sample Location
- 00-00000 — Not Analyzed
- 00-00000 — Analyzed
- 00-00000 — Water Sample
- MW 00-01 — Monitoring Well
- MW 00-01 — Former Monitoring Well
- DM-00 — Soil Location
- Landfill
- Photo Location and Direction

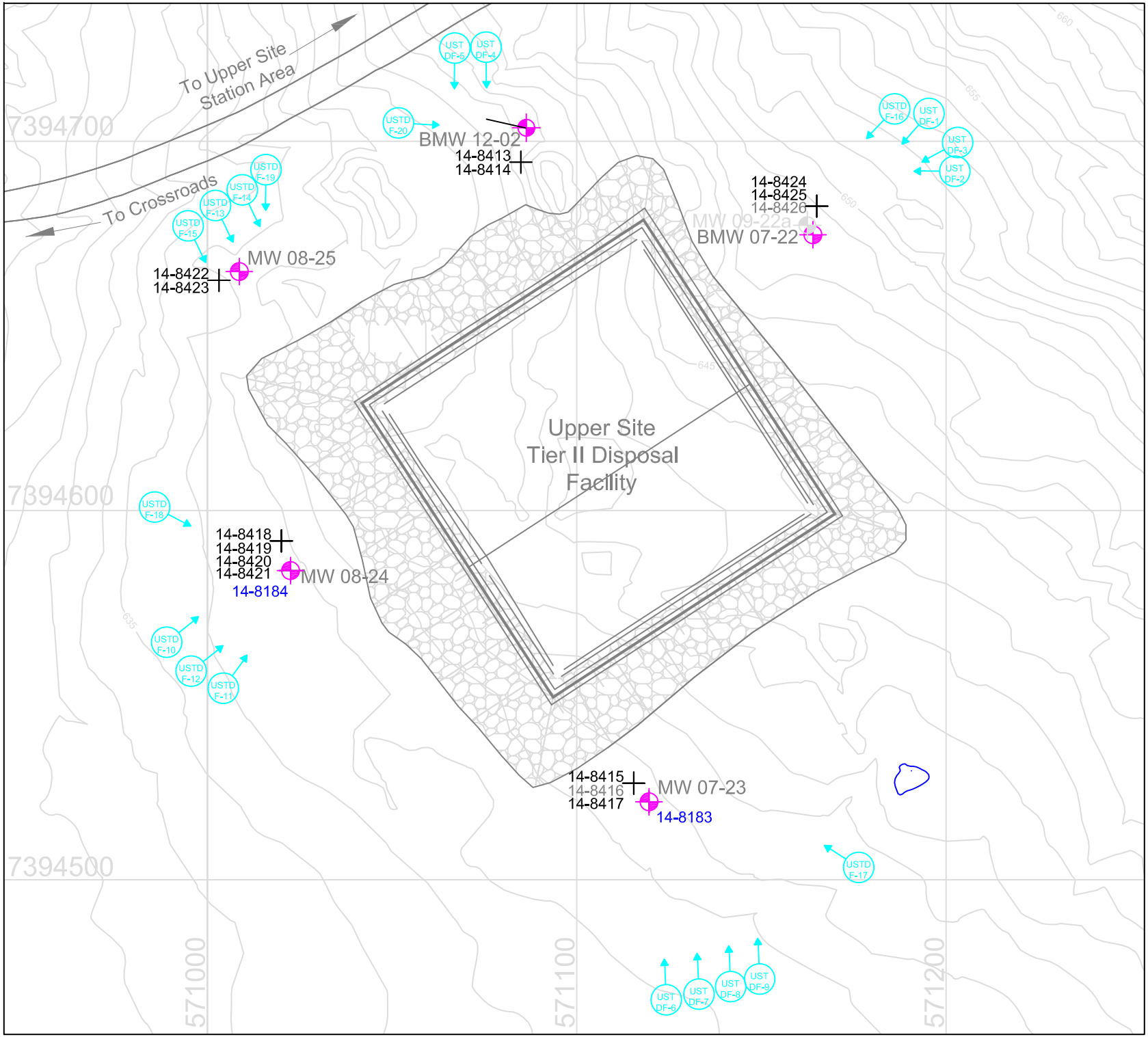
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Map A-22: Upper Site Tier II Disposal Facility Soil and Groundwater Year 1 Monitoring Sample Locations

LOCATION



N
W E
S

Grid Scale: 100 m
Projection: UTM NAD83 Zone 20W
Original Source:
UMA Engineering Ltd.
Environmental Sciences Group

LEGEND:

- 14-00000 — 2014 Sample Location
- 00-00000 — Not Analyzed
- 00-00000 — Analyzed
- 00-00000 — Water Sample
- MW 00-01 — Monitoring Well
- MW 00-01 — Former Monitoring Well
- DM-00 — Soil Location
- Landfill
- H00 — Photo Location and Direction

NOTES:

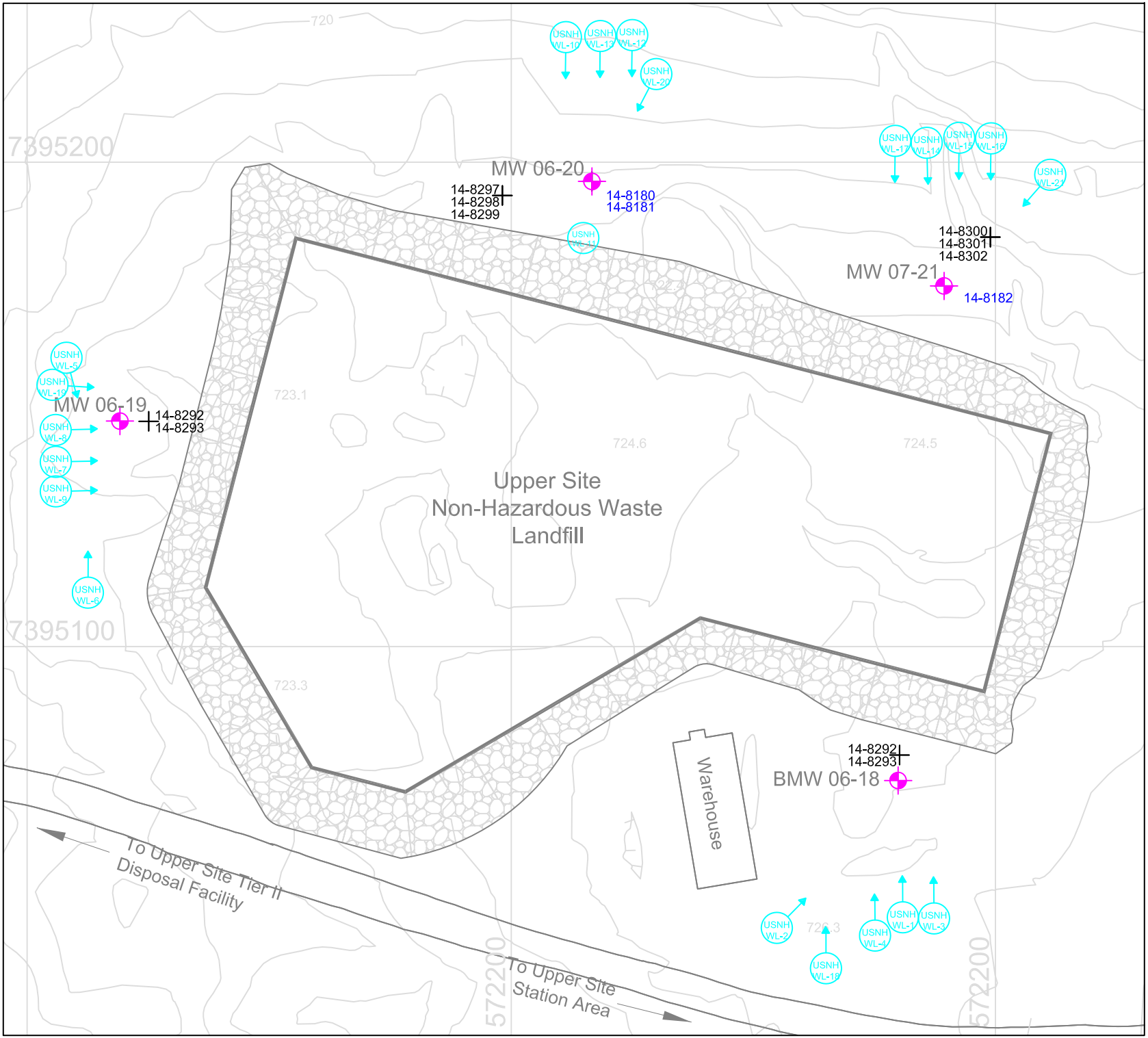
*Monitoring well 09-22a was a temporary well which was decommissioned in 2012. Avoid collecting soil samples from this area

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Map A-23: Upper Site Non-Hazardous Waste Landfill Soil and Groundwater Year 1 Monitoring Sample Locations

LOCATION



N
W E
S

Grid Scale: 100 m
Projection: UTM NAD83 Zone 20W
Original Source:
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Environmental Sciences Group

LEGEND:

- 14-00000 — 2014 Sample Location
- 00-00000 — Not Analyzed
- 00-00000 — Analyzed
- 00-00000 — Water Sample
- MW 00-01 — Monitoring Well
- MW 00-01 — Former Monitoring Well
- DM-00 — Soil Location
- Landfill
- H00 — Photo Location and Direction

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Map A-24: Upper Site NWS Landfill and South Landfill (West) Year 1 Soil Monitoring Sample Locations

LOCATION



N
W E
S

Grid Scale: 300 m
Projection: UTM NAD83 Zone 20W
Original Source:
UMA Engineering Ltd.
Environmental Sciences Group

LEGEND:

- 14-00000 — 2014 Sample Location
- 00-00000 — Not Analyzed
- 00-00000 — Analyzed
- 00-00000 — Water Sample
- MW 00-01 — Monitoring Well
- MW 00-01 — Former Monitoring Well
- DM-00 — Soil Location
- Landfill
- I-00 — Photo Location and Direction

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Map A-25: Upper Site West Landfills Year 1 Soil Monitoring Sample Locations

LOCATION



N
W E
S

Grid Scale: 300 m
Projection: UTM NAD83 Zone 20W
Original Source:
UMA Engineering Ltd.
Environmental Sciences Group

LEGEND:

- 14-00000 — 2014 Sample Location
- 00-00000 — Not Analyzed
- 00-00000 — Analyzed
- 00-00000 — Water Sample
- MW 00-01 — Monitoring Well
- MW 00-01 — Former Monitoring Well
- DM-00 — Soil Location
- Landfill
- I-00 — Photo Location and Direction

NOTES:

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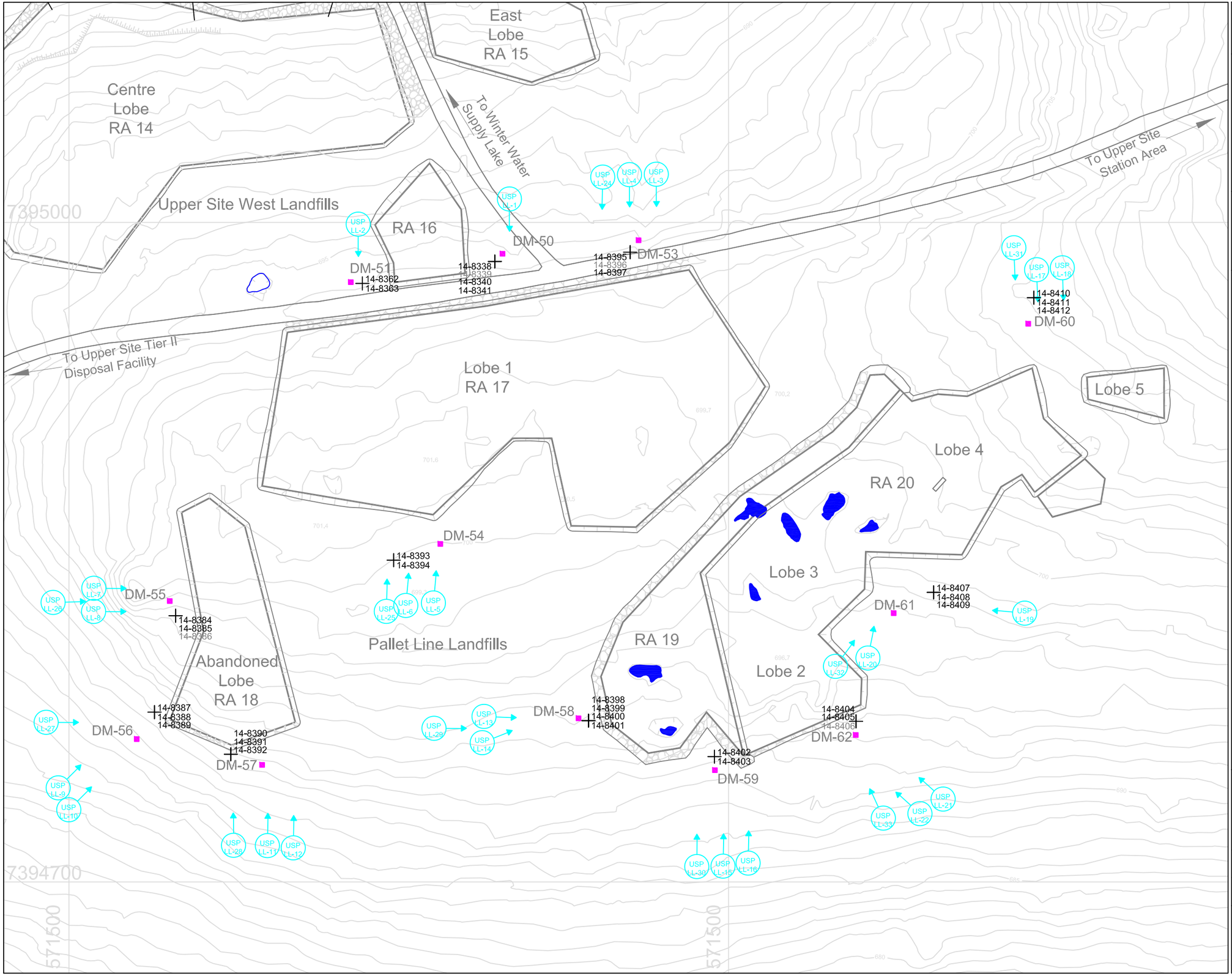
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7395300
7395000
571200
571500
To Winter Water Supply Lake
To Upper Site Tier II Disposal Facility
To Upper Site Station Area
Upper Site West Landfills
West Lobe RA 11
West Lobe RA 12
Centre Lobe RA 14
East Lobe RA 15
RA 16
Lobe 1 RA 17
Abandoned Lobe RA 18
Pallet Line Landfills
DM-31
DM-32
DM-33
DM-34
DM-35
DM-36
DM-37
DM-38
DM-39
DM-40
DM-41
DM-42
DM-43
DM-44
DM-45
DM-46
DM-47
DM-48
DM-49
DM-50
DM-51
DM-52
14-8382 14-8383
14-8378 14-8379 14-8380 14-8381
14-8375 14-8376 14-8377
14-8433 14-8434
14-8430 14-8431 14-8432
14-8435 14-8436 14-8437
14-8438 14-8439 14-8440 14-8441
14-8442 14-8443
14-8427 14-8428 14-8429
14-8373 14-8374
14-8350 14-8351 14-8352
14-8353 14-8354
14-8370 14-8371 14-8372
14-8355 14-8356 14-8357
14-8358 14-8359 14-8360 14-8361
14-8367 14-8368 14-8369
14-8362 14-8363
14-8364 14-8365 14-8366
14-8347 14-8348 14-8349
14-8342 14-8343
14-8338 14-8339 14-8340 14-8341
14-8344 14-8345 14-8346

Map A-26: Upper Site Pallet Line Landfills Year 1 Soil Monitoring Sample Locations



LOCATION



N W E S

Grid Scale: 300 m
Projection: UTM NAD83 Zone 20W
Original Source:
UMA Engineering Ltd.
Environmental Sciences Group

LEGEND:

- 14-00000 — 2014 Sample Location
- 00-00000 — Not Analyzed
- 00-00000 — Analyzed
- 00-00000 — Water Sample
- MW 00-01 — Monitoring Well
- MW 00-01 — Former Monitoring Well
- DM-00 — Soil Location
- Landfill
- I-00 — Photo Location and Direction

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Appendix B: Analytical Data and Monitoring Log

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Explanation of Analytical Detection Limits

The analytical detection limits are listed in Tables B-i and B-ii for soil and water respectively. Results that were reported as below detection by the laboratory are reported with a "<" symbol in the data tables.

Table B-i: Analytical Detection Limits for Soil Samples — 2007–2014

Analyte	Laboratory detection limit [ppm]
Cu	3.0 (2007–2011, 2013–2014) 5.0 (2012)
Ni	5.0
Co	5.0
Cd	1.0
Pb	10
Zn	15
Cr	20
As	0.20 (2014) 1.0 (2007–2012)
Hg	0.10 (2007–2013) 0.010 (2014)
PCBs	0.0030 (2007–2009) 0.050 (2011) 0.010 (2014)
PHC F1	10 (2007–2011, 2013–2014) 30 (2012)
PHC F2	4.0 (2007–2013) 10 (2014)
PHC F3	9.0 (2007–2013) 10 (2014)
PHC F4	8.0 (2007–2013) 10 (2014)

Table B-ii: Analytical Detection Limits for Water Samples — 2007–2014

Analyte	Laboratory Detection Limit [mg/L]
Cu	0.0050 (2007–2012) 0.0010 (2014)
Ni	0.0050 (2007–2012) 0.0010 (2014)
Co	0.0030 (2007–2013) 0.00030 (2014)
Cd	0.0010 (2007–2012) 0.000090 (2014)
Pb	0.010 (2007–2011) 0.0050 (2012–2013) 0.00050 (2014)
Zn	0.010 (2007–2011) 0.0050 (2012-2013) 0.0030 (2014)
Cr	0.0050 (2007–2012) 0.00050 (2014)
As	0.0030 (2007–2011) 0.0010 (2012–2014)
Hg	0.00040 (2007–2012) 0.00010 (2014)
PCBs	0.000020 (2007–2011) 0.0030 (2012–2013) 0.000020 (2014)
PHC F1	0.050 (2007–2012) 0.025 (2014)
PHC F2	0.50 (2007–2012) 0.10 (2014)
PHC F3	1.0 (2007–2012) 0.25 (2014)
PHC F4	1.0 (2007–2012) 0.25 (2014)

Table B-1: DYE-M Lower Site Tier II Disposal Facility - Soil Analytical Results

Sample #	Location	Depth	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	PCBs	PHC			
													F1	F2	F3	F4
		(cm)	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
Laboratory Detection Limits 2007-2009			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.0030	10	4.0	9.0	8.0
Laboratory Detection Limits 2011-2012			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2013			3.0	5.0	5.0	1.0	10	15	20	0.20	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2014			3.0	5.0	5.0	1.0	10	15	20	0.20	0.010	0.010	10	10	10	10
2007 Baseline Monitoring Data																
07-30876*/77	BMW 05-16	0-10	23	33	12	<1.0	<10	44	67	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
07-30878*/79	BMW 05-16	25-35	23	34	12	<1.0	<10	44	68	<1.0	<0.10	<0.0030	<10	29	<9.0	<8.0
07-30872*/73	MW 05-13	0-10	17	30	9.5	<1.0	<10	34	53	<1.0	<0.10	<0.0030	<10	5.5	23	17
07-30874*/75	MW 05-13	25-35	16	24	8.3	<1.0	<10	32	46	<1.0	<0.10	<0.0030	<10	<4.0	12	9.5
07-30864*/65	MW 05-14	0-10	17	25	9.5	<1.0	<10	36	51	<1.0	<0.10	<0.0030	<10	<4.0	10	8.2
07-30866*/67	MW 05-14	25-35	18	25	9.1	<1.0	<10	36	54	<1.0	<0.10	<0.0030	<10	<4.0	12	12
07-30868*/69	MW 05-15	0-10	32	41	15	<1.0	<10	55	81	<1.0	<0.10	<0.0030	<10	5.5	14	8.9
07-30870*/71*	MW 05-15	25-35	36	46	17	<1.0	<10	58	98	<1.0	<0.10	<0.0030	<10	<4.0	13	8.3
2008 Baseline Monitoring Data																
08-9762*/63	BMW 05-16	0-10	26	39	13	<1.0	<10	50	77	<1.0	<0.10	<0.0030	<10	4.1	16	<8.0
08-9764*/65	BMW 05-16	30-40	33	47	14	<1.0	<10	58	85	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
08-9758*/59	MW 05-13	0-10	23	37	12	<1.0	<10	45	66	<1.0	<0.10	<0.0030	<10	<4.0	36	18
08-9760*/61	MW 05-13	30-40	23	39	12	<1.0	<10	45	66	<1.0	<0.10	<0.0030	<10	<4.0	26	14
08-9754*/55	MW 05-14	0-10	19	27	10	<1.0	<10	38	55	<1.0	<0.10	<0.0030	<10	<4.0	28	13
08-9756*/57	MW 05-14	30-40	29	35	11	<1.0	<10	51	68	<1.0	<0.10	<0.0030	<10	<4.0	46	21
08-9750*/51*	MW 05-15	0-10	36	44	14	<1.0	<10	61	82	<1.0	<0.10	<0.0030	<10	<4.0	24	11
08-9752*/53	MW 05-15	30-40	29	38	14	<1.0	<10	56	79	<1.0	<0.10	<0.0030	<10	<4.0	20	8.2
2009 Baseline Monitoring Data																
09-21556*/57	BMW 05-16	0-10	31	37	12	<1.0	<10	69	71	<1.0	<0.10	<0.0030	<10	7.2	20	<8.0
09-21558*/59*	BMW 05-16	30-40	27	38	13	<1.0	<10	50	77	1.1	<0.10	<0.0030	<10	5.5	26	<8.0
09-21552*/53	MW 05-13	0-10	19	29	9.2	<1.0	<10	35	53	<1.0	<0.10	<0.0030	<10	7.3	40	17
09-21554*/55	MW 05-13	30-40	25	36	10	<1.0	<10	41	60	<1.0	<0.10	<0.0030	<10	7.5	34	8.8
09-21548*/49	MW 05-15	0-10	36	45	16	<1.0	<10	59	91	1.5	<0.10	<0.0030	<10	<4.0	13	14
09-21550*/51	MW 05-15	30-40	26	35	11	<1.0	<10	44	68	1.1	<0.10	<0.0030	<10	5.1	46	16
2011 Baseline Monitoring Data																
11-13070*/71	BMW05-16	0-10	20	43	11	<1.0	<10	40	63	<1.0	<0.10	<0.050	<10	<30	19	13
11-13072*/73	BMW05-16	30-40	31	50	16	<1.0	<10	53	89	1.2	<0.10	<0.050	<10	<30	<9.0	<8.0
11-13066*/67	MW05-13	0-10	18	24	9.2	<1.0	<10	32	46	<1.0	<0.10	<0.050	<10	<30	50	36
11-13068*/69*	MW05-13	30-40	21	33	10	<1.0	<10	37	58	<1.0	<0.10	<0.050	<10	<30	17	11
11-13062*/63	MW05-15	0-10	40	50	18	<1.0	<10	58	94	1.7	<0.10	<0.050	<10	8.6	<9.0	<8.0
11-13064*/65	MW05-15	30-40	41	49	18	<1.0	<10	58	92	1.7	<0.10	<0.050	<10	4.4	<9.0	<8.0
2012 Baseline Monitoring Data																
12-44878*/79	BMW05-16	0-10	29	39	10	<1.0	<10	48	77	1.1	<0.10	<0.050	<10	13	<9.0	<8.0
12-44880*/81	BMW05-16	20-30	28	37	9.1	<1.0	<10	46	71	1.2	<0.10	<0.050	<10	9.0	<9.0	<8.0
12-44870*/71	MW05-13	0-10	20	32	8.1	<1.0	<10	34	53	1.0	<0.10	<0.050	<10	6.2	<9.0	<8.0
12-44872*/73	MW05-13	20-30	22	39	8.5	<1.0	<10	36	62	1.1	<0.10	<0.050	<10	6.8	<9.0	<8.0
12-44874*/75	MW05-15	0-10	35	49	13	<1.0	<10	56	94	2.0	<0.10	<0.050	<10	4.9	<9.0	<8.0
12-44876*/77*	MW05-15	20-30	55	63	16	<1.0	<10	71	110	2.5	<0.10	<0.050	<10	5.6	<9.0	<8.0
12-44902*/03	MW12-01	0-10	28	36	8.9	<1.0	<10	43	65	1.3	<0.10	<0.050	<10	<4.0	<9.0	<8.0
12-44904*/05	MW12-01	20-30	38	47	12	<1.0	<10	57	85	1.8	<0.10	<0.050	<10	4.7	<9.0	<8.0
2013 Baseline Monitoring Data																
13-25276*/77	BMW 05-16	0-10	28	42	11	<1.0	<10	52	85	1.6	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25278*/79	BMW 05-16	30-40	31	44	12	<1.0	<10	54	84	1.5	<0.10	<0.050	<10	<4.0	<9.0	21
13-25280*/81*	MW 05-13	0-10	23	34	8.5	<1.0	<10	39	59	1.1	<0.10	<0.050	<10	7.9	11	11
13-25282*/83	MW 05-13	30-40	20	31	8.0	<1.0	<10	33	53	1.8	<0.10	<0.050	<10	8.3	23	26
13-25288*/89	MW 05-15	0-10	38	49	13	<1.0	<10	56	90	1.9	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25290*/91*	MW 05-15	30-40	39	51	14	<1.0	<10	60	95	1.9	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25284*/85	MW 12-01	0-10	21	28	7.3	<1.0	<10	34	50	1.2	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25286*/87	MW 12-01	30-40	27	37	10	<1.0	<10	48	72	1.5	<0.10	<0.050	<10	<4.0	<9.0	<8.0
2014 First Year Monitoring Data																
14-8455*/56	BMW 05-16	5-10	24	44	9.8	<1.0	<10	51	86	1.0	<0.010	<0.010	<10	<10	<10	<10
14-8457*	BMW 05-16	45-50	33	52	11	<1.0	<10	69	95	1.7	<0.010	<0.010	<10	<10	<10	<10
14-8464*	MW 05-13	5-10	14	26	5.4	<1.0	<10	30	49	0.90	<0.010	<0.010	<10	<10	<10	<10
14-8465*/66	MW 05-13	45-50	15	30	6.6	<1.0	<10	36	54	0.90	<0.010	<0.010	<10	<10	<10	<10

Table B-1: DYE-M Lower Site Tier II Disposal Facility - Soil Analytical Results (cont'd)

Sample #	Location	Depth	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	PCBs	PHC			
													F1	F2	F3	F4
		(cm)	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
Laboratory Detection Limits 2007-2009			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.0030	10	4.0	9.0	8.0
Laboratory Detection Limits 2011-2012			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2013			3.0	5.0	5.0	1.0	10	15	20	0.20	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2014			3.0	5.0	5.0	1.0	10	15	20	0.20	0.01	0.010	10	10	10	10
2014 First Year Monitoring Data (cont'd)																
14-8458*	MW 05-15	5-10	25	44	9.8	<1.0	<10	55	91	1.5	<0.010	<0.010	<10	<10	<10	<10
14-8460*/61*	MW 05-15	45-50	25	41	9.1	<1.0	<10	49	76	1.7	<0.010	<0.010	<10	<10	<10	<10
14-8462*	MW 12-01	5-10	14	24	5.7	<1.0	<10	33	51	0.80	<0.010	<0.010	<10	<10	<10	<10
14-8463*	MW 12-01	40-45	25	39	8.1	<1.0	<10	47	69	1.2	<0.010	<0.010	<10	<10	<10	<10

*Sample was analyzed. Where both duplicates were analyzed, the result presented is an average of both samples. Duplicates not analyzed were archived.

Table B-2a: DYE-M Lower Site Tier II Disposal Facility - Groundwater Analytical Results

Sample #	Monitoring Well #	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	PCBs	PHC				pH*	Conductivity*	Turbidity*	Temp*
												F1	F2	F3	F4				
		[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[-]	[uS-cm]	(NTU)	C
Laboratory Detection Limits 2007-2011		0.0050	0.0050	0.0030	0.0010	0.010	0.010	0.0050	0.0030	0.00040	0.000020	0.050	0.50	1.0	1.0				
Laboratory Detection Limits 2012-2013		0.0050	0.0050	0.0030	0.0010	0.0050	0.0050	0.0050	0.0010	0.00040	0.0030	0.050	0.50	1.0	1.0				
Laboratory Detection Limits 2014		0.0010	0.0010	0.00030	0.000090	0.00050	0.0030	0.00050	0.0010	0.00010	0.000020	0.025	0.10	0.25	0.25				
2007 Baseline Monitoring Data																			
07-30674	BMW05-16	0.024	0.073	0.0042	<0.0010	<0.010	0.88	0.10	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	7.0	190	N/A	2.9
07-30670/71	MW05-13	0.016	0.048	0.0044	<0.0010	<0.010	0.93	0.051	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	7.4	500	N/A	2.3
07-30673	MW05-14	0.043	0.23	0.011	<0.0010	<0.010	2.6	0.30	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	7.5	250	N/A	2.3
07-30672	MW05-15	0.10	0.14	0.023	<0.0010	<0.010	0.87	0.19	0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	7.3	670	N/A	2.5
2008 Baseline Monitoring Data																			
08-9734	BMW05-16	0.18	0.31	0.041	<0.0010	0.013	1.4	0.54	0.0038	<0.00040	0.000040	<0.050	<0.50	<1.0	<1.0	7.0	1,100	950	3.8
08-9733	MW05-13	0.090	0.23	0.021	<0.0010	0.021	0.40	0.41	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	7.1	840	810	3.9
08-9732	MW05-14	0.020	0.19	0.0050	<0.0010	<0.010	3.6	0.35	<0.0030	<0.00040	0.0020	<0.050	<0.50	<1.0	<1.0	7.2	660	210	3.4
08-9731	MW05-15	0.065	0.36	0.020	<0.0010	<0.010	0.48	0.80	<0.0030	<0.00040	0.0067	<0.050	<0.50	<1.0	<1.0	7.2	850	140	7.3
2009 Baseline Monitoring Data																			
09-21563	MW05-13	0.028	0.056	0.0065	<0.0010	<0.010	2.5	0.088	<0.0030	<0.00040	<0.000020	<0.050	<0.0500	<1.0	<1.0	7.0	750	650	N/A
09-21562	MW05-15	0.12	0.29	0.035	0.0014	0.015	0.58	0.53	<0.0030	<0.00040	<0.000020	<0.050	<0.0500	<1.0	<1.0	7.3	960	840	N/A
2011 Baseline Monitoring Data																			
11-12205	BMW05-16	D	D	D	D	D	10	D	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	6.5	220	380	5.9
11-12204	MW05-13	D	D	D	D	D	2.3	D	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	5.8	270	130	2.9
11-12203	MW05-15	D	D	D	D	D	6.6	D	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	6.7	440	100	5.3
2012 Baseline Monitoring Data																			
12-34983	BMW05-16	D	D	D	D	D	14	0.12	0.0020	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	6.8	310	240	7.9
12-34979	MW05-13	D	D	D	D	D	1.4	0.17	0.0020	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	7.6	350	170	13
12-34980/81	MW05-15	D	D	D	D	D	4.8	0.19	0.0045	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	7.7	1100	200	17
12-34982	MW12-01	D	D	D	D	D	0.052	0.37	0.0030	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	7.4	2.7	N/A	9.9
2013 Baseline Monitoring Data																			
All wells were dry in 2013																			
2014 First Year Monitoring Data																			
14-8185	MW12-01	D	D	D	D	D	D	D	D	D	N/A	<0.025	<0.10	<0.25	<0.25	7.55	1100	230	4.4
N/A	MW05-13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	MW05-15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	BMW05-16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

N/A not applicable (sample or measurements not taken)

D - Parameter was analyzed for Dissolved inorganics (presented below)

* pH, conductivity, temperature and turbidity measurements were taken in the field except for 2014 when pH was also analyzed at an accredited lab. The accredited lab result is reported here.

Table B-2b: DYE-M Lower Site Tier II Disposal Facility - Groundwater Analytical Results for Dissolved Inorganics

Sample #	Monitoring Well #	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg
		[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]
Laboratory Detection Limits 2007-2011		0.0050	0.0050	0.0030	0.0010	0.010	0.010	0.0050	0.0030	0.00040
Laboratory Detection Limits 2012-2013		0.0050	0.0050	0.0030	0.0010	0.0050	0.0050	0.0050	0.0010	0.00040
Laboratory Detection Limits 2014		0.0010	0.0010	0.00030	0.000090	0.00050	0.0030	0.00050	0.0010	0.00010
2011 Baseline Monitoring Data										
11-12205	BMW05-16	<0.0050	0.010	<0.0030	<0.0010	<0.010	T	<0.0050	T	T
11-12204	MW05-13	<0.0050	<0.0050	<0.0030	<0.0010	<0.010	T	<0.0050	T	T
11-12203	MW05-15	<0.0050	<0.0050	<0.0030	<0.0010	<0.010	T	<0.0050	T	T
2012 Baseline Monitoring Data										
12-34983	BMW05-16	<0.0050	0.0070	<0.0030	<0.0010	<0.0050	T	T	T	T
12-34979	MW05-13	<0.0050	0.0060	<0.0030	<0.0010	<0.0050	T	T	T	T
12-34980/81	MW05-15	<0.0050	0.011	<0.0030	<0.0010	<0.0050	T	T	T	T
12-34982	MW12-01	<0.0050	0.011	<0.0030	<0.0010	<0.0050	T	T	T	T
2013 Baseline Monitoring Data										
All wells were dry in 2013										
2014 First Year Monitoring Data										
14-8185	MW12-01	<0.0010	0.013	0.00037	<0.000090	<0.00050	<0.0030	<0.00050	<0.0010	<0.00010
N/A	MW05-13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	MW05-15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	BMW05-16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

N/A not applicable (sample or measurements not taken)

T - Parameter was analyzed for Total inorganics (presented above)

Table B-3: Monitoring Well Sampling Log MW 05-13, 2007

Site Name:	DYE-M		
Date of Sampling Event:	August 24, 2007		
Names of Samplers:	Jared Ehgoetz, Hamish Corbett Hains		
Monitoring Well ID:	MW 05-13		
Facility:	Lower Site Tier II Disposal Facility		
Water Sample Measured Data			
Condition of Well:	Good		
Procedure/Equipment:	Measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.54	Depth to water surface (m)=	1.1
Diameter of well (m)=	0.044	Static water level* (m)=	0.6
Depth of installation* (m)=	3.6	Depth to bottom (m)=	2.2
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.60		
Calculations		**Notes**	
Depth of water (m)=	1.1	Evidence of sludge etc:	N/A
Well volume of water (L)=	1.7	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	1.1		

Development/Purging Information

Equipment: Waterra tubing with ball valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 24/07 - 11:20 am	2.5	2.3	7.4	500	**	**

Water Sampling		**Soil Sampling**	
Date and time collected:	August 24, 2007 - 11:20 am	Date and time collected:	August 19, 2007
Sample Number - Water:	07-30670/71	Sample Number - Soil:	Surface: 07-30872/73
			Depth: 07-30874/75 (30 cm)
Sample containers:	1 L Teflon bottle	Sample containers:	Whirlpaks
	1 L HDPE bottle		120 mL Amber glass jars
	250 mL Amber glass bottle		
Procedure/Equipment:	Waterra tubing with ball valve	Procedure/Equipment:	Disposable scoops, shovel
Water description:		Soil description:	Light-brown
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
Sampling Equipment Decontamination:	Y	Sampling Equipment Decontamination: (Y/N)	Y (shovel)
Number washes:	2	Number washes:	0
Number rinses:	2	Number rinses:	soil rinse

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

**No data recorded in 2007

Table B-4: Monitoring Well Sampling Log MW 05-14, 2007

Site Name:	DYE-M					
Date of Sampling Event:	August 24, 2007					
Names of Samplers:	Jared Ehgoetz, Hamish Corbett Hains					
Monitoring Well ID:	MW 05-14					
Facility:	Lower Site Tier II Disposal Facility					
Water Sample Measured Data						
Condition of Well:	Good					
Procedure/Equipment:	Measuring tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.47			Depth to water surface (m)=	1.5	
Diameter of well (m)=	0.044			Static water level* (m)=	1.1	
Depth of installation* (m)=	3.6			Depth to bottom (m)=	2.2	
Length screened section (m)=	1.9			Free product thickness (mm)=	None	
Depth to top of screen* (m)=	0.60					
Calculations				**Notes**		
Depth of water (m)=	0.63			Evidence of sludge etc:	N/A	
Well volume of water (L)=	1.0			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	0.63					
Development/Purging Information						
Equipment:	Waterra tubing with ball valve					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 24/07	1.5	2.3	7.5	250	**	Heavy sedimentation
Water Sampling				**Soil Sampling**		
Date and time collected:	August 24, 2007			Date and time collected:	August 19, 2007	
Sample Number - Water:	07-30673			Sample Number - Soil:	Surface: 07-30864/65	
					Depth: 07-30866/67 (30 cm)	
Sample containers:	1 L Teflon bottle			Sample containers:	Whirlpaks	
	1 L HDPE bottle				120 mL Amber glass jars	
	250 mL Amber glass bottle					
Procedure/Equipment:	Waterra tubing with ball valve			Procedure/Equipment:	Disposable scoops, shovel	
Water description:	Heavy sedimentation			Soil description:	Light-brown, dry	
Filtration: (Y/N)	N					
Acidification: (Y/N)	N					
Sampling Equipment	Y			Sampling Equipment Decontamination:	Y (shovel)	
Number washes:	2			Number washes:		
Number rinses:	2			Number rinses:	soil rinse	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

**No turbidity data recorded in 2007

Table B-5: Monitoring Well Sampling Log MW 05-15, 2007

Site Name:	DYE-M		
Date of Sampling Event:	August 24, 2007		
Names of Samplers:	Jared Ehgoetz, Hamish Corbett Hains		
Monitoring Well ID:	MW 05-15		
Facility:	Lower Site Tier II Disposal Facility		
Water Sample Measured Data			
Condition of Well:	Good		
Procedure/Equipment:	Measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.47	Depth to water surface (m)=	1.0
Diameter of well (m)=	0.044	Static water level* (m)=	0.5
Depth of installation* (m)=	3.6	Depth to bottom (m)=	2.2
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.60		
Calculations		**Notes**	
Depth of water (m)=	1.2	Evidence of sludge etc:	N/A
Well volume of water (L)=	1.8	Evidence of freezing/siltation:	Freezing
Length screen collecting water (m)=	1.1		

Development/Purging Information

Equipment: Waterra tubing with ball valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 24/07 - 10am	2.0	2.5	7.3	670	**	Very cloudy

Water Sampling		**Soil Sampling**	
Date and time collected:	August 24, 2007 10:00 am	Date and time collected:	August 19, 2007
Sample Number - Water:	07-30672	Sample Number - Soil:	Surface: 07-30868/69
			Depth: 07-30870/71 (30 cm)
Sample containers:	1 L Teflon bottle	Sample containers:	Whirlpaks
	1 L HDPE bottle		120 mL Amber glass jars
	250 mL Amber glass bottle		
Procedure/Equipment:	Waterra tubing with ball valve	Procedure/Equipment:	Disposable scoops, shovel
Water description:	Very cloudy, sedimentation	Soil description:	Dark-brown, moist, clay
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y (shovel)
Number washes:	2	Number washes:	
Number rinses:	2	Number rinses:	Soil rinse

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

**No turbidity data recorded in 2007

Table B-6: Monitoring Well Sampling Log BMW 05-16, 2007

Site Name:	DYE-M		
Date of Sampling Event:	August 24, 2007		
Names of Samplers:	Jared Ehgoetz, Hamish Corbett Hains		
Monitoring Well ID:	BMW 05-16		
Facility:	Lower Site Tier II Disposal Facility		
Water Sample Measured Data			
Condition of Well:	Good		
Procedure/Equipment:	Measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.51	Depth to water surface (m)=	0.87
Diameter of well (m)=	0.044	Static water level* (m)=	0.4
Depth of installation* (m)=	3.6	Depth to bottom (m)=	2.3
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.60		
Calculations		**Notes**	
Depth of water (m)=	1.40	Evidence of sludge etc:	N/A
Well volume of water (L)=	2.1	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	1.2		

Development/Purging Information

Equipment: Waterra tubing with ball valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 24/07	4.0	2.9	7.0	190	**	**

Water Sampling		**Soil Sampling**	
Date and time collected:	August 24, 2007	Date and time collected:	August 19, 2007
Sample Number - Water:	07-30674	Sample Number - Soil:	Surface: 07-30876/77
			Depth: 07-30878/79 (30 cm)
Sample containers:	1 L Teflon bottle	Sample containers:	Whirlpaks
	1 L HDPE bottle		120 mL Amber glass jars
	250 mL Amber glass bottle		
Procedure/Equipment:	Waterra tubing with ball valve	Procedure/Equipment:	Disposable scoops, shovel
Water description:		Soil description:	Brown, moist
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y (shovel)
Number washes:	2	Number washes:	
Number rinses:	2	Number rinses:	Soil rinse

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

**No data recorded in 2007

Table B-7: Monitoring Well Sampling Log MW 05-13, 2008

Site Name:	DYE-M		
Date of Sampling Event:	August 15, 2008		
Names of Samplers:	Molly Brewis, Andrea Ellis, Bryarly McEachern		
Monitoring Well ID:	MW 05-13		
Facility:	Lower Site Tier II Disposal Facility		
Water Sample Measured Data			
Condition of Well:	Good		
Procedure/Equipment:	Measuring Tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.54	Depth to water surface (m)=	1.5
Diameter of well (m)=	0.044	Static water level* (m)=	1.0
Depth of installation* (m)=	3.6	Depth to bottom (m)=	2.5
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.67		
Calculations		**Notes**	
Depth of water (m)=	1.0	Evidence of sludge etc:	N/A
Well volume of water (L)=	1.6	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	1.0		

Development/Purging Information

Equipment: Waterra tubing, stainless steel ball valve, flow-through cell (1 L HDPE bottle)

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 15/08 - 5:00 pm	4.7	3.9	7.5	840	810	Translucent, light brown tint with some sediment. Litres 4 and 5 were more silty.

Water Sampling		**Soil Sampling**	
Date and time collected:	August 15,2008 4:30 pm, August 16, 2008 8:00 am	Date and time collected:	August 15, 2008 4:30 pm
Sample Number - Water:	08-9733	Sample Number - Soil:	Surface: 08-9758/59
			Depth: 08-9760/61 (35 cm)
Sample containers:	1 L HDPE bottle	Sample containers:	Whirlpaks
	1 L Teflon botle		120 mL Amber glass jars
	250 mL Amber glass bottle		
Procedure/Equipment:	Waterra tubing, stainless steel ball valve	Procedure/Equipment:	Disposable scoops, shovel, kim towels
Water description:	Translucent, light brown, some silt.	Soil description:	Surface: rocky with 70% vegetation/moss. 0-10 cm: some roots. 0-40 cm: medium brown silty fine sand with 10% fine gravel and 10% coarse gravel.
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y (shovel)
Number washes:	1 (MeOH water)	Number washes:	
Number rinses:	1 (distilled water)	Number rinses:	soil rinse

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-8: Monitoring Well Sampling Log MW 05-14, 2008

Site Name:	DYE-M		
Date of Sampling Event:	August 15, 2008		
Names of Samplers:	Molly Brewis, Andrea Ellis, Bryarly McEachern		
Monitoring Well ID:	MW 05-14		
Facility:	Lower Site Tier II Disposal Facility		
Water Sample Measured Data			
Condition of Well:	Good		
Procedure/Equipment:	Measuring Tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.47	Depth to water surface (m)=	1.6
Diameter of well (m)=	0.044	Static water level* (m)=	1.2
Depth of installation* (m)=	3.6	Depth to bottom (m)=	2.2
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.61		
Calculations		**Notes**	
Depth of water (m)=	0.60	Evidence of sludge etc:	N/A
Well volume of water (L)=	0.91	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	0.60		
Development/Purging Information			
Equipment:	Waterra tubing, stainless steel ball valve, flow-through cell (1 L HDPE bottle)		

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 15/08 - 11:15 am	2.7	3.4	7.2	660	210	Almost clear, a little silt. Flaky particles floating in water. Valve-end of tube has greasy black film on it.

Water Sampling		**Soil Sampling**	
Date and time collected:	August 15, 2008 2:30 pm	Date and time collected:	August 15, 2008 2:30 pm
Sample Number - Water:	08-9732	Sample Number - Soil:	Surface: 08-9754/55
			Depth: 08-9756/57 (35 cm)
Sample containers:	1 L HDPE bottle	Sample containers:	Whirlpaks
	1 L Teflon bottle		120 mL Amber glass jars
	250 mL Amber glass bottle		
Procedure/Equipment:	Waterra tubing, stainless steel ball valve	Procedure/Equipment:	Disposable scoops, shovel
Water description:	Almost clear, light brown tint	Soil description:	Surface: 90% vegetation cover. 10-40 cm: medium brown silty fine to medium grain sand, 10% gravel. Very fine sand and silt at 40 cm.
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y (shovel)
Number washes:	1 (MeOH water)	Number washes:	
Number rinses:	1 (distilled water)	Number rinses:	Soil rinse

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-9: Monitoring Well Sampling Log MW 05-15, 2008

Site Name:	DYE-M		
Date of Sampling Event:	August 15, 2008		
Names of Samplers:	Molly Brewis, Andrea Ellis, Bryarly McEachern		
Monitoring Well ID:	MW 05-15		
Facility:	Lower Site Tier II Disposal Facility		
Water Sample Measured Data			
Condition of Well:	Good		
Procedure/Equipment:	Measuring Tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.48	Depth to water surface (m)=	0.99
Diameter of well (m)=	0.044	Static water level* (m)=	0.5
Depth of installation* (m)=	3.6	Depth to bottom (m)=	2.1
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.62		
Calculations		**Notes**	
Depth of water (m)=	1.2	Evidence of sludge etc:	N/A
Well volume of water (L)=	1.7	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	1.0		

Development/Purging Information

Equipment: Waterra tubing, stainless steel ball valve, flow-through cell (1 L HDPE bottle)

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 15/08 - 10:30 am	5.2	7.3	7.6	850	140	Translucent, very light brown tint, a little silty. Litre 4 was darker brown, more silty.

Water Sampling		**Soil Sampling**	
Date and time collected:	August 15, 2008 11:00 am, August 16, 2008 8:00 am	Date and time collected:	August 15, 2008 11:00 am
Sample Number - Water:	08-9731	Sample Number - Soil:	Surface: 08-9750/51
			Depth: 08-9752/53 (35 cm)
Sample containers:	1 L HDPE bottle	Sample containers:	Whirlpaks
	1 L Teflon bottle		120 mL Amber glass jars
	250 mL Amber glass bottle		
Procedure/Equipment:	Waterra tubing, stainless steel ball valve	Procedure/Equipment:	Disposable scoops, shovel
Water description:	Translucent, medium brown, silty. Well slow to recharge.	Soil description:	Surface: 90% vegetation cover. 10-40 cm: dark brown silty fine/medium sand, <10% gravel, seepage at 35-40 cm.
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y (shovel)
Number washes:	1 (MeOH water)	Number washes:	
Number rinses:	1 (distilled water)	Number rinses:	Soil rinse

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-10: Monitoring Well Sampling Log BMW 05-16, 2008

Site Name:	DYE-M		
Date of Sampling Event:	August 16, 2008		
Names of Samplers:	Molly Brewis, Andrea Ellis, Bryarly McEachern		
Monitoring Well ID:	BMW 05-16		
Facility:	Lower Site Tier II Disposal Facility		
Water Sample Measured Data			
Condition of Well:	Good. Water between casing and well-pipe to 15 cm below top of well pipe.		
Procedure/Equipment:	Measuring Tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.47	Depth to water surface (m)=	0.87
Diameter of well (m)=	0.044	Static water level* (m)=	0.4
Depth of installation* (m)=	3.6	Depth to bottom (m)=	2.4
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.60		
Calculations		**Notes**	
Depth of water (m)=	1.6	Evidence of sludge etc:	N/A
Well volume of water (L)=	2.4	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	1.3		

Development/Purging Information

Equipment: Waterra tubing, stainless steel ball valve, flow-through cell (1 L HDPE bottle)

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 16/08 - 8:20 am	7.0	3.8	6.9	1100	950	Litre 1: almost clear. Litres 5-7 were medium brown, silty, translucent.

Water Sampling		**Soil Sampling**	
Date and time collected:	August 16, 2008 9:00 am	Date and time collected:	August 16, 2008 9:00 am
Sample Number - Water:	08-9734	Sample Number - Soil:	Surface: 08-9762/63
			Depth: 08-9764/65 (35 cm)
Sample containers:	1 L HDPE bottle	Sample containers:	Whirlpaks
	1 L Teflon bottle		120 mL Amber glass jars
	250 mL Amber glass bottle		
Procedure/Equipment:	Waterra tubing, stainless steel ball valve	Procedure/Equipment:	Disposable scoops, shovel
Water description:	Medium brown, very silty.	Soil description:	Surface: rocky, 90% vegetation/moss cover. 0-40 cm: medium brown wet fine sand (some clay), seepage at depth, 5% coarse gravel.
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y (shovel)
Number washes:	2 (MeOH water)	Number washes:	
Number rinses:	2 (distilled water)	Number rinses:	Soil rinse

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-11: Monitoring Well Sampling Log MW 05-13, 2009

Site Name:	DYE-M					
Date of Sampling Event:	August 18, 2009					
Names of Samplers:	Michael MacDaniel, Amanda Murray, Justine Mannion					
Monitoring Well ID:	MW 05-13					
Facility:	Lower Site Tier II Disposal Facility					
Water Sample Measured Data						
Condition of Well:	Good					
Procedure/Equipment:	Measuring tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.45			Depth to water surface (m)=	1.7	
Diameter of well (m)=	0.044			Static water level* (m)=	1.3	
Depth of installation* (m)=	3.6			Depth to bottom (m)=	2.3	
Length screened section (m)=	1.9			Free product thickness (mm)=	None	
Depth to top of screen* (m)=	0.60					
Calculations				**Notes**		
Depth of water (m)=	0.59			Evidence of sludge etc:	**	
Well volume of water (L)=	0.74			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	0.59					
Development/Purging Information						
Equipment:	Waterra tubing					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 18/09 - 2:00 pm	0.74	**	7	750	650	Brown, murky
Water Sampling				**Soil Sampling**		
Date and time collected:	August 18, 2009 2:20pm			Date and time collected:	August 18, 2009 2:00 pm	
Sample Number - Water:	09-21563			Sample Number - Soil:	Surface: 09-21552/21553 Depth: 09-21554/21555 (~30 cm)	
Sample containers:	1L HDPE bottle			Sample containers:	Whirpaks	
	1L Teflon bottle				120 mL Amber glass jars	
	250 mL Amber glass bottle					
Procedure/Equipment:	Waterra tubing			Procedure/Equipment:	Disposable scoops, shovel	
Water description:	Brown, murky			Soil description:	Light brown, lots of organic matter	
Filtration: (Y/N)	N			GPS Coordinates:	20W 0561965 7388336	
Acidification: (Y/N)	N					
Sampling Equipment Decontamination: (Y/N)	**			Sampling Equipment Decontamination: (Y/N)	Y (shovel)	
Number washes:	**			Number washes:		
Number rinses:	**			Number rinses:	Soil rinse	

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

** No data available from original sampling log.

Table B-12: Monitoring Well Sampling Log MW 05-15, 2009

Site Name:	DYE-M					
Date of Sampling Event:	August 18, 2009					
Names of Samplers:	Michael MacDaniel, Amanda Murray, Catriona Jackson					
Monitoring Well ID:	MW 05-15					
Facility:	Lower Site Tier II Disposal Facility					
Water Sample Measured Data						
Condition of Well:	Good					
Procedure/Equipment:	Measuring tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.57			Depth to water surface (m)=	1.4	
Diameter of well (m)=	0.044			Static water level* (m)=	0.80	
Depth of installation* (m)=	3.6			Depth to bottom (m)=	2.2	
Length screened section (m)=	1.9			Free product thickness (mm)=	None	
Depth to top of screen* (m)=	0.60					
Calculations				**Notes**		
Depth of water (m)=	0.82			Evidence of sludge etc:	**	
Well volume of water (L)=	1.0			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	0.82					
Development/Purging Information						
Equipment:	Waterra tubing					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 18/09, 11:30 am	1.0	**	7.3	960	840	Translucent brown
Water Sampling				**Soil Sampling**		
Date and time collected:	August 18, 2009 11:15 am			Date and time collected:	August 18, 2009 11:00 am	
Sample Number - Water:	09-21562			Sample Number - Soil:	Surface: 09-21548/21549 Depth: 09-21550/21551 (~30 cm)	
Sample containers:	HDPE bottle			Sample containers:	Whirpaks	
	Teflon bottle				120 mL Amber glass jars	
	250 mL Amber glass bottle					
Procedure/Equipment:	Waterra Tubing			Procedure/Equipment:	Disposable scoops, shovel, kim towels	
Water description:	Brown, murky			Soil description:	Rich brown, vegetated	
Filtration: (Y/N)	N			GPS Coordinates:	20W 0561786 7388317	
Acidification: (Y/N)	N					
Sampling Equipment Decontamination: (Y/N)	**			Sampling Equipment Decontamination: (Y/N)	Y (shovel)	
Number washes:	**			Number washes:		
Number rinses:	**			Number rinses:	Soil rinse	

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

Table B-13: Monitoring Well Sampling Log BMW 05-16, 2009

Site Name:	DYE-M					
Date of Sampling Event:	August 18, 2009					
Names of Samplers:	Michael MacDaniel, Amanda Murray, Justine Mannion					
Monitoring Well ID:	BMW 05-16					
Facility:	Lower Site Tier II Disposal Facility					
Water Sample Measured Data						
Condition of Well:	Good, water in casing					
Procedure/Equipment:	Measuring tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.53			Depth to water surface (m)=	1.9	
Diameter of well (m)=	0.044			Static water level* (m)=	1.4	
Depth of installation* (m)=	3.6			Depth to bottom (m)=	2.2	
Length screened section (m)=	1.9			Free product thickness (mm)=	**	
Depth to top of screen* (m)=	0.60					
Calculations				**Notes**		
Depth of water (m)=	0.30			Evidence of sludge etc:	**	
Well volume of water (L)=	0.38			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	0.30					
Development/Purging Information						
Equipment:						
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 18/09	Not enough water present to purge or sample well.					
Water Sampling				**Soil Sampling**		
Date and time collected:	N/A			Date and time collected:	August 18, 2009 3:30 pm	
Sample Number - Water:	No sample collected			Sample Number - Soil:	Surface: 09-21556/21557 Depth: 09-21558/21559 (~30 cm)	
Sample containers:	N/A			Sample containers:	Whirpaks 120 mL Amber glass jars	
Procedure/Equipment:	N/A			Procedure/Equipment:	Disposable scoops, shovel	
Water description:	N/A			Soil description:	Rich brown, vegetated, organic matter	
Filtration: (Y/N)	N/A			GPS Coordinates:	20W 0561872 7388146	
Acidification: (Y/N)	N/A					
Sampling Equipment Decontamination: (Y/N)	N/A			Sampling Equipment Decontamination: (Y/N)	Y (shovel)	
Number washes:	N/A			Number washes:		
Number rinses:	N/A			Number rinses:	Soil rinse	

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

**No data available from original sampling log.

Table B-14: Monitoring Well Sampling Log- MW 05-13, 2011

Site Name:	DYE-M
Date of Sampling Event:	August 17, 2011
Names of Samplers:	Justin Dee, Jennah Dharamshi, Andrea Ellis, Alicia Spencer
Monitoring Well ID:	MW 05-13
Facility:	Lower Site Tier II Disposal Facility

Water Sample Measured Data

Condition of Well:	Good		
Procedure/Equipment:	Measuring tape	Procedure/Equipment:	Interface Meter
Well height above ground (m)=	0.3	Depth to water surface (m)=	1.3
Diameter of well (m)=	0.044	Static water level* (m)=	1.0
Depth of installation* (m)=	3.6	Depth to bottom (m)=	2.4
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.60		
Calculations		**Notes**	
Depth of water (m)=	1.1	Evidence of sludge etc:	N/A
Well volume of water (L)=	1.3	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	1.1		

Development/Purging Information

Equipment: Waterra tubing

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 17/11 - 10:00 am	2.0	2.9	5.8	270	130	Light brown, translucent
Aug. 17/11 - 10:05 am	3.0	4.7	6.6	450	410	Same as above, a bit darker

Water Sampling		**Soil Sampling**	
Date and time collected:	August 17, 2011 10:00 am	Date and time collected:	August 17, 2011 9:50 am
Sample Number - Water:	11-12204	Sample Number - Soil:	Surface: 11-13066/67
			Depth: 11-13068/69 (~30 cm)
Sample containers:	1 L HDPE bottle	Sample containers:	Whirlpaks
	1 L Teflon bottle		120 mL Amber glass jars
	250 mL Amber glass bottle		
Procedure/Equipment:	Waterra tubing	Procedure/Equipment:	Disposable scoops, shovel
Water description:	Light Brown, cloudy and translucent	Soil description:	Medium Brown, 60% fines, 40% gravel. Rocky Surface, 2% vegetation.
Filtration: (Y/N)	N	GPS:	20 W 0561968
Acidification: (Y/N)	N		7388347
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	1	Number washes:	N/A
Number rinses:	2	Number rinses:	N/A

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

Table B-15: Monitoring Well Sampling Log- MW 05-15, 2011

Site Name:	DYE-M
Date of Sampling Event:	August 17, 2011
Names of Samplers:	Jennah Dharamshi, Alicia Spencer, Justin Dee, Andrea Ellis
Monitoring Well ID:	MW 05-15
Facility:	Lower Site Tier II Disposal Facility

Water Sample Measured Data

Condition of Well:	Good		
Procedure/Equipment:	Measuring tape	Procedure/Equipment:	Interface Meter
Well height above ground (m)=	0.72	Depth to water surface (m)=	1.5
Diameter of well (m)=	0.044	Static water level* (m)=	0.75
Depth of installation* (m)=	3.6	Depth to bottom (m)=	1.8
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.60		
Calculations		**Notes**	
Depth of water (m)=	0.35	Evidence of sludge etc:	No
Well volume of water (L)=	0.53	Evidence of freezing/siltation: (compare to installation record)	N/A
Length screen collecting water (m)=	0.35		

Development/Purging Information

Equipment: Waterra tubing

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 17/11 - 9:10 am	1.0	5.3	6.7	440	100	Cloudy, no sediment
Aug. 17/11 - 9:20 am	0.60	5.8	5.3	440	92	Cloudy, no sediment

Water Sampling		**Soil Sampling**	
Date and time collected:	August 17, 2011 9:30 am	Date and time collected:	August 17, 2011 9:20 am
Sample Number - Water:	11-12203	Sample Number - Soil:	Surface: 11-13062/63
			Depth: 11-13064/65 (~30 cm)
Sample containers:	1 L HDPE bottle	Sample containers:	Whirlpaks
	1 L Teflon bottle		120 mL Amber glass jas
	250 mL Amber glass bottle		
Procedure/Equipment:	Waterra tubing	Procedure/Equipment:	Disposable scoops, shovel
Water description:	Cloudy with minimal sediment	Soil description:	Olive grey, 90% fines, 10% gravel, 50% vegetation
Filtration: (Y/N)	N	GPS:	20 W 0561790
Acidification: (Y/N)	N		7388318
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	1	Number washes:	N/A
Number rinses:	2	Number rinses:	N/A

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

Table B-16: Monitoring Well Sampling Log- BMW 05-16, 2011

Site Name:	DYE-M					
Date of Sampling Event:	August 17, 2011					
Names of Samplers:	Jennah Dharamshi, Justin Dee, Alicia Spencer					
Monitoring Well ID:	BMW 05-16					
Facility:	Lower Site Tier II Disposal Facility					
Water Sample Measured Data						
Condition of Well:	Good					
Procedure/Equipment:	Measuring tape			Procedure/Equipment:	Interface Meter	
Well height above ground (m)=	0.51			Depth to water surface (m)=	1.5	
Diameter of well (m)=	0.04			Static water level* (m)=	1.0	
Depth of installation* (m)=	3.6			Depth to bottom (m)=	1.7	
Length screened section (m)=	1.9			Free product thickness (mm)=	None	
Depth to top of screen* (m)=	0.60					
Calculations				**Notes**		
Depth of water (m)=	0.17			Evidence of sludge etc:	No	
Well volume of water (L)=	0.21			Evidence of freezing/siltation: (compare to installation record)	N/A	
Length screen collecting water (m)=	0.17					
Development/Purging Information						
Equipment:	Waterra tubing					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 17/11 - 2:00 pm	0.70	5.9	6.5	220	380	Cloudy, translucent brown
Water Sampling				**Soil Sampling**		
Date and time collected:	August 17, 2011 2:00 pm			Date and time collected:	August 17, 2011 2:00 pm	
Sample Number - Water:	11-12205			Sample Number - Soil:	Surface: 11-13070/71	
					Depth: 11-13072/73 (~30 cm)	
Sample containers:	1 L HDPE bottle			Sample containers:	Whirlpaks	
	1 L Teflon bottle				120 mL Amber glass jars	
	250 mL Amber glass bottle					
Procedure/Equipment:	Waterra tubing			Procedure/Equipment:	Disposable Scoops, shovel	
Water description:	Cloudy, translucent brown			Soil description:	Olive Grey- Brown, 70% fines, 30% rocks, 40% vegetation, some gravel at surface.	
Filtration: (Y/N)	N			GPS:	20 W 0561877	
Acidification: (Y/N)	N				7388147	
Sampling Equipment Decontamination: (Y/N)	Y			Sampling Equipment Decontamination: (Y/N)	N	
Number washes:	2			Number washes:	N/A	
Number rinses:	1			Number rinses:	N/A	

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

Table B-17: Monitoring Well Sampling Log- MW05-13, 2012

Site Name:	DYE-M		
Date of Sampling Event:	August 14, 2012 (water)	July 31, 2012 (soil)	
Names of Samplers:	Quinn Francis and Lauren Forrester	Lauren Forrester, Sarah Ficko	
Monitoring Well ID:	MW05-13		
Facility:	Lower Site Tier II Disposal Facility		
Monitoring Well Measured Data			
Condition of Well:	Good		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	interface meter
Well height above ground (m)=	0.3	Depth to water surface (m)=	0.96
Diameter of well (m)=	0.040	Static water level* (m)=	0.7
Depth of installation* (m)=	3.6	Depth to bottom (m)=	2.3
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.60		
Calculations		**Notes**	
Depth of water (m)=	1.3	Evidence of sludge etc:	No
Well volume of water (L)=	1.7	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	1.3		

Purging Information

Equipment: Waterra Tubing

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
14-Aug; 15:00	1.8	13	7.6	351	168	Relatively clear with some silt

Water Sampling		**Soil Sampling**	
Date and time collected:	August 14, 15:00	Date and time collected:	July-31-12
Sample Number - Water:	12-34979	Sample Number - Soil:	Surface: 44870/44871
			Depth: 44872/44873 (~30 cm)
Sample containers:	1L HDPE	Sample containers:	Whirl paks and 120 mL AG jar
	1L Teflon		
	250 mL Amber Glass		
Procedure/Equipment:	Waterra tubing	Procedure/Equipment:	shovel and disposable scoop
Water description:	Relatively clear with some silt	Soil description:	fine/sandy soil with some gravel/rocks some roots and limited veg no debris damp soil throughout olive/dark grey soil
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)	Yes	Sampling Equipment Decontamination: (Y/N)	No, disposable scoops used
Number washes:	2	Number washes:	N/A
Number rinses:	1	Number rinses:	N/A

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-18: Monitoring Well Sampling Log- MW05-15, 2012

Site Name:	DYE-M		
Date of Sampling Event:	August 14, 2012 (water)	July 31, 2012 (soil)	
Names of Samplers:	Quinn Francis, Lauren Forrester	Quinn Francis, Lauren Forrester	
Monitoring Well ID:	MW05-15		
Facility:	Lower Site Tier II Disposal Facility		
Monitoring Well Measured Data			
Condition of Well:	Excellent		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	interface meter
Well height above ground (m)=	0.6	Depth to water surface (m)=	1.0
Diameter of well (m)=	0.040	Static water level* (m)=	0.4
Depth of installation* (m)=	3.6	Depth to bottom (m)=	N/A
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.60		
Calculations		**Notes**	
Depth of water (m)=	n/a	Evidence of sludge etc:	No
Well volume of water (L)=	n/s	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	n/s		

Purging Information

Equipment: Waterra Tubing

Date & Time	Volume Removed (L)	Temperature (°C)	pH	Conductivity (uS/cm)	Turbidity (NTU	Description of water
14-Aug	1.6		7.6	1120	250	Relatively clear with some silt
15-Aug; 17:00	1.6	16.8^	7.9	1000	140	Relatively clear with some silt

Water Sampling		**Soil Sampling**	
Date and time collected:	14-Aug-12	Date and time collected:	July-31-12
Sample Number - Water:	12-34980 / 81	Sample Number - Soil:	Surface: 44874/44875
			Depth: 44876/44877 (~30 cm)
Sample containers:	1L HDPE	Sample containers:	Whirl paks and 120 mL AG jar
	1L Teflon		
	250 mL Amber Glass		
Procedure/Equipment:	Waterra tubing	Procedure/Equipment:	shovel and disposable scoop
Water description:	Relatively clear with some silt	Soil description:	abundant veg, large rocks and boulders surrounding well, small grade sand with fines with rocks at surface and depth
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	
Sampling Equipment Decontamination:	Yes	Sampling Equipment	No, disposable scoops used
Number washes:	2	Number washes:	N/A
Number rinses:	1	Number rinses:	N/A

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

^ Temperature taken in lab

Table B-19: Monitoring Well Sampling Log- BMW05-16, 2012

Site Name:	DYE-M				
Date of Sampling Event:	August 14, 2012 (water)	July 31, 2012 (soil)			
Names of Samplers:	Quinn Francis, Lauren Forrester, Sarah Ficko	Sarah Ficko, Lauren Forrester			
Monitoring Well ID:	BMW05-16				
Facility:	Lower Site Tier II Disposal Facility				
Monitoring Well Measured Data					
Condition of Well:	Good				
Procedure/Equipment:	measuring tape	Procedure/Equipment:	interface meter		
Well height above ground (m)=	0.49	Depth to water surface (m)=	0.82		
Diameter of well (m)=	0.044	Static water level* (m)=	0.3		
Depth of installation* (m)=	3.6	Depth to bottom (m)=	2.5		
Length screened section (m)=	1.9	Free product thickness (mm)=	None		
Depth to top of screen* (m)=	0.60				
Calculations		**Notes**			
Depth of water (m)=	1.6	Evidence of sludge etc:	No		
Well volume of water (L)=	2.5	Evidence of freezing/siltation: (compare to installation record)	Freezing		
Length screen collecting water (m)=	1.4				
Purging Information					
Equipment:	Waterra Tubing				
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
15-Aug; 14:30	2.1	7.9	6.8	310	237	Translucent with some silt
Water Sampling				**Soil Sampling**	
Date and time collected:	15-Aug; 14:30			Date and time collected:	July-31-12
Sample Number - Water:	12-34983			Sample Number - Soil:	Surface: 44878/44879
					Depth: 44880/44881 (~30 cm)
Sample containers:	1L HDPE			Sample containers:	Whirl Paks and 120 mL AG Jar
	1L Teflon				
	250 mL Amber Glass				
Procedure/Equipment:	Waterra tubing			Procedure/Equipment:	shovel and disposable scoop
Water description:	Translucent with some silt			Soil description:	abundant veg, damp grey/brown soil, no debris, small grade sand with fines and very few rocks, surface sample
Filtration: (Y/N)	N				
Acidification: (Y/N)	N				
				GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)	Yes			Sampling Equipment Decontamination: (Y/N)	No, disposable scoops used
Number washes:	2			Number washes:	N/A
Number rinses:	1			Number rinses:	N/A

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-20: Monitoring Well Sampling Log- MW12-01, 2012

Site Name:	DYE-M		
Date of Sampling Event:	August 14, 2012 (water)	July 31, 2012 (soil)	
Names of Samplers:	Quinn Francis, Lauren Forrester	Sarah Ficko, Lauren Forrester	
Monitoring Well ID:	MW12-01 (replaced MW05-14)		
Facility:	Lower Site Tier II Disposal Facility		
Monitoring Well Measured Data			
Condition of Well:	Good, new well to replace MW05-14 damaged in 2009		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	interface
Well height above ground (m)=	0.62	Depth to water surface (m)=	1.1
Diameter of well (m)=	0.40	Static water level* (m)=	0.4
Depth of installation* (m)=	4.0	Depth to bottom (m)=	2.9
Length screened section (m)=	2.00	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.50		
Calculations		**Notes**	
Depth of water (m)=	1.8	Evidence of sludge etc:	No
Well volume of water (L)=	2.3	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	1.73		

Purging Information

Equipment: Waterra Tubing

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
14 Aug; 14:00	2.5	9.9	7.4	2.7	n/a	Clear, limited silt

Water Sampling		**Soil Sampling**	
Date and time collected:	August 14, 2012	Date and time collected:	15-Aug; 14:00
Sample Number - Water:	12-34979	Sample Number - Soil:	Surface: 12-44902/03
			Depth: 12-44904/04 (~30 cm)
Sample containers:	1L HDPE	Sample containers:	Whirl Paks and 120 mL AG Jar
	1L Teflon		
	250 mL Amber Glass		
Procedure/Equipment:	Waterra tubing	Procedure/Equipment:	shovel and disposable scoop
Water description:	Clear, limited silt	Soil description:	Silty sand, trace cobble; Moist soil
Filtration: (Y/N)	N		
Acidification: (Y/N)	N	GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)	Yes	Sampling Equipment Decontamination: (Y/N)	No, disposable scoops used
Number washes:	2	Number washes:	N/A
Number rinses:	1	Number rinses:	N/A

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-21: Monitoring Well Sampling Log- MW05-13, 2013

Site Name:	DYE-M					
Date of Sampling Event:	09-Aug-13					
Names of Samplers:	Alaina Leslie, Shari Reed, Tom Partridge					
Monitoring Well ID:	MW 05-13					
Facility:	Lower Site Tier II Disposal Facility					
Monitoring Well Measured Data						
Condition of Well:	Good. Dent in casing.					
Procedure/Equipment:	measuring tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.36			Depth to water surface (m)=	Dry	
Diameter of well (m)=	0.040			Static water level* (m)=	n/a	
Depth of installation* (m)=	3.6			Depth to bottom (m)=	1.7	
Length screened section (m)=	1.9			Free product thickness (mm)=	n/a	
Depth to top of screen* (m)=	0.6					
Calculations				**Notes**		
Depth of water (m)=	n/a			Evidence of sludge etc:	none	
Well volume of water (L)=	n/a			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	n/a					
Purging Information						
Equipment:	waterra tubing					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
dry well						
Water Sampling				**Soil Sampling**		
Date and time collected:	n/a			Date and time collected:	13-Aug	
Sample Number - Water:				Sample Number - Soil:	13-25280/81 surface	
					13-25282/83 depth (30cm)	
Sample containers:				Sample containers:	120 mL Amber Glass Jars	
					Whirlpacks	
Procedure/Equipment:				Procedure/Equipment:	Pickax & Disposable Scoop	
Water description:				Soil description:	Brown sand. 50% angular gravel. 10% veg. Medium moisture. Same at depth (evenly mixed).	
Filtration: (Y/N)						
Acidification: (Y/N)						
				GPS Coordinates		
Sampling Equipment Decontamination: (Y/N)				Sampling Equipment Decontamination: (Y/N)	Y	
Number washes:				Number washes:	0	
Number rinses:				Number rinses:	1	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-22: Monitoring Well Sampling Log- MW05-15, 2013

Site Name:	DYE-M					
Date of Sampling Event:	09-Aug-13					
Names of Samplers:	Alaina Leslie, Shari Reed, Tom Partridge					
Monitoring Well ID:	MW 05-15					
Facility:	Lower Site Tier II Disposal Facility					
Monitoring Well Measured Data						
Condition of Well:	Good. Heaving at surface.					
Procedure/Equipment:	measuring tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.61			Depth to water surface (m)=	Dry	
Diameter of well (m)=	0.040			Static water level* (m)=	n/a	
Depth of installation* (m)=	3.6			Depth to bottom (m)=	1.8	
Length screened section (m)=	1.9			Free product thickness (mm)=	n/a	
Depth to top of screen* (m)=	0.6					
Calculations				**Notes**		
Depth of water (m)=	n/a			Evidence of sludge etc:	none	
Well volume of water (L)=	n/a			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	n/a					
Purging Information						
Equipment:	waterra tubing					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
dry well						
Water Sampling				**Soil Sampling**		
Date and time collected:	n/a			Date and time collected:	13-Aug	
Sample Number - Water:				Sample Number - Soil:	13-25288/89 surface	
					13-25290/91 depth (30cm)	
Sample containers:				Sample containers:	120 mL Amber Glass Jars	
					Whirlpacks	
Procedure/Equipment:				Procedure/Equipment:	Pickax & Disposable Scoop	
Water description:				Soil description:	Brown sandy loam. 50% gravel. 75% vegetation. Medium moisture. Same at depth.	
Filtration: (Y/N)						
Acidification: (Y/N)						
				GPS Coordinates		
Sampling Equipment Decontamination: (Y/N)				Sampling Equipment Decontamination: (Y/N)	Y	
Number washes:				Number washes:	0	
Number rinses:				Number rinses:	1	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-23: Monitoring Well Sampling Log- BMW05-16, 2013

Site Name:	DYE-M					
Date of Sampling Event:	09-Aug-13					
Names of Samplers:	Alaina Leslie, Shari Reed, Tom Partridge					
Monitoring Well ID:	BMW 05-16					
Facility:	Lower Site Tier II Disposal Facility					
Monitoring Well Measured Data						
Condition of Well:	Good.					
Procedure/Equipment:	measuring tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.54			Depth to water surface (m)=	Dry	
Diameter of well (m)=	0.040			Static water level* (m)=	n/a	
Depth of installation* (m)=	3.6			Depth to bottom (m)=	1.9	
Length screened section (m)=	1.9			Free product thickness (mm)=	n/a	
Depth to top of screen* (m)=	0.6					
Calculations				**Notes**		
Depth of water (m)=	n/a			Evidence of sludge etc:	none	
Well volume of water (L)=	n/a			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	n/a					
Purging Information						
Equipment:	waterra tubing					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
dry well						
Water Sampling				**Soil Sampling**		
Date and time collected:	n/a			Date and time collected:	13-Aug	
Sample Number - Water:				Sample Number - Soil:	13-25276/77 surface	
					13-25278/79 depth (30cm)	
Sample containers:				Sample containers:	120 mL Amber Glass Jars	
					Whirlpacks	
Procedure/Equipment:				Procedure/Equipment:	Pickax & Disposable Scoop	
Water description:				Soil description:	Brown sandy loam. 50% gravel. 75% vegetation. Medium moisture. Same at depth.	
Filtration: (Y/N)						
Acidification: (Y/N)						
				GPS Coordinates		
Sampling Equipment Decontamination: (Y/N)				Sampling Equipment Decontamination: (Y/N)	Y	
Number washes:				Number washes:	0	
Number rinses:				Number rinses:	1	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-24: Monitoring Well Sampling Log- MW12-01, 2013

Site Name:	DYE-M					
Date of Sampling Event:	09-Aug-13					
Names of Samplers:	Alaina Leslie, Shari Reed, Tom Partridge					
Monitoring Well ID:	MW 12-01					
Facility:	Lower Site Tier II Disposal Facility					
Monitoring Well Measured Data						
Condition of Well:	Good.					
Procedure/Equipment:	measuring tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.63			Depth to water surface (m)=	Dry	
Diameter of well (m)=	0.040			Static water level* (m)=	n/a	
Depth of installation* (m)=	4.0			Depth to bottom (m)=	2.1	
Length screened section (m)=	2.0			Free product thickness (mm)=	n/a	
Depth to top of screen* (m)=	0.5					
Calculations				**Notes**		
Depth of water (m)=	n/a			Evidence of sludge etc:	none	
Well volume of water (L)=	n/a			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	n/a					
Purging Information						
Equipment:	waterra tubing					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
dry well						
Water Sampling				**Soil Sampling**		
Date and time collected:	n/a			Date and time collected:	13-Aug	
Sample Number - Water:				Sample Number - Soil:	13-25284/85 surface	
					13-25286/87 depth (30cm)	
Sample containers:				Sample containers:	120 mL Amber Glass Jars	
					Whirlpacks	
Procedure/Equipment:				Procedure/Equipment:	Pickax & Disposable Scoop	
Water description:				Soil description:	0-20 cm Sandy loam . Brown clay loam at 20-30cm depth. 50% gravel. 75% vegetation. Medium moisture.	
Filtration: (Y/N)						
Acidification: (Y/N)						
				GPS Coordinates		
Sampling Equipment Decontamination: (Y/N)				Sampling Equipment Decontamination: (Y/N)	Y	
Number washes:				Number washes:	0	
Number rinses:				Number rinses:	1	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-25: Monitoring Well Sampling Log- MW 05-13, 2014

Site Name:	DYE-M					
Date of Sampling Event:	10-Aug-14					
Names of Samplers:	Shari Reed, Mark Button					
Monitoring Well ID:	MW 05-13					
Facility:	Lower Site Tier II Disposal Facility					
Monitoring Well Measured Data						
Condition of Well:	Good. Dent in casing. Gaps in casing lid					
Procedure/Equipment:	measuring tape			Procedure/Equipment:	Solinst interface meter	
Well height above ground (m)=	0.19			Depth to water surface (m)=	Dry	
Diameter of well (m)=	0.04			Static water level* (m)=	n/a	
Depth of installation* (m)=	3.6			Depth to bottom (m)=	0.83	
Length screened section (m)=	1.9			Free product thickness (mm)=	n/a	
Depth to top of screen* (m)=	0.6					
Calculations				**Notes**		
Depth of water (m)=	n/a			Evidence of sludge etc:	none	
Well volume of water (L)=	n/a			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	n/a					
Purging Information						
Equipment:	n/a					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Not enough water present to collect a sample.						
Water Sampling				**Soil Sampling**		
Date and time collected:	n/a			Date and time collected:	12-Aug	
Sample Number - Water:	No sample collected - dry			Sample Number - Soil:	14-8464 surface	
					14-8465/66 depth (50cm)	
Sample containers:				Sample containers:	120 mL Amber Glass Jars, 120 mL Clear Glass Jars	
					Whirlpacks	
Procedure/Equipment:				Procedure/Equipment:	Pickax & Disposable Scoop	
Water description:				Soil description:	Brown sandy silt with some gravel and cobbles. Moist. Same at depth. Minimal vegetative cover in area.	
Filtration: (Y/N)						
Acidification: (Y/N)						
				GPS Coordinates		
Sampling Equipment Decontamination: (Y/N)				Sampling Equipment Decontamination: (Y/N)	Y	
Number washes:				Number washes:	0	
Number rinses:				Number rinses:	1	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-26: Monitoring Well Sampling Log- MW 05-15, 2014

Site Name:	DYE-M		
Date of Sampling Event:	10-Aug-14		
Names of Samplers:	Shari Reed, Mark Button		
Monitoring Well ID:	MW 05-15		
Facility:	Lower Site Tier II Disposal Facility		
Monitoring Well Measured Data			
Condition of Well:	Good, cracking and drying of bentonite inside and out.		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Solinist interface meter
Well height above ground (m)=	0.62	Depth to water surface (m)=	1.90
Diameter of well (m)=	0.04	Static water level* (m)=	1.28
Depth of installation* (m)=	3.6	Depth to bottom (m)=	2.20
Length screened section (m)=	1.9	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	0.6		
Calculations		**Notes**	
Depth of water (m)=	0.30	Evidence of sludge etc:	none
Well volume of water (L)=	0.38	Evidence of freezing/siltation: (compare to installation record)	freezing
Length screen collecting water (m)=	0.30		

Purging Information

Equipment: Waterra and foot valve

Date & Time	Volume Removed (L)	Temperature (°C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
		Not enough water present to collect a sample				

Water Sampling		**Soil Sampling**	
Date and time collected:	n/a	Date and time collected:	12-Aug
Sample Number - Water:	No sample collected - dry	Sample Number - Soil:	14-8458/59 surface
			14-8460/61 depth (50cm)
Sample containers:		Sample containers:	120ml Amber Glass Jars
			120ml Clear Glass Jars x2
			Whirlpacks
Procedure/Equipment:		Procedure/Equipment:	Pickax & Disposable Scoop
Water description:		Soil description:	Brown sandy silt and gravel. Same at depth. Damp. 70% vegetative cover in area (moss and grasses).
Filtration: (Y/N)			
Acidification: (Y/N)			
		GPS Coordinates	
Sampling Equipment Decontamination:		Sampling Equipment Decontamination:	Y
Number washes:		Number washes:	
Number rinses:		Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-25: Monitoring Well Sampling Log- BMW 05-16, 2014

Site Name:	DYE-M					
Date of Sampling Event:	10-Aug-14					
Names of Samplers:	Shari Reed, Mark Button					
Monitoring Well ID:	BMW05-16					
Facility:	Lower Site Tier II Disposal Facility					
Monitoring Well Measured Data						
Condition of Well:	Good					
Procedure/Equipment:	measuring tape			Procedure/Equipment:	Solinist interface meter	
Well height above ground (m)=	0.59			Depth to water surface (m)=	Dry	
Diameter of well (m)=	0.04			Static water level* (m)=	n/a	
Depth of installation* (m)=	3.6			Depth to bottom (m)=	2.29	
Length screened section (m)=	1.9			Free product thickness (mm)=	n/a	
Depth to top of screen* (m)=	0.6					
Calculations				**Notes**		
Depth of water (m)=	n/a			Evidence of sludge etc:	none	
Well volume of water (L)=	n/a			Evidence of freezing/siltation: (compare to installation record)	freezing	
Length screen collecting water (m)=	n/a					
Purging Information						
Equipment:	n/a					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
		Not enough water present to collect a sample				
Water Sampling				**Soil Sampling**		
Date and time collected:	n/a			Date and time collected:	12-Aug	
Sample Number - Water:	No sample collected - dry			Sample Number - Soil:	14-8455/56 surface	
					14-8457 depth (50cm)	
Sample containers:				Sample containers:	120ml Amber Glass Jars	
					120ml Clear Glass Jars	
					Whirlpacks	
Procedure/Equipment:				Procedure/Equipment:	Pickax & Disposable Scoop	
Water description:				Soil description:	Brown silt with some gravel. Wet at 30 cm. Organics at surface. 90% vegetative cover (moss).	
Filtration: (Y/N)						
Acidification: (Y/N)						
				GPS Coordinates		
Sampling Equipment Decontamination:				Sampling Equipment Decontamination:	Y	
Number washes:				Number washes:		
Number rinses:				Number rinses:	1	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-28: Monitoring Well Sampling Log- MW 12-01, 2014

Site Name:	DYE-M
Date of Sampling Event:	10-Aug-14
Names of Samplers:	Shari Reed, Mark Button
Monitoring Well ID:	MW 12-01
Facility:	Lower Site Tier II Facility

Monitoring Well Measured Data

Condition of Well:	Good. Cracking in surface around well.		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Solinist interface meter
Well height above ground (m)=	0.62	Depth to water surface (m)=	2.02
Diameter of well (m)=	0.04	Static water level* (m)=	1.4
Depth of installation* (m)=	4.0	Depth to bottom (m)=	2.44
Length screened section (m)=	2.0	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	0.5		
Calculations		**Notes**	
Depth of water (m)=	0.42	Evidence of sludge etc:	none
Well volume of water (L)=	0.5	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	0.42		

Purging Information

Equipment: Waterra and foot valve

Date & Time	Volume Removed (L)	Temperature (°C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 10 2014 1700h	0.5	5.5	5.8	1320	n/a	clear
1710h	1	4.4	6.2	1237	n/a	clear
1715h	1.5	4.4	6.6	1124	231	clear

Water Sampling		**Soil Sampling**	
Date and time collected:	Aug 10. 2014, 1716h	Date and time collected:	12-Aug
Sample Number - Water:	14-8185	Sample Number - Soil:	14-8462 surface
			14-8463 depth (45cm)
Sample containers:	40ml VOA x3	Sample containers:	120ml Amber Glass Jars
	124ml Ag x2		120ml Clear Glass Jars
	500ml Ag x2 (insufficient water for 1L AG PCB bottle)		Whirlpacks
Procedure/Equipment:	Waterra and foot valve	Procedure/Equipment:	Pickax & Disposable Scoop
Water description:	clear	Soil description:	Brown sandy silt and gravel cobbles. Moist. Depth to 45 cm due to boulders. 40% vegetative cover in area. Same at depth.
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y
Number washes:	1	Number washes:	
Number rinses:	1	Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-29: DYE-M Lower Site Non-hazardous Waste Landfill - Soil Analytical Results

Sample #	Location	Depth	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	PCBs	PHC			
													F1	F2	F3	F4
		(cm)	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
Laboratory Detection Limits 2007-2009			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.0030	10	4.0	9.0	8.0
Laboratory Detection Limits 2011 -2012			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2013			3.0	5.0	5.0	1.0	10	15	20	0.20	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2014			3.0	5.0	5.0	1.0	10	15	20	0.020	0.010	0.010	10	10	10	10
2007 Baseline Monitoring Data																
07-30832*/33	BMW 05-11	0-10	16	29	9.7	<1.0	<10	37	58	<1.0	<0.10	<0.0030	<10	4.8	<9.0	<8.0
07-30834*/35	BMW 05-11	25-35	20	34	12	<1.0	<10	44	67	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
07-30840*/41*	MW 05-09	0-10	22	32	10	<1.0	14	47	55	<1.0	<0.10	0.15	<10	4.6	27	12
07-30842*/43	MW 05-09	25-35	25	32	11	<1.0	15	65	59	<1.0	<0.10	0.20	<10	4.9	46	22
07-30836*/37	MW 05-10	0-10	29	41	14	<1.0	<10	51	78	<1.0	<0.10	0.0043	<10	4.1	<9.0	<8.0
07-30838*/39	MW 05-10	25-35	27	39	14	<1.0	<10	49	77	<1.0	<0.10	<0.0030	<10	14	200	170
07-30844*/45	MW 05-12	0-10	20	34	12	<1.0	<10	41	69	<1.0	<0.10	0.0032	<10	<4.0	<9.0	<8.0
07-30846*/47	MW 05-12	25-35	18	31	11	<1.0	<10	39	61	<1.0	<0.10	<0.0030	<10	5.1	<9.0	13
2008 Baseline Monitoring Data																
08-9766*/67	BMW 05-11	0-10	16	29	8.8	<1.0	<10	35	53	<1.0	<0.10	0.0040	<10	<4.0	22	11
08-9768*/69*	BMW 05-11	30-40	20	32	9.6	<1.0	<10	38	55	<1.0	<0.10	<0.0030	<10	<4.0	12	10
08-9774*/75	MW 05-09	0-10	32	42	10	<1.0	14	58	61	<1.0	<0.10	0.18	<10	<4.0	49	22
08-9776*/77*	MW 05-09	30-40	20	28	9.3	<1.0	<10	41	49	<1.0	<0.10	0.017	<10	<4.0	57	19
08-9770*/71	MW 05-10	0-10	24	33	9.8	<1.0	19	44	59	<1.0	<0.10	<0.0030	<10	<4.0	110	43
08-9772*/73	MW 05-10	30-40	25	34	10	<1.0	<10	42	64	<1.0	<0.10	<0.0030	<10	<4.0	29	17
08-9778*/79	MW 05-12	0-10	36	41	13	<1.0	26	73	79	<1.0	<0.10	0.080	<10	<4.0	70	26
08-9780*/81	MW 05-12	30-40	17	29	9.7	<1.0	<10	38	57	<1.0	<0.10	0.0057	<10	<4.0	18	12
2009 Baseline Monitoring Data																
09-21504*/05	MW 05-09	0-10	27	37	12	<1.0	13	61	79	<1.0	<0.10	0.032	20	4.7	430	360
09-21506*/07*	MW 05-09	30-40	24	30	9.2	<1.0	16	49	55	<1.0	<0.10	0.44	81	520	77	44
09-21500*/01	MW 05-12	0-10	30	37	11	<1.0	23	72	75	<1.0	<0.10	0.56	<10	4.7	210	85
09-21502*/03	MW 05-12	30-40	23	36	11	<1.0	<10	210	67	<1.0	<0.10	0.021	15	13	87	47
2011 Baseline Monitoring Data																
11-13058*/59	BMW09-26	0-10	21	36	13	<1.0	<10	42	61	<1.0	<0.10	<0.050	<10	14	<9.0	9.2
11-13060*/61*	BMW09-26	30-40	22	40	13	<1.0	<10	43	67	3.2	<0.10	<0.050	<10	18	<9.0	<8.0
11-13042*/43	MW05-09	0-10	32	32	11	<1.0	16	59	72	1.6	<0.10	0.050	<10	<4.0	<9.0	<8.0
11-13044*/45	MW05-09	30-40	24	31	12	<1.0	10	50	65	<1.0	<0.10	0.15	<10	4.4	<9.0	<8.0
11-13046*/47	MW05-12	0-10	29	36	13	<1.0	15	57	71	<1.0	<0.10	0.19	<10	6.3	28	11
11-13048*/49	MW05-12	30-40	24	33	11	<1.0	<10	43	67	<1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-13054*/55	MW09-27	0-10	12	19	6.8	<1.0	<10	25	36	<1.0	<0.10	<0.050	<10	5.8	16	<8.0
11-13056*/57	MW09-27	30-40	22	28	10	<1.0	<10	39	51	<1.0	<0.10	<0.050	<10	7.4	34	38
11-13050*/51*	MW09-28	0-10	36	39	14	<1.0	16	62	77	1.4	<0.10	0.090	<10	16	21	11
11-13052*/53	MW09-28	30-40	26	38	13	<1.0	<10	47	69	<1.0	<0.10	<0.050	<10	5.7	<9.0	<8.0
2012 Baseline Monitoring Data																
12-44858*/59	BMW09-26	0-10	24	37	9	<1.0	<10	43	66	1.7	<0.10	<0.050	<10	8.2	<9.0	<8.0
12-44860*/61	BMW09-26	20-30	30	42	11	<1.0	<10	51	79	1.8	<0.10	<0.050	<10	7.8	9.7	8.2
12-44850*/51	MW09-09	0-10	25	30	9.2	<1.0	12	130	56	1.4	<0.10	<0.05	<10	6.1	12	<8.0
12-44852*/53*	MW09-09	20-30	26	36	10	<1.0	12	75	67	1.6	<0.10	0.26	<10	4.9	<9.0	<8.0
12-44854*/55	MW05-12	0-10	33	44	11	<1.0	11	60	85	1.5	<0.10	0.080	<10	10	9.4	<8.0
12-44856*/57	MW05-12	20-30	21	32	8.2	<1.0	<10	46	60	1.1	<0.10	0.060	<10	6.9	<9.0	<8.0
12-44862*/63	MW09-27	0-10	20	27	6.8	<1.0	<10	33	63	1.3	<0.10	<0.050	<10	5.0	13	<8.0
12-44864*/65*	MW09-27	20-30	24	35	9.0	<1.0	<10	41	69	1.5	<0.10	<0.050	<10	9.8	<9.0	<8.0
12-44866*/67	MW09-28	0-10	39	39	10	<1.0	20	63	80	2.3	<0.10	<0.050	<10	7	10	<8.0
12-44868*/69	MW09-28	20-30	33	44	11	<1.0	<10	55	86	1.8	<0.10	<0.050	<10	7.9	<9.0	<8.0
2013 Baseline Monitoring Data																
13-25184*/85*	BMW09-26	0-10	29	35	10	<1.0	<10	48	75	2.2	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25186*/87	BMW09-26	25-35	32	35	11	<1.0	<10	50	80	2.1	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25196*/97	MW 05-09	0-10	27	31	8.5	<1.0	11	50	63	2.2	<0.10	<0.050	<10	4.3	16	<8.0
13-25198*/99	MW 05-09	25-35	26	32	7.8	<1.0	16	52	64	2.0	<0.10	0.22	<10	6.0	39	17
13-25200*/01*	MW 05-12	0-10	35	39	11	<1.0	<10	57	89	2.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25202*/03	MW 05-12	25-35	27	38	9.3	<1.0	<10	51	79	2.0	<0.10	<0.050	<10	<4.0	27	<8.0
13-25188*/89	MW 09-27	0-10	47	39	9.1	<1.0	11	62	98	3.4	<0.10	<0.050	<10	4.7	11	<8.0
13-25190*/91	MW 09-27	25-35	32	35	9.6	<1.0	13	49	77	1.8	<0.10	<0.050	<10	4.7	11	<8.0
13-25192*/93	MW 09-28	0-10	55	38	11	<1.0	19	69	92	2.9	<0.10	0.070	<10	5.2	<9.0	9.3
13-25194*/95	MW 09-28	25-35	28	34	8.9	<1.0	<10	42	71	1.7	<0.10	<0.050	<10	4.3	12	<8.0

Table B-29: DYE-M Lower Site Non-hazardous Waste Landfill - Soil Analytical Results (cont'd)

Sample #	Location	Depth	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	PCBs	PHC			
													F1	F2	F3	F4
		(cm)	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
Laboratory Detection Limits 2007-2009			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.0030	10	4.0	9.0	8.0
Laboratory Detection Limits 2011 -2012			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2013			3.0	5.0	5.0	1.0	10	15	20	0.20	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2014			3.0	5.0	5.0	1.0	10	15	20	0.020	0.010	0.010	10	10	10	10
2014 First Year Monitoring Data																
14-8252*	BMW09-26	5-10	25	41	9.5	<1.0	<10	46	75	1.2	<0.010	<0.010	<10	<10	<10	<10
14-8253*	BMW09-26	45-50	21	34	8.0	<1.0	<10	42	63	0.90	<0.010	<0.010	<10	11	<10	<10
14-8243*	MW 05-09	5-10	44	50	11	<1.0	15	72	92	2.4	0.012	0.018	<10	<10	<10	<10
14-8244*	MW 05-09	45-50	27	38	9.4	<1.0	<10	47	75	1.4	<0.010	0.018	<10	<10	<10	<10
14-8240*/41*	MW 05-12	5-10	44	47	12	<1.0	53	81	89	1.5	0.013	0.30	<10	<10	<10	<10
14-8242*	MW 05-12	35-45	35	45	11	<1.0	13	71	84	3.2	<0.010	0.12	<10	<10	<10	<10
14-8248*	MW 09-27	5-10	34	45	11	<1.0	<10	60	82	2.0	<0.010	0.040	<10	<10	<10	<10
14-8250*/51*	MW 09-27	45-50	20	31	7.0	<1.0	<10	35	54	0.70	<0.010	<0.010	<10	<10	<10	<10
14-8245*/46	MW 09-28	5-10	43	43	11	<1.0	14	64	86	1.6	0.015	0.16	<10	<10	<10	<10
14-8247*	MW 09-28	45-50	42	42	10	<1.0	15	64	81	2.1	0.013	0.032	<10	<10	<10	<10

*Sample was analyzed. Where both duplicates were analyzed, the result presented is an average of both samples. Duplicates not analyzed were archive

Table B-30a: DYE-M Lower Site Non-hazardous Waste Landfill - Groundwater Analytical Results

Sample #	Monitoring Well #	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	PCBs	PHC				pH*	Conductivity*	Turbidity*	Temperature*
												F1	F2	F3	F4				
		[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[-]	[uS-cm]	(NTU)	C
Laboratory Detection Limits 2007-2011		0.0050	0.0050	0.0030	0.0010	0.010	0.010	0.0050	0.0030	0.00040	0.000020	0.050	0.50	1.0	1.0				
Laboratory Detection Limits 2012-2013		0.0050	0.0050	0.0030	0.0010	0.0050	0.010	0.0050	0.0010	0.00040	0.0030	0.050	0.50	1.0	1.0				
Laboratory Detection Limits 2014		0.0050	0.0050	0.0030	0.0010	0.0050	0.010	0.0050	0.0010	0.00040	0.000020	0.025	0.10	0.25	0.25				
2007 Baseline Monitoring Data																			
07-30668	MW 05-09	0.026	0.14	0.0051	<0.0010	0.021	2.9	0.22	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	7.4	500	N/A	2.3
07-30667	MW 05-10	0.012	0.14	<0.0030	<0.0010	<0.010	0.048	0.30	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	7.5	250	N/A	2.3
07-30666	BMW 05-11	0.010	0.080	<0.0030	<0.0010	<0.010	0.66	0.12	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	7.3	670	N/A	2.5
07-30669	MW 05-12	0.016	0.057	0.0039	<0.0010	<0.010	2.0	0.088	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	7.0	190	N/A	2.9
2008 Baseline Monitoring Data																			
08-9738	MW 05-09	0.012	0.089	<0.0030	<0.0010	<0.010	1.6	0.16	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	7.1	330	110	4.7
08-9736/37	MW 05-10	0.031	0.14	0.0050	<0.0010	<0.010	0.12	0.26	<0.0030	<0.00040	0.00043	<0.050	<0.50	<1.0	<1.0	7.0	2500	86	2.9
08-9735	BMW 05-11	0.023	0.21	0.0044	<0.0010	<0.010	0.39	0.37	<0.0030	<0.00040	0.0011	<0.050	<0.50	<1.0	<1.0	7.0	280	70	3.1
2009 Baseline Monitoring Data																			
09-21641	MW 05-09	0.039	0.056	0.010	<0.0010	0.048	1.0	0.10	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	7.6	530	450	N/A
2011 Baseline Monitoring Data																			
11-12188	MW05-09	D	D	D	D	D	15	D	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	6.1	590	47	12
11-12193	MW05-12	D	D	D	D	D	6.4	D	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	6.3	190	200	8.4
11-12194	BMW09-26	D	D	D	D	D	3.2	D	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	6.8	1200	1.8	4.3
11-12210/11	MW09-27	D	D	D	D	D	0.50	D	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	7.7	800	330	19
11-12206	MW09-28	D	D	D	D	D	1.1	D	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	6.7	620	28	4.5
2012 Baseline Monitoring Data																			
12-34989	MW05-09	D	D	D	D	D	7.2	0.086	0.0010	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	6.7	680	100	6.4
12-34988	MW05-12	D	D	D	D	D	8.5	0.18	0.0030	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	6.6	380	330	6.1
12-34993	BMW09-26	D	D	D	D	D	11	0.24	0.0020	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	7.3	1770	290	8.0
12-34991/92	MW09-27	D	D	D	D	D	1.1	0.45	0.0080	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	8.1	940	790	8.8
12-34990	MW09-28	D	D	D	D	D	0.53	0.42	0.0050	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	7.3	1180	340	5.5
2013 Baseline Monitoring Data																			
13-29584	MW05-09	D	D	D	D	D	23	0.032	0.0014	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	6.0	970	44	5.4
13-29582	BMW09-26	D	D	D	D	D	3.9	0.10	0.0011	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	6.5	980	36	5.0
13-29580/81	MW09-27	D	D	D	D	D	1.8	0.21	0.0041	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	5.9	520	770	5.3
13-29583	MW09-28	D	D	D	D	D	0.55	0.11	0.0015	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	6.5	250	150	4.5
2014 First Year Monitoring Data																			
14-8186	MW09-27	D	D	D	D	D	D	D	D	D	<0.000020	<0.025	<0.10	<0.25	<0.25	7.9	700	480	4.0
14-8187ǂ	MW09-27	0.086	0.18	0.013	<0.0010	0.0050	0.47	1.8	0.0030	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	7.6	700	480	4.0
14-8188	BMW09-26	D	D	D	D	D	D	D	D	D	<0.000020	<0.025	<0.10	<0.25	<0.25	7.4	270	160	5.4
N/A	MW05-09	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	MW05-12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	MW09-28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

* pH, conductivity, temperature and turbidity measurements were taken in the field except for 2014 when pH was also analyzed at an accredited lab. The accredited lab result is reported here.

D - Parameter was analyzed for Dissolved inorganics (presented below)

ǂ Sample was collected as an interlabratory comparison - detection limits for this sample are the same as 2013 detection limits for all parameters.

N/A measurement not taken.

Table B-30b: DYE-M Lower Site Non-hazardous Waste Landfill - Groundwater Analytical Results for Dissolved Inorganics

Sample #	Monitoring Well #	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg
		[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]
Laboratory Detection Limits 2007-2011		0.0050	0.0050	0.0030	0.0010	0.010	0.010	0.0050	0.0030	0.00040
Laboratory Detection Limits 2012-2013		0.0050	0.0050	0.0030	0.0010	0.0050	0.010	0.0050	0.0010	0.00040
Laboratory Detection Limits 2014		0.0010	0.0010	0.00030	0.000090	0.00050	0.0030	0.00050	0.0010	0.00010
2011 Baseline Monitoring Data										
11-12188	MW05-09	<0.0050	0.042	<0.0030	<0.0010	<0.010	T	<0.0050	T	T
11-12193	MW05-12	<0.0050	0.0071	<0.0030	<0.0010	<0.010	T	<0.0050	T	T
11-12194	BMW09-26	0.0069	<0.0050	<0.0030	<0.0010	<0.010	T	<0.0050	T	T
11-12210/11	MW09-27	<0.0050	<0.0050	<0.0030	<0.0010	<0.010	T	<0.0050	T	T
11-12206	MW09-28	0.024	0.0074	<0.0030	<0.0010	<0.010	T	<0.0050	T	T
2012 Baseline Monitoring Data										
12-34989	MW05-09	<0.0050	0.014	<0.0030	<0.0010	<0.0050	T	T	T	T
12-34988	MW05-12	<0.0050	0.0060	<0.0030	<0.0010	<0.0050	T	T	T	T
12-34993	BMW09-26	0.0160	0.016	<0.0030	<0.0010	<0.0050	T	T	T	T
12-34991/92	MW09-27	<0.0050	0.024	<0.0030	<0.0010	<0.0050	T	T	T	T
12-34990	MW09-28	<0.0050	0.034	<0.0030	<0.0010	<0.0050	T	T	T	T
2013 Baseline Monitoring Data										
13-29584	MW05-09	<0.0050	0.042	<0.0030	<0.0010	<0.0050	T	T	T	T
13-29582	BMW09-26	0.0097	0.081	<0.0030	<0.0010	<0.0050	T	T	T	T
13-29580/81	MW09-27	<0.0050	0.026	<0.0030	<0.0010	<0.0050	T	T	T	T
13-29583	MW09-28	0.0085	0.030	<0.0030	<0.0010	<0.0050	T	T	T	T
2014 First Year Monitoring Data										
14-8186	MW09-27	<0.0010	0.023	0.00034	<0.000090	<0.00050	0.0045	<0.00050	<0.0010	<0.00010
14-8187ǂ	MW09-27	T	T	T	T	T	T	T	T	T
14-8188	BMW09-26	0.0029	0.096	0.0014	0.00024	<0.00050	0.55	<0.00050	<0.0010	<0.00010
N/A	MW05-09	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	MW05-12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	MW09-28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

N/A measurement not taken.

T - Parameter was analyzed for Total inorganics (presented above)

ǂ Sample was collected as an interlabratory comparison

Table B-31: Monitoring Well Sampling Log MW 05-09, 2007

Site Name:	DYE-M		
Date of Sampling Event:	August 23, 2007		
Names of Samplers:	Jared Ehgoetz, Hamish Corbett Hains		
Monitoring Well ID:	MW 05-09		
Facility:	Lower Site Non-hazardous Waste Landfill		
Water Sample Measured Data			
Condition of Well:	Good		
Procedure/Equipment:	Measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.48	Depth to water surface (m)=	1.3
Diameter of well (m)=	0.044	Static water level* (m)=	0.81
Depth of installation* (m)=	3.6	Depth to water surface (m)=	2.3
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.60		
Calculations		**Notes**	
Depth of water (m)=	1.0	Evidence of sludge etc:	N/A
Well volume of water (L)=	1.5	Evidence of freezing/siltation: (compare to installation record)	freezing
Length screen collecting water (m)=	1.0		

Development/Purging Information

Equipment: Waterra tubing with ball valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 23/07 - 1:30 pm	2.0	2.5	6.7	340	**	Slightly discoloured, small coagulated particles

Water Sampling		**Soil Sampling**	
Date and time collected:	August 23, 2007 1:30 pm	Date and time collected:	August 19, 2007
Sample Number - Water:	07-30668	Sample Number - Soil:	Surface: 07-30840/41
			Depth: 07-30842/43 (~30 cm)
Sample containers:	1 L Teflon bottle	Sample containers:	Whirlpaks
	1 L HDPE bottle		120 mL Amber glass jars
	250 mL Amber glass bottle		
Procedure/Equipment:	Waterra tubing with ball valve	Procedure/Equipment:	Disposable scoops, shovel
Water description:	Slightly discoloured, small coagulated particles	Soil description:	Light brown
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y (shovel)
Number washes:	2	Number washes:	
Number rinses:	2	Number rinses:	Soil rinse

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

**No turbidity data recorded in 2007

Table B-32: Monitoring Well Sampling Log MW 05-10, 2007

Site Name:	DYE-M		
Date of Sampling Event:	August 23, 2007		
Names of Samplers:	Jared Ehgoetz, Hamish Corbett Hains		
Monitoring Well ID:	MW 05-10		
Facility:	Lower Site Non-hazardous Waste Landfill		
Water Sample Measured Data			
Condition of Well:	Good		
Procedure/Equipment:	Measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.45	Depth to water surface (m)=	1.1
Diameter of well (m)=	0.044	Static water level* (m)=	0.62
Depth of installation* (m)=	3.6	Depth to bottom (m)=	2.4
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.70		
Calculations		**Notes**	
Depth of water (m)=	1.3	Evidence of sludge etc:	N/A
Well volume of water (L)=	1.9	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	1.3		

Development/Purging Information

Equipment: Waterra tubing with ball valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 23/07 - 11:52 am	2.3	2.0	6.6	1300	**	Slight sedimentation

Water Sampling		**Soil Sampling**	
Date and time collected:	August 23, 2007 11:52 am	Date and time collected:	August 19, 2007
Sample Number - Water:	07-30667	Sample Number - Soil:	Surface: 07-30836/37
			Depth: 07-30838/39 (~30 cm)
Sample containers:	1 L Teflon bottle	Sample containers:	Whirlpaks
	1 L HDPE bottle		120 mL Amber glass jars
	250 mL Amber glass bottle		
Procedure/Equipment:	Waterra tubing with ball valve	Procedure/Equipment:	Disposable scoops, shovel
Water description:	Slight sedimentation	Soil description:	Light-brown, slightly moist
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y (shovel)
Number washes:	2	Number washes:	
Number rinses:	2	Number rinses:	Soil rinse

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

**No turbidity data recorded in 2007

Table B-33: Monitoring Well Sampling Log BMW 05-11, 2007

Site Name:	DYE-M
Date of Sampling Event:	August 23, 2007
Names of Samplers:	Jared Ehgoetz, Hamish Corbett Hains
Monitoring Well ID:	BMW 05-11
Facility:	Lower Site Non-hazardous Waste Landfill

Water Sample Measured Data

Condition of Well:	Good		
Procedure/Equipment:	Measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.45	Depth to water surface (m)=	1.0
Diameter of well (m)=	0.044	Static water level* (m)=	0.55
Depth of installation* (m)=	3.6	Depth to bottom (m)=	2.2
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.60		

Calculations		**Notes**	
Depth of water (m)=	1.2	Evidence of sludge etc:	N/A
Well volume of water (L)=	1.9	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	1.1		

Development/Purging Information

Equipment: Waterra tubing with ball valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 23/07 - 10:37 am	1.8	2.0	6.6	420	**	

Water Sampling		**Soil Sampling**	
Date and time collected:	August 23, 2007 10:37 am	Date and time collected:	August 19, 2007
Sample Number - Water:	07-30666	Sample Number - Soil:	Surface: 07-30832/33
			Depth: 07-30834/35 (~30 cm)
Sample containers:	1 L Teflon bottle	Sample containers:	Whirlpaks
	1 L HDPE bottle		120 mL Amber glass jars
	250 mL Amber glass bottle		
Procedure/Equipment:	Waterra tubing with ball valve	Procedure/Equipment:	Disposable scoops, shovel
Water description:	Clear, no smell	Soil description:	Dark brown
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y (shovel)
Number washes:	2	Number washes:	
Number rinses:	2	Number rinses:	Soil rinse

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

**No turbidity data recorded in 2007

Table B-34: Monitoring Well Sampling Log MW 05-12, 2007

Site Name:	DYE-M					
Date of Sampling Event:	August 23, 2007					
Names of Samplers:	Jared Ehgoetz, Hamish Corbett Hains					
Monitoring Well ID:	MW 05-12					
Facility:	Lower Site Non-hazardous Waste Landfill					
Water Sample Measured Data						
Condition of Well:	Good					
Procedure/Equipment:	Measuring tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.42			Depth to water surface (m)=	1.6	
Diameter of well (m)=	0.044			Static water level* (m)=	1.2	
Depth of installation* (m)=	3.6			Depth to bottom (m)=	2.2	
Length screened section (m)=	1.9			Free product thickness (mm)=	None	
Depth to top of screen* (m)=	0.70					
Calculations				**Notes**		
Depth of water (m)=	0.62			Evidence of sludge etc:	N/A	
Well volume of water (L)=	0.94			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	0.62					
Development/Purging Information						
Equipment:	Waterra tubing with ball valve					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 23/07 - 4:00 pm	1.5	2.5	7.3	220	**	
Water Sampling				**Soil Sampling**		
Date and time collected:	August 23, 2007 4:00 pm			Date and time collected:	August 19, 2007	
Sample Number - Water:	07-30669			Sample Number - Soil:	Surface: 07-30844/45	
					Depth: 07-30846/47 (~30 cm)	
Sample containers:	1 L Teflon bottle			Sample containers:	Whirlpaks	
	1 L HDPE bottle				120 mL Amber glass jars	
	250 mL Amber glass bottle					
Procedure/Equipment:	Waterra tubing with ball valve			Procedure/Equipment:	Disposable scoops, shovel	
Water description:	Slight discolouration and sedimentation			Soil description:	Light-brown/yellowish-brown	
Filtration: (Y/N)	No					
Acidification: (Y/N)	No					
Sampling Equipment Decontamination: (Y/N)	Yes			Sampling Equipment Decontamination: (Y/N)	Y (shovel)	
Number washes:	2			Number washes:		
Number rinses:	2			Number rinses:	Soil rinse	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

**No turbidity data recorded in 2007

Table B-35: Monitoring Well Sampling Log MW 05-09, 2008

Site Name:	DYE-M					
Date of Sampling Event:	August 18, 2008					
Names of Samplers:	Molly Brewis, Andrea Ellis, Bryarly McEachern, Cam Ollson					
Monitoring Well ID:	MW 05-09					
Facility:	Lower Site Non-hazardous Waste Landfill					
Water Sample Measured Data						
Condition of Well:	Good					
Procedure/Equipment:	Measuring Tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.37			Depth to water surface (m)=	1.5	
Diameter of well (m)=	0.044			Static water level* (m)=	1.1	
Depth of installation* (m)=	3.6			Depth to bottom (m)=	2.3	
Length screened section (m)=	1.9			Free product thickness (mm)=	None	
Depth to top of screen* (m)=	0.61					
Calculations				**Notes**		
Depth of water (m)=	0.75			Evidence of sludge etc:	N/A	
Well volume of water (L)=	1.1			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	0.75					
Development/Purging Information						
Equipment:	Waterra tubing, stainless steel ball valve, flow-through cell (1 L HDPE bottle)					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 18/08	3.4	4.7	6.7	330	110	Litre 1: clear Litre 2: slightly brown Litre 3: almost clear
Water Sampling				**Soil Sampling**		
Date and time collected:	August 18, 2008			Date and time collected:	August 18, 2008 7:50 am	
Sample Number - Water:	08-9738			Sample Number - Soil:	Surface: 08-9774/75	
					Depth: 08-9776/77 (~30 cm)	
Sample containers:	1 L HDPE bottle			Sample containers:	Whirlpaks	
	1 L Teflon bottle				120 mL Amber glass jars	
	250 mL Amber glass bottle					
Procedure/Equipment:	Waterra tubing, stainless steel ball valve			Procedure/Equipment:	Disposable scoops, shovel	
Water description:	Almost clear, light sediment that settle out			Soil description:	Surface: <5% vegetation. 0-40cm: fine sand with silts and 20% fine gravel, 10% coarse gravel and 5% cobbles. Some roots to 10 cm depth	
Filtration: (Y/N)	N					
Acidification: (Y/N)	N					
Sampling Equipment Decontamination: (Y/N)	Y			Sampling Equipment Decontamination: (Y/N)	Y (shovel)	
Number washes:	1 (MeOH water)			Number washes:		
Number rinses:	1 (distilled water)			Number rinses:	Soil rinse	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-36: Monitoring Well Sampling Log MW 05-10, 2008

Site Name:	DYE-M					
Date of Sampling Event:	August 16, 2008					
Names of Samplers:	Molly Brewis, Andrea Ellis, Bryarly McEachern					
Monitoring Well ID:	MW 05-10					
Facility:	Lower Site Non-hazardous Waste Landfill					
Water Sample Measured Data						
Condition of Well:	Good					
Procedure/Equipment:	Measuring Tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.48			Depth to water surface (m)=	2.1	
Diameter of well (m)=	0.044			Static water level* (m)=	1.6	
Depth of installation* (m)=	3.6			Depth to bottom (m)=	2.7	
Length screened section (m)=	1.9			Free product thickness (mm)=	None	
Depth to top of screen* (m)=	0.60					
Calculations				**Notes**		
Depth of water (m)=	0.54			Evidence of sludge etc:	N/A	
Well volume of water (L)=	0.82			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	0.54					
Development/Purging Information						
Equipment:	Waterra tubing, stainless steel ball valve, flow-through cell (1 L HDPE bottle)					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 16/08 10:50 am	2.5	2.9	7.0	2500	86	Translucent, light brown with some sediment.
Water Sampling				**Soil Sampling**		
Date and time collected:	August 16, 2008 11:00 am			Date and time collected:	August, 16, 2008 11:00 am	
Sample Number - Water:	08-9736, 08-9737 (field duplicate)			Sample Number - Soil:	Surface: 08-9770/71	
					Depth: 08-9772/73 (~30 cm)	
Sample containers:	1 L HDPE bottle X2			Sample containers:	Whirlpaks	
	1 L Teflon bottle X2				120 mL Amber glass jars	
	250 mL Amber glass bottle X2					
Procedure/Equipment:	Waterra tubing, stainless steel ball valve			Procedure/Equipment:	Disposable scoops, shovel	
Water description:	Translucent, light brown			Soil description:	Surface: <10% vegetation. 0-40 cm: light brown silty sand, >50% fine sand/silt, 20% coarse sand, 10% fine gravel, 5% coarse gravel.	
Filtration: (Y/N)	N					
Acidification: (Y/N)	N					
Sampling Equipment Decontamination: (Y/N)	Y			Sampling Equipment Decontamination: (Y/N)	Y (shovel)	
Number washes:	1 (MeOH water)			Number washes:		
Number rinses:	1 (distilled water)			Number rinses:	Soil rinse	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-37: Monitoring Well Sampling Log BMW 05-11, 2008

Site Name:	DYE-M					
Date of Sampling Event:	August 16, 2008					
Names of Samplers:	Molly Brewis, Andrea Ellis, Bryarly McEachern					
Monitoring Well ID:	BMW 05-11					
Facility:	Lower Site Non-hazardous Waste Landfill					
Water Sample Measured Data						
Condition of Well:	Good					
Procedure/Equipment:	Measuring Tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.32			Depth to water surface (m)=	1.7	
Diameter of well (m)=	0.044			Static water level* (m)=	1.3	
Depth of installation* (m)=	3.6			Depth to bottom (m)=	2.2	
Length screened section (m)=	1.9			Free product thickness (mm)=	None	
Depth to top of screen* (m)=	0.61					
Calculations				**Notes**		
Depth of water (m)=	0.52			Evidence of sludge etc:	N/A	
Well volume of water (L)=	0.79			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	0.52					
Development/Purging Information						
Equipment:	Waterra tubing, stainless steel ball valve, flow-through cell (1 L HDPE bottle)					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 16/08 10:00 am	2.4	3.1	7.0	280	70	Translucent, slightly brown.
Water Sampling				**Soil Sampling**		
Date and time collected:	August 16, 2008 10:10 am			Date and time collected:	August 16, 2008 10:10 am	
Sample Number - Water:	08-9735			Sample Number - Soil:	Surface: 08-9766/67	
					Depth: 08-9768/69 (~30 cm)	
Sample containers:	1 L HDPE bottle			Sample containers:	Whirlpaks	
	1 L Teflon bottle				120 mL Amber glass jars	
	250 mL Amber glass bottle					
Procedure/Equipment:	Waterra tubing, stainless steel ball valve			Procedure/Equipment:	Disposable scoops, shovel	
Water description:	Slightly brown, some silt			Soil description:	Surface: 50% gravel, 50% moss/lichen. 0-20 cm: medium brown moist silty sand (>50%), 30% fine gravel, 10% coarse gravel, some stiff clay.	
Filtration: (Y/N)	N					
Acidification: (Y/N)	N					
Sampling Equipment Decontamination: (Y/N)	Y			Sampling Equipment Decontamination: (Y/N)	Y (shovel)	
Number washes:	2 (MeOH water)			Number washes:		
Number rinses:	2 (distilled water)			Number rinses:	Soil rinse	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-38: Monitoring Well Sampling Log MW 05-12, 2008

Site Name:	DYE-M
Date of Sampling Event:	August 18, 2008
Names of Samplers:	Molly Brewis, Andrea Ellis, Bryarly McEachern, Cam Ollson
Monitoring Well ID:	MW 05-12
Facility:	Lower Site Non-hazardous Waste Landfill

Water Sample Measured Data

Condition of Well:	Good		
Procedure/Equipment:	Measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.36	Depth to water surface (m)=	N/A
Diameter of well (m)=	0.044	Static water level* (m)=	N/A
Depth of installation* (m)=	3.6	Depth to bottom (m)=	2.3
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.62		
Calculations		**Notes**	
Depth of water (m)=	0	Evidence of sludge etc:	N/A
Well volume of water (L)=	0	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	0		

Development/Purging Information

Equipment:

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 18/08	Not enough water present to collect a sample.					

Water Sampling		**Soil Sampling**	
Date and time collected:	N/A	Date and time collected:	August 18, 2008 8:30 am
Sample Number - Water:	No sample collected.	Sample Number - Soil:	Surface: 08-9778/79
			Depth: 08-9780/81 (~30 cm)
Sample containers:	N/A	Sample containers:	Whirlpaks
			120 mL Amber glass jars
Procedure/Equipment:	N/A	Procedure/Equipment:	Disposable scoops, shovel
Water description:	N/A	Soil description:	Surface: <5% vegetation, mud cracks. 0-40: medium brown, silty fine sand with 20% fine gravel, 10% coarse gravel, 5% cobbles, some roots to 30cm depth.
Filtration: (Y/N)	N/A		
Acidification: (Y/N)	N/A		
Sampling Equipment Decontamination: (Y/N)	N/A	Sampling Equipment Decontamination: (Y/N)	Y (shovel)
Number washes:	N/A	Number washes:	
Number rinses:	N/A	Number rinses:	Soil rinse

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-39: Monitoring Well Sampling Log MW 05-09, 2009

Site Name:	DYE-M
Date of Sampling Event:	August 8, 2009
Names of Samplers:	Chris McNevin, Justine Mannion
Monitoring Well ID:	MW-05-09
Facility:	Lower Site Non-hazardous Waste Landfill

Water Sample Measured Data

Condition of Well:	Good		
Procedure/Equipment:	Measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.44	Depth to water surface (m)=	1.1
Diameter of well (m)=	0.044	Static water level* (m)=	0.66
Depth of installation* (m)=	3.6	Depth to bottom (m)=	2.1
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.60		
Calculations		**Notes**	
Depth of water (m)=	1.0	Evidence of sludge etc:	No
Well volume of water (L)=	1.3	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	1.0		

Development/Purging Information

Equipment: Waterra tubing, plastic ball valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Sept. 2/09 - 11:30 am	3.8	**	7.6	530	450	Moderately translucent

Water Sampling		**Soil Sampling**	
Date and time collected:	September 2, 2009 11:30 am	Date and time collected:	August 8, 2009 2:20 pm
Sample Number - Water:	09-21641	Sample Number - Soil:	Surface: 09-51504/05 Depth: 09-51506/07 (~30 cm)
Sample containers:	1L HDPE bottle 1L Teflon bottle 500mL Amber glass bottle	Sample containers:	Whirlpaks 120 mL Amber glass jars
Procedure/Equipment:	Waterra tubing, plastic ball valve	Procedure/Equipment:	Disposable scoops, shovel
Water description:	Moderately clear	Soil description:	Surface: Grey/brown rocky, dry and dusty Depth: Brown, sandy, rocky
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	**
Number washes:	1 (MeOH)	Number washes:	**
Number rinses:	1 (distilled water)	Number rinses:	**

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

**No data available from original sampling log.

Table B-40: Monitoring Well Sampling Log MW 05-12, 2009

Site Name:	DYE-M		
Date of Sampling Event:	August 8, 2009		
Names of Samplers:	Chris McNevin, Justine Mannion, Mihiri DeSilva		
Monitoring Well ID:	MW 05-12		
Facility:	Lower Site Non-hazardous Waste Landfill		
Water Sample Measured Data			
Condition of Well:	Good		
Procedure/Equipment:	Measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.36	Depth to water surface (m)=	N/A
Diameter of well (m)=	0.044	Static water level* (m)=	N/A
Depth of installation* (m)=	3.6	Depth to bottom (m)=	2.0
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.70		
Calculations		**Notes**	
Depth of water (m)=	0	Evidence of sludge etc:	**
Well volume of water (L)=	0	Evidence of freezing/siltation: (compare to installation record)	**
Length screen collecting water (m)=	0		

Development/Purging Information

Equipment:

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 8/09	Not enough water present to collect a sample.					

Water Sampling		**Soil Sampling**	
Date and time collected:	N/A	Date and time collected:	August 8, 2009 2:20 pm
Sample Number - Water:	No sample collected.	Sample Number - Soil:	Surface: 09-51500/01 Depth: 09-51502/03 (~30 cm)
Sample containers:	N/A	Sample containers:	Whirlpaks 120 mL Amber glass jars
Procedure/Equipment:	N/A	Procedure/Equipment:	Disposable scoops, shovel
Water description:	N/A	Soil description:	Surface: Grey/brown rocky, dry and dusty Depth: Brown, sandy, rocky
Filtration: (Y/N)	N/A		
Acidification: (Y/N)	N/A		
Sampling Equipment Decontamination: (Y/N)	N/A	Sampling Equipment Decontamination: (Y/N)	**
Number washes:	N/A	Number washes:	**
Number rinses:	N/A	Number rinses:	**

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

**No data available from original sampling log.

Table B-41: Monitoring Well Sampling Log- MW 05-09, 2011

Site Name:	DYE-M		
Date of Sampling Event:	Aug. 15, 2011		
Names of Samplers:	Justin Dee, Andrea Ellis, Alicia Spencer		
Monitoring Well ID:	MW 05-09		
Facility:	Lower Site Non-Hazardous Waste Landfill		
Water Sample Measured Data			
Condition of Well:	Good		
Procedure/Equipment:	Measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.38	Depth to water surface (m)=	1.1
Diameter of well (m)=	0.044	Static water level* (m)=	0.70
Depth of installation* (m)=	3.6	Depth to bottom (m)=	1.9
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.61		
Calculations		**Notes**	
Depth of water (m)=	0.79	Evidence of sludge etc:	N/A
Well volume of water (L)=	0.95	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	0.77		

Development/Purging Information

Equipment: Waterra tubing

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 15/11 - 5:00 pm	1.0	12	6.1	590	47	Cloudy, minimal sediment

Water Sampling		**Soil Sampling**	
Date and time collected:	August 15, 2011 5:00 pm	Date and time collected:	August 15, 2011 5:00 pm
Sample Number - Water:	11-12188	Sample Number - Soil:	Surface: 11-13042/43
			Depth: 11-13044/45 (~30 cm)
Sample containers:	1 L HDPE bottle	Sample containers:	Whirlpaks
	1 L Teflon bottle		120 mL Amber glass jars
	250 mL Amber glass bottle		
Procedure/Equipment:	Waterra tubing	Procedure/Equipment:	Disposable scoops, shovel
Water description:	Cloudy, minimal sediment	Soil description:	Medium brown, moist, 80% fines, 20% rocks, 20% vegetation
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	1	Number washes:	N/A
Number rinses:	2	Number rinses:	N/A

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

Table B-42: Monitoring Well Sampling Log- MW 05-12, 2011

Site Name:	DYE-M					
Date of Sampling Event:	Aug. 15, 2011					
Names of Samplers:	Jennah Dharamshi, Justin Dee					
Monitoring Well ID:	MW 05-12					
Facility:	Lower Site Non-hazardous Waste Landfill					
Water Sample Measured Data						
Condition of Well:	Good					
Procedure/Equipment:	Measuring tape			Procedure/Equipment:	Interface Meter	
Well height above ground (m)=	0.28			Depth to water surface (m)=	1.9	
Diameter of well (m)=	0.044			Static water level* (m)=	1.6	
Depth of installation* (m)=	3.6			Depth to bottom (m)=	2.0	
Length screened section (m)=	1.9			Free product thickness (mm)=	None	
Depth to top of screen* (m)=	0.70					
Calculations				**Notes**		
Depth of water (m)=	0.16			Evidence of sludge etc:	N/A	
Well volume of water (L)=	0.20			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	0.16					
Development/Purging Information						
Equipment:	Waterra tubing					
Date & Time	Volume Removed (L)	Temperature (°C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 16/11 - 1:30 pm	0.40	8.4	6.3	190	200	Fairly clear, small amount of silt
Water Sampling				**Soil Sampling**		
Date and time collected:	August 16 and 17, 2011			Date and time collected:	August 15, 2011 5:15 pm	
Sample Number - Water:	11-12193			Sample Number - Soil:	Surface: 11-13046/47	
					Depth: 11-13048/49 (~30 cm)	
Sample containers:	1 L HDPE bottle			Sample containers:	Whirlpaks	
	1 L Teflon bottle				120 mL Amber glass jars	
	250 mL Amber glass bottle					
Procedure/Equipment:	Waterra tubing			Procedure/Equipment:	Disposable scoops, shovel	
Water description:	Fairly clear, small amount of silt			Soil description:	Brown 40% rock/gravel 15% vegetation	
Filtration: (Y/N)	N			GPS:	20 W 0563107	
Acidification: (Y/N)	N				7387077	
Sampling Equipment Decontamination: (Y/N)	Y			Sampling Equipment Decontamination: (Y/N)	N	
Number washes:	1			Number washes:	N/A	
Number rinses:	2			Number rinses:	N/A	

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

Table B-43: Monitoring Well Sampling Log- BMW 09-26, 2011

Site Name:	DYE-M					
Date of Sampling Event:	August 16, 2011					
Names of Samplers:	Justin Dee, Jennah Dharamshi, Andrea Ellis, Alicia Spencer					
Monitoring Well ID:	BMW 09-26					
Facility:	Lower Site Non-hazardous Waste Landfill					
Water Sample Measured Data						
Condition of Well:	Good					
Procedure/Equipment:	Measuring tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.49			Depth to water surface (m)=	0.84	
Diameter of well (m)=	0.044			Static water level* (m)=	0.35	
Depth of installation* (m)=	3.0			Depth to bottom (m)=	2.2	
Length screened section (m)=	2.0			Free product thickness (mm)=	None	
Depth to top of screen* (m)=	0.50					
Calculations				**Notes**		
Depth of water (m)=	1.4			Evidence of sludge etc:	N/A	
Well volume of water (L)=	1.7			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	1.2					
Development/Purging Information						
Equipment:	Waterra tubing					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 16/11 - 3:00 pm	3.0	Developed Well				
Aug. 18/11 - 9:30 am	2.0	4.3	6.8	1200	1.8	Clear, some sediment
Water Sampling				**Soil Sampling**		
Date and time collected:	August 18, 2011 9:30 am			Date and time collected:	August 16, 2011 5:00 pm	
Sample Number - Water:	11-12194			Sample Number - Soil:	Surface: 11-13058/59	
					Depth: 11-13060/61 (~30 cm)	
Sample containers:	1 L HDPE bottle			Sample containers:	Whirlpaks	
	1 L Teflon bottle				120 mL Amber glass jars	
	250 mL Amber glass bottle					
Procedure/Equipment:	Waterra tubing			Procedure/Equipment:	Disposable scoops, shovel	
Water description:	Clear with sediment			Soil description:	Medium brown, 80% fines, 20% rocks, water seeps in at 0.2m, 30% vegetation	
Filtration: (Y/N)	N			GPS	20W 0563065	
Acidification: (Y/N)	N				7386913	
Sampling Equipment Decontamination: (Y/N)	Y			Sampling Equipment Decontamination: (Y/N)	N	
Number washes:	1			Number washes:	N/A	
Number rinses:	2			Number rinses:	N/A	

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

Table B-44: Monitoring Well Sampling Log- MW 09-27, 2011

Site Name:	DYE-M
Date of Sampling Event:	August 16, 2011
Names of Samplers:	Justin Dee, Alicia Spencer, Andrea Ellis, Jennah Dharamshi
Monitoring Well ID:	MW 09-27
Facility:	Lower Site Non-hazardous Waste Landfill

Water Sample Measured Data

Condition of Well:	Good		
Procedure/Equipment:	Measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.38	Depth to water surface (m)=	0.85
Diameter of well (m)=	0.044	Static water level* (m)=	0.5
Depth of installation* (m)=	3.0	Depth to bottom (m)=	2.1
Length screened section (m)=	2.0	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.50		
Calculations		**Notes**	
Depth of water (m)=	1.3	Evidence of sludge etc:	N/A
Well volume of water (L)=	1.6	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	1.1		

Development/Purging Information

Equipment:	Waterra tubing

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 16/11 - 2:30 pm	4.0	Developed well				
Aug. 18/11 - 3:00 pm	1.6	**	7.7	800	330	Murky, light brown

Water Sampling		**Soil Sampling**	
Date and time collected:	August 18, 2011 3:10 pm	Date and time collected:	August 16, 2011 2:30 pm
Sample Number - Water:	11-12210/11	Sample Number - Soil:	Surface: 11-13054/55
			Depth: 11-13056/57 (~30 cm)
Sample containers:	1 L HDPE bottle	Sample containers:	Whirlpaks
	1 L Teflon bottle		120 mL Amber glass jars
	250 mL Amber glass bottle		
Procedure/Equipment:	Waterra tubing	Procedure/Equipment:	Disposable scoops
Water description:	Murky, turbid, light brown and fairly opaque	Soil description:	Dark Brown, 70% fines, 30% rocks, 0% vegetation. Water seeps in at 0.2m
Filtration: (Y/N)	N	GPS	20W 0562925 7386964
Acidification: (Y/N)	N		
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	2	Number washes:	N/A
Number rinses:	1	Number rinses:	N/A

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

** Data not recorded

Table B-45: Monitoring Well Sampling Log- MW 09-28, 2011

Site Name:	DYE-M
Date of Sampling Event:	August 16, 2011
Names of Samplers:	Andrea Ellis, Jennah Dharamshi, Justin Dee, Alicia Spencer
Monitoring Well ID:	MW 09-28
Facility:	Lower Site Non-hazardous Waste Landfill

Water Sample Measured Data

Condition of Well:	Good		
Procedure/Equipment:	Measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.45	Depth to water surface (m)=	1.6
Diameter of well (m)=	0.044	Static water level* (m)=	1.13
Depth of installation* (m)=	3.0	Depth to bottom (m)=	2.0
Length screened section (m)=	2.0	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.50		
Calculations		**Notes**	
Depth of water (m)=	0.41	Evidence of sludge etc:	N/A
Well volume of water (L)=	0.50	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	0.41		

Development/Purging Information

Equipment: Waterra tubing

Date & Time	Volume Removed (L)	Temperature (°C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 16/11 - 2:00 pm	1.4	Developed well				
Aug. 18/11 - 4:00 pm	0.6	4.5	6.7	620	28	Clear

Water Sampling		**Soil Sampling**	
Date and time collected:	August 18, 2011 4:00 pm	Date and time collected:	August 16, 2011 2:00 pm
Sample Number - Water:	11-12206	Sample Number - Soil:	Surface: 11-13050/13051
			Depth: 11-13052/13053 (~30 cm)
Sample containers:	1 L HDPE bottle	Sample containers:	Whirlpaks
	1 L Teflon bottle		120 mL Amber glass jars
	250 mL Amber glass bottle		
Procedure/Equipment:	Waterra tubing	Procedure/Equipment:	Disposable scoops, shovel
Water description:	Clear	Soil description:	Medium brown, 60% fines, 40% rocks, 30% vegetation
Filtration: (Y/N)	N	GPS	20W 0562933
Acidification: (Y/N)	N		7387021
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	1	Number washes:	N/A
Number rinses:	2	Number rinses:	N/A

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

Table B-46: Monitoring Well Sampling Log- MW05-09, 2012

Site Name:	DYE-M		
Date of Sampling Event:	August 16, 2012 (water)	July 31, 2012 (soil)	
Names of Samplers:	Quinn Francis, Lauren Forrester	Sarah Ficko, Lauren Forrester	
Monitoring Well ID:	MW05-09		
Facility:	Lower Site Non-Hazardous Waste Landfill		
Monitoring Well Measured Data			
Condition of Well:	Good		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.36	Depth to water surface (m)=	0.71
Diameter of well (m)=	0.040	Static water level* (m)=	0.35
Depth of installation* (m)=	3.6	Depth to bottom (m)=	2.6
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.61		
Calculations		**Notes**	
Depth of water (m)=	1.9	Evidence of sludge etc:	N/A
Well volume of water (L)=	2.3	Evidence of freezing/siltation: (compare to	Freezing
Length screen collecting water (m)=	1.6		

Purging Information

Equipment: Waterra Tubing

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
16-Aug; 10:25	2.4	6.4	6.7	678	105	Clear

Water Sampling		**Soil Sampling**	
Date and time collected:	16-Aug; 10:25	Date and time collected:	31-Jul-12
Sample Number - Water:	12-34989	Sample Number - Soil:	Surface: 12-44850/44851
			Depth: 12-44852/44853 (~30 cm)
Sample containers:	1L HDPE	Sample containers:	Whirlpaks
	1L Teflon		120 mL Amber glass jars
	250 mL Amber Glass		
Procedure/Equipment:	Waterra tubing	Procedure/Equipment:	shovel and disposable scoop
Water description:	Clear	Soil description:	sand, gravely soil. Damp at surface and depth in seasonal ponding area (no standing water present) no debris, limited veg
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)	Yes	Sampling Equipment Decontamination: (Y/N)	No, disposable scoops used
Number washes:	2	Number washes:	N/A
Number rinses:	1	Number rinses:	N/A

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-47: Monitoring Well Sampling Log- MW05-12, 2012

Site Name:	DYE-M		
Date of Sampling Event:	August 16, 2012 (water)	July 31, 2012 (soil)	
Names of Samplers:	Quinn Francis, Lauren Forrester	Sarah Ficko, Lauren Forrester	
Monitoring Well ID:	MW05-12		
Facility:	Lower Site Non-Hazardous Waste Landfill		
Monitoring Well Measured Data			
Condition of Well:	Good		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.34	Depth to water surface (m)=	1.4
Diameter of well (m)=	0.040	Static water level* (m)=	1.1
Depth of installation* (m)=	3.6	Depth to bottom (m)=	2.7
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.70		
Calculations		**Notes**	
Depth of water (m)=	1.3	Evidence of sludge etc:	N/A
Well volume of water (L)=	1.6	Evidence of freezing/siltation: (compare to	Freezing
Length screen collecting water (m)=	1.3		

Purging Information

Equipment: Waterra Tubing

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
16-Aug; 10:00	1.6	6.1	5.6	381	330	Translucent, light brown, slightly silty

Water Sampling		**Soil Sampling**	
Date and time collected:	16-Aug; 10:00	Date and time collected:	31-Jul-12
Sample Number - Water:	12-34988	Sample Number - Soil:	Surface: 12-44854/44855
			Depth: 12-44856/44857 (~30 cm)
Sample containers:	1L HDPE	Sample containers:	Whirlpaks
	1L Teflon		120 mL Amber glass jars
	250 mL Amber Glass		
Procedure/Equipment:	Waterra tubing	Procedure/Equipment:	shovel and disposable scoop
Water description:	Translucent, light brown, slightly silty	Soil description:	fine-grained soil with gravel, olive grey colour, damp at surface and depth, minor amount of debris at surface, some veg (roots) in surface sample
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)	Yes	Sampling Equipment Decontamination: (Y/N)	No, disposable scoops used
Number washes:	2	Number washes:	N/A
Number rinses:	1	Number rinses:	N/A

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-48: Monitoring Well Sampling Log- BMW 09-26, 2012

Site Name:	DYE-M		
Date of Sampling Event:	August 16, 2012 (water)	July 31, 2012 (soil)	
Names of Samplers:	Quinn Francis, Lauren Forrester	Sarah Ficko, Lauren Forrester	
Monitoring Well ID:	BMW09-26		
Facility:	Lower Site Non-Hazardous Waste Landfill		
Monitoring Well Measured Data			
Condition of Well:	Good		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.5	Depth to water surface (m)=	0.89
Diameter of well (m)=	0.040	Static water level* (m)=	0.39
Depth of installation* (m)=	3.0	Depth to bottom (m)=	2.4
Length screened section (m)=	2.0	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.50		
Calculations		**Notes**	
Depth of water (m)=	1.6	Evidence of sludge etc:	N/A
Well volume of water (L)=	2.0	Evidence of freezing/siltation: (compare to	Freezing
Length screen collecting water (m)=	1.4		

Purging Information

Equipment: Waterra Tubing

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
16-Aug; 14:15	2	8	7.3	1770	290	slight brown tint, some silt

Water Sampling		**Soil Sampling**	
Date and time collected:	16-Aug; 14:15	Date and time collected:	31-Jul-12
Sample Number - Water:	12-34993	Sample Number - Soil:	Surface: 12-44858/44859
			Depth: 12-44860/44861 (~30 cm)
Sample containers:	1L HDPE	Sample containers:	Whirlpaks
	1L Teflon		120 mL Amber glass jars
	250 mL Amber Glass		
Procedure/Equipment:	Waterra tubing	Procedure/Equipment:	shovel and disposable scoop
Water description:	slight brown tint, some silt	Soil description:	soil damp, clay/silt soil, olive-grey colour rocks at surface; few rocks at depth, veg and moss present, no debris
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	
Sampling Equipment Decontamination:	Yes	Sampling Equipment Decontamination: (Y/N)	No, disposable scoops used
Number washes:	2	Number washes:	N/A
Number rinses:	1	Number rinses:	N/A

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-49: Monitoring Well Sampling Log- MW09-27, 2012

Site Name:	DYE-M		
Date of Sampling Event:	August 16, 2012 (water)	July 31, 2012 (soil)	
Names of Samplers:	Quinn Francis, Lauren Forrester	Sarah Ficko, Lauren Forrester	
Monitoring Well ID:	MW09-27		
Facility:	Lower Site Non-Hazardous Waste Landfill		
Monitoring Well Measured Data			
Condition of Well:	Good, water in well casing almost to top of well pipe		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.38	Depth to water surface (m)=	0.15
Diameter of well (m)=	0.040	Static water level* (m)=	-0.2
Depth of installation* (m)=	3.0	Depth to bottom (m)=	2.7
Length screened section (m)=	2.0	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.50		
Calculations		**Notes**	
Depth of water (m)=	2.6	Evidence of sludge etc:	n/a
Well volume of water (L)=	3.2	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	1.8		

Purging Information

Equipment: Waterra Tubing

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
16-Aug; 14:00	3.2	8.8	8.1	937	790	Dirty water, brown colour, lots of silt

Water Sampling		**Soil Sampling**	
Date and time collected:	16-Aug; 14:00	Date and time collected:	31-Jul-12
Sample Number - Water:	12-34992	Sample Number - Soil:	Surface: 12-44862/44863
			Depth: 12-44864/44865 (~30 cm)
Sample containers:	1L HDPE	Sample containers:	Whirlpaks
	1L Teflon		120 mL Amber glass jars
	250 mL Amber Glass		
Procedure/Equipment:	Waterra tubing	Procedure/Equipment:	shovel and disposable scoop
Water description:	Dirty water, brown colour, lots of silt	Soil description:	Soil damp at surface and depth, roots in both surface and depth samples, rocky and sandy at surface; fine/clay at depth, olive-grey colour, no debris, standing water to the northwest of well and around well
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	
Sampling Equipment Decontamination:	Yes	Sampling Equipment Decontamination: (Y/N)	No, disposable scoops used
Number washes:	2	Number washes:	N/A
Number rinses:	1	Number rinses:	N/A

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-50: Monitoring Well Sampling Log- MW09-28, 2012

Site Name:	DYE-M		
Date of Sampling Event:	August 16, 2012 (water)	July 31, 2012 (soil)	
Names of Samplers:	Quinn Francis, Lauren Forrester	Sarah Ficko, Lauren Forrester	
Monitoring Well ID:	MW09-28		
Facility:	Lower Site Non-Hazardous Waste Landfill		
Monitoring Well Measured Data			
Condition of Well:	Good		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.47	Depth to water surface (m)=	0.89
Diameter of well (m)=	0.040	Static water level* (m)=	0.4
Depth of installation* (m)=	3.0	Depth to bottom (m)=	3.3
Length screened section (m)=	2.0	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.50		
Calculations		**Notes**	
Depth of water (m)=	2.4	Evidence of sludge etc:	N/A
Well volume of water (L)=	3.0	Evidence of freezing/siltation: (compare to installation record)	none
Length screen collecting water (m)=	2.3		

Purging Information

Equipment: Waterra Tubing

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
16-Aug; 10:40	3	5.5	7.3	1180	335	Murky, dark brown with silt

Water Sampling		**Soil Sampling**	
Date and time collected:	16-Aug; 10:40	Date and time collected:	31-Jul-12
Sample Number - Water:	12-34990 / 91	Sample Number - Soil:	Surface: 12-44866/44867
			Surface: 12-44868/44869
Sample containers:	2 x 1L HDPE	Sample containers:	Whirlpaks
	2 x 1L Teflon		120 mL Amber glass jars
	2 x 250 mL Amber Glass		
Procedure/Equipment:	Waterra tubing	Procedure/Equipment:	shovel and disposable scoop
Water description:	Murky, dark brown with silt	Soil description:	sandy/gravelly soil - standing water between well and regrade, veg present, some wood debris
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
Sampling Equipment Decontamination:	Yes	GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)	Yes	Sampling Equipment Decontamination: (Y/N)	No, disposable scoops used
Number washes:	2	Number washes:	N/A
Number rinses:	1	Number rinses:	N/A

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-51: Monitoring Well Sampling Log- BMW09-26, 2013

Site Name:	DYE-M
Date of Sampling Event:	06-Aug-13
Names of Samplers:	Alaina Leslie, Ian Goode, Tom Partridge
Monitoring Well ID:	BMW 09-26
Facility:	Lower Site Non-Hazardous Waste Landfil

Monitoring Well Measured Data

Condition of Well:	Good		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.47	Depth to water surface (m)=	1.3
Diameter of well (m)=	0.040	Static water level* (m)=	0.87
Depth of installation* (m)=	3.6	Depth to bottom (m)=	2.0
Length screened section (m)=	1.9	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	0.70		
Calculations		**Notes**	
Depth of water (m)=	0.67	Evidence of sludge etc:	n/a
Well volume of water (L)=	0.84	Evidence of freezing/siltation: (compare to installation record)	freezing
Length screen collecting water (m)=	0.67		

Purging Information

Equipment:	Waterra and foot valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
8/06/13 10:20	2.5	5.0	6.5	980	36	Clear

Water Sampling		**Soil Sampling**	
Date and time collected:	Aug-7 10:00 & Aug 8 10:00	Date and time collected:	06-Aug
Sample Number - Water:	13-29582	Sample Number - Soil:	13-25184/85 surface
			13-25186/87 depth (30cm)
Sample containers:	250ml Amber Glass	Sample containers:	120 mL Amber Glass Jars
	1L HDPE		Whirlpacks
	1L Teflon		
Procedure/Equipment:	Waterra and foot valve	Procedure/Equipment:	Pickax & Disposable Scoop
Water description:	Clear	Soil description:	Grey-brown sandy gravel. Medium Moisture.
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y
Number washes:	1	Number washes:	0
Number rinses:	1	Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-52: Monitoring Well Sampling Log- MW09-27, 2013

Site Name:	DYE-M					
Date of Sampling Event:	06-Aug-13					
Names of Samplers:	Alaina Leslie, Ian Goode, Tom Partridge					
Monitoring Well ID:	MW 09-27					
Facility:	Lower Site Non-Hazardous Waste Landfill					
Monitoring Well Measured Data						
Condition of Well:	Good			Procedure/Equipment:	Interface meter	
Procedure/Equipment:	measuring tape			Depth to water surface (m)=	1.1	
Well height above ground (m)=	0.38			Static water level* (m)=	0.71	
Diameter of well (m)=	0.04			Depth to bottom (m)=	2.1	
Depth of installation* (m)=	3.0			Free product thickness (mm)=	n/a	
Length screened section (m)=	2.0					
Depth to top of screen* (m)=	0.50					
Calculations				**Notes**		
Depth of water (m)=	0.97			Evidence of sludge etc:	n/a	
Well volume of water (L)=	1.2			Evidence of freezing/siltation: (compare to installation record)	freezing	
Length screen collecting water (m)=	1.0					
Purging Information						
Equipment:	Waterra and foot valve					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
8/06/13 14:30	4L	5.3	5.9	520	771	Slightly turbid and brown
Water Sampling				**Soil Sampling**		
Date and time collected:	Aug 7 10am / Aug 8 10am			Date and time collected:	06-Aug	
Sample Number - Water:	13-29580/81			Sample Number - Soil:	13-25188/89 surface	
					13-25190/91 depth (30cm)	
Sample containers:	250ml Amber Glass			Sample containers:	120 mL Amber Glass Jars	
	1L HDPE				Whirlpacks	
	1L Teflon					
Procedure/Equipment:	Waterra and foot valve			Procedure/Equipment:	Pickax & Disposable Scoop	
Water description:	Slightly turbid and brown			Soil description:	Grey-brown sandy gravel. Medium Moisture. 20% vegetation. Same at depth.	
Filtration: (Y/N)	N					
Acidification: (Y/N)	N					
				GPS Coordinates		
Sampling Equipment Decontamination: (Y/N)	Y			Sampling Equipment Decontamination: (Y/N)	Y	
Number washes:	1			Number washes:	0	
Number rinses:	1			Number rinses:	1	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-53: Monitoring Well Sampling Log- MW09-28, 2013

Site Name:	DYE-M
Date of Sampling Event:	06-Aug-13
Names of Samplers:	Alaina Leslie, Ian Goode, Tom Partridge
Monitoring Well ID:	MW 09-28
Facility:	Lower Site Non-Hazardous Waste Landfill

Monitoring Well Measured Data

Condition of Well:	Good		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.38	Depth to water surface (m)=	0.93
Diameter of well (m)=	0.040	Static water level* (m)=	0.55
Depth of installation* (m)=	3.0	Depth to bottom (m)=	2.0
Length screened section (m)=	2.0	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	0.50		
Calculations		**Notes**	
Depth of water (m)=	1.1	Evidence of sludge etc:	n/a
Well volume of water (L)=	1.3	Evidence of freezing/siltation: (compare to installation record)	freezing
Length screen collecting water (m)=	1.1		

Purging Information

Equipment:	Waterra and foot valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 6 2013 2:30:00 PM	4L	4.5	6.5	245	147	Slightly turbid and brown

Water Sampling		**Soil Sampling**	
Date and time collected:	Aug 6 & 7	Date and time collected:	06-Aug
Sample Number - Water:	13-29583	Sample Number - Soil:	13-25192/93 surface
			13-25194/95 depth (30cm)
Sample containers:	250ml Amber Glass	Sample containers:	120 mL Amber Glass Jars
	1L HDPE		Whirlpacks
	1L Teflon		
Procedure/Equipment:	Waterra and foot valve	Procedure/Equipment:	Pickax & Disposable Scoop
Water description:	Slightly turbid and brown	Soil description:	Grey-brown sandy gravel. Medium Moisture. 20% vegetation. Water infiltration at 30cm depth.
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y
Number washes:	1	Number washes:	0
Number rinses:	1	Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-54: Monitoring Well Sampling Log- MW05-09, 2013

Site Name:	DYE-M					
Date of Sampling Event:	06-Aug-13					
Names of Samplers:	Alaina Leslie, Ian Goode, Tom Partridge					
Monitoring Well ID:	MW 09-28					
Facility:	Lower Site Non-Hazardous Waste Landfil					
Monitoring Well Measured Data						
Condition of Well:	Good					
Procedure/Equipment:	measuring tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.37			Depth to water surface (m)=	1.31	
Diameter of well (m)=	0.040			Static water level* (m)=	0.94	
Depth of installation* (m)=	3.0			Depth to bottom (m)=	2.0	
Length screened section (m)=	2.0			Free product thickness (mm)=	n/a	
Depth to top of screen* (m)=	0.50					
Calculations				**Notes**		
Depth of water (m)=	0.64			Evidence of sludge etc:	n/a	
Well volume of water (L)=	0.80			Evidence of freezing/siltation: (compare to installation record)	freezing	
Length screen collecting water (m)=	0.64					
Purging Information						
Equipment:	Waterra and foot valve					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 6 2013 3:10:00 PM	2.5	5.4	6	970	44	clear
Water Sampling				**Soil Sampling**		
Date and time collected:	07-Aug			Date and time collected:	06-Aug	
Sample Number - Water:	13-29584			Sample Number - Soil:	13-25196/97 surface	
					13-25198/99 depth (30cm)	
Sample containers:	250ml Amber Glass			Sample containers:	120 mL Amber Glass Jars	
	1L HDPE				Whirlpacks	
	1L Teflon					
Procedure/Equipment:	Waterra and foot valve			Procedure/Equipment:	Pickax & Disposable Scoop	
Water description:	clear			Soil description:	Fine brown sand with low moisture content surrounded by moderate vegetation levels.	
Filtration: (Y/N)	N					
Acidification: (Y/N)	N					
				GPS Coordinates		
Sampling Equipment Decontamination: (Y/N)	Y			Sampling Equipment Decontamination: (Y/N)	Y	
Number washes:	1			Number washes:	0	
Number rinses:	1			Number rinses:	1	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-55: Monitoring Well Sampling Log- MW05-12, 2013

Site Name:	DYE-M					
Date of Sampling Event:	06-Aug-13					
Names of Samplers:	Alaina Leslie, Ian Goode, Tom Partridge					
Monitoring Well ID:	MW 05-12					
Facility:	Lower Site Non-Hazardous Waste Landfil					
Monitoring Well Measured Data						
Condition of Well:	Good			Procedure/Equipment:	Interface meter	
Procedure/Equipment:	measuring tape			Depth to water surface (m)=	Dry	
Well height above ground (m)=	0.36			Static water level* (m)=	n/a	
Diameter of well (m)=	0.040			Depth to bottom (m)=	1.6	
Depth of installation* (m)=	3.0			Free product thickness (mm)=	n/a	
Length screened section (m)=	2.0					
Depth to top of screen* (m)=	0.50					
Calculations				**Notes**		
Depth of water (m)=	n/a			Evidence of sludge etc:	n/a	
Well volume of water (L)=	n/a			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	n/a					
Purging Information						
Equipment:	waterra tubing					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
dry well						
Water Sampling				**Soil Sampling**		
Date and time collected:	n/a			Date and time collected:	06/08/2013 11:30am	
Sample Number - Water:				Sample Number - Soil:	13-25200/01 surface	
					13-25202/03 depth (30cm)	
Sample containers:				Sample containers:	120 mL Amber Glass Jars	
					Whirlpacks	
Procedure/Equipment:				Procedure/Equipment:	Pickax & Disposable Scoop	
Water description:				Soil description:	Grey-brown sandy gravel. Medium Moisture. 20% vegetation. Water infiltration at 30cm depth.	
Filtration: (Y/N)						
Acidification: (Y/N)						
				GPS Coordinates		
Sampling Equipment Decontamination: (Y/N)				Sampling Equipment Decontamination: (Y/N)	Y	
Number washes:				Number washes:	0	
Number rinses:				Number rinses:	1	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-56: Monitoring Well Sampling Log- BMW 09-26, 2014

Site Name:	DYE-M		
Date of Sampling Event:	11-Aug-14		
Names of Samplers:	Shari Reed, Mark Button		
Monitoring Well ID:	BMW 09-26		
Facility:	Lower Site Non-Hazardous Waste Landfill		
Monitoring Well Measured Data			
Condition of Well:	Good condition.		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Solinist interface meter
Well height above ground (m)=	0.37	Depth to water surface (m)=	1.45
Diameter of well (m)=	0.04	Static water level* (m)=	1.1
Depth of installation* (m)=	3.6	Depth to bottom (m)=	2.35
Length screened section (m)=	1.9	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	0.70		
Calculations		**Notes**	
Depth of water (m)=	0.9	Evidence of sludge etc:	n/a
Well volume of water (L)=	1.1	Evidence of freezing/siltation: (compare to installation record)	freezing
Length screen collecting water (m)=	0.9		

Purging Information

Equipment: N/A

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 11 2014 0905h	1	4.5	5.9	221	n/a	Cloudy translucent, colourless
913h	2	4.6	6.57	181	n/a	Cloudy translucent
918h	3	4.9	6.7	233	n/a	Cloudy translucent
930h	3.5	5.4	6.8	274	158	Cloudy translucent

Water Sampling		**Soil Sampling**	
Date and time collected:	Aug 11. 2014, 0931h	Date and time collected:	05-Aug
Sample Number - Water:	14-8188	Sample Number - Soil:	14-8252 surface
			14-8253 depth (50cm)
Sample containers:	40ml VOA x3	Sample containers:	120ml Amber Glass Jars
	124ml AG x2		120ml Clear Glass Jars
	500ml AG x2, 1L AG x1		Whirlpacks
Procedure/Equipment:	Waterra and foot valve.	Procedure/Equipment:	Pickax & Disposable Scoop
Water description:	Cloudy translucent colourless	Soil description:	Sandy silt with 10% gravel. 10% vegetative cover in area. Moist. Clay at surface.
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y
Number washes:	1	Number washes:	0
Number rinses:	1	Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-57: Monitoring Well Sampling Log- MW 09-27, 2014

Site Name:	DYE-M					
Date of Sampling Event:	09-Aug-14					
Names of Samplers:	Shari Reed, Mark Button					
Monitoring Well ID:	MW 09-27					
Facility:	Lower Site Non-Hazardous Waste Landfill					
Monitoring Well Measured Data						
Condition of Well:	Good condition.					
Procedure/Equipment:	measuring tape			Procedure/Equipment:	Solinist interface meter	
Well height above ground (m)=	0.3			Depth to water surface (m)=	1.49	
Diameter of well (m)=	0.04			Static water level* (m)=	1.19	
Depth of installation* (m)=	3.0			Depth to bottom (m)=	2.45	
Length screened section (m)=	2.0			Free product thickness (mm)=	n/a	
Depth to top of screen* (m)=	0.50					
Calculations				**Notes**		
Depth of water (m)=	0.96			Evidence of sludge etc:	n/a	
Well volume of water (L)=	1.21			Evidence of freezing/siltation: (compare to installation record)	freezing	
Length screen collecting water (m)=	0.96					
Purging Information						
Equipment:	Waterra & Foot valve					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 11 2014 0800h	1	3.9	4.9	737	n/a	Cloudy yellow.
808h	2	3.3	6.4	728	n/a	Cloudy yellow.
812h	3	4.0	6.9	710	n/a	Cloudy yellow.
816h	3.7	4	7	697	477	Cloudy yellow.
Water Sampling				**Soil Sampling**		
Date and time collected:	Aug .11 2014, 0817h			Date and time collected:	05-Aug	
Sample Number - Water:	14-8186			Sample Number - Soil:	14-8248/49 surface	
	14-8187 (interlab)				14-8250/51 depth (45cm)	
Sample containers:	40ml VOA x3, 124ml Ag x2			Sample containers:	120ml Amber Glass Jars	
	500ml AG x2, 1L Ag x1				120ml Clear Glass Jars	
	1 L HDPE, 1L Teflon, 250ml AG				Whirlpacks	
Procedure/Equipment:	Waterra & Foot valve			Procedure/Equipment:	Pickax & Disposable Scoop	
Water description:	Cloudy yellow			Soil description:	Moist sandy silt with 20% gravel. No vegetative cover in area. Same at depth.	
Filtration: (Y/N)	N					
Acidification: (Y/N)	N					
				GPS Coordinates		
Sampling Equipment Decontamination: (Y/N)	Y			Sampling Equipment Decontamination: (Y/N)	Y	
Number washes:	1			Number washes:	0	
Number rinses:	1			Number rinses:	1	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-58: Monitoring Well Sampling Log- MW 09-28, 2014

Site Name:	DYE-M		
Date of Sampling Event:	11-Aug-14		
Names of Samplers:	Shari Reed, Mark Button		
Monitoring Well ID:	MW 09-28		
Facility:	Lower Site Non-Hazardous Waste Landfill		
Monitoring Well Measured Data			
Condition of Well:	Good condition		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Solinist interface meter
Well height above ground (m)=	0.33	Depth to water surface (m)=	Dry
Diameter of well (m)=	0.04	Static water level* (m)=	n/a
Depth of installation* (m)=	3.0	Depth to bottom (m)=	1.99
Length screened section (m)=	2.0	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	0.50		
Calculations		**Notes**	
Depth of water (m)=	n/a	Evidence of sludge etc:	n/a
Well volume of water (L)=	n/a	Evidence of freezing/siltation: (compare to installation record)	freezing
Length screen collecting water (m)=	n/a		

Purging Information

Equipment: n/a

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
		Not enough water present to collect a sample				

Water Sampling		**Soil Sampling**	
Date and time collected:	n/a	Date and time collected:	05-Aug
Sample Number - Water:	No sample collected - dry	Sample Number - Soil:	14-8245/46 surface
			14-8247 depth (50cm)
Sample containers:		Sample containers:	Jars
			Whirlpacks
Procedure/Equipment:		Procedure/Equipment:	Pickax & Disposable Scoop
Water description:		Soil description:	Moist silty sand with 30% gravel. No vegetative cover. Same at depth.
Filtration: (Y/N)			
Acidification: (Y/N)			
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)		Sampling Equipment Decontamination: (Y/N)	Y
Number washes:		Number washes:	0
Number rinses:		Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-59: Monitoring Well Sampling Log- MW 05-09, 2014

Site Name:	DYE-M		
Date of Sampling Event:	08-Aug-14		
Names of Samplers:	Shari Reed, Mark Button		
Monitoring Well ID:	MW 05-09		
Facility:	Lower Site Non-Hazardous Waste Landfill		
Monitoring Well Measured Data			
Condition of Well:	Good. Bentonite inside cracked and shrunk.		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Solinst Interface meter
Well height above ground (m)=	0.31	Depth to water surface (m)=	1.95
Diameter of well (m)=	0.040	Static water level* (m)=	1.64
Depth of installation* (m)=	3.0	Depth to bottom (m)=	2.0
Length screened section (m)=	2.0	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	0.50		
Calculations		**Notes**	
Depth of water (m)=	0.04	Evidence of sludge etc:	n/a
Well volume of water (L)=	0.05	Evidence of freezing/siltation: (compare to installation record)	freezing
Length screen collecting water (m)=	0.04		

Purging Information

Equipment: Insufficient water for sample

Date & Time	Volume Removed (L)	Temperature (°C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
		Not enough water present to collect a sample				

Water Sampling		**Soil Sampling**	
Date and time collected:	n/a	Date and time collected:	05-Aug
Sample Number - Water:	No sample collected - dry	Sample Number - Soil:	14-8243
			14-8244 (50cm)
Sample containers:		Sample containers:	125ml Amber Glass jars
			125ml Clear Glass jars
			Whirlpacks
Procedure/Equipment:		Procedure/Equipment:	Pickax & Disposable Scoop
Water description:		Soil description:	Silty sand with 30% gravel. Dry at surface, damp at 10 cm. 10 cm brown sand lens at 30 cm depth. 0% vegetative cover in area.
Filtration: (Y/N)			
Acidification: (Y/N)			
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)		Sampling Equipment Decontamination: (Y/N)	Y
Number washes:		Number washes:	0
Number rinses:		Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-60: Monitoring Well Sampling Log- MW 05-12, 2014

Site Name:	DYE-M		
Date of Sampling Event:	11-Aug-14		
Names of Samplers:	Shari Reed, Mark Button		
Monitoring Well ID:	MW 05-12		
Facility:	Lower Site Non-Hazardous Waste Landfill		
Monitoring Well Measured Data			
Condition of Well:	Good. Water inside casing to 0.09 m below top of well pipe.		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Solinst interface meter
Well height above ground (m)=	0.31	Depth to water surface (m)=	Dry
Diameter of well (m)=	0.04	Static water level* (m)=	n/a
Depth of installation* (m)=	3.0	Depth to bottom (m)=	2.02
Length screened section (m)=	2.0	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	0.50		
Calculations		**Notes**	
Depth of water (m)=	n/a	Evidence of sludge etc:	n/a
Well volume of water (L)=	n/a	Evidence of freezing/siltation: (compare to installation record)	freezing
Length screen collecting water (m)=	n/a		

Purging Information

Equipment:	n/a

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
		Not enough water to collect a sample				

Water Sampling		**Soil Sampling**	
Date and time collected:	n/a	Date and time collected:	05-Aug
Sample Number - Water:	No sample collected - dry	Sample Number - Soil:	14-8240/41 surface
			14-8242 depth (45cm)
Sample containers:		Sample containers:	Jars
			Whirlpacks
Procedure/Equipment:		Procedure/Equipment:	Pickax & Disposable Scoop
Water description:		Soil description:	Sandy silt. Moist At 20 cm. Cobbles at 45 cm. Metal debris at 30 cm.
Filtration: (Y/N)			
Acidification: (Y/N)			
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)		Sampling Equipment Decontamination: (Y/N)	Y
Number washes:		Number washes:	0
Number rinses:		Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-61: DYE-M Lower Site Powerhouse Landfill - Soil Analytical Results

Sample #	Location	Depth	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	PCBs	PHC			
													F1	F2	F3	F4
		(cm)	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
Laboratory Detection Limits 2009			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.0030	10	4.0	9.0	8.0
Laboratory Detection Limits 2011-2012			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2013			3.0	5.0	5.0	1.0	10	15	20	0.20	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2014			3.0	5.0	5.0	1.0	10	15	20	0.20	0.010	0.010	10	10	10	10
2009 Baseline Monitoring Data																
09-21544*/45	BMW 05-08	0-10	28	34	11	<1.0	13	50	66	1.4	<0.10	0.098	<10	<4.0	70	20
09-21546*/47	BMW 05-08	30-40	24	32	10	<1.0	<10	51	60	1.2	<0.10	0.048	<10	5.4	80	18
09-21540*/41	MW 05-05	0-10	31	38	13	<1.0	13	56	78	1.4	<0.10	0.043	11	<4.0	50	13
09-21542*/43	MW 05-05	30-40	25	31	10	<1.0	<10	43	61	<1.0	<0.10	0.033	10	<4.0	20	<8.0
09-21536*/37	MW 05-06	0-10	24	31	10	<1.0	<10	45	63	1.3	<0.10	0.072	11	<4.0	40	11
09-21538*/39	MW 05-06	30-40	24	32	10	<1.0	<10	43	64	1.3	<0.10	0.017	13	310	110	15
09-21532*/33*	MW 05-07	0-10	27	36	12	<1.0	<10	52	70	1.4	<0.10	0.15	14	8.9	40	15
09-21534*/35	MW 05-07	30-40	21	30	9.3	<1.0	17	38	55	1.1	<0.10	0.025	<10	45	20	<8.0
2011 Baseline Monitoring Data																
11-38124*/25	BMW05-08	0-10	29	33	10	<1.0	13	61	60	1.1	<0.10	0.67	<10	<4.0	66	27
11-38126*/27*	BMW05-08	30-40	22	37	13	<1.0	<10	41	69	1.4	<0.10	0.066	<10	<4.0	9.7	<8.0
11-12469*/70	MW05-05	0-10	26	33	11	<1.0	12	50	64	1.1	<0.10	0.090	<10	<30	54	23
11-12471*/845*	MW05-05	30-40	24	33	12	<1.0	<10	45	63	<1.0	<0.10	0.070	<10	<30	25	15
11-12846*/47	MW05-06	0-10	24	32	11	<1.0	<10	45	59	1.3	<0.10	<0.050	<10	<30	56	15
11-12848*/49	MW05-06	30-40	18	27	9.5	<1.0	<10	33	51	<1.0	<0.10	0.16	<10	<30	40	17
11-38120*/21*	MW05-07	0-10	21	37	12	<1.0	<10	47	69	<1.0	<0.10	0.070	<10	<30	39	19
11-38122*/23	MW05-07	30-40	19	34	11	<1.0	<10	47	64	<1.0	<0.10	<0.050	<10	<30	<9.0	<8.0
2012 Baseline Monitoring Data																
12-44894*/95	BMW05-08	0-10	22	32	7.7	<1.0	<10	38	56	1.0	<0.10	<0.050	<10	6.1	41	9.2
12-44896*/97*	BMW05-08	20-30	19	27	6.2	<1.0	<10	31	49	1.0	<0.10	<0.050	<10	8.4	10	<8.0
12-44882*/83	MW05-05	0-10	83	82	25	<1.0	<10	130	120	5.0	<0.10	<0.050	<10	8.8	<9.0	<8.0
12-44884*/85	MW05-05	20-30	21	29	7.4	<1.0	<10	39	58	1.4	<0.10	<0.050	<10	5.6	<9.0	<8.0
12-44886*/87	MW05-06	0-10	27	35	9.0	<1.0	10	48	68	1.2	<0.10	0.13	<10	6.6	27	10
12-44888*/89*	MW05-06	20-30	25	34	8.6	<1.0	<10	41	63	1.5	<0.10	<0.050	<10	<4.0	<9.0	<8.0
12-44890*/91	MW05-07	0-10	24	32	8.1	<1.0	<10	41	59	1.6	<0.10	<0.050	<10	<4.0	<9.0	<8.0
12-44892*/93	MW05-07	20-30	34	46	11	<1.0	<10	52	81	1.3	<0.10	<0.050	<10	7.2	<9.0	<8.0
2013 Baseline Monitoring Data																
13-25216*/17	BMW 05-08	0-10	32	43	9.8	<1.0	12	58	77	2.5	<0.10	0.14	<10	6.0	120	63
13-25218*/19	BMW 05-08	30-40	33	45	11	<1.0	<10	55	80	2.0	<0.10	<0.050	<10	6.5	43	29
13-25204*/05	MW 05-05	0-10	41	52	12	<1.0	11	70	84	2.1	<0.10	0.060	<10	6.8	37	23
13-25206*/07	MW 05-05	30-40	42	47	12	<1.0	<10	67	81	1.9	<0.10	<0.050	<10	5.2	32	17
13-25208*/09	MW 05-06	0-10	29	43	10	<1.0	11	55	75	2.0	<0.10	0.14	<10	7.7	72	36
13-25210*/11*	MW 05-06	30-40	29	40	9.4	<1.0	<10	52	70	2.1	<0.10	0.23	<10	<4.0	44	23
13-25212*/13	MW 05-07	0-10	28	37	8.8	<1.0	13	54	75	1.3	<0.10	0.48	<10	5.8	91	53
13-25214*/15	MW 05-07	30-40	26	36	7.9	<1.0	11	47	65	1.9	<0.10	0.12	<10	360	160	58
2014 First Year Monitoring Data																
14-8475*/76	BMW 05-08	5-10	24	31	7.8	<1.0	<10	48	56	1.2	0.011	0.46	<10	<10	21	<10
14-8477*	BMW 05-08	40-45	18	29	7.1	<1.0	<10	33	52	0.80	<0.010	<0.010	<10	<10	<10	<10
14-8467*	MW 05-05	5-10	69	99	22	<1.0	<10	140	130	4.3	<0.010	<0.010	<10	<10	<10	<10
14-8468*	MW 05-05	40-45	21	39	8.1	<1.0	<10	50	83	1.3	<0.010	0.013	<10	<10	<10	<10
14-8470*/71*	MW 05-06	5-10	24	36	7.2	<1.0	29	52	76	1.6	<0.010	0.068	<10	<10	14	<10
14-8472*	MW 05-06	35-40	25	40	7.6	<1.0	<10	52	72	1.2	<0.010	<0.010	14	2000	50	<10
14-8473*	MW 05-07	5-10	19	28	7.2	<1.0	<10	40	53	1.1	<0.010	<0.010	<10	<10	<10	<10
14-8474*	MW 05-07	45-50	19	30	7.3	<1.0	<10	37	55	1.2	<0.010	<0.010	51	***2800***	130	<10

*Sample was analyzed. Where both duplicates were analyzed, the result presented is an average of both samples. Duplicates not analyzed were archived.

ǂ Concentrations in bold and italics are above Dew Line Cleanup hydrocarbon action level.

Table B-62: DYE-M Lower Site Powerhouse Landfill - Groundwater Analytical Results

Sample #	Monitoring Well #	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	PCBs	PHC				pH*	Conductivity*	Turbidity*	Temperature*
												F1	F2	F3	F4				
		[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[-]	[uS-cm]	(NTU)	C
Laboratory Detection Limits 2011		0.0050	0.0050	0.0030	0.0010	0.010	0.010	0.0050	0.0030	0.00040	0.000020	0.050	0.50	1.0	1.0				
Laboratory Detection Limits 2012		0.0050	0.0050	0.0030	0.0010	0.0050	0.0050	0.0050	0.0010	0.00040	0.0030	0.050	0.50	1.0	1.0				
2011 Baseline Monitoring Data																			
11-12214	BMW05-08	D	D	D	D	D	12	D	0.0034	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	6.6	920	42	5.5
2012 Baseline Monitoring Data																			
12-34995	BMW05-08	D	D	D	D	D	5.3	0.10	0.0037	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	7.0	1900	350	6.2
12-34998	MW05-05	D	D	D	D	D	1.4	0.12	0.0063	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	6.7	160	670	6.4
12-34997	MW05-06	D	D	D	D	D	3.5	0.094	0.0033	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	7.0	640	340	8.0
12-34996	MW05-07	D	D	D	D	D	2.6	0.052	<0.0010	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	7.1	1800	140	8.4
2013 Baseline Monitoring Data																			
All wells were dry in 2013.																			
2014 First Year Monitoring Data																			
All wells were dry in 2014.																			

* pH, conductivity, temperature and turbidity measurements were taken in the field except for 2014 when pH was also analyzed at an accredited lab. The accredited lab result is reported here.
D - Parameter was analyzed for Dissolved inorganics (presented below)

Table B-62b: DYE-M Lower Site Powerhouse Landfill - Groundwater Analytical Results for Dissolved Inorganics

Sample #	Monitoring Well #	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg
		[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]
Laboratory Detection Limits 2011		0.0050	0.0050	0.0030	0.0010	0.010	0.010	0.0050	0.0030	0.00040
Laboratory Detection Limits 2012		0.0050	0.0050	0.0030	0.0010	0.0050	0.0050	0.0050	0.0010	0.00040
2011 Baseline Monitoring Data										
11-12214	BMW05-08	0.0059	0.0061	<0.0030	<0.0010	<0.010	T	<0.0050	T	T
2012 Baseline Monitoring Data										
12-34995	BMW05-08	<0.0050	0.0089	<0.0030	<0.0010	<0.0050	T	T	T	T
12-34998	MW05-05	0.0050	0.0090	<0.0030	<0.0010	<0.0050	T	T	T	T
12-34997	MW05-06	<0.0050	<0.0050	<0.0030	<0.0010	<0.0050	T	T	T	T
12-34996	MW05-07	<0.0050	0.0060	<0.0030	<0.0010	<0.0050	T	T	T	T
2013 Baseline Monitoring Data										
All wells were dry in 2013.										
2014 First Year Monitoring Data										
All wells were dry in 2014.										

* pH, conductivity, temperature and turbidity measurements were taken in the field except for 2014 when pH was also analyzed at an accredited lab. The accredited lab result is reported here.
T - Parameter was analyzed for Total inorganics (presented above)

Table B-63: Monitoring Well Sampling Log MW 05-05, 2009

Site Name:	DYE-M					
Date of Sampling Event:	August 17, 2009					
Names of Samplers:	Justine Mannion, Chris McNevin, Mihiri DeSilva					
Monitoring Well ID:	MW 05-05					
Facility:	Lower Site Powerhouse Landfill					
Water Sample Measured Data						
Condition of Well:	Good					
Procedure/Equipment:	**			Procedure/Equipment:	**	
Well height above ground (m)=	**			Depth to water surface (m)=	**	
Diameter of well (m)=	0.044			Static water level* (m)=	**	
Depth of installation* (m)=	3.6			Depth to bottom (m)=	**	
Length screened section (m)=	1.9			Free product thickness (mm)=	**	
Depth to top of screen* (m)=	0.60					
Calculations				**Notes**		
Depth of water (m)=	0			Evidence of sludge etc:	**	
Well volume of water (L)=	0			Evidence of freezing/siltation: (compare to installation record)	**	
Length screen collecting water (m)=	0					
Development/Purging Information						
Equipment:						
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 17/11	Not enough water present to collect a sample.					
Water Sampling				**Soil Sampling**		
Date and time collected:	N/A			Date and time collected:	August 17, 2011 3:30 pm	
Sample Number - Water:	No sample collected			Sample Number - Soil:	Surface: 11-21540/41 Depth: 11-21542/43 (~30 cm)	
Sample containers:	N/A			Sample containers:	Whirlpaks 120 mL Amber glass jars	
Procedure/Equipment:	N/A			Procedure/Equipment:	Disposable scoops, shovel	
Water description:	N/A			Soil description:	Rich brown, high in organic matter, compacted at surface	
Filtration: (Y/N)	N/A					
Acidification: (Y/N)	N/A					
Sampling Equipment Decontamination: (Y/N)	N/A			Sampling Equipment Decontamination: (Y/N)	**	
Number washes:	N/A			Number washes:	**	
Number rinses:	N/A			Number rinses:	**	

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

**No data available from original sampling log.

Table B-64: Monitoring Well Sampling Log MW 05-06, 2009

Site Name:	DYE-M		
Date of Sampling Event:	August 17, 2009		
Names of Samplers:	Justine Mannion, Chris McNevin, Mihiri DeSilva		
Monitoring Well ID:	MW 05-06		
Facility:	Lower Site Powerhouse Landfill		
Water Sample Measured Data			
Condition of Well:	**		
Procedure/Equipment:	**	Procedure/Equipment:	**
Well height above ground (m)=	**	Depth to water surface (m)=	**
Diameter of well (m)=	0.044	Static water level* (m)=	**
Depth of installation* (m)=	3.6	Depth to bottom (m)=	**
Length screened section (m)=	1.9	Free product thickness (mm)=	**
Depth to top of screen* (m)=	0.60		
Calculations		**Notes**	
Depth of water (m)=	0	Evidence of sludge etc:	**
Well volume of water (L)=	0	Evidence of freezing/siltation: (compare to installation record)	**
Length screen collecting water (m)=	0		

Development/Purging Information

Equipment:

Date & Time	Volume Removed (L)	Temperature (°C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 17/11	Not enough water present to collect a sample.					

Water Sampling		**Soil Sampling**	
Date and time collected:	N/A	Date and time collected:	August 17, 2011 3:00 pm
Sample Number - Water:	No sample collected	Sample Number - Soil:	Surface: 11-21536/37
			Depth: 11-21538/39 (~30 cm)
Sample containers:	N/A	Sample containers:	Whirlpaks
			120 mL Amber glass jars
Procedure/Equipment:	N/A	Procedure/Equipment:	Disposable scoops, shovel
Water description:	N/A	Soil description:	Rich brown, high in organic matter, compacted at surface
Filtration: (Y/N)	N/A		
Acidification: (Y/N)	N/A		
Sampling Equipment Decontamination: (Y/N)	N/A	Sampling Equipment Decontamination: (Y/N)	**
Number washes:	N/A	Number washes:	**
Number rinses:	N/A	Number rinses:	**

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

**No data available from original sampling log.

Table B-65: Monitoring Well Sampling Log MW 05-07, 2009

Site Name:	DYE-M					
Date of Sampling Event:	August 17, 2009					
Names of Samplers:	Justine Mannion, Chris McNevin, Mihiri DeSilva					
Monitoring Well ID:	MW 05-07					
Facility:	Lower Site Powerhouse Landfill					
Water Sample Measured Data						
Condition of Well:	Good					
Procedure/Equipment:	**			Procedure/Equipment:	**	
Well height above ground (m)=	**			Depth to water surface (m)=	**	
Diameter of well (m)=	0.044			Static water level* (m)=	**	
Depth of installation* (m)=	3.6			Depth to bottom (m)=	**	
Length screened section (m)=	1.9			Free product thickness (mm)=	**	
Depth to top of screen* (m)=	0.60					
Calculations				**Notes**		
Depth of water (m)=	0			Evidence of sludge etc:	**	
Well volume of water (L)=	0			Evidence of freezing/siltation: (compare to installation record)	**	
Length screen collecting water (m)=	0					
Development/Purging Information						
Equipment:						
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 17/11	Not enough water present to collect a sample.					
Water Sampling				**Soil Sampling**		
Date and time collected:	N/A			Date and time collected:	August 17, 2011 2:45 pm	
Sample Number - Water:	No sample collected			Sample Number - Soil:	Surface: 11-21532/33	
					Depth: 11-21534/35 (~30 cm)	
Sample containers:	N/A			Sample containers:	Whirlpaks	
					120 mL Amber glass jars	
Procedure/Equipment:	N/A			Procedure/Equipment:	Disposable scoops, shovel	
Water description:	N/A			Soil description:	Rich brown, high in organic matter, compacted at surface	
Filtration: (Y/N)	N/A					
Acidification: (Y/N)	N/A					
Sampling Equipment Decontamination: (Y/N)	N/A			Sampling Equipment Decontamination: (Y/N)	**	
Number washes:	N/A			Number washes:	**	
Number rinses:	N/A			Number rinses:	**	

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

**No data available from original sampling log.

Table B-66: Monitoring Well Sampling Log BMW 05-08, 2009

Site Name:	DYE-M		
Date of Sampling Event:	August 17, 2009		
Names of Samplers:	Justine Mannion, Chris McNevin, Mihiri DeSilva		
Monitoring Well ID:	BMW 05-08		
Facility:	Lower Site Powerhouse Landfill		
Water Sample Measured Data			
Condition of Well:	Good		
Procedure/Equipment:	**	Procedure/Equipment:	**
Well height above ground (m)=	**	Depth to water surface (m)=	**
Diameter of well (m)=	0.044	Static water level* (m)=	**
Depth of installation* (m)=	3.6	Depth to bottom (m)=	**
Length screened section (m)=	1.9	Free product thickness (mm)=	**
Depth to top of screen* (m)=	0.60		
Calculations		**Notes**	
Depth of water (m)=	0	Evidence of sludge etc:	**
Well volume of water (L)=	0.0	Evidence of freezing/siltation: (compare to installation record)	**
Length screen collecting water (m)=	0		

Development/Purging Information

Equipment:

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 17/11	Not enough water present to collect a sample.					

Water Sampling		**Soil Sampling**	
Date and time collected:	N/A	Date and time collected:	August 17, 2011 4:00 pm
Sample Number - Water:	No sample collected	Sample Number - Soil:	Surface: 11-21544 /45
			Depth: 11-21546/47 (~30 cm)
Sample containers:	N/A	Sample containers:	Whirlpaks
			120 mL Amber glass jars
Procedure/Equipment:	N/A	Procedure/Equipment:	Disposable scoops, shovel
Water description:	N/A	Soil description:	Rich brown, high in organic matter, rocky at surface
Filtration: (Y/N)	N/A		
Acidification: (Y/N)	N/A		
Sampling Equipment Decontamination: (Y/N)	N/A	Sampling Equipment Decontamination: (Y/N)	**
Number washes:	N/A	Number washes:	**
Number rinses:	N/A	Number rinses:	**

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

**No data available from original sampling log.

Table B-67: Monitoring Well Sampling Log- MW 05-05, 2011

Site Name:	DYE-M		
Date of Sampling Event:	August 20, 2011		
Names of Samplers:	Justin Dee, Alicia Spencer, Jennah Dharamshi		
Monitoring Well ID:	MW 05-05		
Facility:	Lower Site Powerhouse Landfill		
Water Sample Measured Data			
Condition of Well:	Good		
Procedure/Equipment:	Measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.46	Depth to water surface (m)=	2.0
Diameter of well (m)=	0.044	Static water level* (m)=	1.6
Depth of installation* (m)=	3.6	Depth to bottom (m)=	2.1
Length screened section (m)=	1.9	Free product thickness (mm)=	N/A
Depth to top of screen* (m)=	0.60		
Calculations		**Notes**	
Depth of water (m)=	0.060	Evidence of sludge etc:	N/A
Well volume of water (L)=	0.077	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	0.1		

Development/Purging Information

Equipment:

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 20/11	Not enough water present to collect a sample.					

1.043		**Soil Sampling**	
Date and time collected:	N/A	Date and time collected:	August 20, 2011 9:10 am
Sample Number - Water:	No sample collected	Sample Number - Soil:	Surface: 11-12469/70
			Depth: 11-12471/12845 (~30 cm)
Sample containers:	N/A	Sample containers:	Whirlpaks
			120 mL Amber glass jars
Procedure/Equipment:	N/A	Procedure/Equipment:	Disposable scoops, shovel
Water description:	N/A	Soil description:	Medium Brown, 80% fines, 20% medium rocks, 20% vegetation
Filtration: (Y/N)	N/A	GPS:	20W 0562715
Acidification: (Y/N)	N/A		7387493
Sampling Equipment Decontamination:	N/A	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

Table B-68: Monitoring Well Sampling Log- MW 05-06, 2011

Site Name:	DYE-M					
Date of Sampling Event:	August 20, 2011					
Names of Samplers:	Justin Dee, Alicia Spencer, Jennah Dharamshi					
Monitoring Well ID:	MW 05-06					
Facility:	Lower Site Powerhouse Landfill					
Water Sample Measured Data						
Condition of Well:	Good					
Procedure/Equipment:	Measuring tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.36			Depth to water surface (m)=	N/A	
Diameter of well (m)=	0.044			Static water level* (m)=	N/A	
Depth of installation* (m)=	3.6			Depth to bottom (m)=	1.8	
Length screened section (m)=	1.9			Free product thickness (mm)=	N/A	
Depth to top of screen* (m)=	0.60					
Calculations				**Notes**		
Depth of water (m)=	0			Evidence of sludge etc:	N/A	
Well volume of water (L)=	0			Evidence of freezing/siltation: (compare to installation record)	N/A	
Length screen collecting water (m)=	0					
Development/Purging Information						
Equipment:						
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 20/11	Not enough water present to collect a sample.					
Water Sampling				**Soil Sampling**		
Date and time collected:	N/A			Date and time collected:	August 20, 2011 9:20 am	
Sample Number - Water:	No sample collected			Sample Number - Soil:	Surface: 11-12846/47	
					Depth: 11-12848/49 (~30 cm)	
Sample containers:	N/A			Sample containers:	Whirlpaks	
					120 mL Amber glass jars	
Procedure/Equipment:	N/A			Procedure/Equipment:	Disposable scoops, shovel	
Water description:	N/A			Soil description:	Light Brown/ grey, 60% fines, 40% rocks, 40% vegetation	
Filtration: (Y/N)	N/A			GPS:	20 W 0562777	
Acidification: (Y/N)	N/A				7387511	
Sampling Equipment Decontamination:	N/A			Sampling Equipment Decontamination: (Y/N)	N	
Number washes:	N/A			Number washes:	N/A	
Number rinses:	N/A			Number rinses:	N/A	

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

Table B-69: Monitoring Well Sampling Log- MW 05-07, 2011

Site Name:	DYE-M		
Date of Sampling Event:	August 20, 2011		
Names of Samplers:	Alicia Spencer, Justin Dee, Jennah Dharamshi		
Monitoring Well ID:	MW 05-07		
Facility:	Lower Site Powerhouse Landfill		
Water Sample Measured Data			
Condition of Well:	Excellent		
Procedure/Equipment:	Measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.36	Depth to water surface (m)=	N/A
Diameter of well (m)=	0.044	Static water level* (m)=	N/A
Depth of installation* (m)=	3.6	Depth to bottom (m)=	1.6
Length screened section (m)=	1.9	Free product thickness (mm)=	N/A
Depth to top of screen* (m)=	0.60		
Calculations		**Notes**	
Depth of water (m)=	0	Evidence of sludge etc:	N/A
Well volume of water (L)=	0	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	0		

Development/Purging Information

Equipment:

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 20/11	Not enough water present to collect a sample.					

Water Sampling		**Soil Sampling**	
Date and time collected:	N/A	Date and time collected:	August 20, 2011
Sample Number - Water:	No sample collected	Sample Number - Soil:	Surface: 11-38120/21
			Depth: 11-38122/23 (~30 cm)
Sample containers:	N/A	Sample containers:	Whirlpaks
			120 mL Amber glass jars
Procedure/Equipment:	N/A	Procedure/Equipment:	Disposable scoops, shovel
Water description:	N/A	Soil description:	Sandy, dark brown, 10% vegetation
Filtration: (Y/N)	N/A	GPS:	20W 0562810
Acidification: (Y/N)	N/A		7387473
Sampling Equipment Decontamination:	N/A	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

Table B-70: Monitoring Well Sampling Log- BMW 05-08, 2011

Site Name:	DYE-M				
Date of Sampling Event:	August 20, 2011				
Names of Samplers:	Justin Dee, Jennah Dharamshi, Andrea Ellis, Alicia Spencer				
Monitoring Well ID:	BMW 05-08				
Facility:	Lower Site Powerhouse Landfill				
Water Sample Measured Data					
Condition of Well:	Good				
Procedure/Equipment:	Measuring tape		Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.42		Depth to water surface (m)=	1.8	
Diameter of well (m)=	0.044		Static water level* (m)=	1.3	
Depth of installation* (m)=	3.6		Depth to bottom (m)=	2.3	
Length screened section (m)=	1.9		Free product thickness (mm)=	N/A	
Depth to top of screen* (m)=	0.60				
Calculations			**Notes**		
Depth of water (m)=	0.59		Evidence of sludge etc:	N/A	
Well volume of water (L)=	0.74		Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	0.6				

Development/Purging Information						
Equipment:	Waterra tubing					
Date & Time	Volume Removed (L)	Temperature (°C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 20/11 - 10:00 am	0.80	5.5	6.6	920	42	Light brown, murky, some sediment

Water Sampling		**Soil Sampling**	
Date and time collected:	August 20, 2011 10:00 am	Date and time collected:	August 20, 2011 10:00 am
Sample Number - Water:	11-12214	Sample Number - Soil:	Surface: 11-38124/25
			Depth: 11-38126/27 (~30 cm)
Sample containers:	1 L HDPE bottle	Sample containers:	Whirlpaks
	1 L Teflon bottle		120 mL Amber glass jars
	250mL Amber glass bottle		
Procedure/Equipment:	Waterra tubing	Procedure/Equipment:	Disposable scoops, shovel
Water description:	Light brown, murky, some sediment	Soil description:	Medium brown, 80% fines, 20% gravel, 10% vegetation
Filtration: (Y/N)	N	GPS:	20W 0562750
Acidification: (Y/N)	N		7387406
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	1	Number washes:	N/A
Number rinses:	2	Number rinses:	N/A

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

Table B-71: Monitoring Well Sampling Log- MW05-05, 2012

.	DYE-M					
Date of Sampling Event:	August 17, 2012 (water)		July 31, 2012 (soil)			
Names of Samplers:	Quinn Francis, Lauren Forrester		Sarah Ficko, Sharilyn Hoobin, Lauren Forrester			
Monitoring Well ID:	MW05-05					
Facility:	Power House Landfill					
Monitoring Well Measured Data						
Condition of Well:	Excellent					
Procedure/Equipment:	measuring tape		Procedure/Equipment:	Interface meter		
Well height above ground (m)=	0.38		Depth to water surface (m)=	1.7		
Diameter of well (m)=	0.040		Static water level* (m)=	1.3		
Depth of installation* (m)=	3.6		Depth to bottom (m)=	2.9		
Length screened section (m)=	1.9		Free product thickness (mm)=	None		
Depth to top of screen* (m)=	0.60					
Calculations			**Notes**			
Depth of water (m)=	1.2		Evidence of sludge etc:	N/A		
Well volume of water (L)=	1.5		Evidence of freezing/siltation: (compare to installation record)	Freezing		
Length screen collecting water (m)=	1.2					
Purging Information						
Equipment:	Waterra Tubing					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
17-Aug; 15:30	1.5	6.4	6.7	159	665	Light brown, some silt
Water Sampling				**Soil Sampling**		
Date and time collected:	17-Aug; 15:30			Date and time collected:	31-Jul-12	
Sample Number - Water:	12-34998			Sample Number - Soil:	Surface: 12-44882/44883	
					Depth: 12-44884/44885 (~30 cm)	
Sample containers:	1L HDPE			Sample containers:	Whirl paks	
	1L Teflon				120 mL AG jars	
	250 mL Amber Glass					
Procedure/Equipment:	Waterra tubing			Procedure/Equipment:	shovel and disposable scoop	
Water description:	Light brown, some silt			Soil description:	gravel at surface; fines and sand at depth,	
Filtration: (Y/N)	N				20% veg in patches, damp	
Acidification: (Y/N)	N			GPS Coordinates	562721/ 7387494	
Sampling Equipment Decontamination: (Y/N)	Yes			Sampling Equipment Decontamination: (Y/N)	No, disposable scoops used	
Number washes:	2			Number washes:	N/A	
Number rinses:	1			Number rinses:	N/A	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-72: Monitoring Well Sampling Log- MW05-06, 2012

Site Name:	DYE-M		
Date of Sampling Event:	August 17, 2012 (water)	July 31, 2012 (soil)	
Names of Samplers:	Quinn Francis, Lauren Forrester	Sarah Ficko, Sharilyn Hoobin, Lauren Forrester	
Monitoring Well ID:	MW05-06		
Facility:	Power House Landfill		
Monitoring Well Measured Data			
Condition of Well:	Excellent		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.37	Depth to water surface (m)=	1.8
Diameter of well (m)=	0.044	Static water level* (m)=	1.4
Depth of installation* (m)=	3.6	Depth to bottom (m)=	2.5
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.60		
Calculations		**Notes**	
Depth of water (m)=	0.66	Evidence of sludge etc:	N/A
Well volume of water (L)=	1.0	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	0.66		

Purging Information

Equipment: Waterra Tubing

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU	Description of water
17-Aug; 15:15	0.9	7.9	6.9	638	339	Some sediment, light brown colour

Water Sampling		**Soil Sampling**	
Date and time collected:	17-Aug; 15:15	Date and time collected:	31-Jul-12
Sample Number - Water:	12-34997	Sample Number - Soil:	Surface:12-44886/44887
			Depth: 12-44888/44889 (~30 cm)
Sample containers:	1L HDPE	Sample containers:	Whirl paks
	1L Teflon		120 mL AG jars
	250 mL Amber Glass		
Procedure/Equipment:	Waterra tubing	Procedure/Equipment:	shovel and disposable scoop
Water description:	Some sediment, light brown colour	Soil description:	gravel at surface, damp soil, 30% vegetation in patches, small boulders SW of well, sand and roots at depth
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	562777/7387511
Sampling Equipment Decontamination: (Y/N)	Yes	Sampling Equipment Decontamination: (Y/N)	No, disposable scoops used
Number washes:	2	Number washes:	N/A
Number rinses:	1	Number rinses:	N/A

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-73: Monitoring Well Sampling Log- MW05-07, 2012

Site Name:	DYE-M		
Date of Sampling Event:	August 17, 2012 (water)	July 31, 2012 (soil)	
Names of Samplers:	Quinn Francis, Lauren Forrester	Sarah Ficko, Sharilyn Hoobin, Lauren Forrester	
Monitoring Well ID:	MW05-07		
Facility:	Power House Landfill		
Monitoring Well Measured Data			
Condition of Well:	Excellent		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.3	Depth to water surface (m)=	2.0
Diameter of well (m)=	0.040	Static water level* (m)=	1.7
Depth of installation* (m)=	3.6	Depth to bottom (m)=	2.1
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.60		
Calculations		**Notes**	
Depth of water (m)=	0.18	Evidence of sludge etc:	N/A
Well volume of water (L)=	0.23	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	0.18		

Purging Information

Equipment: Waterra Tubing

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
17-Aug; 14:45	0.3	8.4	7.1	1826	140	Clear with very little sediment

Water Sampling		**Soil Sampling**	
Date and time collected:	17-Aug; 14:45	Date and time collected:	31-Jul-12
Sample Number - Water:	12-34996	Sample Number - Soil:	Surface: 12-44890/44891
			Depth: 12-44892/44893 (~30 cm)
Sample containers:	1L HDPE	Sample containers:	Whirl paks
	1L Teflon		120 mL AG jars
	250 mL Amber Glass		
Procedure/Equipment:	Waterra tubing	Procedure/Equipment:	shovel and disposable scoop
Water description:	Clear with very little sediment	Soil description:	silty soil at surface; rocky at depth, 10% vegetation, roots at surface, damp soil at depth
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	562812/7387473
Sampling Equipment Decontamination: (Y/N)	Yes	Sampling Equipment Decontamination: (Y/N)	No, disposable scoops used
Number washes:	2	Number washes:	N/A
Number rinses:	1	Number rinses:	N/A

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-74: Monitoring Well Sampling Log- BMW05-08, 2012

Site Name:	DYE-M		
Date of Sampling Event:	August 17, 2012 (water)	July 31, 2012 (soil)	
Names of Samplers:	Quinn Francis, Lauren Forrester	Sarah Ficko, Sharilyn Hoobin, Lauren Forrester	
Monitoring Well ID:	BMW05-08		
Facility:	Power House Landfill		
Monitoring Well Measured Data			
Condition of Well:	Excellent		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.4	Depth to water surface (m)=	1.5
Diameter of well (m)=	0.040	Static water level* (m)=	1.1
Depth of installation* (m)=	3.6	Depth to bottom (m)=	2.8
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.60		
Calculations		**Notes**	
Depth of water (m)=	1.3	Evidence of sludge etc:	N/A
Well volume of water (L)=	1.6	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	1.3		

Purging Information

Equipment: Waterra Tubing

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
17-Aug; 14:20	1.6	6.2	7.0	1945	351	Light brown, relatively clear

Water Sampling		**Soil Sampling**	
Date and time collected:	17-Aug; 14:20	Date and time collected:	31-Jul-12
Sample Number - Water:	12-34995	Sample Number - Soil:	Surface: 12-44894/44895
			Depth: 12-44896/44897 (~30 cm)
Sample containers:	1L HDPE	Sample containers:	Whirl paks
	1L Teflon		120 mL AG jars
	250 mL Amber Glass		
Procedure/Equipment:	Waterra tubing	Procedure/Equipment:	shovel and disposable scoop
Water description:	Light brown, relatively clear	Soil description:	Rocky and sandy at surface and depth, damp at surface and depth, 40% patchy veg, flat ground, big boulders to south
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	562750/7387404
Sampling Equipment Decontamination: (Y/N)	Yes	Sampling Equipment Decontamination: (Y/N)	No, disposable scoops used
Number washes:	2	Number washes:	N/A
Number rinses:	1	Number rinses:	N/A

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-75: Monitoring Well Sampling Log- MW05-05, 2013

Site Name:	DYE-M
Date of Sampling Event:	09-Aug-13
Names of Samplers:	Alaina Leslie, Shari Reed, Tom Partridge
Monitoring Well ID:	MW 05-05
Facility:	Powerhouse Landfill

Monitoring Well Measured Data

Condition of Well:	Good. Bentonite exposed.		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.36	Depth to water surface (m)=	2.0
Diameter of well (m)=	0.040	Static water level* (m)=	0.20
Depth of installation* (m)=	3.6	Depth to bottom (m)=	2.2
Length screened section (m)=	1.9	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	0.60		

Calculations		**Notes**	
Depth of water (m)=	0.15	Evidence of sludge etc:	n/a
Well volume of water (L)=	0.19	Evidence of freezing/siltation: (compare to installation record)	freezing
Length screen collecting water (m)=	1.2		

Purging Information

Equipment:	Waterra and foot valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug 9 11:30am	0.40	2.3	7.7	140	>1000	Light brown, opaque
Aug-10	Dry					

Water Sampling		**Soil Sampling**	
Date and time collected:	n/a	Date and time collected:	08-Aug
Sample Number - Water:		Sample Number - Soil:	13-25204/05 surface
			13-25206/07 depth (30cm)
Sample containers:		Sample containers:	120 mL Amber Glass Jars
			Whirlpacks
Procedure/Equipment:		Procedure/Equipment:	Pickax & Disposable Scoop
Water description:		Soil description:	Reddish sandy loam, med moisture. Same at depth. 10% vegetation. Ferric rocks. Some debris (rusty metal).
Filtration: (Y/N)			
Acidification: (Y/N)			
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)		Sampling Equipment Decontamination: (Y/N)	Y
Number washes:		Number washes:	0
Number rinses:		Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-76: Monitoring Well Sampling Log- MW05-06, 2013

Site Name:	DYE-M		
Date of Sampling Event:	09-Aug-13		
Names of Samplers:	Alaina Leslie, Shari Reed, Tom Partridge		
Monitoring Well ID:	MW 05-06		
Facility:	Powerhouse Landfill		
Monitoring Well Measured Data			
Condition of Well:	Water in well 16 cm from top		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.33	Depth to water surface (m)=	dry
Diameter of well (m)=	0.040	Static water level* (m)=	n/a
Depth of installation* (m)=	3.6	Depth to bottom (m)=	n/a
Length screened section (m)=	1.9	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	0.60		
Calculations		**Notes**	
Depth of water (m)=	n/a	Evidence of sludge etc:	n/a
Well volume of water (L)=	n/a	Evidence of freezing/siltation: (compare to installation record)	n/a
Length screen collecting water (m)=	n/a		

Purging Information

Equipment: Waterra and foot valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
well dry						

Water Sampling		**Soil Sampling**	
Date and time collected:	N/A	Date and time collected:	08-Aug
Sample Number - Water:		Sample Number - Soil:	13-25208/09 surface
			13-25210/11 depth (30cm)
Sample containers:		Sample containers:	120 mL Amber Glass Jars
			Whirlpacks
Procedure/Equipment:		Procedure/Equipment:	Pickax & Disposable Scoop
Water description:		Soil description:	Grey-brown sandy loam. 50% angular cobbles. 50% vegetation. Same at depth (evenly mixed). Piece of poly found in test pit.
Filtration: (Y/N)			
Acidification: (Y/N)			
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)		Sampling Equipment Decontamination: (Y/N)	Y
Number washes:		Number washes:	0
Number rinses:		Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-77 Monitoring Well Sampling Log- MW05-07, 2013

Site Name:	DYE-M					
Date of Sampling Event:	09-Aug-13					
Names of Samplers:	Alaina Leslie, Shari Reed, Tom Partridge					
Monitoring Well ID:	MW 05-07					
Facility:	Powerhouse Landfill					
Monitoring Well Measured Data						
Condition of Well:	Good					
Procedure/Equipment:	measuring tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.33			Depth to water surface (m)=	Dry	
Diameter of well (m)=	0.040			Static water level* (m)=	n/a	
Depth of installation* (m)=	3.6			Depth to bottom (m)=	n/a	
Length screened section (m)=	1.9			Free product thickness (mm)=	n/a	
Depth to top of screen* (m)=	0.60					
Calculations				**Notes**		
Depth of water (m)=	n/a			Evidence of sludge etc:	n/a	
Well volume of water (L)=	n/a			Evidence of freezing/siltation: (compare to installation record)	n/a	
Length screen collecting water (m)=	n/a					
Purging Information						
Equipment:	Waterra and foot valve					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
dry well						
Water Sampling				**Soil Sampling**		
Date and time collected:	N/A			Date and time collected:	08-Aug	
Sample Number - Water:				Sample Number - Soil:	13-25212/13 surface	
					13-25214/15 depth (30cm)	
Sample containers:				Sample containers:	120 mL Amber Glass Jars	
					Whirlpacks	
Procedure/Equipment:				Procedure/Equipment:	Pickax & Disposable Scoop	
Water description:				Soil description:	Grey-brown sandy loam with 50% angular gravel. Same at depth. 50% vegetation.	
Filtration: (Y/N)						
Acidification: (Y/N)						
				GPS Coordinates		
Sampling Equipment Decontamination: (Y/N)				Sampling Equipment Decontamination: (Y/N)	Y	
Number washes:				Number washes:	0	
Number rinses:				Number rinses:	1	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-78: Monitoring Well Sampling Log- BMW 05-08, 2013

Site Name:	DYE-M		
Date of Sampling Event:	09-Aug-13		
Names of Samplers:	Alaina Leslie, Shari Reed, Tom Partridge		
Monitoring Well ID:	BMW 05-08		
Facility:	Powerhouse Landfill		
Monitoring Well Measured Data			
Condition of Well:	Water in well 16 cm from top		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.33	Depth to water surface (m)=	Dry
Diameter of well (m)=	0.040	Static water level* (m)=	n/a
Depth of installation* (m)=	3.6	Depth to bottom (m)=	n/a
Length screened section (m)=	1.9	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	0.60		
Calculations		**Notes**	
Depth of water (m)=	n/a	Evidence of sludge etc:	n/a
Well volume of water (L)=	n/a	Evidence of freezing/siltation: (compare to installation record)	n/a
Length screen collecting water (m)=	n/a		

Purging Information

Equipment: Waterra and foot valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug 9 11am	0.15					Slightly turbid, colourless
Aug-10	Dry					

Water Sampling		**Soil Sampling**	
Date and time collected:	n/a	Date and time collected:	08-Aug
Sample Number - Water:		Sample Number - Soil:	13-25216/17 surface
			13-25218/19 depth (30cm)
Sample containers:		Sample containers:	120 mL Amber Glass Jars
			Whirlpacks
Procedure/Equipment:		Procedure/Equipment:	Pickax & Disposable Scoop
Water description:		Soil description:	Reddish sandy loam, medium moisture. Same at depth. 10% veg. Nail in test pit.
Filtration: (Y/N)			
Acidification: (Y/N)			
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)		Sampling Equipment Decontamination: (Y/N)	Y
Number washes:		Number washes:	0
Number rinses:		Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-79: Monitoring Well Sampling Log- MW 05-05, 2014

Site Name:	DYE-M					
Date of Sampling Event:	12-Aug-14					
Names of Samplers:	Shari Reed, Mark Button					
Monitoring Well ID:	MW 05-05					
Facility:	Lower Site Powerhouse Landfill					
Monitoring Well Measured Data						
Condition of Well:	Good. Bentonite inside well cracked.					
Procedure/Equipment:	measuring tape			Procedure/Equipment:	Solinst Interface meter	
Well height above ground (m)=	0.33			Depth to water surface (m)=	Dry	
Diameter of well (m)=	0.04			Static water level* (m)=	n/a	
Depth of installation* (m)=	3.6			Depth to bottom (m)=	1.95	
Length screened section (m)=	1.9			Free product thickness (mm)=	n/a	
Depth to top of screen* (m)=	0.60					
Calculations				**Notes**		
Depth of water (m)=	n/a			Evidence of sludge etc:	n/a	
Well volume of water (L)=	n/a			Evidence of freezing/siltation: (compare to installation record)	freezing	
Length screen collecting water (m)=	n/a					
Equipment:	n/a					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
		Not enough water present to collect a sample				
Water Sampling				**Soil Sampling**		
Date and time collected:	n/a			Date and time collected:	12-Aug	
Sample Number - Water:	No sample collected - dry			Sample Number - Soil:	14-8467 surface	
					14-8468/69 depth (45cm)	
Sample containers:				Sample containers:	120ml Amber glass jar	
					120ml Clear glass jar	
					Whirlpacks	
Procedure/Equipment:				Procedure/Equipment:	Pickax & Disposable Scoop	
Water description:				Soil description:	Brown sandy silt with 20% gravel and cobbles. Moist. 10% vegetative cover in area.	
Filtration: (Y/N)						
Acidification: (Y/N)						
				GPS Coordinates		
Sampling Equipment Decontamination: (Y/N)				Sampling Equipment Decontamination: (Y/N)	Y	
Number washes:				Number washes:	0	
Number rinses:				Number rinses:	1	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-80: Monitoring Well Sampling Log- MW 05-06, 2014

Site Name:	DYE-M					
Date of Sampling Event:	12-Aug-14					
Names of Samplers:	Shari Reed, Mark Button					
Monitoring Well ID:	MW 05-06					
Facility:	Lower Site Powerhouse Landfill					
Monitoring Well Measured Data						
Condition of Well:	Good. Bentonite shrunk.					
Procedure/Equipment:	measuring tape			Procedure/Equipment:	Solinst Interface meter	
Well height above ground (m)=	0.3			Depth to water surface (m)=	Dry	
Diameter of well (m)=	0.04			Static water level* (m)=	n/a	
Depth of installation* (m)=	3.6			Depth to bottom (m)=	2.16	
Length screened section (m)=	1.9			Free product thickness (mm)=	n/a	
Depth to top of screen* (m)=	0.60					
Calculations				**Notes**		
Depth of water (m)=	n/a			Evidence of sludge etc:	n/a	
Well volume of water (L)=	n/a			Evidence of freezing/siltation: (compare to installation record)	freezing	
Length screen collecting water (m)=	n/a					
Equipment:	n/a					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
		Not enough water present to collect a sample				
Water Sampling				**Soil Sampling**		
Date and time collected:	n/a			Date and time collected:	12-Aug	
Sample Number - Water:	No sample collected - dry			Sample Number - Soil:	14-8470/71 surface	
					14-8472 depth (40cm)	
Sample containers:				Sample containers:	120ml Amber glass jar	
					120ml Clear glass jar	
					Whirlpacks	
Procedure/Equipment:				Procedure/Equipment:	Pickax & Disposable Scoop	
Water description:				Soil description:	Sandy silt with gravel. Moist. Same at depth. Hydrocarbon odour. 80% vegetative cover in area.	
Filtration: (Y/N)						
Acidification: (Y/N)						
				GPS Coordinates		
Sampling Equipment Decontamination: (Y/N)				Sampling Equipment Decontamination: (Y/N)	Y	
Number washes:				Number washes:	0	
Number rinses:				Number rinses:	1	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-81: Monitoring Well Sampling Log- MW 05-07, 2014

Site Name:	DYE-M					
Date of Sampling Event:	12-Aug-14					
Names of Samplers:	Shari Reed, Mark Button					
Monitoring Well ID:	MW 05-07					
Facility:	Powerhouse Landfill					
Monitoring Well Measured Data						
Condition of Well:	Good					
Procedure/Equipment:	measuring tape			Procedure/Equipment:	Solinst Interface meter	
Well height above ground (m)=	0.33			Depth to water surface (m)=	Dry	
Diameter of well (m)=	0.040			Static water level* (m)=	n/a	
Depth of installation* (m)=	3.6			Depth to bottom (m)=	2.0	
Length screened section (m)=	1.9			Free product thickness (mm)=	n/a	
Depth to top of screen* (m)=	0.60					
Calculations				**Notes**		
Depth of water (m)=	n/a			Evidence of sludge etc:	n/a	
Well volume of water (L)=	n/a			Evidence of freezing/siltation: (compare to installation record)	freezing	
Length screen collecting water (m)=	n/a					
Equipment:	n/a					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
		Not enough water present to collect a sample				
Water Sampling				**Soil Sampling**		
Date and time collected:	n/a			Date and time collected:	12-Aug	
Sample Number - Water:	No sample collected - dry			Sample Number - Soil:	14-8473 surface	
					14-8474 depth (50cm)	
Sample containers:				Sample containers:	120ml Amber glass jars	
					Whirlpacks	
Procedure/Equipment:				Procedure/Equipment:	Pickax & Disposable Scoop	
Water description:				Soil description:	Damp sand with gravel. Same at depth. Hydrocarbon odour.	
Filtration: (Y/N)						
Acidification: (Y/N)						
				GPS Coordinates		
Sampling Equipment Decontamination: (Y/N)				Sampling Equipment Decontamination: (Y/N)	Y	
Number washes:				Number washes:	0	
Number rinses:				Number rinses:	1	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-82: Monitoring Well Sampling Log- MW 05-08, 2014

Site Name:	DYE-M		
Date of Sampling Event:	12-Aug-14		
Names of Samplers:	Shari Reed, Mark Button		
Monitoring Well ID:	MW 05-08		
Facility:	Lower Site Powerhouse Landfill		
Monitoring Well Measured Data			
Condition of Well:	Water in casing 16 cm from top		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Solinst Interface meter
Well height above ground (m)=	0.4	Depth to water surface (m)=	Dry
Diameter of well (m)=	0.04	Static water level* (m)=	n/a
Depth of installation* (m)=		Depth to bottom (m)=	2.27
Length screened section (m)=		Free product thickness (mm)=	n/a
Depth to top of screen* (m)=			
Calculations		**Notes**	
Depth of water (m)=	n/a	Evidence of sludge etc:	n/a
Well volume of water (L)=	n/a	Evidence of freezing/siltation: (compare to installation record)	freezing
Length screen collecting water (m)=	n/a		
Equipment:	n/a		

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
		Not enough water present to collect a sample				

Water Sampling		**Soil Sampling**	
Date and time collected:	n/a	Date and time collected:	12-Aug
Sample Number - Water:	No sample collected - dry	Sample Number - Soil:	14-8475/76 surface
			14-8477 depth (45cm)
Sample containers:		Sample containers:	120ml Amber glass jar
			120ml Clear glass jar
			Whirlpacks
Procedure/Equipment:		Procedure/Equipment:	Pickax & Disposable Scoop
Water description:		Soil description:	Sandy clay with 10% gravel. 5% vegetative cover in area.
Filtration: (Y/N)			
Acidification: (Y/N)			
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)		Sampling Equipment Decontamination: (Y/N)	Y
Number washes:		Number washes:	0
Number rinses:		Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-83: DYE-M Lower Site Crossroads Landfill - Soil Analytical Results

Sample #	Location	Depth	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	PCBs	PHC			
													F1	F2	F3	F4
		(cm)	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
Laboratory Detection Limits 2007-2009			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.0030	10	4.0	9.0	8.0
Laboratory Detection Limits 2011			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2013			3.0	5.0	5.0	1.0	10	15	20	0.20	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2014			3.0	5.0	5.0	1.0	10	15	20	0.20	0.010	0.010	10	10	10	10
2007 Baseline Monitoring Data																
07-30880*/81*	DM-1	0-10	23	34	11	<1.0	<10	41	65	<1.0	<0.10	<0.0030	<10	25	190	64
07-30882*/83	DM-1	25-35	41	43	13	<1.0	<10	50	68	<1.0	<0.10	<0.0030	<10	160	36	21
07-30888*/89	DM-2	0-10	39	41	14	<1.0	<10	50	78	<1.0	<0.10	<0.0030	<10	<4.0	11	11
07-30890*/91	DM-2	25-35	36	41	14	<1.0	<10	47	74	<1.0	<0.10	<0.0030	<10	<4.0	18	13
07-30884*/85	DM-3	0-10	29	32	9.7	<1.0	<10	37	59	2.3	<0.10	<0.0030	<10	6.7	16	13
07-30886*/87	DM-3	25-35	41	45	14	<1.0	<10	57	81	1.6	<0.10	<0.0030	<10	<4.0	37	18
2008 Baseline Monitoring Data																
08-11673*/74	DM-1	0-10	26	34	12	<1.0	<10	41	61	<1.0	<0.10	<0.0030	<10	<4.0	26	23
08-11675*/76	DM-1	30-40	36	45	16	<1.0	<10	54	86	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
08-11665*/66	DM-2	0-10	34	43	14	<1.0	<10	49	79	<1.0	<0.10	<0.0030	<10	6.6	13	15
08-11667*/68*	DM-2	30-40	28	37	12	<1.0	<10	46	72	<1.0	<0.10	<0.0030	<10	9.7	14	13
08-11669*/70	DM-3	0-10	41	55	16	<1.0	<10	61	90	2.3	<0.10	<0.0030	<10	22	24	15
08-11671*/72	DM-3	35-45	37	46	14	<1.0	<10	56	80	1.0	<0.10	<0.0030	<10	4.3	21	11
2011 Baseline Monitoring Data																
11-12970*/71*	DM-1	0-10	26	49	13	<1.0	<10	60	68	<1.0	<0.10	<0.050	<10	82	54	13
11-12972*/73	DM-1	30-40	16	23	8.7	<1.0	<10	33	44	<1.0	<0.10	<0.050	<10	21	10	<8.0
11-12974*/75	DM-2	0-10	29	38	13	<1.0	<10	55	71	<1.0	<0.10	<0.050	<10	5.9	26	21
11-12976*/77	DM-2	30-40	26	34	11	<1.0	<10	42	59	<1.0	<0.10	<0.050	<10	19	35	26
11-12978*/79	DM-3	0-10	27	37	11	<1.0	<10	45	65	1.2	<0.10	<0.050	<10	6.7	40	18
11-12980*/81	DM-3	30-40	24	33	11	<1.0	<10	40	59	<1.0	<0.10	<0.050	<10	15	13	<8.0
2013 Baseline Monitoring Data																
13-25028*/29	DM-1	0-10	37	43	8.9	<1.0	22	59	76	2.0	<0.10	<0.050	<10	8.1	<9.0	<8.0
13-25030*/31*	DM-1	30-40	35	41	9.3	<1.0	<10	44	73	2.1	<0.10	<0.050	<10	7.3	<9.0	<8.0
13-25032*/33	DM-2	0-10	37	48	10	<1.0	<10	51	86	2.2	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25034*/35	DM-2	30-40	35	39	8.3	<1.0	<10	43	70	1.6	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25036*/37	DM-3	0-10	48	58	11	<1.0	<10	59	99	3.9	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25038*/39	DM-3	30-40	40	48	9.5	<1.0	<10	50	82	3.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
2014 First Year Monitoring Data																
14-8330*/31*	DM-1	5-10	26	36	8.0	<1.0	<10	39	66	1.2	<0.01	<0.010	<10	<10	<10	<10
14-8332*	DM-1	45-50	23	36	7.8	<1.0	<10	34	61	3.3	<0.01	<0.010	<10	<10	<10	<10
14-8333*	DM-2	5-10	33	41	9.6	<1.0	<10	49	80	1.6	<0.01	<0.010	<10	<10	<10	<10
14-8334*	DM-2	45-50	42	45	11	<1.0	11	54	94	1.6	<0.01	<0.010	<10	56	<10	<10
14-8335*/36	DM-3	5-10	28	35	8.6	<1.0	<10	41	68	1.4	<0.01	<0.010	<10	<10	<10	<10
14-8337*	DM-3	45-50	21	28	7.2	<1.0	<10	31	59	0.9	<0.01	<0.010	<10	<10	<10	<10

*Sample was analyzed. Where both duplicates were analyzed, the result presented is an average of both samples. Duplicates not analyzed were archived.

Table B-84: Soil Sampling Log- Lower Site Crossroads Landfill, 2007

Site Name:	DYE-M
Date of Sampling Event:	24-Aug-07
Names of Samplers:	Jared Ehgoetz, Hamish Corbett Hains
Facility:	Lower Site Crossroads Landfill

Soil Sampling

Sample Location ID:	DM-1	Sample Location ID:	DM-2
Sample Number:	Surface: 07-30880/81	Sample Number:	Surface: 07-30888/89
	Depth: 07-30882/83 (~30 cm)		Depth: 07-30890/91
Sample containers:	Whirlpaks, 120 mL amber glass jars	Sample containers:	Whirlpaks, 120 mL amber glass jars
GPS:	20W 0562649 7387632	GPS:	20W 0562570 7387640
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment	N	Sampling Equipment Decontamination:	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

Sample Location ID:	DM-3
Sample Number:	Surface: 07-30884/85
	Depth: 07-30886/87
Sample containers:	Whirlpaks, 120 mL amber glass jars
GPS:	20W 0562598 7387681
Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*
Sampling Equipment	N
Number washes:	N/A
Number rinses:	N/A

* Info not available from original log

Table B-85: Soil Sampling Log- Lower Site Crossroads Landfill, 2008

Site Name:	DYE-M
Date of Sampling Event:	18-Aug-08
Names of Samplers:	Molly Brewis, Andrea Ellis, Bryarly McEachern, Cam Ollson
Facility:	Lower Site Crossroads Landfill

Soil Sampling

Sample Location ID:	DM-1	Sample Location ID:	DM-2
Sample Number:	Surface: 08-11673/74	Sample Number:	Surface: 08-11665/66
	Depth: 08-11675/76 (~30 cm)		Depth: 08-11667/68 (~30 cm)
Sample containers:	Whirlpaks, 120 mL amber glass jars	Sample containers:	Whirlpaks, 120 mL amber glass jars
GPS:	20W 0562649 7387632	GPS:	20W 0562570 7387640
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment	N	Sampling Equipment Decontamination:	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

Sample Location ID:	DM-3
Sample Number:	Surface: 08-11669/70
	Depth: 08-11671/72 (~30 cm)
Sample containers:	Whirlpaks, 120 mL amber glass jars
GPS:	20W 0562598 7387681
Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*
Sampling Equipment	N
Number washes:	N/A
Number rinses:	N/A

* Info not available from original log

Table B-86: Soil Sampling Log- Lower Site Crossroads Landfill, 2011

Site Name:	DYE-M
Date of Sampling Event:	Aug. 11, 2011
Names of Samplers:	Ian Goode, Jennah Dharamshi, Alicia Spencer, Justin Dee
Facility:	Lower Site Crossroads Landfill

Soil Sampling

Sample Location ID:	DM-1	Sample Location ID:	DM-2
Sample Number:	Surface: 11-12970/71	Sample Number:	Surface: 11-12974/75
	Depth: 11-12972/73 (~30 cm)		Depth: 11-12976/77
Sample containers:	Whirlpaks, 120 mL amber glass jars	Sample containers:	Whirlpaks, 120 mL amber glass jars
GPS:	20W 0562649 7387632	GPS:	20W 0562570 7387640
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	Surface:Muddy brown sand 10% gravel, 5% vegetation. Depth (30-40 cm) wet sand, 10% gravel	Soil description:	Dark and med brown, 70% fines, 30% rock and gravel 5% vegetation
Sampling Equipment Decontamination:	N	Sampling Equipment Decontamination:	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

Sample Location ID:	DM-3
Sample Number:	Surface: 11-12978/79
	Depth: 11-12980/81
Sample containers:	Whirlpaks, 120 mL amber glass jars
GPS:	20W 0562598 7387681
Procedure/Equipment:	Disposable scoops, shovel
Soil description:	Dark Brown - moist, 90% fines, 10% gravel, 2% vegetation
Sampling Equipment Decontamination:	N
Number washes:	N/A
Number rinses:	N/A

Table B-87: Soil Sampling Log- Lower Site Crossroads Landfill, 2013

Site Name:	DYE-M		
Date of Sampling Event:	24-Jul-13		
Names of Samplers:	Alaina Leslie and Ian Goode		
Facility:	Lower Site Crossroads Landfill		
Soil Sampling			
Sample Location ID:	DM-1	Sample Location ID:	DM-2
Sample Number:	13-25028/29 surface	Sample Number:	13-25032/33 surface
	13-25030/31 depth (30 cm)		13-25034/35 depth (30 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Dark grey sandy clay loam with 50% gravel. Well mixed. Medium moisture. Soil same at depth. Depth at 30 cm. No vegetation.	Soil description:	Dark grey sandy clay loam with 30% gravel. Well mixed. Medium moisture. Soil same at depth. Depth at 30 cm. Some vegetation.
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1

Sample Location ID:	DM-3
Sample Number:	13-25036/37 surface
	13-25038/39 depth (30 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Dark grey sandy clay loam with 30% gravel. Well mixed. Medium moisture. Soil same at depth. Depth at 30 cm. 10% vegetation.
Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0
Number rinses:	1

Table B-88: Soil Sampling Log - Lower Site Crossroads Landfill, 2014

Site Name:	DYE-M		
Date of Sampling Event:	07-Aug-14		
Names of Samplers:	Shari Reed, Mark Button		
Facility:	Lower Site Crossroads Landfill		
Soil Sampling			
Sample Location ID:	DM-01	Sample Location ID:	DM-02
Sample Number:	14-8330/31 surface	Sample Number:	14-8333 surface
	14-8332 depth (50 cm)		14-8334 depth (50 cm)
Sample containers:	Whirlpacks, 120ml Amber Glass Jars	Sample containers:	Whirlpacks, 120ml Amber Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Gray brown sand with silt. Well mixed. Medium moisture. Soil same at depth. No vegetation in area. Sample taken at edge of boulder field 5 m within landfill toe.	Soil description:	Gray brown sand with silt and 10% cobbles & gravel. Well mixed. Medium moisture. Soil same at depth. Some vegetation in area.
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-03		
Sample Number:	14-8335 /36 surface		
	14-8337 depth (50 cm)		
Sample containers:	Whirlpacks, 120ml Amber Glass Jars		
Procedure/Equipment:	Pickax and Disposable scoops		
Soil description:	Gray brown sand with silt and 10% gravel. Well mixed. Medium moisture. Soil same at depth. 10% vegetation in area.		
Sampling Equipment Decontamination: (Y/N)	Y - Pickax		
Number washes:	0		
Number rinses:	1		

Table B-89: DYE-M Lower Site Foundation Landfill - Soil Analytical Results

Sample #	Location	Depth	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	PCBs	PHC			
													F1	F2	F3	F4
		(cm)	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
Laboratory Detection Limits 2007-2009			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.0030	10	4.0	9.0	8.0
Laboratory Detection Limits 2011-2012			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2013			3.0	5.0	5.0	1.0	10	15	20	0.20	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2014			3.0	5.0	5.0	1.0	10	15	20	0.20	0.010	0.010	10	10	10	10
2008 Baseline Monitoring Data																
08-11677*/78	DM-4	0-10	28	38	13	<1.0	<10	52	73	<1.0	<0.10	0.14	<10	<4.0	42	18
08-11679*/80	DM-4	30-40	29	41	13	<1.0	13	54	80	<1.0	<0.10	0.17	<10	<4.0	110	40
08-11681*/82	DM-5	0-10	32	41	15	<1.0	18	52	78	<1.0	<0.10	0.0060	<10	5.7	88	42
08-11683*/84	DM-5	35-45	30	40	14	<1.0	<10	45	75	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
08-11685*/86*	DM-6	0-10	30	41	14	<1.0	<10	46	74	<1.0	<0.10	<0.0030	<10	13	<9.0	<8.0
08-11687*/88	DM-6	30-40	29	39	13	<1.0	<10	46	73	<1.0	<0.10	<0.0030	<10	4.5	<9.0	<8.0
2011 Baseline Monitoring Data																
11-12982*/83	DM-4	0-10	24	34	12	<1.0	11	47	65	<1.0	<0.10	0.050	<10	6.9	54	23
11-12984*/85	DM-4	30-40	21	36	9.9	<1.0	<10	39	67	<1.0	<0.10	0.13	<10	4.3	36	15
11-12986*/87	DM-5	0-10	17	26	9.6	<1.0	<10	35	51	<1.0	<0.10	<0.050	<10	<4.0	29	13
11-12988*/89	DM-5	30-40	35	44	15	<1.0	<10	53	80	1.2	<0.10	<0.050	<10	<4.1	12	<8.0
11-12990*/91	DM-6	0-10	27	36	12	<1.0	<10	43	70	1.1	<0.10	<0.050	<10	<4.2	<9.0	<8.0
11-12992*/93	DM-6	30-40	30	42	14	<1.0	<10	49	80	<1.0	<0.10	<0.050	<10	5.5	<9.0	<8.0
2013 Baseline Monitoring Data																
13-25040*/41*	DM-4	0-10	28	39	8.6	<1.0	13	50	73	2.0	<0.10	0.067	<10	6.2	12	<8.0
13-25042*/43	DM-4	30-40	19	28	6.2	<1.0	<10	34	52	0.70	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25044*/45	DM-5	0-10	28	37	9.0	<1.0	21	54	69	1.8	<0.10	<0.050	<10	6.7	14	<8.0
13-25046*/47	DM-5	30-40	33	44	10	<1.0	<10	48	81	1.9	<0.10	<0.050	<10	9.5	<9.0	<8.0
13-25048*/49	DM-6	0-10	36	46	10	<1.0	12	58	89	1.9	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25050*/51*	DM-6	30-40	31	40	9.4	<1.0	<10	44	72	2.1	<0.10	<0.050	<10	7.8	<9.0	<8.0
2014 First Year Monitoring Data																
14-8322*	DM-4	0-10	26	32	7.7	<1.0	<10	42	68	1.0	<0.010	0.027	<10	<10	<10	<10
14-8323*	DM-4	40-45	20	29	7.2	<1.0	<10	35	59	1.0	<0.010	0.014	<10	<10	<10	<10
14-8324*	DM-5	0-10	26	35	8.4	<1.0	19	49	75	1.3	0.013	0.052	<10	<10	170	19
14-8325*/26	DM-5	40-45	30	38	9.5	<1.0	<10	45	75	1.3	<0.010	<0.010	<10	<10	<10	<10
14-8327*	DM-6	0-10	31	38	9.3	<1.0	<10	46	76	1.6	<0.010	<0.010	<10	<10	<10	<10
14-8328*	DM-6	40-45	30	43	11	<1.0	<10	49	86	1.3	<0.010	<0.010	<10	<10	<10	<10

*Sample was analyzed. Where both duplicates were analyzed, the result presented is an average of both samples. Duplicates not analyzed were archived.

Table B-90: Soil Sampling Log- Lower Site Foundation Landfill, 2008

Site Name:	DYE-M
Date of Sampling Event:	18-Aug-08
Names of Samplers:	Molly Brewis, Andrea Ellis, Bryarly McEachern, Cam Olison
Facility:	Lower Site Foundation Landfill

Soil Sampling

Sample Location ID:	DM-4	Sample Location ID:	DM-5
Sample Number:	Surface: 08-11677/78	Sample Number:	Surface: 08-11681/82
	Depth: 8-11679/80 (~30 cm)		Depth: 08-11683/84 (~30 cm)
Sample containers:	Whirlpaks, 120 mL amber glass jars	Sample containers:	Whirlpaks, 120 mL amber glass jars
GPS:	20W 0562764 7387531	GPS:	20W 0562710 7387594
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment Decontamination:	N	Sampling Equipment Decontamination:	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

Sample Location ID:	DM-6
Sample Number:	Surface: 08-11685/86
	Depth: 08-11687/88 (~30 cm)
Sample containers:	Whirlpaks, 120 mL amber glass jars
GPS:	20W 0562764 7387622
Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*
Sampling Equipment Decontamination:	N
Number washes:	N/A
Number rinses:	N/A

* Info not available from original log

Table B-91: Soil Sampling Log- Lower Site Foundation Landfill, 2011

Site Name:	DYE-M
Date of Sampling Event:	Aug. 11, 2011
Names of Samplers:	Ian Goode, Jennah Dharamshi, Alicia Spencer, Justin Dee
Facility:	Lower Site Foundation Landfill

Soil Sampling

Sample Location ID:	DM-4	Sample Location ID:	DM-5
Sample Number:	Surface: 11-12982/83	Sample Number:	Surface: 11-12986/87
	Depth: 11-12984/85 (~30 cm)		Depth: 11-12988/89 (~30 cm)
Sample containers:	Whirlpaks, 120 mL amber glass jars	Sample containers:	Whirlpaks, 120 mL amber glass jars
GPS:	20W 0562764 7387531	GPS:	20W 0562710 7387594
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	30% plant cover, rockey gravel surface, dark to medium brown soil, 80% fines, 20% small rocks, a few large rocks	Soil description:	Medium brown, moist, 80% fines, 20% gravel, 50% vegetation
Sampling Equipment Decontamination:	N	Sampling Equipment Decontamination:	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

Sample Location ID:	DM-6
Sample Number:	Surface: 11-12990/91
	Depth: 11-12992/93 (~30 cm)
Sample containers:	Whirlpaks, 120 mL amber glass jars
GPS:	20W 0562764 7387622
Procedure/Equipment:	Disposable scoops, shovel
Soil description:	Medium brown, moist, 90% fines, 10% gravel, 50% vegetation at surface
Sampling Equipment Decontamination:	N
Number washes:	N/A
Number rinses:	N/A

Table B-92: Soil Sampling Log- Lower Site Foundation Landfill, 2013

Site Name:	DYE-M		
Date of Sampling Event:	24-Jul-13		
Names of Samplers:	Alaina Leslie and Ian Goode		
Facility:	Lower Site Foundation Landfill		
Soil Sampling			
Sample Location ID:	DM-4	Sample Location ID:	DM-5
Sample Number:	13-25040/41 surface	Sample Number:	13-25043/44 surface
	13-25042/43 depth (30 cm)		13-25045/46 depth (30 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Sandy loam with some gravel. 60% vegetation at surface. Same as depth. Medium moisture. Depth at 30 cm.	Soil description:	Sandy loam with some gravel. 50% vegetation at surface. Same as depth. Medium-high moisture. High moisture at 15 cm. Depth at 30 cm.
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-6		
Sample Number:	13-25048/49 surface		
	13-25050/51 depth (30 cm)		
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars		
Procedure/Equipment:	Pickax and Disposable scoops		
Soil description:	Sandy loam with clay and some gravel / cobbles. 50% vegetation at surface. Same as depth. Medium-high moisture. Depth at 30 cm.		
Sampling Equipment Decontamination: (Y/N)	Y - Pickax		
Number washes:	0		
Number rinses:	1		

Table B-93: Soil Sampling Log - Lower Site Foundation Landfill, 2014

Site Name:	DYE-M		
Date of Sampling Event:	07-Aug-14		
Names of Samplers:	Mike Musclow, Sharilyn Hoobin		
Facility:	Lower Site Foundation Landfill		
Soil Sampling			
Sample Location ID:	DM-4	Sample Location ID:	DM-5
Sample Number:	14-8322 surface 14-8323 depth (50 cm)	Sample Number:	14-8324 surface 14-8325/26 depth (50 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars, 120 mL Clear Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars, 120 mL Clear Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Dry sand with clay and cobbles and 20 % gravel. Well mixed. Medium moisture. Soil same at depth.75% vegetation in area.	Soil description:	Dry sand with clay and cobbles with 20 % gravel. Well mixed. Medium moisture. Soil same at depth. 60% vegetation in area. Rusty nail at surface and rust in jars.
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-6		
Sample Number:	14-8327 surface 14-8328/29 depth (50 cm)		
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars, 120 mL Clear Glass Jars x2		
Procedure/Equipment:	Pickax and Disposable scoops		
Soil description:	Sandy with 20% gravel. Well mixed. Medium moisture. Soil same at depth. 40% vegetation in area.		
Sampling Equipment Decontamination: (Y/N)	Y - Pickax		
Number washes:	0		
Number rinses:	1		

Table B-94: DYE-M Lower Site NWS Landfill - Monitoring Soil Analytical Results

Sample #	Location	Depth	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	PCBs	PHC			
													F1	F2	F3	F4
		(cm)	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
Laboratory Detection Limits 2007-2009			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.0030	10	4.0	9.0	8.0
Laboratory Detection Limits 2011-2012			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2013			3.0	5.0	5.0	1.0	10	15	20	0.20	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2014			3.0	5.0	5.0	1.0	10	15	20	0.20	0.010	0.010	10	10	10	10
2008 Baseline Monitoring Data																
08-11577*/78*	DM-7	0-10	15	24	8.1	<1.0	<10	27	44	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
08-11579*/80	DM-7	30-40	12	21	6.8	<1.0	<10	25	38	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
08-11581*/82	DM-8	0-10	26	31	9.9	<1.0	<10	52	63	<1.0	<0.10	0.0097	<10	<4.0	<9.0	<8.0
08-11583*/84	DM-8	30-40	21	28	11	<1.0	<10	48	56	1.8	<0.10	0.0079	<10	<4.0	9.4	<8.0
08-11585*/86	DM-9	0-10	17	23	9.1	<1.0	<10	35	51	1.1	<0.10	0.0067	<10	4.6	15	<8.0
08-11587*/88	DM-9	30-40	26	34	13	<1.0	<10	48	67	<1.0	<0.10	0.0040	<10	<4.0	15	11
08-11589*/90	DM-10	0-10	19	29	19	<1.0	<10	47	62	<1.0	<0.10	0.0033	<10	<4.0	<9.0	<8.0
08-11591*/92	DM-10	30-40	18	28	19	<1.0	<10	44	74	<1.0	<0.10	0.0034	<10	<4.0	<9.0	<8.0
2011 Baseline Monitoring Data																
11-13002*/03	DM-7	0-10	24	32	11	<1.0	<10	39	54	<1.0	<0.10	<0.050	<10	<4.0	16	14
11-13004*/05	DM-7	30-40	22	28	11	<1.0	<10	37	49	<1.0	<0.10	<0.050	<10	4.9	55	33
11-13006*/07	DM-8	0-10	18	27	11	<1.0	<10	43	49	<1.0	<0.10	<0.050	<10	<4.0	<9.0	11
11-13008*/09	DM-8	30-40	16	24	9.5	<1.0	<10	41	44	<1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-13010*/11*	DM-9	0-10	20	32	12	<1.0	<10	43	61	<1.0	<0.10	<0.050	<10	4.7	16	10
11-13012*/13	DM-9	30-40	17	26	10	<1.0	<10	33	48	<1.0	<0.10	<0.050	<10	5.1	<9.0	<8.0
11-13014*/15	DM-10	0-10	23	33	13	<1.0	<10	45	64	<1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-13016*/17	DM-10	30-40	25	34	16	<1.0	<10	51	60	<1.0	<0.10	<0.050	<10	4.8	<9.0	<8.0
2013 Baseline Monitoring Data																
13-25168*/69	DM-7	0-10	25	35	10	<1.0	<10	45	67	0.70	<0.10	<0.050	<10	12	13	<8.0
13-25170*/71*	DM-7	25-35	29	43	12	<1.0	<10	46	73	1.6	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25172*/73	DM-8	0-10	23	31	7.8	<1.0	<10	47	55	1.7	<0.10	<0.050	<10	13	21	15
13-25174*/75	DM-8	25-35	18	25	6.5	<1.0	<10	35	45	0.90	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25176*/77	DM-9	0-10	33	48	12	<1.0	<10	55	85	1.5	<0.10	<0.050	<10	14	18	8.7
13-25178*/79	DM-9	25-35	46	66	18	<1.0	<10	77	120	2.1	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25180*/81*	DM-10	0-10	33	38	13	<1.0	<10	53	68	1.2	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25182*/83	DM-10	25-35	27	31	11	<1.0	<10	43	53	1.2	<0.10	<0.050	<10	<4.0	<9.0	<8.0
2014 First Year Monitoring Data																
14-8444*	DM-7	5-10	21	29	6.0	<1.0	<10	35	47	1.3	<0.010	<0.010	<10	<10	<10	<10
14-8445*/46	DM-7	40-45	25	33	7.0	<1.0	<10	39	58	1.1	<0.010	<0.010	<10	<10	<10	<10
14-8453*	DM-8	5-10	18	32	6.9	<1.0	11	49	54	1.3	<0.010	0.010	<10	<10	<10	<10
14-8454*	DM-8	45-50	15	29	6.3	<1.0	<10	40	50	1.1	<0.010	<0.010	<10	<10	<10	<10
14-8450*/51*	DM-9	5-10	40	74	16	<1.0	<10	91	130	2.0	<0.010	<0.010	<10	<10	<10	<10
14-8452*	DM-9	40-45	38	71	15	<1.0	<10	87	120	1.8	<0.010	<0.010	<10	<10	<10	<10
14-8447*	DM-10	5-10	21	40	8.4	<1.0	<10	48	77	1.1	<0.010	<0.010	<10	<10	<10	<10
14-8448*	DM-10	30-35	18	31	6.5	<1.0	<10	37	58	0.80	<0.010	<0.010	<10	<10	<10	<10

*Sample was analyzed. Where both duplicates were analyzed, the result presented is an average of both samples. Duplicates not analyzed were archived.

Table B-95: Soil Sampling Log- Lower Site NWS Landfill, 2008

Site Name:	DYE-M		
Date of Sampling Event:	August 19, 2008		
Names of Samplers:	Ian Goode, Derek Snider, Bryarly McEachern, Andrea Ellis		
Facility:	Lower Site NWS Landfill		
Soil Sampling			
Sample Location ID:	DM-7	Sample Location ID:	DM-8
Sample Number:	Surface: 08-11577/78	Sample Number:	Surface: 08-11581/82
	Depth: 08-11579/80 (~30 cm)		Depth: 08-11583/84 (~30 cm)
Sample containers:	Whirlpaks, 120 mL amber glass jars	Sample containers:	Whirlpaks, 120 mL amber glass jars
GPS:	20W 0561372 7388957	GPS:	20W 0561454 7388946
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment Decontamination:	N	Sampling Equipment Decontamination:	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-9	Sample Location ID:	DM-10
Sample Number:	Surface: 08-11585/86	Sample Number:	Surface: 08-11589/90
	Depth: 08-11587/88 (~30 cm)		Depth: 08-11591/92 (~30 cm)
Sample containers:	Whirlpaks, 120 mL amber glass jars	Sample containers:	Whirlpaks, 120 mL amber glass jars
GPS:	20W 0561464 7388902	GPS:	20W 0561424 7388884
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment Decontamination:	N	Sampling Equipment Decontamination:	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

* Info not available from original log

Table B-96: Soil Sampling Log- Lower Site NWS Landfill, 2011

Site Name:	DYE-M		
Date of Sampling Event:	August 14, 2011		
Names of Samplers:	Jennah Dharamshi, Alicia Spencer, Justin Dee, Andrea Ellis		
Facility:	Lower Site NWS Landfill		
Soil Sampling			
Sample Location ID:	DM-7	Sample Location ID:	DM-8
Sample Number:	Surface: 11-13002/03	Sample Number:	Surface: 11-13006/07
	Depth: 11-13004/05 (~30 cm)		Depth: 11-13008/09 (~30 cm)
Sample containers:	Whirlpaks, 120 mL amber glass jars	Sample containers:	Whirlpaks, 120 mL amber glass jars
GPS:	20W 0561372 7388957	GPS:	20W 0561454 7388946
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	70% vegetation, and 30% rock at surface. Dark brown soil, 30% medium sized rocks, 70% fines	Soil description:	0% vegetation, gravel (70%) cover on surface, dark sandy brown soil, 40% medium to small rocks, 60% fines
Sampling Equipment Decontamination: (Y/N)	N	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-9	Sample Location ID:	DM-10
Sample Number:	Surface: 11-13010/11	Sample Number:	Surface: 11-13014/15
	Depth: 11-13012/13 (~30 cm)		Depth: 11-13016/17 (~30 cm)
Sample containers:	Whirlpaks, 120 mL amber glass jars	Sample containers:	Whirlpaks, 120 mL amber glass jars
GPS:	20W 0561464 7388902	GPS:	20W 0561424 7388884
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	40% vegetation and some large rocks at surface. Dark brown soil, 10% medium rocks, 90% fines. Some gravel at surface. Clay at 0.4m depth	Soil description:	10% vegetation, 50% gravel and 30% rock at surface. Dark brown soil, 50% medium rocks 50% fines.
Sampling Equipment Decontamination: (Y/N)	N	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

Table B-97: Soil Sampling Log- Lower Site NWS Landfill, 2013

Site Name:	DYE-M		
Date of Sampling Event:	05-Aug-13		
Names of Samplers:	Ian Goode and Tom Partridge		
Facility:	Lower Site NWS Landfill		
Soil Sampling			
Sample Location ID:	DM-7	Sample Location ID:	DM-8
Sample Number:	13-25168/69 surface	Sample Number:	13-25172/73 surface
	13-25170/71 depth (30 cm)		13-25174/75 depth (30 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars
Procedure/Equipment:	Shovel and Disposable scoops	Procedure/Equipment:	Shovel and Disposable scoops
Soil description:	Dark brown fine sand with gravel. A lot of vegetation. Medium moisture. Cobbles present. Same at depth.	Soil description:	Dark brown fine sand with gravel. Minimal vegetation. Dry. Same at depth.
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-9	Sample Location ID:	DM-10
Sample Number:	13-25176/77 surface	Sample Number:	13-25180/81 surface
	13-25178/79 depth (30 cm)		13-25182/83 depth (30 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars
Procedure/Equipment:	Shovel and Disposable scoops	Procedure/Equipment:	Shovel and Disposable scoops
Soil description:	Dark brown fine sand with gravel. A lot of vegetation. Medium moisture. Same at depth.	Soil description:	Dark brown fine sand with gravel. 10% vegetation. Low moisture. Same at depth.
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1

Table B-98: Soil Sampling Log - Lower Site NWS Landfill, 2014

Site Name:	DYE-M		
Date of Sampling Event:	12-Aug-14		
Names of Samplers:	Mike Musclow, Sharilyn Hoobin		
Facility:	Lower Site NWS Landfill		
Soil Sampling			
Sample Location ID:	DM-7	Sample Location ID:	DM-8
Sample Number:	14-8444 surface	Sample Number:	14-8453 surface
	14-8445/46 depth (50 cm)		14-8454 depth (50 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars & 120 mL Clear Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars & 120 mL Clear Glass Jars
Procedure/Equipment:	Shovel and Disposable scoops	Procedure/Equipment:	Shovel and Disposable scoops
Soil description:	Dark damp sandy soil with 30% gravel and 40% large boulders. Well mixed. Medium moisture. Soil same at depth. 50% vegetation in area.	Soil description:	Sandy with 50% gravel. Well mixed. Medium moisture. Soil same at depth. 50% vegetation in area.
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-9	Sample Location ID:	DM-10
Sample Number:	14-8450/51 surface	Sample Number:	14-8447 surface
	14-8452 depth (50 cm)		14-8448/49 depth (35 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars & 120 mL Clear Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars & 120 mL Clear Glass Jars x2
Procedure/Equipment:	Shovel and Disposable scoops	Procedure/Equipment:	Shovel and Disposable scoops
Soil description:	Damp clay at surface. Clay chunks at surface. Well mixed. Medium moisture. Soil same at depth. 30% vegetation in area.	Soil description:	Damp clay with angular grey cobbles. Low moisture. Same at depth. 5% vegetation in area.
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1

Table B-99: DYE-M Upper Site Tier II Disposal Facility - Soil Analytical Results

Sample #	Location	Depth	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	PCBs	PHC			
													F1	F2	F3	F4
		(cm)	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
Laboratory Detection Limits 2007-2009			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.0030	10	4.0	9.0	8.0
Laboratory Detection Limits 2011-2012			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2013			3.0	5.0	5.0	1.0	10	15	20	0.20	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2014			3.0	5.0	5.0	1.0	10	15	20	0.20	0.010	0.010	10	10	10	10
2008 Baseline Monitoring Data																
08-9798*/99*	BMW 07-22	0-10	75	73	18	<1.0	12	94	130	11	<0.10	<0.0030	<10	4.0	26	15
08-9800*/01	BMW 07-22	30-40	82	74	20	<1.0	<10	120	140	1.1	<0.10	<0.0030	<10	8.1	23	8.5
08-9802*/03	MW 07-23	0-10	44	87	14	<1.0	<10	33	60	3.9	<0.10	<0.0030	<10	<4.0	13	<8.0
08-9804*/05	MW 07-23	30-40	41	75	16	<1.0	<10	39	89	5.1	<0.10	<0.0030	<10	<4.0	12	<8.0
2009 Baseline Monitoring Data																
09-21520*/21*	MW07-23	0-10	57	78	17	<1.0	<10	34	72	8.8	<0.10	<0.0030	15	<4.0	<9.0	<8.0
09-21522*/23	MW07-23	30-40	51	71	14	<1.0	<10	28	61	9.2	<0.10	<0.0030	13	<4.0	<9.0	<8.0
09-21566*/67	MW08-24	0-10	11	33	12	<1.0	10	43	52	1.3	<0.10	<0.0030	<10	5.1	13	<8.0
09-21568*/69	MW08-24	30-40	13	34	11	<1.0	<10	41	49	<1.0	<0.10	0.025	<10	<4.0	<9.0	<8.0
09-21560*/61	MW08-25	0-10	53	130	29	<1.0	31	100	***300***	1.8	<0.10	<0.0030	<10	4.5	22	8.9
09-21564*/65	MW08-25	30-40	47	70	26	<1.0	40	160	150	3.1	<0.10	<0.0030	<10	4.1	12	<8.0
2011 Baseline Monitoring Data																
11-13026*/27*	BMW07-22	0-10	82	69	19	<1.0	14	100	140	9.4	<0.10	<0.0050	<10	<4.0	<9.0	<8.0
11-13028*/29	BMW07-22	30-40	100	67	22	<1.0	11	130	140	3.9	<0.10	<0.0050	<10	4.6	<9.0	<8.0
11-13030*/31	MW07-23	0-10	47	69	15	<1.0	<10	29	69	5.0	<0.10	<0.0050	<10	4.5	<9.0	<8.0
11-13032*/33	MW07-23	30-40	35	74	13	<1.0	<10	26	53	5.3	<0.10	<0.0050	<10	4.8	<9.0	<8.0
11-13034*/35	MW08-24	0-10	13	27	12	<1.0	11	42	46	1.1	<0.10	<0.0050	<10	4.5	<9.0	<8.0
11-13036*/37	MW08-24	30-40	12	30	11	<1.0	10	43	49	<1.0	<0.10	<0.0050	<10	<4.0	<9.0	<8.0
11-13038*/39*	MW08-25	0-10	8.9	36	18	<1.0	20	70	64	<1.0	<0.10	<0.0050	<10	<4.0	<9.0	<8.0
11-13040*/41	MW08-25	30-40	6.3	35	19	<1.0	22	85	64	1.0	<0.10	<0.0050	<10	<4.0	<9.0	<8.0
2012 Baseline Monitoring Data																
12-44898*/99	BMW12-02	0-10	15	54	15	<1.0	17	62	91	1.7	<0.10	<0.050	<10	<4.0	<9.0	<8.0
12-44900*/91*	BMW12-02	20-30	7.4	100	21	<1.0	30	83	***290***	2.5	<0.10	<0.050	<10	<4.0	9.1	<8.0
12-44834*/35*	BMW07-22	0-10	90	70	21	<1.0	15	110	140	11	<0.10	<0.050	<10	<10	<10	<10
12-44836*/37	BMW07-22	20-30	95	68	23	<1.0	13	130	140	5.2	<0.10	<0.050	<10	<10	<10	<10
12-44838*/39	MW07-23	0-10	89	65	20	<1.0	<10	46	68	5.3	<0.10	<0.050	<10	<10	11	<10
12-44840*/41	MW07-23	20-30	66	91	16	<1.0	<10	35	59	4.3	<0.10	<0.050	<10	<10	20	<10
12-44842*/43	MW08-24	0-10	20	43	12	<1.0	11	40	57	1.2	<0.10	<0.050	<10	<10	<10	<10
12-44844*/45	MW08-24	20-30	20	35	11	<1.0	11	37	47	1.0	<0.10	<0.050	24	<10	<10	<10
12-44846*/47	MW08-25	0-10	51	73	24	<1.0	25	100	130	1.9	<0.10	<0.050	<10	<10	<10	<10
12-44848*/49*	MW08-25	20-30	49	65	31	<1.0	74	190	130	2.5	<0.10	<0.050	<10	<10	12	8.0
2013 Baseline Monitoring Data																
13-25224*/25	BMW 12-02	0-10	15	61	15	<1.0	22	61	130	2.2	<0.10	<0.050	<10	6.9	12	<8.0
13-25226*/27	BMW 12-02	30-40	7.0	220	34	<1.0	36	98	***560***	1.6	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25220*/21*	BMW 07-22	0-10	74	73	15	<1.0	14	100	140	8.2	<0.10	<0.050	<10	7.2	13	11
13-25222*/23	BMW 07-22	30-40	78	69	14	<1.0	11	110	130	4.9	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25236*/37	MW 07-23	0-10	44	390	40	<1.0	<10	52	100	3.1	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25238*/39	MW 07-23	30-40	42	320	30	<1.0	<10	46	91	4.7	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25232*/33	MW 08-24	0-10	14	40	9.9	<1.0	13	45	58	2.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25234*/35	MW 08-24	30-40	10	28	10	<1.0	11	50	42	1.4	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25228*/29	MW 08-25	0-10	42	82	18	<1.0	34	100	93	2.1	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25230*/31*	MW 08-25	30-40	37	84	25	<1.0	110	210	140	2.6	<0.10	<0.050	<10	<4.0	<9.0	<8.0
2014 First Year Monitoring Data																
14-8424*	BMW 12-02	5-10	13	25	11	<1.0	19	52	26	1.6	<0.010	<0.010	<10	<10	<10	<10
14-8425*/26	BMW 12-02	45-50	10	36	13	<1.0	30	60	29	1.8	<0.010	<0.010	<10	<10	<10	<10
14-8413*	BMW 07-22	5-10	82	76	15	<1.0	11	110	150	11.0	0.019	<0.010	<10	<10	<10	<10
14-8414*	BMW 07-22	30-35	70	90	17	<1.0	13	100	160	7.0	0.012	<0.010	<10	<10	<10	<10
14-8415*/16	MW 07-23	5-10	76	180	21	<1.0	<10	44	100	17	<0.010	<0.010	<10	<10	<10	<10
14-8417*	MW 07-23	45-50	72	130	19	<1.0	<10	40	87	12	<0.010	<0.010	<10	<10	<10	<10
14-8418*	MW 08-24	5-10	27	47	10	<1.0	<10	40	66	1.4	<0.010	<0.010	<10	<10	<10	<10
14-8420*/21*	MW 08-24	30-35	27	45	11	<1.0	10	40	63	1.1	<0.010	<0.010	<10	<10	<10	<10
14-8422*	MW 08-25	5-10	31	77	16	<1.0	18	50	150	1.2	<0.010	<0.010	<10	<10	<10	<10
14-8423*	MW 08-25	40-45	84	200	43	<1.0	17	66	***710***	2.2	<0.010	<0.010	<10	<10	<10	<10

*Sample was analyzed. Where both duplicates were analyzed, the result presented is an average of both samples. Duplicates not analyzed were archived.

ǂ Concentrations in bold and italics are above DLCU Tier II Criteria

Table B-100a: DYE-M Upper Site Tier II Disposal Facility - Groundwater Analytical Results

Sample #	Monitoring Well #	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	PCBs	PHC				pH*	Conductivity*	Turbidity*	Temperature*
												F1	F2	F3	F4				
		[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[-]	[uS-cm]	(NTU)	C
Laboratory Detection Limits 2008-2011		0.0050	0.0050	0.0030	0.0010	0.010	0.010	0.0050	0.0030	0.00040	0.0020	0.050	0.50	1.0	1.0				
Laboratory Detection Limits 2012-2013		0.0050	0.0050	0.0030	0.0010	0.0050	0.0050	0.0050	0.0010	0.00040	0.0030	0.050	0.50	1.0	1.0				
Laboratory Detection Limits 2014		0.0010	0.0010	0.00030	0.000090	0.00050	0.0030	0.00050	0.0010	0.00010	0.000020	0.025	0.10	0.25	0.25				
2008 Baseline Monitoring Data																			
08-9742	MW07-23	0.036	0.16	0.0080	<0.0010	<0.010	0.025	0.30	<0.0030	<0.00040	<0.000020	<0.050	<0.050	<1.0	<1.0	7.4	3,300	120	4.3
2009 Baseline Monitoring Data																			
09-21499	MW07-23	0.094	0.073	0.015	<0.0010	0.013	0.11	0.080	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	5.4	1000	680	8.1
09-21572	MW08-24	0.12	0.41	0.014	<0.0010	0.020	0.049	0.52	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	6.4	350	210	12
2011 Baseline Monitoring Data																			
11-12190/91	MW07-23	D	D	D	D	D	5.9	D	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	6.5	510	51	6.8
11-12192	MW08-24	D	D	D	D	D	0.29	D	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	6.9	230	40	7.0
2012 Baseline Monitoring Data																			
12-34978	BMW12-02	D	D	D	D	D	0.011	0.76	<0.0010	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	8.5	540	41	10
12-34966	MW07-23	D	D	D	D	D	0.25	0.16	0.0057	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	8.1	750	310	9.9
12-34967	MW08-24	D	D	D	D	D	0.23	0.41	0.0070	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	7.9	230	530	9.7
2013 Baseline Monitoring Data																			
13-29589	MW08-24	D	D	D	D	D	0.16	0.17	0.0019	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	8.6	160	370	0.40
2014 First Year Monitoring Data																			
14-8183	MW07-23	D	D	D	D	D	D	D	D	D	<0.000020	<0.025	<0.10	<0.25	<0.25	7.01	570	68	5.4
14-8184	MW08-24	D	D	D	D	D	D	D	D	D	<0.000020	<0.025	<0.10	<0.25	<0.25	8.15	160	150	6.5
N/A	BMW12-02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	MW08-25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	MW07-22	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

N/A not applicable (sample or measurements not taken)

D - Parameter was analyzed for Dissolved inorganics (presented below)

* pH, conductivity, temperature and turbidity measurements were taken in the field except for 2014 when pH was also analyzed at an accredited lab. The accredited lab result is reported here.

Table B-100b: DYE-M Upper Site Tier II Disposal Facility - Groundwater Analytical Results for Dissolved Inorganics

Sample #	Monitoring Well #	Cu [mg/L]	Ni [mg/L]	Co [mg/L]	Cd [mg/L]	Pb [mg/L]	Zn [mg/L]	Cr [mg/L]	As [mg/L]	Hg [mg/L]
Laboratory Detection Limits 2008-2011		0.0050	0.0050	0.0030	0.0010	0.010	0.010	0.0050	0.0030	0.00040
Laboratory Detection Limits 2012-2013		0.0050	0.0050	0.0030	0.0010	0.0050	0.0050	0.0050	0.0010	0.00040
Laboratory Detection Limits 2014		0.0010	0.0010	0.00030	0.000090	0.00050	0.0030	0.00050	0.0010	0.00010
2011 Baseline Monitoring Data										
11-12190/91	MW07-23	<0.0050	<0.0050	<0.0030	<0.0010	<0.010	T	<0.0050	T	T
11-12192	MW08-24	0.0068	<0.0050	<0.0030	<0.0010	<0.010	T	<0.0050	T	T
2012 Baseline Monitoring Data										
12-34978	BMW12-02	<0.0050	<0.0050	<0.0030	<0.0010	<0.0050	T	T	T	T
12-34966	MW07-23	<0.0050	<0.0050	<0.0030	<0.0010	<0.0050	T	T	T	T
12-34967	MW08-24	<0.0050	0.010	<0.0030	<0.0010	<0.0050	T	T	T	T
2013 Baseline Monitoring Data										
13-29589	MW08-24	<0.0050	<0.0050	<0.0030	<0.0010	<0.0050	T	T	T	T
2014 First Year Monitoring Data										
14-8183	MW07-23	<0.0010	0.0025	<0.00030	<0.000090	<0.00050	0.023	<0.00050	<0.0010	<0.00010
14-8184	MW08-24	0.0036	0.0040	<0.00030	<0.000090	<0.00050	<0.0030	0.00091	0.0020	<0.00010
N/A	BMW12-02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	MW08-25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	MW07-22	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

* pH, conductivity, temperature and turbidity measurements were taken in the field except for 2014 when pH was also analyzed at an accredited lab. The accredited lab result is reported here.
T - Parameter was analyzed for Total inorganics (presented above)

Table B-101: Monitoring Well Sampling Log BMW 07-22 2008

Site Name:	DYE-M					
Date of Sampling Event:	August 19, 2008					
Names of Samplers:	Ian Goode, Derek Snider, Bryarly McEachern, Andrea Ellis					
Monitoring Well ID:	BMW 07-22					
Facility:	Upper Site Tier II Disposal Facility					
Water Sample Measured Data						
Condition of Well:	Good. No well cap on well pipe. Water inside casing.					
Procedure/Equipment:	Measuring Tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.81			Depth to water surface (m)=	N/A	
Diameter of well (m)=	0.044			Static water level* (m)=	N/A	
Depth of installation* (m)=	4.0			Depth to bottom (m)=	2.8	
Length screened section (m)=	1.9			Free product thickness (mm)=	None	
Depth to top of screen* (m)=	1.1					
Calculations				**Notes**		
Depth of water (m)=	0			Evidence of sludge etc:	N/A	
Well volume of water (L)=	0			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	0					
Development/Purging Information						
Equipment:						
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 19/08 - 4:00 pm	Not enough water present to develop or sample well.					
Water Sampling				**Soil Sampling**		
Date and time collected:	N/A			Date and time collected:	August 19, 2008	
Sample Number - Water:	No sample collected.			Sample Number - Soil:	Surface: 08-9798/99	
					Depth: 08-9800/01 (~30 cm)	
Sample containers:	N/A			Sample containers:	Whirlpaks	
					120 mL Amber glass jars	
Procedure/Equipment:	N/A			Procedure/Equipment:	Disposable scoops, shovel	
Water description:	N/A			Soil description:	0-35 cm: medium brown, coarse sand, small amount of cobbles, fairly dry, no vegetation, no seepage	
Filtration: (Y/N)	N/A					
Acidification: (Y/N)	N/A					
Sampling Equipment Decontamination: (Y/N)	N/A			Sampling Equipment Decontamination: (Y/N)	Y (shovel)	
Number washes:	N/A			Number washes:		
Number rinses:	N/A			Number rinses:	Soil rinse	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-102: Monitoring Well Sampling Log MW 07-23 2008

Site Name:	DYE-M					
Date of Sampling Event:	August 19, 2008					
Names of Samplers:	Ian Goode, Derek Snider, Bryarly McEachern, Andrea Ellis					
Monitoring Well ID:	MW 07-23					
Facility:	Upper Site Tier II Disposal Facility					
Water Sample Measured Data						
Condition of Well:	Good					
Procedure/Equipment:	Measuring tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.67			Depth to water surface (m)=	1.3	
Diameter of well (m)=	0.044			Static water level* (m)=	0.62	
Depth of installation* (m)=	3.6			Depth to bottom (m)=	1.7	
Length screened section (m)=	2.1			Free product thickness (mm)=	None	
Depth to top of screen* (m)=	0.73					
Calculations				**Notes**		
Depth of water (m)=	0.36			Evidence of sludge etc:	N/A	
Well volume of water (L)=	0.55			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	0.25					
Development/Purging Information						
Equipment:	Waterra tubing, stainless steel ball valve, flow-through cell (1 L HDPE bottle)					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 19/08 - 4:00 pm	1.6	4.3	7.4	3300	120	Translucent, light silt content
Water Sampling				**Soil Sampling**		
Date and time collected:	August 19, 2008 4:00 pm			Date and time collected:	August 19, 2008	
Sample Number - Water:	08-9742			Sample Number - Soil:	Surface: 08-9802/03	
					Depth: 08-9804/05 (~30 cm)	
Sample containers:	1 L HDPE bottle			Sample containers:	Whirlpaks	
	1 L Teflon bottle				120 mL Amber glass jars	
	250 mL Amber glass bottle					
Procedure/Equipment:	Waterra tubing, stainless steel ball			Procedure/Equipment:	Disposable scoops, shovel	
Water description:	Translucent, light silt content.			Soil description:	0-30cm: medium brown, sandy (coarse grain sand) with coarse gravel, moist, no vegetation	
Filtration: (Y/N)	N					
Acidification: (Y/N)	N					
Sampling Equipment Decontamination: (Y/N)	Y			Sampling Equipment Decontamination: (Y/N)	Y (shovel)	
Number washes:	1 (MeOH water)			Number washes:		
Number rinses:	1 (distilled water)			Number rinses:	Soil rinse	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-103: Monitoring Well Sampling Log MW 08-24 2008

Site Name:	DYE-M		
Date of Sampling Event:	August 28, 2008		
Names of Samplers:	Bryarly McEachern, Kristin Andruchow		
Monitoring Well ID:	MW 08-24		
Facility:	Upper Site Tier II Disposal Facility		
Water Sample Measured Data			
Condition of Well:	New		
Procedure/Equipment:	Measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.69	Depth to water surface (m)=	1.5
Diameter of well (m)=	0.044	Static water level* (m)=	0.81
Depth of installation* (m)=	3.4	Depth to bottom (m)=	2.7
Length screened section (m)=	2.0	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.40		
Calculations		**Notes**	
Depth of water (m)=	1.2	Evidence of sludge etc:	N/A
Well volume of water (L)=	1.9	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	1.2		

Development/Purging Information

Equipment: Waterra tubing, stainless steel ball valve, flow-through cell (1 L HDPE bottle), Interface mete

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 28/08 - 2:30	4.2	**	**	**	**	Liter 1: almost clear.
Aug. 29/08	2.0	**	**	**	**	Liter 1: almost clear. Liter 2: light silt.

Water Sampling		**Soil Sampling**	
Date and time collected:	N/A	Date and time collected:	N/A
Sample Number - Water:	No sample collected.	Sample Number - Soil:	No samples collected.
Sample containers:	N/A	Sample containers:	N/A
Procedure/Equipment:	N/A	Procedure/Equipment:	N/A
Water description:	N/A	Soil description:	N/A
Filtration: (Y/N)	N/A		
Acidification: (Y/N)	N/A		
Sampling Equipment Decontamination: (Y/N)	N/A	Sampling Equipment Decontamination: (Y/N)	N/A
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

**No data available from original sampling log.

Table B-104: Monitoring Well Sampling Log MW 08-25 2008

Site Name:	DYE-M		
Date of Sampling Event:	August 28, 2008		
Names of Samplers:	Bryarly McEachern, Kristin Andruchow		
Monitoring Well ID:	MW 08-25		
Facility:	Upper Site Tier II Disposal Facility		
Water Sample Measured Data			
Condition of Well:	New		
Procedure/Equipment:	Measuring Tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.54	Depth to water surface (m)=	2.2
Diameter of well (m)=	0.044	Static water level* (m)=	1.7
Depth of installation* (m)=	3.5	Depth to bottom (m)=	2.4
Length screened section (m)=	2.0	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.49		
Calculations		**Notes**	
Depth of water (m)=	0.16	Evidence of sludge etc:	N/A
Well volume of water (L)=	0.24	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	0.16		

Development/Purging Information

Equipment: Waterra tubing, stainless steel ball valve, flow-through cell (1 L HDPE bottle), Interface meter

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 28/08 - 2:00 pm	Not enough water in well to develop or purge well.					

Water Sampling		**Soil Sampling**	
Date and time collected:	N/A	Date and time collected:	N/A
Sample Number - Water:	No sample collected.	Sample Number - Soil:	No sample collected.
Sample containers:	N/A	Sample containers:	N/A
Procedure/Equipment:	N/A	Procedure/Equipment:	N/A
Water description:	N/A	Soil description:	N/A
Filtration: (Y/N)	N/A		
Acidification: (Y/N)	N/A		
Sampling Equipment Decontamination: (Y/N)	N/A	Sampling Equipment Decontamination: (Y/N)	N/A
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-105: Monitoring Well Sampling Log BMW 07-22 2009

Site Name:	DYE-M		
Date of Sampling Event:	August 7, 2009		
Names of Samplers:	Jen Joubert, Justine Mannion, Chris McNevin		
Monitoring Well ID:	BMW 07-22		
Facility:	Upper Site Tier II Disposal Facility		
Water Sample Measured Data			
Condition of Well:	No cap on well pipe, water inside, good		
Procedure/Equipment:	Measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.76	Depth to water surface (m)=	N/A
Diameter of well (m)=	0.044	Static water level* (m)=	N/A
Depth of installation* (m)=	4.0	Depth to bottom (m)=	2.5
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	1.1		
Calculations		**Notes**	
Depth of water (m)=	0	Evidence of sludge etc:	**
Well volume of water (L)=	0	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	0		

Development/Purging Information

Equipment:

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 7/09	Not enough water present to develop or purge well					

Water Sampling		**Soil Sampling**	
Date and time collected:	N/A	Date and time collected:	N/A
Sample Number - Water:	No sample collected.	Sample Number - Soil:	No sample collected.
Sample containers:	N/A	Sample containers:	N/A
Procedure/Equipment:	N/A	Procedure/Equipment:	N/A
Water description:	N/A	Soil description:	N/A
Filtration: (Y/N)	N/A		
Acidification: (Y/N)	N/A		
Sampling Equipment Decontamination: (Y/N)	N/A	Sampling Equipment Decontamination: (Y/N)	N/A
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

**No data available from original sampling log.

Table B-106: Monitoring Well Sampling Log MW 07-23 2009

Site Name:	DYE-M
Date of Sampling Event:	August 7, 2009
Names of Samplers:	Jen Joubert, Justine Mannion, Chris McNevin
Monitoring Well ID:	MW 07-23
Facility:	Upper Site Tier II Disposal Facility

Water Sample Measured Data

Condition of Well:	Water inside, good		
Procedure/Equipment:	Measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.73	Depth to water surface (m)=	1.3
Diameter of well (m)=	0.044	Static water level* (m)=	0.61
Depth of installation* (m)=	3.6	Depth to bottom (m)=	1.7
Length screened section (m)=	2.1	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.73		
Calculations		**Notes**	
Depth of water (m)=	0.33	Evidence of sludge etc:	No
Well volume of water (L)=	0.40	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	0.21		

Development/Purging Information

Equipment: Waterra tubing

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 7/09 - 2:45 pm	0.40	8.1	7.0	1000	680	Cloudy

Water Sampling		**Soil Sampling**	
Date and time collected:	August 7, 2009 3:30 pm	Date and time collected:	August 7, 2009 3:30 pm
Sample Number - Water:	09-21499	Sample Number - Soil:	Surface: 09-21520/21
			Depth: 09-21522/23 (~30 cm)
Sample containers:	1 L HDPE bottle	Sample containers:	Whirlpacks
	1 L Teflon bottle		120 mL Amber glass jars
	1 L Amber glass bottle		
Procedure/Equipment:	Waterra tubing	Procedure/Equipment:	Disposable scoops, shovel
Water description:	Cloudy	Soil description:	Surface: Brown/grey sandy soil, some rocks
Filtration: (Y/N)	N		Depth: Brown sandy soil
Acidification: (Y/N)	N		
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination:	**
Number washes:	3 (MeOH)	Number washes:	**
Number rinses:	3 (distilled water)	Number rinses:	**

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

**No data available from original sampling log.

Table B-107: Monitoring Well Sampling Log MW 08-24 2009

Site Name:	DYE-M					
Date of Sampling Event:	August 7, 2009					
Names of Samplers:	Jen Joubert, Justine Mannion, Chris McNevin					
Monitoring Well ID:	MW-08-24					
Facility:	Upper Site Tier II Disposal Facility					
Water Sample Measured Data						
Condition of Well:	No lock on well pipe, water inside, good condition					
Procedure/Equipment:	Measuring tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.75			Depth to water surface (m)=	1.4	
Diameter of well (m)=	0.040			Static water level* (m)=	0.65	
Depth of installation* (m)=	3.4			Depth to bottom (m)=	1.7	
Length screened section (m)=	2.0			Free product thickness (mm)=	None	
Depth to top of screen* (m)=	0.40					
Calculations				**Notes**		
Depth of water (m)=	0.29			Evidence of sludge etc:	N	
Well volume of water (L)=	0.36			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	0.29					
Development/Purging Information						
Equipment:	Waterra tubing					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 7/09 - 2:45 pm	Not enough water present to purge or sample well.					
Aug. 21/09 - 2:45 pm	0.54	12	4.8	350	210	Cloudy, grey
Water Sampling				**Soil Sampling**		
Date and time collected:	August 21, 2009 2:45 pm			Date and time collected:	August 21, 2009 2:45 pm	
Sample Number - Water:	09-21572			Sample Number - Soil:	Surface: 09-21566/67	
					Depth: 09-21568/69 (~30 cm)	
Sample containers:	1 L Teflon bottle			Sample containers:	Whirlpaks	
	1 L Amber glass bottle				120 mL Amber glass jars	
Procedure/Equipment:	Waterra tubing			Procedure/Equipment:	Disposable scoops, shovel	
Water description:	Cloudy with grey tinge			Soil description:	Sandy, dark, gravel, large pebbles	
Filtration: (Y/N)	N			CPS coordinates		
Acidification: (Y/N)	N					
Sampling Equipment Decontamination: (Y/N)	Y			Sampling Equipment Decontamination:	**	
Number washes:	3 (MeOH)			Number washes:	**	
Number rinses:	3 (distilled water)			Number rinses:	**	

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

**No data available from original sampling log.

Table B-108: Monitoring Well Sampling Log MW 08-25 2009

Site Name:	DYE-M					
Date of Sampling Event:	August 7, 2009					
Names of Samplers:	Jen Joubert, Justine Mannion, Chris McNevin					
Monitoring Well ID:	MW-08-25					
Facility:	Upper Site Tier II Disposal Facility					
Water Sample Measured Data						
Condition of Well:	No lock, good					
Procedure/Equipment:	Measuring tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.55			Depth to water surface (m)=	N/A	
Diameter of well (m)=	0.044			Static water level* (m)=	N/A	
Depth of installation* (m)=	3.5			Depth to bottom (m)=	2.5	
Length screened section (m)=	2.0			Free product thickness (mm)=	None	
Depth to top of screen* (m)=	0.49					
Calculations				**Notes**		
Depth of water (m)=	0			Evidence of sludge etc:	N/A	
Well volume of water (L)=	0			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	0					
Development/Purging Information						
Equipment:	Waterra tubing					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 7/09	Not enough water present to develop or purge well.					
Water Sampling				**Soil Sampling**		
Date and time collected:	N/A			Date and time collected:	August 21, 2009, 2:26 pm	
Sample Number - Water:	Sample not collected.			Sample Number - Soil:	Surface: 09-21560/61	
					Depth: 09-21564/65 (~30 cm)	
Sample containers:	N/A			Sample containers:	Whirlpaks	
					120 mL Amber glass jars	
Procedure/Equipment:	N/A			Procedure/Equipment:	Disposable scoops, shovel	
Water description:	N/A			Soil description:	Dark brown, coarse grained, pebbles	
Filtration: (Y/N)	N/A					
Acidification: (Y/N)	N/A					
Sampling Equipment Decontamination: (Y/N)	N/A			Sampling Equipment Decontamination: (Y/N)	**	
Number washes:	N/A			Number washes:	**	
Number rinses:	N/A			Number rinses:	**	

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

**No data available from original sampling log.

Table B-109: Monitoring Well Sampling Log- BMW 07-22, 2011

Site Name:	DYE-M					
Date of Sampling Event:	August 15, 2011					
Names of Samplers:	Andrea Ellis, Justin Dee, Jennah Dharamshi, Alicia Spencer					
Monitoring Well ID:	BMW 07-22					
Facility:	Upper Site Tier II Disposal Facility					
Water Sample Measured Data						
Condition of Well:	Good, casing filled with water					
Procedure/Equipment:	Measuring tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.85			Depth to water surface (m)=	N/A	
Diameter of well (m)=	0.044			Static water level* (m)=	N/A	
Depth of installation* (m)=	4.0			Depth to bottom (m)=	2.4	
Length screened section (m)=	1.9			Free product thickness (mm)=	None	
Depth to top of screen* (m)=	1.1					
Calculations				**Notes**		
Depth of water (m)=	0			Evidence of sludge etc:	N/A	
Well volume of water (L)=	0			Evidence of freezing/siltation: (compare to installation record)	freezing	
Length screen collecting water (m)=	0					
Development/Purging Information						
Equipment:	Waterra tubing					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 15/11	Not enough water present to collect a sample.					
						N/A
Water Sampling				**Soil Sampling**		
Date and time collected:	N/A			Date and time collected:	August 15, 2011	
Sample Number - Water:	No sample collected.			Sample Number - Soil:	Surface: 11-13026/27	
					Depth: 11-13028/29 (~30 cm)	
Sample containers:	N/A			Sample containers:	Whirlpaks	
					120 mL Amber glass jars	
Procedure/Equipment:	N/A			Procedure/Equipment:	Disposable scoops, shovel	
Water description:	N/A			Soil description:	Dark brown, 60% fines, 40% rocks, 0% vegetation	
Filtration: (Y/N)	N/A					
Acidification: (Y/N)	N/A					
Sampling Equipment Decontamination:	N/A			Sampling Equipment Decontamination:	N	
Number washes:	N/A			Number washes:	N/A	
Number rinses:	N/A			Number rinses:	N/A	

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

Table B-110: Monitoring Well Sampling Log- MW 07-23, 2011

Site Name:	DYE-M
Date of Sampling Event:	August 15, 2011
Names of Samplers:	Justin Dee, Andrea Ellis, Alicia Spencer, Jennah Dharamshi
Monitoring Well ID:	MW 07-23
Facility:	Upper Site Tier II Disposal Facility

Water Sample Measured Data

Condition of Well:	Good, water in casing		
Procedure/Equipment:	Measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.72	Depth to water surface (m)=	1.2
Diameter of well (m)=	0.044	Static water level* (m)=	0.49
Depth of installation* (m)=	3.6	Depth to bottom (m)=	1.3
Length screened section (m)=	2.1	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.73		

Calculations		**Notes**	
Depth of water (m)=	0.10	Evidence of sludge etc:	N/A
Well volume of water (L)=	0.13	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	0.10		

Development/Purging Information

Equipment: Waterra tubing

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 15/11	0.25	6.8	6.5	510	51	Clear

Water Sampling		**Soil Sampling**	
Date and time collected:	August 15, 2011 9:40 am	Date and time collected:	August 15, 2011 9:45 am
Sample Number - Water:	11-12190/91	Sample Number - Soil:	Surface: 11-13030/31
			Depth: 11-13032/33 (~30 cm)
Sample containers:	1 L HDPE bottle	Sample containers:	Whrilpaks
	1 L Teflon bottle		120 mL Amber glass jars
	250 mL Amber glass bottle		
Procedure/Equipment:	Waterra tubing	Procedure/Equipment:	Disposable scoops, shovel
Water description:	Clear	Soil description:	Medium brown, 60% fines, 40% rocks
Filtration: (Y/N)	N	GPS Coordinates	
Acidification: (Y/N)	N		
Sampling Equipment Decontamination:	Y	Sampling Equipment Decontamination:	N
Number washes:	2	Number washes:	N/A
Number rinses:	1	Number rinses:	N/A

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

Table B-111: Monitoring Well Sampling Log- MW 08-24, 2011

Site Name:	DYE-M					
Date of Sampling Event:	August 15, 2011					
Names of Samplers:	Alicia Spencer, Andrea Ellis					
Monitoring Well ID:	MW 08-24					
Facility:	Upper Site Tier II Disposal Facility					
Water Sample Measured Data						
Condition of Well:	Good, water in casing					
Procedure/Equipment:	Measuring tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.68			Depth to water surface (m)=	1.4	
Diameter of well (m)=	0.044			Static water level* (m)=	0.12	
Depth of installation* (m)=	3.4			Depth to bottom (m)=	1.5	
Length screened section (m)=	2.0			Free product thickness (mm)=	None	
Depth to top of screen* (m)=	0.40					
Calculations				**Notes**		
Depth of water (m)=	0.12			Evidence of sludge etc:	No	
Well volume of water (L)=	0.15			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	0.12					
Development/Purging Information						
Equipment:	Waterra tubing					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 15/11 - 10:00 am	0.19	7.0	6.9	230	40	Clear- small amount of floating sediment
Water Sampling				**Soil Sampling**		
Date and time collected:	August 15, 2011 10:30 am			Date and time collected:	August 15, 2011 10:40 am	
Sample Number - Water:	11-12192			Sample Number - Soil:	Surface: 11-13034/35	
					Depth: 11-13036/37 (~30 cm)	
Sample containers:	1 L HDPE bottle			Sample containers:	Whirlpaks	
	1 L Teflon bottle				120 mL Amber glass jars	
	250 mL Amber glass bottle					
Procedure/Equipment:	Waterra tubing			Procedure/Equipment:	Disposable scoops, shovel	
Water description:	Clear - small amount of floating sediment			Soil description:	Brown - Moist and compact 80% fines, 20% rocks. Rocky surface.	
Filtration: (Y/N)	N			GPS:	20W 0541000 7394573	
Acidification: (Y/N)	N					
Sampling Equipment Decontamination: (Y/N)	Y			Sampling Equipment Decontamination:	N	
Number washes:	1			Number washes:	N/A	
Number rinses:	2			Number rinses:	N/A	

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

Table B-112: Monitoring Well Sampling Log- MW 08-25, 2011

Site Name:	DYE-M					
Date of Sampling Event:	August 15, 2011					
Names of Samplers:	Jennah Dharamshi, Justin Dee					
Monitoring Well ID:	MW 08-25					
Facility:	Upper Site Tier II Disposal Facility					
Water Sample Measured Data						
Condition of Well:	Good					
Procedure/Equipment:	Measuring tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.60			Depth to water surface (m)=	N/A	
Diameter of well (m)=	0.044			Static water level* (m)=	N/A	
Depth of installation* (m)=	3.5			Depth to bottom (m)=	1.3	
Length screened section (m)=	2.0			Free product thickness (mm)=	None	
Depth to top of screen* (m)=	0.49					
Calculations				**Notes**		
Depth of water (m)=	0			Evidence of sludge etc:	No	
Well volume of water (L)=	0			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	0					
Development/Purging Information						
Equipment:	N/A					
Date & Time	Volume Removed (L)	Temperature (°C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 15/11	Not enough water present to develop or purge well.					
Water Sampling				**Soil Sampling**		
Date and time collected:	N/A			Date and time collected:	August 15, 2011 11:00 am	
Sample Number - Water:	No sample collected.			Sample Number - Soil:	Surface: 11-13038/39	
					Depth: 11-13040/41 (~30 cm)	
Sample containers:	N/A			Sample containers:	Whirlpaks	
					120 mL Amber glass jars	
Procedure/Equipment:	N/A			Procedure/Equipment:	Disposable scoops, shovel	
Water description:	N/A			Soil description:	Brown, dry, 50% rock and gravel	
Filtration: (Y/N)	N/A			GPS:	20W 0571007	
Acidification: (Y/N)	N/A				7394666	
Sampling Equipment Decontamination:	N/A			Sampling Equipment Decontamination:	N	
Number washes:	N/A			Number washes:	N/A	
Number rinses:	N/A			Number rinses:	N/A	

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

Table B-113: Monitoring Well Sampling Log- BMW07-22, 2012

Site Name:	DYE-M		
Date of Sampling Event:	August 12, 2012	July 29, 2012	
Names of Samplers:	Sarah Ficko and Quinn Francis	Sarah Ficko and Lauren Forrester	
Monitoring Well ID:	BMW07-22B		
Facility:	Upper Site Tier II Disposal Facility		

Monitoring Well Measured Data

Condition of Well:	good, missing metal cap (temp. well plug present)		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.6	Depth to water surface (m)=	Dry
Diameter of well (m)=	0.040	Static water level* (m)=	N/A
Depth of installation* (m)=	4.0	Depth to bottom (m)=	2.4
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	1.1		

Calculations		**Notes**	
Depth of water (m)=	0	Evidence of sludge etc:	N/A
Well volume of water (L)=	0.0	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	0		

Purging Information

Equipment:	N/A					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
12-Aug	Not enough water present to collect a sample.					

Water Sampling		**Soil Sampling**	
Date and time collected:	N/A	Date and time collected:	29-Jul-12
Sample Number - Water:	No sample collected.	Sample Number - Soil:	Surface: 12-44834/44835
			Depth: 12-44836/44837 (~30 cm)
Sample containers:	N/A	Sample containers:	Whirl paks
			120 mL AG jars
Procedure/Equipment:	N/A	Procedure/Equipment:	Shovel, pick axe and disposable scoop
Water description:	N/A	Soil description:	Light brown soil; no vegetation, fines with sand and gravel. Slightly damp at surface and depth.Within vehicle turn around area, some equipment parts left in close proximity (bucket for excavator)
Filtration: (Y/N)	N/A		
Acidification: (Y/N)	N/A		
		GPS Coordinates	
Sampling Equipment Decontamination:	N/A	Sampling Equipment Decontamination: (Y/N)	No, disposable scoops used
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-114: Monitoring Well Sampling Log- MW07-23, 2012

Site Name:	DYE-M		
Date of Sampling Event:	August 12, 2012	July 29, 2012	
Names of Samplers:	Sarah Ficko and Quinn Francis	Sarah Ficko and Lauren Forrester	
Monitoring Well ID:	MW07-23		
Facility:	Upper Site Tier II Disposal Facility		
Monitoring Well Measured Data			
Condition of Well:	Good		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.60	Depth to water surface (m)=	1.3
Diameter of well (m)=	0.040	Static water level* (m)=	0.74
Depth of installation* (m)=	3.6	Depth to bottom (m)=	1.7
Length screened section (m)=	2.1	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.73		
Calculations		**Notes**	
Depth of water (m)=	0.37	Evidence of sludge etc:	No
Well volume of water (L)=	0.46	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	0.37		

Purging Information

Equipment: Waterra Tubing

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
12-Aug	0.5	9.9	8.1	748	312	Slightly Cloudy

Water Sampling		**Soil Sampling**	
Date and time collected:	12-Aug-12	Date and time collected:	29-Jul-12
Sample Number - Water:	12-34966	Sample Number - Soil:	Surface: 12-44838/44839
			Depth: 12-44840/44841 (~30 cm)
Sample containers:	1L HDPE	Sample containers:	Whirl paks
	1L Teflon		120 mL AG jars
	250 mL Amber Glass		
Procedure/Equipment:	Waterra tubing	Procedure/Equipment:	Shovel and disposable scoop
Water description:	Slightly Cloudy	Soil description:	No vegetation, no debris, very rocky at surface and at depth with some sand; predominantly gravel and gravely soil, light grey and olive grey in colour.
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)	Yes	Sampling Equipment Decontamination: (Y/N)	No, disposable scoops used
Number washes:	2	Number washes:	N/A
Number rinses:	1	Number rinses:	N/A

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-115: Monitoring Well Sampling Log- MW08-24, 2012

Site Name:	DYE-M		
Date of Sampling Event:	August 12, 2012	July 29, 2012	
Names of Samplers:	Sarah Ficko and Quinn Francis	Sarah Ficko and Lauren Forrester	
Monitoring Well ID:	MW08-24		
Facility:	Upper Site Tier II Disposal Facility		
Monitoring Well Measured Data			
Condition of Well:	Good, No lock. Water in Casing		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.62	Depth to water surface (m)=	1.3
Diameter of well (m)=	0.040	Static water level* (m)=	0.72
Depth of installation* (m)=	3.4	Depth to bottom (m)=	1.9
Length screened section (m)=	2.0	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.40		
Calculations		**Notes**	
Depth of water (m)=	0.54	Evidence of sludge etc:	No
Well volume of water (L)=	0.68	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	0.54		

Purging Information

Equipment: Waterra Tubing

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
12-Aug; 15:45	1	9.7	7.9	229	530	Silty/murky; floating particulate

Water Sampling		**Soil Sampling**	
Date and time collected:	12-Aug; 15:45	Date and time collected:	29-Jul-12
Sample Number - Water:	12-34967	Sample Number - Soil:	Surface: 12-44842/44843
			Depth: 12-44844/44845 (~30 cm)
Sample containers:	1L HDPE	Sample containers:	Whirl paks
	1L Teflon		120 mL AG jars
	250 mL Amber Glass		
Procedure/Equipment:	Waterra tubing	Procedure/Equipment:	Shovel, pick axe, and disposable scoop
Water description:	Silty/murky; floating particulate	Soil description:	Soil damp, no vegetation, no debris; predominantly sandy soil with some gravel. Olive grey in colour; located in boulder field.
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)	Yes	Sampling Equipment Decontamination: (Y/N)	No, disposable scoops used
Number washes:	2	Number washes:	N/A
Number rinses:	1	Number rinses:	N/A

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-116: Monitoring Well Sampling Log- MW08-25, 2012

Site Name:	DYE-M		
Date of Sampling Event:	August 12, 2012	July 29, 2012	
Names of Samplers:	Sarah Ficko and Quinn Francis	Sarah Ficko and Lauren Forrester	
Monitoring Well ID:	MW08-25		
Facility:	Upper Site Tier II Disposal Facility		
Monitoring Well Measured Data			
Condition of Well:	excellent; No Lock		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.40	Depth to water surface (m)=	N/A
Diameter of well (m)=	0.040	Static water level* (m)=	N/A
Depth of installation* (m)=	3.5	Depth to bottom (m)=	1.3
Length screened section (m)=	2.0	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.49		
Calculations		**Notes**	
Depth of water (m)=	0	Evidence of sludge etc:	No
Well volume of water (L)=	0.0	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	0		

Purging Information

Equipment: Waterra Tubing

Date & Time	Volume Removed (L)	Temperature (°C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
12, Aug, 12	Not enough water present to develop or purge well.					

Water Sampling		**Soil Sampling**	
Date and time collected:	N/A	Date and time collected:	29-Jul-12
Sample Number - Water:	No sample collected.	Sample Number - Soil:	Surface: 12-44834/44835
			Depth: 12-44836/44837 (~30 cm)
Sample containers:	N/A	Sample containers:	Whirl paks
			120 mL AG jars
Procedure/Equipment:	N/A	Procedure/Equipment:	Shovel and disposable scoop
Water description:	N/A	Soil description:	Soil predominantly fines with some gravel, rocks and sand. Olive grey in colour; damp to very damp at depth; no debris present. Located in sediment deposition / runoff area.
Filtration: (Y/N)	N/A		
Acidification: (Y/N)	N/A		
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)	N/A	Sampling Equipment Decontamination: (Y/N)	No, disposable scoops used
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-117: Monitoring Well Sampling Log- BMW12-02, 2012

Site Name:	DYE-M					
Date of Sampling Event:	August 14, 2012					
Names of Samplers:	Sarah Ficko, Quinn Francis, Lauren Forrester					
Monitoring Well ID:	BMW12-02					
Facility:	Upper Site Tier II Disposal Facility					
Monitoring Well Measured Data						
Condition of Well:	Good, needs lock					
Procedure/Equipment:	measuring tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.53			Depth to water surface (m)=	2.2	
Diameter of well (m)=	0.040			Static water level* (m)=	1.7	
Depth of installation* (m)=	2.6			Depth to bottom (m)=	2.5	
Length screened section (m)=	2.0			Free product thickness (mm)=	None	
Depth to top of screen* (m)=	0.5					
Calculations				**Notes**		
Depth of water (m)=	0.27			Evidence of sludge etc:	No	
Well volume of water (L)=	0.34			Evidence of freezing/siltation: (compare to installation record)	n/a	
Length screen collecting water (m)=	0.27					
Purging Information						
Equipment:	Waterra Tubing					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
14-Aug	0.5	10	8.5	539	41	clear, not turbid
Water Sampling				**Soil Sampling**		
Date and time collected:	14-Aug-12			Date and time collected:	14-Aug	
Sample Number - Water:	12-34978			Sample Number - Soil:	Surface: 12-44898/44899	
					Depth: 12-44900/44901 (~30	
Sample containers:	1L HDPE			Sample containers:	Whirl Paks	
	1L Teflon				120 mL AG jars	
	250 mL Amber Glass					
Procedure/Equipment:	Waterra tubing			Procedure/Equipment:	disp. Scoops and shovel	
Water description:	clear, not turbid			Soil description:	silt and sand with small/ medium size gravel; grey streak near surface; no veg and no debris	
Filtration: (Y/N)	N					
Acidification: (Y/N)	N					
				GPS Coordinates		
Sampling Equipment Decontamination: (Y/N)	Yes			Sampling Equipment Decontamination: (Y/N)	N/A	
Number washes:	2			Number washes:	N/A	
Number rinses:	1			Number rinses:	N/A	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-118: Monitoring Well Sampling Log- Temporary well MW09-22, 2012

Site Name:	DYE-M		
Date of Sampling Event:	14-Aug-12		
Names of Samplers:	Sarah Ficko, Quinn Francis, Lauren Forrester		
Monitoring Well ID:	Temporary Well MW09-22a		
Facility:	Upper Site Tier II Disposal Facility		
Monitoring Well Measured Data			
Condition of Well:	Temp well, good condition, not locked		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.99	Depth to water surface (m)=	3.0
Diameter of well (m)=	0.05	Static water level* (m)=	2.0
Depth of installation* (m)=		Depth to bottom (m)=	3.5
Length screened section (m)=		Free product thickness (mm)=	None
Depth to top of screen* (m)=			
Calculations		**Notes**	
Depth of water (m)=	0.57	Evidence of sludge etc:	No
Well volume of water (L)=	1.1	Evidence of freezing/siltation: (compare to installation record)	n/a
Length screen collecting water (m)=			

Purging Information

Equipment: Waterra Tubing

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
14-Aug; 10:45	1.2	6.9	8.1	507		

Water Sampling		**Soil Sampling**	
Date and time collected:	14-Aug; 10:45	Date and time collected:	No sample collected
Sample Number - Water:	12-29477	Sample Number - Soil:	
Sample containers:	1L HDPE	Sample containers:	
	1L Teflon		
	250 mL Amber Glass		
Procedure/Equipment:	Waterra tubing	Procedure/Equipment:	
Water description:		Soil description:	
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)	Yes	Sampling Equipment Decontamination:	
Number washes:	2	Number washes:	
Number rinses:	1	Number rinses:	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-119: Monitoring Well Sampling Log- MW07-22, 2013

Site Name:	DYE-M					
Date of Sampling Event:	10-Aug-13					
Names of Samplers:	Alaina Leslie, Shari Reed, Tom Partridge					
Monitoring Well ID:	MW07-22					
Facility:	Upper Site Tier II Disposal Facility					
Monitoring Well Measured Data						
Condition of Well:	Good. Cap Missing (PVC cap used and replaced at end of 2013). Lock is sticky.					
Procedure/Equipment:	measuring tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.64			Depth to water surface (m)=	Dry	
Diameter of well (m)=	0.040			Static water level* (m)=	n/a	
Depth of installation* (m)=	4.0			Depth to bottom (m)=	2.8	
Length screened section (m)=	1.9			Free product thickness (mm)=	n/a	
Depth to top of screen* (m)=	1.1					
Calculations				**Notes**		
Depth of water (m)=	n/a			Evidence of sludge etc:	n/a	
Well volume of water (L)=	n/a			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	n/a					
Purging Information						
Equipment:	Waterra & foot valve					
Date & Time	Volume Removed (L)	Temperature (°C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
dry well						
Water Sampling				**Soil Sampling**		
Date and time collected:	N/A			Date and time collected:	10-Aug	
Sample Number - Water:				Sample Number - Soil:	13-25220/21 surface	
					13-25222/23 depth (30cm)	
Sample containers:				Sample containers:	120mL Amber Glass Jars	
					Whirlpacks	
Procedure/Equipment:				Procedure/Equipment:	Pickax & Disposable Scoop	
Water description:				Soil description:	Reddish sandy loam with 25% angular gravel. No vegetation. Very dry. Same at depth - evenly mixed.	
Filtration: (Y/N)						
Acidification: (Y/N)						
				GPS Coordinates		
Sampling Equipment Decontamination: (Y/N)				Sampling Equipment Decontamination: (Y/N)	Y	
Number washes:				Number washes:	0	
Number rinses:				Number rinses:	1	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-120: Monitoring Well Sampling Log- MW07-23, 2013

Site Name:	DYE-M		
Date of Sampling Event:	10-Aug-13		
Names of Samplers:	Alaina Leslie, Shari Reed, Tom Partridge		
Monitoring Well ID:	MW07-23		
Facility:	Upper Site Tier II Disposal Facility		
Monitoring Well Measured Data			
Condition of Well:	Good, water in casing, 18 cm below top of well.		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.73	Depth to water surface (m)=	1.4
Diameter of well (m)=	0.04	Static water level* (m)=	0.6
Depth of installation* (m)=	3.6	Depth to bottom (m)=	1.4
Length screened section (m)=	2.1	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	0.73		
Calculations		**Notes**	
Depth of water (m)=	n/a	Evidence of sludge etc:	n/a
Well volume of water (L)=	n/a	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	n/a		

Purging Information

Equipment: Waterra & foot valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
dry well						

Water Sampling		**Soil Sampling**	
Date and time collected:	N/A	Date and time collected:	10-Aug
Sample Number - Water:		Sample Number - Soil:	13-25236/37 surface
			13-25238/39 depth (30cm)
Sample containers:		Sample containers:	120mL Amber Glass Jars
			Whirlpacks
Procedure/Equipment:		Procedure/Equipment:	Pickax & Disposable Scoop
Water description:		Soil description:	Grey-brown sand with angular cobbles.
Filtration: (Y/N)			
Acidification: (Y/N)			
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)		Sampling Equipment Decontamination: (Y/N)	Y
Number washes:		Number washes:	0
Number rinses:		Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-121: Monitoring Well Sampling Log- MW08-24, 2013

Site Name:	DYE-M		
Date of Sampling Event:	10-Aug-13		
Names of Samplers:	Alaina Leslie, Shari Reed, Tom Partridge		
Monitoring Well ID:	MW08-24		
Facility:	Upper Site Tier II Disposal Facility		
Monitoring Well Measured Data			
Condition of Well:	Water 13 cm below top of casing.		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.65	Depth to water surface (m)=	1.5
Diameter of well (m)=	0.04	Static water level* (m)=	0.81
Depth of installation* (m)=	3.4	Depth to bottom (m)=	1.8
Length screened section (m)=	2.0	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	0.40		
Calculations		**Notes**	
Depth of water (m)=	0.36	Evidence of sludge etc:	n/a
Well volume of water (L)=	0.46	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	0.36		

Purging Information

Equipment: Waterra & foot valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug-10 10am	0.50	1.4	6.0	160	84	Clear / suspended solids
10:10	0.50	0.40	8.6	160	370	slightly turbid and brown

Water Sampling		**Soil Sampling**	
Date and time collected:	Aug 10-12	Date and time collected:	10-Aug
Sample Number - Water:	13-29589	Sample Number - Soil:	13-25232/33 surface
			13-25234/35 depth (30cm)
Sample containers:	250ml Amber Glass	Sample containers:	120mL Amber Glass Jars
	1L HDPE		Whirlpacks
	1L Teflon		
Procedure/Equipment:	Waterra and Foot Valve	Procedure/Equipment:	Pickax & Disposable Scoop
Water description:	Slightly turbid and brown	Soil description:	Brown sand with angular gravel. 25% vegetation. Dry. Same at depth - well mixed.
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y
Number washes:	1	Number washes:	0
Number rinses:	1	Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-122: Monitoring Well Sampling Log- MW08-25, 2013

Site Name:	DYE-M		
Date of Sampling Event:	10-Aug-13		
Names of Samplers:	Alaina Leslie, Shari Reed, Tom Partridge		
Monitoring Well ID:	MW08-25		
Facility:	Upper Site Tier II Disposal Facility		
Monitoring Well Measured Data			
Condition of Well:	Some bentonite exposed around base.		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.53	Depth to water surface (m)=	Dry - ice
Diameter of well (m)=	0.04	Static water level* (m)=	n/a
Depth of installation* (m)=	3.5	Depth to bottom (m)=	1.7
Length screened section (m)=	2.0	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	0.49		
Calculations		**Notes**	
Depth of water (m)=	n/a	Evidence of sludge etc:	n/a
Well volume of water (L)=	n/a	Evidence of freezing/siltation: (compare to installation record)	freezing
Length screen collecting water (m)=	n/a		

Purging Information

Equipment: Waterra & foot valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
dry well						

Water Sampling		**Soil Sampling**	
Date and time collected:	N/A	Date and time collected:	10-Aug
Sample Number - Water:		Sample Number - Soil:	13-25228/29 surface
			13-25230/31 depth (30cm)
Sample containers:		Sample containers:	120mL Amber Glass Jars
			Whirlpacks
Procedure/Equipment:		Procedure/Equipment:	Pickax & Disposable Scoop
Water description:		Soil description:	Brown sand with angular gravel. 25% vegetation. Dry. Same at depth - well mixed.
Filtration: (Y/N)			
Acidification: (Y/N)			
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)		Sampling Equipment Decontamination: (Y/N)	Y
Number washes:		Number washes:	0
Number rinses:		Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-123: Monitoring Well Sampling Log- MW12-02, 2013

Site Name:	DYE-M		
Date of Sampling Event:	10-Aug-13		
Names of Samplers:	Alaina Leslie, Shari Reed, Tom Partridge		
Monitoring Well ID:	MW12-02		
Facility:	Upper Site Tier II Disposal Facility		
Monitoring Well Measured Data			
Condition of Well:	Some bentonite exposed around base.		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.6	Depth to water surface (m)=	Dry
Diameter of well (m)=	0.04	Static water level* (m)=	n/a
Depth of installation* (m)=	2.6	Depth to bottom (m)=	1.7
Length screened section (m)=	2.0	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	0.50		
Calculations		**Notes**	
Depth of water (m)=	n/a	Evidence of sludge etc:	n/a
Well volume of water (L)=	n/a	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	n/a		

Purging Information

Equipment: Waterra & foot valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
dry well						

Water Sampling		**Soil Sampling**	
Date and time collected:	N/A	Date and time collected:	10-Aug
Sample Number - Water:		Sample Number - Soil:	13-25224/25 surface
			13-25226/27 depth (30cm)
Sample containers:		Sample containers:	120mL Amber Glass Jars
			Whirlpacks
Procedure/Equipment:		Procedure/Equipment:	Pickax & Disposable Scoop
Water description:		Soil description:	Reddish sandy loam with 25% angular gravel. No vegetation. Dark brown sand at 20 cm depth.
Filtration: (Y/N)			
Acidification: (Y/N)			
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)		Sampling Equipment Decontamination: (Y/N)	Y
Number washes:		Number washes:	0
Number rinses:		Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-124: Monitoring Well Sampling Log- BMW 07-22, 2014

Site Name:	DYE-M		
Date of Sampling Event:	10-Aug-14		
Names of Samplers:	Shari Reed, Mark Button		
Monitoring Well ID:	BMW 07-22		
Facility:	Upper Site Tier II Disposal Facility		
Monitoring Well Measured Data			
Condition of Well:	Good. Cap not on well. PVC cap only found inside casing. Water inside well to 0.17 m below pipe.		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Solinst Interface Meter
Well height above ground (m)=	0.61	Depth to water surface (m)=	Dry
Diameter of well (m)=	0.04	Static water level* (m)=	n/a
Depth of installation* (m)=	4.0	Depth to bottom (m)=	2.44
Length screened section (m)=	1.9	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	1.1		
Calculations		**Notes**	
Depth of water (m)=	n/a	Evidence of sludge etc:	n/a
Well volume of water (L)=	n/a	Evidence of freezing/siltation: (compare to installation record)	freezing
Length screen collecting water (m)=	n/a		

Purging Information

Equipment: n/a

Date & Time	Volume Removed (L)	Temperature (°C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
		Not enough water present to collect a sample				

Water Sampling		**Soil Sampling**	
Date and time collected:	n/a	Date and time collected:	09-Aug
Sample Number - Water:	No sample collected - dry	Sample Number - Soil:	14-8413 surface
			14-8414 depth (30cm)
Sample containers:		Sample containers:	120mL Amber Glass Jars
			120mL Clear Glass Jars
			Whirlpacks
Procedure/Equipment:		Procedure/Equipment:	Pickax & Disposable Scoop
Water description:		Soil description:	Sand with 25% gravel. No vegetation in area. Same at depth.
Filtration: (Y/N)			
Acidification: (Y/N)			
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)		Sampling Equipment Decontamination: (Y/N)	Y
Number washes:		Number washes:	0
Number rinses:		Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-125: Monitoring Well Sampling Log- MW07-23, 2014

Site Name:	DYE-M		
Date of Sampling Event:	07-Aug-13		
Names of Samplers:	Shari Reed, Mark Button		
Monitoring Well ID:	MW 07-23		
Facility:	Upper Site Tier II Disposal Facility		
Monitoring Well Measured Data			
Condition of Well:	Good. Water inside casing to 0.09 m below top of well pipe.		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Solinst Interface Meter
Well height above ground (m)=	0.59	Depth to water surface (m)=	1.35
Diameter of well (m)=	0.04	Static water level* (m)=	0.76
Depth of installation* (m)=	3.6	Depth to bottom (m)=	1.63
Length screened section (m)=	2.1	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	0.73		
Calculations		**Notes**	
Depth of water (m)=	0.28	Evidence of sludge etc:	n/a
Well volume of water (L)=	0.35	Evidence of freezing/siltation: (compare to installation record)	freezing
Length screen collecting water (m)=	0.28		

Purging Information

Equipment: Waterra and Foot valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug 10. 2014 1420h	0.5	5.3	6.3	67		
1430h	1	5.4	6.42	572	68	Cloudy translucent
						colourless

Water Sampling		**Soil Sampling**	
Date and time collected:	Aug. 10 2014, 1435h	Date and time collected:	09-Aug
Sample Number - Water:	14-8183	Sample Number - Soil:	14-8415/16 surface
			14-8417 depth (50cm)
Sample containers:	40ml VOA x3	Sample containers:	120mL Amber Glass Jars
	124ml Ag x2		120mL Clear Glass Jars
	500ml Ag x2, 1L Ag x1		Whirlpacks
Procedure/Equipment:	Waterra and foot valve	Procedure/Equipment:	Pickax & Disposable Scoop
Water description:	cloudy translucent colourless	Soil description:	Grey-brown clayey sand with angular cobbles. Same at depth.
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	1	Number washes:	0
Number rinses:	1	Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-126: Monitoring Well Sampling Log- MW08-24, 2014

Site Name:	DYE-M		
Date of Sampling Event:	10-Aug-14		
Names of Samplers:	Shari Reed, Mark Button		
Monitoring Well ID:	MW 08-24		
Facility:	Upper Site Tier II Disposal Facility		
Monitoring Well Measured Data			
Condition of Well:	Good. Water in casing to 0.15m below top of pipe.		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Solinst Interface Meter
Well height above ground (m)=	0.6	Depth to water surface (m)=	1.45
Diameter of well (m)=	0.04	Static water level* (m)=	0.85
Depth of installation* (m)=	3.4	Depth to bottom (m)=	1.9
Length screened section (m)=	2.0	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	0.40		
Calculations		**Notes**	
Depth of water (m)=	0.45	Evidence of sludge etc:	n/a
Well volume of water (L)=	0.57	Evidence of freezing/siltation: (compare to installation record)	freezing
Length screen collecting water (m)=	0.45		

Purging Information

Equipment: Waterra and foot valve.

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 10 2014 1520h	0.5	10.6	7.9	144		cloudy, colourless
1530h	1	6	8.55	140		cloudy, colourless
1538h	1.5	6.5	7.3	159	150	cloudy, colourless
						translucent

Water Sampling		**Soil Sampling**	
Date and time collected:	Aug. 10 2014, 1540h	Date and time collected:	09-Aug
Sample Number - Water:	14-8184	Sample Number - Soil:	14-8418/19 surface
			14-8420/21 depth (35cm)
Sample containers:	40ml VOA x3	Sample containers:	120mL Amber Glass Jars
	124ml Ag x2		120mL Clear Glass Jars
	500ml Ag x2, 1L Ag x1		Whirlpacks
Procedure/Equipment:	Waterra and foot valve	Procedure/Equipment:	Pickax & Disposable Scoop
Water description:	Cloudy, colourless, translucent	Soil description:	Brown sand with angular gravel and clay. Moist. Same at depth - well mixed. 25% vegetation in area.
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y
Number washes:	1	Number washes:	0
Number rinses:	1	Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-127: Monitoring Well Sampling Log- MW 08-25, 2014

Site Name:	DYE-M		
Date of Sampling Event:	10-Aug-14		
Names of Samplers:	Shari Reed, Mark Button		
Monitoring Well ID:	MW 08-25		
Facility:	Upper Site Tier II Disposal Facility		
Monitoring Well Measured Data			
Condition of Well:	Good. Water in casing .15 m below top of pipe.		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Solinst Interface Meter
Well height above ground (m)=	0.32	Depth to water surface (m)=	Dry
Diameter of well (m)=	0.04	Static water level* (m)=	n/a
Depth of installation* (m)=	3.5	Depth to bottom (m)=	1.78
Length screened section (m)=	2.0	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	0.49		
Calculations		**Notes**	
Depth of water (m)=	n/a	Evidence of sludge etc:	n/a
Well volume of water (L)=	n/a	Evidence of freezing/siltation: (compare to installation record)	freezing
Length screen collecting water (m)=	n/a		

Purging Information

Equipment: n/a

Date & Time	Volume Removed (L)	Temperature (°C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
		Not enough water present to collect a sample				

Water Sampling		**Soil Sampling**	
Date and time collected:	n/a	Date and time collected:	09-Aug
Sample Number - Water:	No sample collected - dry	Sample Number - Soil:	14-8422 surface
			14-8423 depth (45cm)
Sample containers:		Sample containers:	120mL Amber Glass Jars
			120mL Clear Glass Jars
			Whirlpacks
Procedure/Equipment:		Procedure/Equipment:	Pickax & Disposable Scoop
Water description:		Soil description:	Brown sand with silt and gravel. Minimal organics at surface.
Filtration: (Y/N)			
Acidification: (Y/N)			
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)		Sampling Equipment Decontamination: (Y/N)	Y
Number washes:		Number washes:	0
Number rinses:		Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing

Table B-128: Monitoring Well Sampling Log- BMW 12-02, 2014

Site Name:	DYE-M		
Date of Sampling Event:	10-Aug-14		
Names of Samplers:	Shari Reed, Mark Button		
Monitoring Well ID:	BMW 12-02		
Facility:	Upper Site Tier II Disposal Facility		
Monitoring Well Measured Data			
Condition of Well:	Good. Water inside casing to 0.09 m below top of well pipe.		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Solinst Interface Meter
Well height above ground (m)=	0.61	Depth to water surface (m)=	dry
Diameter of well (m)=	0.04	Static water level* (m)=	n/a
Depth of installation* (m)=	2.6	Depth to bottom (m)=	1.63
Length screened section (m)=	2.0	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	0.50		
Calculations		**Notes**	
Depth of water (m)=	n/a	Evidence of sludge etc:	n/a
Well volume of water (L)=	n/a	Evidence of freezing/siltation: (compare to installation record)	freezing
Length screen collecting water (m)=	n/a		

Purging Information

Equipment: N/A

Date & Time	Volume Removed (L)	Temperature (°C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
		Not enough water present to collect a sample				

Water Sampling		**Soil Sampling**	
Date and time collected:	n/a	Date and time collected:	09-Aug
Sample Number - Water:	No sample collected - dry	Sample Number - Soil:	14-8424 surface
			14-8425/26 depth (50cm)
Sample containers:		Sample containers:	120mL Amber Glass Jars
			120mL Clear Glass Jars
			Whirlpacks
Procedure/Equipment:		Procedure/Equipment:	Pickax & Disposable Scoop
Water description:		Soil description:	Light brown sand with gravel. Some spots of rust coloured clay.
Filtration: (Y/N)			
Acidification: (Y/N)			
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)		Sampling Equipment Decontamination: (Y/N)	Y
Number washes:		Number washes:	
Number rinses:		Number rinses:	1

n/a=not applicable

Table B-129: DYE-M Upper Site Non-hazardous Waste Landfill - Soil Analytical Results

Sample #	Location	Depth	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	PCBs	PHC			
													F1	F2	F3	F4
		(cm)	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
Laboratory Detection Limits 2007-2011			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.0030	10	4.0	9.0	8.0
Laboratory Detection Limits 2012			5.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.050	30	10	10	10
Laboratory Detection Limits 2013			3.0	5.0	5.0	1.0	10	15	20	0.20	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2014			3.0	5.0	5.0	1.0	10	15	20	0.20	0.010	0.020	10	10	10	10
2007 Baseline Monitoring Data																
07-30852*/53	BMW 06-18	0-10	35	60	15	<1.0	30	79	66	<1.0	<0.10	0.065	<10	4.0	32	14
07-30854*/55	BMW 06-18	25-35	13	26	8.5	<1.0	<10	33	<20	<1.0	<0.10	0.0036	<10	<4.0	520	33
07-30848*/49	MW 06-19	0-10	22	120	20	<1.0	<10	44	50	<1.0	<0.10	<0.0030	<10	4.3	16	11
07-30850*/51	MW 06-19	25-35	16	75	14	<1.0	<10	35	34	<1.0	<0.10	<0.0030	<10	<4.0	36	15
07-30856*/57	MW 06-20	0-10	21	51	13	<1.0	<10	45	24	<1.0	<0.10	<0.0030	<10	4.7	34	24
07-30858*/59	MW 06-20	25-35	12	22	8.1	<1.0	<10	32	<20	<1.0	<0.10	<0.0030	<10	<4.0	19	12
07-30860*/61*	MW 07-21	0-10	16	59	12	<1.0	<10	30	28	<1.0	<0.10	<0.0030	<10	<4.0	33	15
07-30862*/63	MW 07-21	25-35	16	59	11	<1.0	<10	31	27	<1.0	<0.10	<0.0030	<10	<4.0	22	10
2008 Baseline Monitoring Data																
08-9782*/83	BMW 06-18	0-10	21	46	11	<1.0	<10	51	38	<1.0	<0.10	0.020	<10	<4.0	36	10
08-9784*/85	BMW 06-18	30-40	14	48	10	<1.0	<10	31	20	<1.0	<0.10	<0.0030	<10	<4.0	100	13
08-9794*/95	MW 06-19	0-10	19	100	17	<1.0	<10	39	40	<1.0	<0.10	<0.0030	<10	8.0	1400	390
08-9796*/97	MW 06-19	30-40	17	89	15	<1.0	<10	36	38	<1.0	<0.10	0.0056	<10	<4.0	76	67
08-9790*/91	MW 06-20	0-10	16	27	11	<1.0	<10	48	<20	<1.0	<0.10	<0.0030	<10	<4.0	270	75
08-9792*/93	MW 06-20	30-40	18	55	12	<1.0	<10	38	25	<1.0	<0.10	<0.0030	<10	<4.0	25	93
08-9786*/87	MW 07-21	0-10	18	62	13	<1.0	<10	36	31	<1.0	<0.10	<0.0030	<10	<4.0	21	<8.0
08-9788*/89	MW 07-21	30-40	22	63	13	<1.0	<10	41	34	<1.0	<0.10	<0.0030	<10	4.9	29	22
2009 Baseline Monitoring Data																
09-21480*/81	BMW 06-18	0-10	20	40	10	<1.0	<10	46	38	<1.0	<0.10	0.013	<10	7.7	78	20
09-21482*/83	BMW 06-18	30-40	15	30	8.1	<1.0	<10	36	28	1.2	<0.10	<0.0030	<10	4.5	76	<8.0
09-21494*/95	MW 06-19	0-10	21	100	17	<1.0	<10	44	46	<1.0	<0.10	<0.0030	<10	<4.0	35	9.8
09-21496*/97	MW 06-19	30-40	18	89	15	<1.0	<10	38	40	<1.0	<0.10	<0.0030	<10	<4.0	32	<8.0
09-21489*/90	MW 06-20	0-10	20	46	13	<1.0	<10	62	29	<1.0	<0.10	0.010	<10	<4.0	41	17
09-21491*/92	MW 06-20	30-40	19	45	11	<1.0	<10	35	22	<1.0	<0.10	<0.0030	<10	<4.0	22	<8.0
09-21485*/86*	MW 07-21	0-10	24	62	13	<1.0	<10	46	37	<1.0	<0.10	<0.0030	<10	4.4	56	9.9
09-21487*/88	MW 07-21	30-40	31	70	16	<1.0	<10	53	44	1.1	<0.10	<0.0030	<10	<4.0	14	<8.0
2011 Baseline Monitoring Data																
11-12994*/95*	BMW06-18	0-10	22	43	11	<1.0	19	53	42	<1.0	<0.10	<0.050	<10	4.4	36	12
11-12996*/97	BMW06-18	30-40	16	49	12	<1.0	<10	39	32	<1.0	<0.10	<0.050	<10	<4.0	15	<8.0
11-12998*/99	MW06-19	0-10	13	68	12	<1.0	<10	28	29	<1.0	<0.10	<0.050	<10	5.4	63	23
11-13000*/01	MW06-19	30-40	12	57	11	<1.0	<10	23	24	<1.0	<0.10	<0.050	<10	4.4	41	18
11-13018*/19	MW06-20	0-10	16	40	10	<1.0	<10	36	20	<1.0	<0.10	<0.050	<10	<4.0	10	<8.0
11-13020*/21	MW06-20	30-40	14	45	9.9	<1.0	<10	34	27	<1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-13022*/23	MW07-21	0-10	17	51	12	<1.0	<10	41	27	<1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-13024*/25	MW07-21	30-40	20	58	12	<1.0	<10	39	33	<1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
2012 Baseline Monitoring Data																
12-44818*/19	BMW06-18	0-10	31	64	11	<1.0	22	76	61	1.0	<0.10	0.25	<30	<10	<10	<10
12-44820*/21	BMW06-18	20-30	26	48	9.1	<1.0	14	52	38	<1.0	<0.10	<0.050	<30	<10	<10	<10
12-44822*/23	MW06-19	0-10	23	100	15	<1.0	<10	44	46	1.2	<0.10	<0.050	<30	<10	<10	<10
12-44824*/25	MW06-19	20-30	17	63	12	<1.0	12	42	32	1.7	<0.10	<0.050	<30	<10	<10	<10
12-44826*/27	MW06-20	0-10	25	52	11	<1.0	<10	45	27	1.3	<0.10	<0.050	<30	<10	<10	<10
12-44828*/29	MW06-20	20-30	32	61	12	<1.0	<10	47	35	<1.0	<0.10	<0.050	<30	<10	<10	<10
12-44830*/31	MW07-21	0-10	26	57	11	<1.0	<10	48	36	<1.0	<0.10	0.15	<30	<10	<10	<10
12-44832*/33*	MW07-21	20-30	25	77	13	<1.0	<10	44	41	1.1	<0.10	<0.050	<30	<10	<10	<10
2013 Baseline Monitoring Data																
13-25240*/41*	BMW 06-18	0-10	17	49	11	<1.0	<10	42	26	1.2	<0.10	0.10	<10	<4.0	48	20
13-25242*/43	BMW 06-18	30-40	18	46	11	<1.0	11	49	25	0.82	<0.10	<0.050	<10	<4.0	20	10
13-25244*/45	MW 06-19	0-10	12	58	13	<1.0	47	37	33	0.45	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25246*/47	MW 06-19	30-40	19	66	17	<1.0	10	46	37	2.2	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25248*/49	MW 06-20	0-10	16	40	9.5	<1.0	<10	40	22	0.46	<0.10	<0.050	<10	4.1	<9.0	9.3
13-25250*/51*	MW 06-20	30-40	28	48	13	<1.0	<10	53	28	1.0	<0.10	<0.050	<10	<4.0	19	17
13-25252*/53	MW 07-21	0-10	20	51	10	<1.0	<10	33	29	0.80	<0.10	<0.050	<10	<4.0	9.0	11
13-25254*/55	MW 07-21	30-40	21	49	10	<1.0	<10	34	31	2.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0

Table B-129: DYE-M Upper Site Non-hazardous Waste Landfill - Soil Analytical Results (cont'd)

Sample #	Location	Depth	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	PCBs	PHC			
													F1	F2	F3	F4
		(cm)	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
Laboratory Detection Limits 2007-2011			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.0030	10	4.0	9.0	8.0
Laboratory Detection Limits 2012			5.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.050	30	10	10	10
Laboratory Detection Limits 2013			3.0	5.0	5.0	1.0	10	15	20	0.20	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2014			3.0	5.0	5.0	1.0	10	15	20	0.20	0.010	0.020	10	10	10	10
2014 First Year Monitoring Data																
14-8292*	BMW 06-18	5-10	25	62	12	<1.0	<10	44	33	0.77	<0.010	0.034	<10	<10	<10	<10
14-8293*	BMW 06-18	40-50	24	63	12	<1.0	<10	48	33	0.81	<0.010	<0.010	<10	<10	<10	<10
14-8294*	MW 06-19	5-10	19	87	13	<1.0	<10	36	36	0.85	<0.010	<0.010	<10	<10	<10	<10
14-8295*/96	MW 06-19	25-35	16	82	12	<1.0	<10	30	30	0.50	<0.010	<0.010	<10	<10	<10	<10
14-8297*	MW 06-20	5-10	26	53	11	<1.0	<10	47	27	0.70	<0.010	<0.010	<10	<10	<10	<10
14-8298*	MW 06-20	40-45	35	65	13	<1.0	<10	56	33	0.90	<0.010	<0.010	<10	<10	<10	<10
14-8300*/01*	MW 07-21	5-10	16	49	8.8	<1.0	<10	34	24	0.56	<0.010	<0.010	<10	<10	<10	<10
14-8302*	MW 07-21	40-50	19	55	9.9	<1.0	<10	39	28	0.60	<0.010	<0.010	<10	<10	<10	<10

*Sample was analyzed. Where both duplicates were analyzed, the result presented is an average of both samples. Duplicates not analyzed were archived.

Table B-130a: DYE-M Upper Site Non-hazardous Waste Landfill - Groundwater Analytical Results

Sample #	Monitoring Well #	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	PCBs	PHC				pH*	Conductivity*	Turbidity*	Temperature*
												F1	F2	F3	F4				
		[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[-]	[uS-cm]	(NTU)	C
Laboratory Detection Limits 2007- 2011		0.0050	0.0050	0.0030	0.0010	0.010	0.010	0.0050	0.0030	0.00040	0.000020	0.050	0.50	1.0	1.0				
Laboratory Detection Limits 2012		0.0050	0.0050	0.0030	0.0010	0.0050	0.010	0.0050	0.0010	0.00040	0.0030	0.050	0.50	1.0	1.0				
Laboratory Detection Limits 2014		0.0010	0.0010	0.00030	0.000090	0.00050	0.0030	0.00050	0.0010	0.00010	0.000020	0.025	0.10	0.25	0.25				
2008 Baseline Monitoring Data																			
08-9739	BMW06-18	0.11	0.089	0.029	<0.0010	0.041	0.71	0.088	0.0078	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	9.3	1300	>1,000	2.1
08-9741	MW06-19	0.033	0.11	0.0088	<0.0010	<0.010	0.049	0.19	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	7.8	370	150	3.5
08-9740	MW06-20	0.25	0.19	0.064	<0.0010	0.031	1.0	0.17	0.0053	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	7.9	1,100	980	6.2
2009 Baseline Monitoring Data																			
09-21484	BMW06-18	0.38	0.39	0.086	0.0028	0.26	18	0.59	0.020	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	8.6	410	98	8.0
09-21497	MW06-19	0.22	0.19	0.074	0.0019	0.088	0.29	0.31	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	7.8	130	910	3.6
09-21493	MW06-20	0.50	0.35	0.13	0.0033	0.068	6.0	0.38	0.0059	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	7.1	240	580	6.3
2011 Baseline Monitoring Data																			
11-12187	MW06-19	D	D	D	D	D	0.33	D	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	8.2	120	95	10
11-12189	MW07-21	D	D	D	D	D	0.56	D	0.0059	<0.00040	<0.000020	<0.050	<0.50	<1.0	<1.0	8.4	830	730	12
2012 Baseline Monitoring Data																			
12-34964	BMW06-18	D	D	D	D	D	12	0.30	0.033	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	9.0	1000	820	2.7
12-34965	MW06-19	D	D	D	D	D	0.094	0.11	0.0025	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	8.8	380	58	5.7
12-34963	MW06-20	D	D	D	D	D	9.1	0.40	0.018	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	8.1	500	580	4.0
2013 Baseline Monitoring Data																			
13-29590/91	MW06-19	D	D	D	D	D	0.095	0.078	<0.0010	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	7.3	150	250	0.30
13-29592	MW06-20	D	D	D	D	D	6.3	0.072	0.0048	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	9.1	57	970	3.0
13-29593	MW07-21	D	D	D	D	D	0.59	0.50	0.021	<0.00040	<0.0030	<0.050	<0.50	<1.0	<1.0	9.9	95	75	1.8
2014 First Year Monitoring Data																			
14-8180/81	MW06-20	D	D	D	D	D	D	D	D	D	<0.000020	<0.025	<0.10	<0.25	<0.25	7.42	110	N/A	5.5
14-8182	MW07-21	D	D	D	D	D	D	D	D	D	<0.000020	<0.025	<0.10	<0.25	<0.25	7.62	110	N/A	6.2
N/A	MW06-19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	BMW06-18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

N/A not applicable / measurement not taken

D - Parameter was analyzed for Dissolved inorganics (presented below)

* pH, conductivity, temperature and turbidity measurements were taken in the field except for 2014 when pH was also analyzed at an accredited lab. The accredited lab result is reported here.

Table B-130b: DYE-M Upper Site Non-hazardous Waste Landfill - Groundwater Analytical Results for Dissolved Inorganics

Sample #	Monitoring Well #	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg
		[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]
Laboratory Detection Limits 2007- 2011		0.0050	0.0050	0.0030	0.0010	0.010	0.010	0.0050	0.0030	0.00040
Laboratory Detection Limits 2012-2013		0.0050	0.0050	0.0030	0.0010	0.0050	0.010	0.0050	0.0010	0.00040
Laboratory Detection Limits 2014		0.0010	0.0010	0.00030	0.000090	0.00050	0.0030	0.00050	0.0010	0.00010
2011 Baseline Monitoring Data										
11-12187	MW06-19	<0.0050	0.0089	<0.0030	<0.0010	<0.010	T	0.0059	T	T
11-12189	MW07-21	<0.0050	<0.0050	<0.0030	<0.0010	<0.010	T	<0.0050	T	T
2012 Baseline Monitoring Data										
12-34964	BMW06-18	<0.0050	0.0061	<0.0030	<0.0010	<0.0050	T	T	T	T
12-34965	MW06-19	<0.0050	<0.0050	<0.0030	<0.0010	<0.0050	T	T	T	T
12-34963	MW06-20	<0.0050	<0.0050	<0.0030	<0.0010	<0.0050	T	T	T	T
2013 Baseline Monitoring Data										
13-29590/91	MW06-19	<0.0050	<0.0050	<0.0030	<0.0010	<0.0050	T	T	T	T
13-29592	MW06-20	<0.0050	<0.0050	<0.0030	<0.0010	<0.0050	T	T	T	T
13-29593	MW07-21	<0.0050	<0.0050	<0.0030	<0.0010	<0.0050	T	T	T	T
2014 First Year Monitoring Data										
14-8180/81	MW06-20	<0.0010	<0.0010	<0.00030	<0.000090	<0.00050	0.21	<0.00050	<0.0010	<0.00010
14-8182	MW07-21	<0.0010	<0.0010	<0.00030	<0.000090	<0.00050	<0.0030	<0.00050	<0.0010	<0.00010
N/A	MW06-19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	BMW06-18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

N/A not applicable / measurement not taken

T - Parameter was analyzed for Total inorganics (presented above)

Table B-131: Monitoring Well Sampling Log BMW 06-18, 2008

Site Name:	DYE-M					
Date of Sampling Event:	August 18, 2008					
Names of Samplers:	Molly Brewis, Bryarly McEachern, Kristin Andruchow					
Monitoring Well ID:	BMW 06-18					
Facility:	Upper Site Non-Hazardous Waste Landfill					
Water Sample Measured Data						
Condition of Well:	Good. There is a lot of bentonite between well-pipe and casing.					
Procedure/Equipment:	Measuring tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.85			Depth to water surface (m)=	1.0	
Diameter of well (m)=	0.04			Static water level* (m)=	0.17	
Depth of installation* (m)=	3.3			Depth to bottom (m)=	1.7	
Length screened section (m)=	1.9			Free product thickness (mm)=	None	
Depth to top of screen* (m)=	0.35					
Calculations				**Notes**		
Depth of water (m)=	0.63			Evidence of sludge etc:	No	
Well volume of water (L)=	1.0			Evidence of freezing/siltation: (compare to installation record)	yes	
Length screen collecting water (m)=	0.45					
Development/Purging Information						
Equipment:	Waterra tubing, stainless steel ball valve, flow-through cell (1 L HDPE bottle)					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 18/08 - 2:30 pm	2.8	2.1	9.3	1300	>1000	Milky grayish brown. Very silty.
Water Sampling				**Soil Sampling**		
Date and time collected:	August 18, 2008 2:45 pm			Date and time collected:	August 18, 2008 2:45 pm	
Sample Number - Water:	08-9739			Sample Number - Soil:	Surface: 08-9782/83	
					Depth: 08-9784/85	
Sample containers:	1 L HDPE bottle			Sample containers:	Whirlpaks	
	1 L Teflon bottle				120 mL AG jars	
	250 mL Amber glass bottle					
Procedure/Equipment:	Waterra tubing, stainless steel ball valve			Procedure/Equipment:	Disposable scoops, shovel	
Water description:	Milky greyish brown, very silty			Soil description:	Surface: 0% vegetation cover, very rocky. 0-40 cm: 75% coarse gravel, cobbles, some medium brown coarse sand, gw seepage below 20cm depth	
Filtration: (Y/N)	N					
Acidification: (Y/N)	N					
Sampling Equipment Decontamination: (Y/N)	Y			Sampling Equipment Decontamination: (Y/N)	Y (shovel)	
Number washes:	1 (MeOH water)			Number washes:		
Number rinses:	1 (distilled water)			Number rinses:	Soil rinse	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-132: Monitoring Well Sampling Log MW 06-19, 2008

Site Name:	DYE-M
Date of Sampling Event:	August 18, 2008
Names of Samplers:	Molly Brewis, Bryarly McEachern, Kristin Andruchow
Monitoring Well ID:	MW 06-19
Facility:	Upper Site Non-hazardous Waste Landfill

Water Sample Measured Data

Condition of Well:	Good		
Procedure/Equipment:	Measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.78	Depth to water surface (m)=	1.6
Diameter of well (m)=	0.044	Static water level* (m)=	0.83
Depth of installation* (m)=	3.4	Depth to bottom (m)=	1.8
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.43		
Calculations		**Notes**	
Depth of water (m)=	0.23	Evidence of sludge etc:	No
Well volume of water (L)=	0.35	Evidence of freezing/siltation: (compare to installation record)	yes
Length screen collecting water (m)=	0.23		

Development/Purging Information

Equipment:	Waterra tubing, stainless steel ball valve, flow-through cell (1 L HDPE bottle)

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 18/08 - 4:15 pm	1.0	3.5	7.6	370	150	Translucent, light brown with very little sediment

Water Sampling		**Soil Sampling**	
Date and time collected:	August 18, 2011 4:30 pm	Date and time collected:	August 18, 2011 4:00 pm
Sample Number - Water:	11-9741	Sample Number - Soil:	Surface: 11-9794/95
			Depth: 11-9796/97
Sample containers:	1 L HDPE bottle	Sample containers:	Whirlpaks
	1 L Teflon bottle		120 mL AG jars
	250 mL Amber glass bottle		
Procedure/Equipment:	Waterra tubing, stainless steel ball valve	Procedure/Equipment:	Disposable scoops, shovel
Water description:	2nd litre more silty than first, translucent, light brown	Soil description:	Surface: no vegetation. 10-20cm: Medium brown, medium sand, 30% fine gravel, 10% coarse gravel. 20cm: large boulder (part of boulder field)
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y (shovel)
Number washes:	1 (MeOH water)	Number washes:	
Number rinses:	1 (distilled water)	Number rinses:	Soil rinse

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-133: Monitoring Well Sampling Log MW 06-20, 2008

Site Name:	DYE-M
Date of Sampling Event:	August 18, 2008
Names of Samplers:	Cam Ollson, Ian Goode, Derek Snider
Monitoring Well ID:	MW 06-20
Facility:	Upper Site Non-hazardous Waste Landfill

Water Sample Measured Data

Condition of Well:	Good		
Procedure/Equipment:	Measuring Tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.70	Depth to water surface (m)=	0.97
Diameter of well (m)=	0.044	Static water level* (m)=	0.27
Depth of installation* (m)=	3.4	Depth to bottom (m)=	1.3
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.44		
Calculations		**Notes**	
Depth of water (m)=	0.31	Evidence of sludge etc:	No
Well volume of water (L)=	0.47	Evidence of freezing/siltation: (compare to installation record)	Yes
Length screen collecting water (m)=	0.14		

Development/Purging Information

Equipment:	Waterra tubing, stainless steel ball valve, flow-through cell (1 L HDPE bottle)

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 18/08 - 4:00 pm	3.0	6.2	7.4	1100	980	Opaque, brown, very silty.

Water Sampling		**Soil Sampling**	
Date and time collected:	August 18, 2008 4:20 pm	Date and time collected:	August 18, 2008 4:00 pm
Sample Number - Water:	08-9740	Sample Number - Soil:	Surface: 08-9790/91
			Depth: 08-9792/93
Sample containers:	1 L HDPE bottle	Sample containers:	Whirlpaks
	1 L Teflon bottle		120 mL AG jars
	250 mL Amber glass bottle		
Procedure/Equipment:	Waterra tubing, stainless steel ball valve	Procedure/Equipment:	Disposable scoops, shovel
Water description:	Medium brown, very silty	Soil description:	Surface: rocky. 10-40cm: coarse brown sand, gravelly.
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y (shovel)
Number washes:	1 (MeOH water)	Number washes:	
Number rinses:	1 (distilled water)	Number rinses:	Soil rinse

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-134: Monitoring Well Sampling Log MW 07-21, 2008

Site Name:	DYE-M		
Date of Sampling Event:	August 18, 2008		
Names of Samplers:	Derek Snider, Ian Goode, Cam Ollson		
Monitoring Well ID:	MW 07-21		
Facility:	Upper Site Non-hazardous Waste Landfill		
Water Sample Measured Data			
Condition of Well:	Good		
Procedure/Equipment:	Measuring Tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.65	Depth to water surface (m)=	1.6
Diameter of well (m)=	0.044	Static water level* (m)=	0.92
Depth of installation* (m)=	3.5	Depth to bottom (m)=	1.7
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.50		
Calculations		**Notes**	
Depth of water (m)=	0.12	Evidence of sludge etc:	No
Well volume of water (L)=	0.18	Evidence of freezing/siltation: (compare to installation record)	Yes- Freezing
Length screen collecting water (m)=	0.12		

Development/Purging Information

Equipment: Waterra tubing, stainless steel ball valve, flow-through cell (1 L HDPE bottle)

Date & Time	Volume Removed (L)	Temperature (°C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 18/08 - 2:00 pm	0.20	Well was almost dry. Water removed was very silty.				

Water Sampling		**Soil Sampling**	
Date and time collected:	N/A	Date and time collected:	August 18, 2008
Sample Number - Water:	No sample collected.	Sample Number - Soil:	Surface: 08-9786/87
			Depth: 08-9788/89
Sample containers:	N/A	Sample containers:	Whirlpaks
			120 mL AG jars
Procedure/Equipment:	N/A	Procedure/Equipment:	Disposable scoops, shovel
Water description:	N/A	Soil description:	0-10cm: dark brown, coarse sand, 10% gravel, no visible organics, moist. Depth (10-35): dark brown, coarse sand, more moist than surface
Filtration: (Y/N)	N/A		
Acidification: (Y/N)	N/A		
Sampling Equipment Decontamination: (Y/N)	N/A	Sampling Equipment Decontamination: (Y/N)	Y (shovel)
Number washes:	N/A	Number washes:	
Number rinses:	N/A	Number rinses:	Soil rinse

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-135: Monitoring Well Sampling Log BMW 06-18, 2009

Site Name:	DYE-M					
Date of Sampling Event:	August 6, 2009					
Names of Samplers:	Ryan Vettorazzo, Jen Joubert, Mihiri DeSilva, Chris McNevin					
Monitoring Well ID:	BMW 06-18					
Facility:	Upper Site Non-hazardous Waste Landfill					
Water Sample Measured Data						
Condition of Well:	Soggy, full of water					
Procedure/Equipment:	Measuring tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.81			Depth to water surface (m)=	0.90	
Diameter of well (m)=	0.044			Static water level* (m)=	0.090	
Depth of installation* (m)=	3.3			Depth to bottom (m)=	1.4	
Length screened section (m)=	1.9			Free product thickness (mm)=	None	
Depth to top of screen* (m)=	0.35					
Calculations				**Notes**		
Depth of water (m)=	0.54			Evidence of sludge etc:	No	
Well volume of water (L)=	0.70			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	0.28					
Development/Purging Information						
Equipment:	Waterra tubing					
Date & Time	Volume Removed (L)	Temperature (°C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 6/09 - 2:26 pm	1.7	8.0	8.6	410	98	Cloudy, brown
Water Sampling				**Soil Sampling**		
Date and time collected:	August 6, 2009 2:26 pm			Date and time collected:	August 6, 2009 2:30 pm	
Sample Number - Water:	09-21484			Sample Number - Soil:	Surface: 09-21480/81	
					Depth: 09-21482/83	
Sample containers:	1L HDPE bottle			Sample containers:	Whirlpaks	
	1L Teflon bottle				120 mL AG jars	
	1L Amber glass bottle					
Procedure/Equipment:	Waterra tubing			Procedure/Equipment:	Disposable scoops, shovel	
Water description:	Cloudy, brown			Soil description:	Surface: brown, rocks sandy soil	
Filtration: (Y/N)	N				Depth: brown, large rocks, sandy soil	
Acidification: (Y/N)	N					
Sampling Equipment Decontamination: (Y/N)	Y			Sampling Equipment Decontamination: (Y/N)	Y	
Number washes:	2			Number washes:		
Number rinses:	1			Number rinses:	Soil rinse	

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

**No data available from original sampling log.

Table B-136: Monitoring Well Sampling Log MW 06-19, 2009

Site Name:	DYE-M					
Date of Sampling Event:	August 6, 2009					
Names of Samplers:	Ryan Vettorazzo, Jen Joubert, Mihiri DeSilva, Chris McNevin					
Monitoring Well ID:	MW 06-19					
Facility:	Upper Site Non-hazardous Waste Landfill					
Water Sample Measured Data						
Condition of Well:	Good, water inside					
Procedure/Equipment:	Measuring tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.73			Depth to water surface (m)=	1.6	
Diameter of well (m)=	0.044			Static water level* (m)=	1.1	
Depth of installation* (m)=	3.4			Depth to bottom (m)=	1.9	
Length screened section (m)=	1.9			Free product thickness (mm)=	None	
Depth to top of screen* (m)=	0.43					
Calculations				**Notes**		
Depth of water (m)=	0.24			Evidence of sludge etc:	No	
Well volume of water (L)=	0.30			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	0.24					
Development/Purging Information						
Equipment:	Waterra Tubing					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 6/09 - 4:15 pm	0.30	3.6	7.8	130	910	Cloudy, brown
Water Sampling				**Soil Sampling**		
Date and time collected:	August 6, 2009 4:30 pm			Date and time collected:	August 6, 2009	
Sample Number - Water:	09-21497			Sample Number - Soil:	Surface: 09-21494/95	
					Depth: 09-21496/98	
Sample containers:	1L HDPE bottle			Sample containers:	Whirlpaks	
	1L Teflon bottle				120 mL AG jars	
	1L Amber glass bottle					
Procedure/Equipment:	Waterra tubing			Procedure/Equipment:	Disposable scoops, shovel	
Water description:	Cloudy, brown			Soil description:	Dry dusty, greyish brown	
Filtration: (Y/N)	N					
Acidification: (Y/N)	N					
Sampling Equipment Decontamination: (Y/N)	Y			Sampling Equipment Decontamination: (Y/N)	Yes	
Number washes:	3 (MeOH)			Number washes:		
Number rinses:	3 (distilled water)			Number rinses:	Soil rinse	

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

**No data available from original sampling log.

Table B-137: Monitoring Well Sampling Log MW 06-20, 2009

Site Name:	DYE-M					
Date of Sampling Event:	August 6, 2009					
Names of Samplers:	Ryan Vettorazzo, Jen Joubert, Mihiri DeSilva, Chris McNevin					
Monitoring Well ID:	MW 06-20					
Facility:	Upper Site Non-hazardous Waste Landfill					
Water Sample Measured Data						
Condition of Well:	Good					
Procedure/Equipment:	Measuring Tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.63			Depth to water surface (m)=	1.0	
Diameter of well (m)=	0.044			Static water level* (m)=	0.57	
Depth of installation* (m)=	3.4			Depth to bottom (m)=	1.2	
Length screened section (m)=	1.9			Free product thickness (mm)=	None	
Depth to top of screen* (m)=	0.44					
Calculations				**Notes**		
Depth of water (m)=	0.19			Evidence of sludge etc:	No	
Well volume of water (L)=	0.20			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	0.19					
Development/Purging Information						
Equipment:	Waterra tubing					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 6/09 - 4:00 pm	0.20	6.3	5.6	240	580	Cloudy, brown
Water Sampling				**Soil Sampling**		
Date and time collected:	August 6, 2009 4:00 pm			Date and time collected:	August 6, 2009 4:00 pm	
Sample Number - Water:	09-21493			Sample Number - Soil:	Surface: 09-21489/90	
					Depth: 09-21491/92	
Sample containers:	1L HDPE bottle			Sample containers:	Whirlpaks	
	1L Teflon bottle				120 mL AG jars	
	1L Amber glass bottle					
Procedure/Equipment:	Waterra tubing			Procedure/Equipment:	Disposable scoops, shovel	
Water description:	Cloudy, brown			Soil description:	Wet, rocky, sandy, brown	
Filtration: (Y/N)	N					
Acidification: (Y/N)	N					
Sampling Equipment Decontamination: (Y/N)	Y			Sampling Equipment Decontamination: (Y/N)	Yes	
Number washes:	3 (MeOH)			Number washes:		
Number rinses:	3 (distilled water)			Number rinses:	Soil rinse	

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

**No data available from original sampling log.

Table B-138: Monitoring Well Sampling Log MW 06-21, 2009

Site Name:	DYE-M					
Date of Sampling Event:	August 6, 2009					
Names of Samplers:	Ryan Vettorazzo, Jen Joubert, Mihiri DeSilva, Chris McNevin					
Monitoring Well ID:	MW 06-21					
Facility:	Upper Site Non-hazardous Waste Landfill					
Water Sample Measured Data						
Condition of Well:	Dent on side					
Procedure/Equipment:	Measuring Tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.71			Depth to water surface (m)=	1.3	
Diameter of well (m)=	0.044			Static water level* (m)=	0.62	
Depth of installation* (m)=	3.5			Depth to bottom (m)=	1.4	
Length screened section (m)=	1.9			Free product thickness (mm)=	None	
Depth to top of screen* (m)=	0.50					
Calculations				**Notes**		
Depth of water (m)=	0.10			Evidence of sludge etc:	No	
Well volume of water (L)=	0.10			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	0.10					
Development/Purging Information						
Equipment:						
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 6/09	Not enough water present to develop or purge well.					
Water Sampling				**Soil Sampling**		
Date and time collected:	N/A			Date and time collected:	August 6, 2009 3:00 pm	
Sample Number - Water:	No sample collected.			Sample Number - Soil:	Surface: 09-21485/86	
					Depth: 09-21487/88	
Sample containers:	N/A			Sample containers:	Whirlpaks	
					120 mL AG jars	
Procedure/Equipment:	N/A			Procedure/Equipment:	Disposable scoops, shovel	
Water description:	N/A			Soil description:	Surface: Brown sandy soil	
Filtration: (Y/N)	N/A				Depth: Brown sandy soil, bed rock	
Acidification: (Y/N)	N/A					
Sampling Equipment Decontamination: (Y/N)	N/A			Sampling Equipment Decontamination: (Y/N)	Yes	
Number washes:	N/A			Number washes:		
Number rinses:	N/A			Number rinses:	Soil rinse	

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

**No data available from original sampling log.

Table B-139: Monitoring Well Sampling Log BMW 06-18, 2011

Site Name:	DYE-M					
Date of Sampling Event:	August 13, 2011					
Names of Samplers:	Andrea Ellis, Justin Dee, Alicia Spencer					
Monitoring Well ID:	BMW 06-18					
Facility:	Upper Site Non-hazardous Waste Landfill					
Water Sample Measured Data						
Condition of Well:	Good, casing filled with water					
Procedure/Equipment:	Measuring tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.78			Depth to water surface (m)=	N/A	
Diameter of well (m)=	0.044			Static water level* (m)=	N/A	
Depth of installation* (m)=	3.3			Depth to bottom (m)=	1.5	
Length screened section (m)=	1.9			Free product thickness (mm)=	None	
Depth to top of screen* (m)=	0.35					
Calculations				**Notes**		
Depth of water (m)=	0			Evidence of sludge etc:	No	
Well volume of water (L)=	0			Evidence of freezing/siltation: (compare to installation record)	Yes, ice encountered	
Length screen collecting water (m)=	0.0					
Development/Purging Information						
Equipment:						
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 13/11	Not enough water present to purge or sample well.					
Water Sampling				**Soil Sampling**		
Date and time collected:	N/A			Date and time collected:	August 13, 2011 2:30pm	
Sample Number - Water:	No sample collected.			Sample Number - Soil:	Surface: 11-12994/95	
					Depth: 11-12996/97	
Sample containers:	N/A			Sample containers:	Whirlpaks	
					120 mL AG jars	
Procedure/Equipment:	N/A			Procedure/Equipment:	Disposable scoops, shovel	
Water description:	N/A			Soil description:	Med brown colour, 50% large gravel, 30% small gravel, 20% sand/fines. Hole filled with water at 20cm depth	
Filtration: (Y/N)	N/A					
Acidification: (Y/N)	N/A					
Sampling Equipment Decontamination: (Y/N)	N/A			Sampling Equipment Decontamination: (Y/N)	Y	
Number washes:	N/A			Number washes:		
Number rinses:	N/A			Number rinses:	Soil rinse	

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

Table B-140: Monitoring Well Sampling Log MW 06-19, 2011

Site Name:	DYE-M
Date of Sampling Event:	August 13, 2011
Names of Samplers:	Andrea Ellis, Justin Dee, Alicia Spencer
Monitoring Well ID:	MW 06-19
Facility:	Upper Site Non-hazardous Waste Landfill

Water Sample Measured Data

Condition of Well:	Good, some water in the casing		
Procedure/Equipment:	Measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.69	Depth to water surface (m)=	1.4
Diameter of well (m)=	0.044	Static water level* (m)=	0.76
Depth of installation* (m)=	3.4	Depth to bottom (m)=	1.6
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.43		

Calculations		**Notes**	
Depth of water (m)=	0.12	Evidence of sludge etc:	No
Well volume of water (L)=	0.15	Evidence of freezing/siltation: (compare to installation record)	Ice at the bottom of the well
Length screen collecting water (m)=	0.12		

Development/Purging Information

Equipment:	Waterra tubing

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 13/11	0.20	10	8.2	120	95	Clear, some floating particles

Water Sampling		**Soil Sampling**	
Date and time collected:	August 13, 2011 3:15 pm	Date and time collected:	August 13, 2011 3:15 pm
Sample Number - Water:	11-12187	Sample Number - Soil:	Surface: 11-12998/99
			Depth: 11-13000/01
Sample containers:	1L HDPE bottle	Sample containers:	Whirlpaks
	1L Teflon bottle		120 mL AG jars
	1L Amber Glass bottle		
Procedure/Equipment:	Watera Tubing	Procedure/Equipment:	Disposable scoops, shovel
Water description:	Clear	Soil description:	Med brown, 70% sand/fines, 30% gravel
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y
Number washes:	2	Number washes:	
Number rinses:	2	Number rinses:	1 - Shovel, soil rinse

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

Table B-141: Monitoring Well Sampling Log MW 06-20, 2011

Site Name:	DYE-M					
Date of Sampling Event:	August 15, 2011					
Names of Samplers:	Ian Goode, Justin Dee					
Monitoring Well ID:	MW 06-20					
Facility:	Upper Site Non-hazardous Waste Landfill					
Water Sample Measured Data						
Condition of Well:	Good, casing might be jacking a bit					
Procedure/Equipment:	Measuring tape			Procedure/Equipment:	Interface meter	
Well height above ground (m)=	0.55			Depth to water surface (m)=	1.2	
Diameter of well (m)=	0.044			Static water level* (m)=	0.68	
Depth of installation* (m)=	3.4			Depth to bottom (m)=	1.2	
Length screened section (m)=	1.9			Free product thickness (mm)=	None	
Depth to top of screen* (m)=	0.44					
Calculations				**Notes**		
Depth of water (m)=	0.010			Evidence of sludge etc:	No	
Well volume of water (L)=	0.012			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	0.00					
Development/Purging Information						
Equipment:	Waterra tubing					
Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 15/11	Not enough water present to develop or purge well.					
Water Sampling				**Soil Sampling**		
Date and time collected:	N/A			Date and time collected:	August 15, 2011	
Sample Number - Water:	No sample collected.			Sample Number - Soil:	Surface: 11-13018/19	
					Depth: 11-13020/21	
Sample containers:	N/A			Sample containers:	Whirlpaks	
					120 mL AG jars	
Procedure/Equipment:	N/A			Procedure/Equipment:	Disposable scoops, shovel	
Water description:	N/A			Soil description:	Surface: brown sand, moist. Depth: wet brown sand, 50% large rock	
Filtration: (Y/N)	N/A			GPS:	20W 0563816 7391765	
Acidification: (Y/N)	N/A					
Sampling Equipment Decontamination:	N/A			Sampling Equipment Decontamination: (Y/N)	N	
Number washes:	N/A			Number washes:	N/A	
Number rinses:	N/A			Number rinses:	N/A	

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

Table B-142: Monitoring Well Sampling Log MW 07-21, 2011

Site Name:	DYE-M		
Date of Sampling Event:	August 14, 2011		
Names of Samplers:	Justin Dee, Jennah Dharamshi, Ian Goode		
Monitoring Well ID:	MW 07-21		
Facility:	Upper Site Non-hazardous Waste Landfill		
Water Sample Measured Data			
Condition of Well:	Good. Well cap missing, replaced with nitrile glove.		
Procedure/Equipment:	Measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.71	Depth to water surface (m)=	0.69
Diameter of well (m)=	0.044	Static water level* (m)=	-0.02
Depth of installation* (m)=	3.5	Depth to bottom (m)=	1.2
Length screened section (m)=	1.9	Free product thickness (mm)=	none
Depth to top of screen* (m)=	0.50		
Calculations		**Notes**	
Depth of water (m)=	0.53	Evidence of sludge etc:	No
Well volume of water (L)=	0.67	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	0.0092		

Development/Purging Information

Equipment: Waterra tubing/foot valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 14/11 - 2:30 pm	1.0	12	8.4	830	730	Silty, murky water

Water Sampling		**Soil Sampling**	
Date and time collected:	August 14, 2011 3:00 pm	Date and time collected:	August 14, 2011 2:40 pm
Sample Number - Water:	11-12189	Sample Number - Soil:	Surface: 11-13022/23
			Depth: 11-13024/25
Sample containers:	1L HDPE bottle	Sample containers:	Whirlpaks
	1L Teflon bottle		120 mL Amber glass jars
	250 mL Amber glass bottle		
Procedure/Equipment:	Waterra Tubing	Procedure/Equipment:	Disposable scoops, shovel
Water description:	Silty, murky water	Soil description:	Surface: sandy, moist, dry Depth: wet, sandy
Filtration: (Y/N)	N	GPS Coordinates	
Acidification: (Y/N)	N		
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	3 (Soap/water, methanol, dH2O)	Number washes:	N/A
Number rinses:	1	Number rinses:	N/A

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

Table B-143: Monitoring Well Sampling Log- BMW06-18, 2012

Site Name:	DYE-M		
Date of Sampling Event:	August 11, 2012	July 25, 2012	
Names of Samplers:	Sarah Ficko, Quinn Francis	Tom Partridge, Sharilyn Hoobin, Lauren Forrester	
Monitoring Well ID:	BMW06-18		
Facility:	Upper Site Non-hazardous Waste Landfill		
Monitoring Well Measured Data			
Condition of Well:	casing filled with water, rod bent		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface Meter
Well height above ground (m)=	0.82	Depth to water surface (m)=	1.2
Diameter of well (m)=	0.04	Static water level* (m)=	0.3
Depth of installation* (m)=	3.3	Depth to bottom (m)=	1.9
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.35		
Calculations		**Notes**	
Depth of water (m)=	0.74	Evidence of sludge etc:	No
Well volume of water (L)=	0.93	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	0.72		

Purging Information

Equipment: Waterra Tubing

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
11-Aug; 9:00	1.0	2.7	9.0	1000	823	Turbid, sandy

Water Sampling		**Soil Sampling**	
Date and time collected:	11-Aug; 9:00	Date and time collected:	25-Jul-12
Sample Number - Water:	12-34964	Sample Number - Soil:	Surface: 12-44818/19
			Depth: 12-44820/21
Sample containers:	1L HDPE	Sample containers:	Whirl paks
	1L Teflon		120 mL AG jars
	250 mL Amber Glass		
Procedure/Equipment:	Waterra tubing	Procedure/Equipment:	Shovel and disposable scoop
Water description:	Turbid, sandy	Soil description:	Mostly gravel size rocks with 30% large boulder coverage. Soil damp at depth and coarse sand. Water at depth. No Vegetation.
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)	Yes	Sampling Equipment Decontamination: (Y/N)	No, disposable scoops used
Number washes:	3	Number washes:	N/A
Number rinses:	1	Number rinses:	N/A

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-144: Monitoring Well Sampling Log- MW06-19, 2012

Site Name:	DYE-M		
Date of Sampling Event:	August 11, 2012	July 25, 2012	
Names of Samplers:	Sarah Ficko, Quinn Francis	Tom Partridge, Sharilyn Hoobin, Lauren Forrester	
Monitoring Well ID:	MW06-19		
Facility:	Upper Site Non-hazardous Waste Landfill		
Monitoring Well Measured Data			
Condition of Well:	good		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface Meter
Well height above ground (m)=	0.7	Depth to water surface (m)=	1.8
Diameter of well (m)=	0.040	Static water level* (m)=	1.1
Depth of installation* (m)=	3.4	Depth to bottom (m)=	2.0
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.43		
Calculations		**Notes**	
Depth of water (m)=	0.12	Evidence of sludge etc:	No
Well volume of water (L)=	0.15	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	0.12		

Purging Information

Equipment: Waterra Tubing

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
11-Aug	0.25	5.7	8.8	380	58	Slightly cloudy

Water Sampling		**Soil Sampling**	
Date and time collected:	12 Aug 2012, 9:30	Date and time collected:	25-Jul-12
Sample Number - Water:	12-34965	Sample Number - Soil:	Surface: 12-44822/23
			Depth: 12-44824/25
Sample containers:	1L HDPE	Sample containers:	Whirl paks
	1L Teflon		120 mL AG jars
	250 mL Amber Glass		
Procedure/Equipment:	Waterra tubing	Procedure/Equipment:	Shovel and disposable scoop
Water description:	Slightly cloudy	Soil description:	Sandy patch (2m x 2m). Surrounded by large boulders. Soil dry. Surface debris in area. No Vegetation.
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)	Yes	Sampling Equipment Decontamination: (Y/N)	No, disposable scoops used
Number washes:	3	Number washes:	N/A
Number rinses:	1	Number rinses:	N/A

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-145: Monitoring Well Sampling Log- MW06-20, 2012

Site Name:	DYE-M		
Date of Sampling Event:	August 11, 2012	July 25, 2012	
Names of Samplers:	Sarah Ficko, Quinn Francis	Tom Partridge, Sharilyn Hoobin, Lauren Forrester	
Monitoring Well ID:	MW06-20		
Facility:	Upper Site Non-hazardous Waste Landfill		
Monitoring Well Measured Data			
Condition of Well:	Good		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface Meter
Well height above ground (m)=	0.55	Depth to water surface (m)=	1.0
Diameter of well (m)=	0.040	Static water level* (m)=	0.47
Depth of installation* (m)=	3.4	Depth to bottom (m)=	1.5
Length screened section (m)=	1.9	Free product thickness (mm)=	None
Depth to top of screen* (m)=	0.44		
Calculations		**Notes**	
Depth of water (m)=	0.51	Evidence of sludge etc:	No
Well volume of water (L)=	0.64	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	0.51		

Purging Information

Equipment: Waterra Tubing

Date & Time	Volume Removed (L)	Temperature (°C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
12-Aug	1	4	8.1	504	584	Cloudy

Water Sampling		**Soil Sampling**	
Date and time collected:	12-Aug-12	Date and time collected:	25-Jul-12
Sample Number - Water:	12-34963	Sample Number - Soil:	12-44826/27 - surface
			12-44828/29 - depth
Sample containers:	1L HDPE	Sample containers:	Whirl paks
	1L Teflon		120 mL AG jars
	250 mL Amber Glass		
Procedure/Equipment:	Waterra tubing	Procedure/Equipment:	Shovel and disposable scoop
Water description:	Cloudy	Soil description:	Surface debris in area. Area surrounded by mounds of large boulders on surface. Soil damp and mostly gravel-sized. Damp, sandy soil at depth, some hard clay. No Vegetation.
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)	Yes	Sampling Equipment Decontamination: (Y/N)	No, disposable scoops used
Number washes:	3	Number washes:	N/A
Number rinses:	1	Number rinses:	N/A

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-146: Monitoring Well Sampling Log MW 07-21, 2012

Site Name:	DYE-M		
Date of Sampling Event:	August 13, 2012	July 25, 2012	
Names of Samplers:	Sarah Ficko, Quinn Francis	Tom Partridge, Sharilyn Hoobin, Lauren Forrester	
Monitoring Well ID:	MW 07-21		
Facility:	Upper Site Non-hazardous Waste Landfill		
Water Sample Measured Data			
Condition of Well:	Good. Dent in casing		
Procedure/Equipment:	Measuring tape	Procedure/Equipment:	Interface meter
Well height above ground (m)=	0.90	Depth to water surface (m)=	1.90
Diameter of well (m)=	0.044	Static water level* (m)=	1.0
Depth of installation* (m)=	3.5	Depth to bottom (m)=	2.0
Length screened section (m)=	1.9	Free product thickness (mm)=	none
Depth to top of screen* (m)=	0.50		
Calculations		**Notes**	
Depth of water (m)=	0.09	Evidence of sludge etc:	No
Well volume of water (L)=	0.11	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	0.090		

Development/Purging Information

Equipment: Waterra tubing/foot valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 13/12 - 4 pm	0.045	15	11.2	1055	540	translucent brown

Water Sampling		**Soil Sampling**	
Date and time collected:	August 13, 2012 16:00	Date and time collected:	July 25, 2012
Sample Number - Water:	Vial for on-site analysis only	Sample Number - Soil:	Surface: 12-44830/31
			Depth: 12-44832/33
Sample containers:	Vial for on-site analysis only	Sample containers:	Whirlpaks
			120 mL Amber glass jars
Procedure/Equipment:	Waterra Tubing	Procedure/Equipment:	Disposable scoops, shovel
Water description:	translucent, brown colour	Soil description:	Damp, sandy, gravel soil. Surrounded by mounds of large boulders. Damp, sand at depth. No Vegetation.
Filtration: (Y/N)	N	GPS Coordinates	
Acidification: (Y/N)	N		
Number washes:	3 (Soap/water, methanol, dH2O)	Number washes:	N/A
Number rinses:	1	Number rinses:	N/A

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

Table B-147: Monitoring Well Sampling Log- MW06-18, 2013

Site Name:	DYE-M					
Date of Sampling Event:	10-Aug-13					
Names of Samplers:	Alaina Leslie, Shari Reed, Tom Partridge					
Monitoring Well ID:	MW06-18					
Facility:	Upper Site Non-Hazardous Waste Landfill					
Monitoring Well Measured Data						
Condition of Well:	10 Degree tilt, casing and well loose. Soil around well saturated with water. Water 20 cm below casing					
Procedure/Equipment:	measuring tape			Procedure/Equipment:	Interface Meter	
Well height above ground (m)=	0.86			Depth to water surface (m)=	Dry	
Diameter of well (m)=	0.040			Static water level* (m)=	n/a	
Depth of installation* (m)=	3.3			Depth to bottom (m)=	1.0	
Length screened section (m)=	1.9			Free product thickness (mm)=	n/a	
Depth to top of screen* (m)=	0.35					
Calculations				**Notes**		
Depth of water (m)=	n/a			Evidence of sludge etc:	n/a	
Well volume of water (L)=	n/a			Evidence of freezing/siltation: (compare to installation record)	Freezing	
Length screen collecting water (m)=	n/a					
Purging Information						
Equipment:	waterra tubing and foot valve					
Date & Time	Volume Removed (L)	Temperature (°C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
dry well						
Water Sampling				**Soil Sampling**		
Date and time collected:	n/a			Date and time collected:	10-Aug	
Sample Number - Water:				Sample Number - Soil:	13-25240/41 surface	
					13-25242/43 depth (30cm)	
Sample containers:				Sample containers:	120 mL Amber Glass Jars	
					Whirlpacks	
Procedure/Equipment:				Procedure/Equipment:	Pickax & Disposable Scoop	
Water description:				Soil description:	Brown sand with angular gravel. 25% vegetation. Wet. Same at depth - well mixed.	
Filtration: (Y/N)						
Acidification: (Y/N)						
				GPS Coordinates		
Sampling Equipment Decontamination: (Y/N)				Sampling Equipment Decontamination: (Y/N)	Y	
Number washes:				Number washes:	0	
Number rinses:				Number rinses:	1	

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-148: Monitoring Well Sampling Log- MW06-19, 2013

Site Name:	DYE-M		
Date of Sampling Event:	10-Aug-13		
Names of Samplers:	Alaina Leslie, Shari Reed, Tom Partridge		
Monitoring Well ID:	MW06-19		
Facility:	Upper Site Non-Hazardous Waste Landfill		
Monitoring Well Measured Data			
Condition of Well:	Good		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface Meter
Well height above ground (m)=	0.8	Depth to water surface (m)=	1.6
Diameter of well (m)=	0.040	Static water level* (m)=	0.78
Depth of installation* (m)=	3.4	Depth to bottom (m)=	1.9
Length screened section (m)=	1.9	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	0.43		
Calculations		**Notes**	
Depth of water (m)=	0.33	Evidence of sludge etc:	n/a
Well volume of water (L)=	0.42	Evidence of freezing/siltation: (compare to installation record)	freezing
Length screen collecting water (m)=	0.33		

Purging Information

Equipment: Waterra & Foot valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug-10 11am	0.70	0.30	8.7	180	150	clear, slightly brown
Aug-10	0.50	0.30	7.3	150	250	slightly turbid

Water Sampling		**Soil Sampling**	
Date and time collected:	10-Aug	Date and time collected:	10-Aug
Sample Number - Water:	13-29590/91	Sample Number - Soil:	13-25244/45 surface
			13-25246/47 depth (30cm)
Sample containers:	250ml Amber Glass	Sample containers:	120 mL Amber Glass Jars
	1L HDPE		Whirlpacks
	1L Teflon		
Procedure/Equipment:	Waterra and foot valve	Procedure/Equipment:	Pickax & Disposable Scoop
Water description:	Slightly turbid. Some suspended solids	Soil description:	Brown sand with angular gravel. 25% vegetation. Dry. Same at depth - well mixed.
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y
Number washes:	1	Number washes:	0
Number rinses:	1	Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-149: Monitoring Well Sampling Log- MW06-20, 2013

Site Name:	DYE-M		
Date of Sampling Event:	11-Aug-13		
Names of Samplers:	Alaina Leslie, Shari Reed, Tom Partridge		
Monitoring Well ID:	MW06-20		
Facility:	Upper Site Non-Hazardous Waste Landfill		
Monitoring Well Measured Data			
Condition of Well:	Good		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface Meter
Well height above ground (m)=	0.55	Depth to water surface (m)=	1.0
Diameter of well (m)=	0.040	Static water level* (m)=	0.45
Depth of installation* (m)=	3.4	Depth to bottom (m)=	1.4
Length screened section (m)=	1.9	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	0.44		
Calculations		**Notes**	
Depth of water (m)=	0.35	Evidence of sludge etc:	n/a
Well volume of water (L)=	0.44	Evidence of freezing/siltation: (compare to installation record)	Freezing
Length screen collecting water (m)=	0.350		

Purging Information

Equipment: Waterra & Foot valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
8/11/13 14:00	1.0	3.0	9.1	57	970	Fairly turbid, brown

Water Sampling		**Soil Sampling**	
Date and time collected:	11-Aug	Date and time collected:	11-Aug
Sample Number - Water:	13-29592	Sample Number - Soil:	13-25248/49 surface
			13-25250/51 depth (30cm)
Sample containers:	250ml Amber Glass	Sample containers:	120 mL Amber Glass Jars
	1L HDPE		Whirlpacks
	1L Teflon		
Procedure/Equipment:	Waterra and foot valve	Procedure/Equipment:	Pickax & Disposable Scoop
Water description:	Fairly turbid, brown	Soil description:	Coarse reddish-brown sand with 50% gravel and cobbles. Area surrounded by rip-rap (fill) on surface. No vegetation. Same at depth - evenly mixed.
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y
Number washes:	1	Number washes:	0
Number rinses:	1	Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-150: Monitoring Well Sampling Log- MW07-21, 2013

Site Name:	DYE-M		
Date of Sampling Event:	11-Aug-13		
Names of Samplers:	Alaina Leslie, Shari Reed, Tom Partridge		
Monitoring Well ID:	MW07-21		
Facility:	Upper Site Non-Hazardous Waste Landfill		
Monitoring Well Measured Data			
Condition of Well:	Good. Dent in casing		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Interface Meter
Well height above ground (m)=	0.6	Depth to water surface (m)=	1.2
Diameter of well (m)=	0.040	Static water level* (m)=	0.62
Depth of installation* (m)=	3.5	Depth to bottom (m)=	1.4
Length screened section (m)=	1.9	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	0.50		
Calculations		**Notes**	
Depth of water (m)=	0.15	Evidence of sludge etc:	n/a
Well volume of water (L)=	0.19	Evidence of freezing/siltation: (compare to installation record)	freezing
Length screen collecting water (m)=	0.15		

Purging Information

Equipment: Waterra & Foot valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug-11 2:30pm	0.20	2.9	9.7	110	62	Very turbid, brown
Aug-11	0.20	2.2	9.8	140	69	Very turbid, brown
Aug-11	0.15	1.8	9.9	85	75	Very turbid, brown

Water Sampling		**Soil Sampling**	
Date and time collected:	11-Aug	Date and time collected:	11-Aug
Sample Number - Water:	13-29593	Sample Number - Soil:	13-25252/53 surface
			13-25254/55 depth (30cm)
Sample containers:	250ml Amber Glass	Sample containers:	120 mL Amber Glass Jars
	1L HDPE		Whirlpacks
	1L Teflon		
Procedure/Equipment:	Waterra and foot valve	Procedure/Equipment:	Pickax & Disposable Scoop
Water description:	Very Turbid, brown	Soil description:	Coarse reddish-brown sand with 50% gravel and cobbles. Area surrounded by rip-rap (fill) on surface. No vegetation. Same at depth - evenly mixed.
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y
Number washes:	1	Number washes:	0
Number rinses:	1	Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-151: Monitoring Well Sampling Log- MW 06-18, 2014

Site Name:	DYE-M		
Date of Sampling Event:	06-Aug-14		
Names of Samplers:	Shari Reed, Mark Button		
Monitoring Well ID:	MW 06-18		
Facility:	Upper Site Non-Hazardous Waste Landfill		
Monitoring Well Measured Data			
Condition of Well:	Significant tilt to well casing, casing and well loose. Soil around well saturated with water. Water 20 cm below casing in well		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Solinst interface meter
Well height above ground (m)=	0.79	Depth to water surface (m)=	1.0
Diameter of well (m)=	0.04	Static water level* (m)=	0.21
Depth of installation* (m)=	3.3	Depth to bottom (m)=	1.0
Length screened section (m)=	1.9	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	0.35		
Calculations		**Notes**	
Depth of water (m)=	0.0	Evidence of sludge etc:	n/a
Well volume of water (L)=	0.0	Evidence of freezing/siltation: (compare to installation record)	freezing
Length screen collecting water (m)=	0		

Purging Information

Equipment: n/a

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
		Not enough water present to collect a sample				

Water Sampling		**Soil Sampling**	
Date and time collected:	n/a	Date and time collected:	06-Aug
Sample Number - Water:	No sample collected - dry	Sample Number - Soil:	14-8292 surface
			14-8293 depth (50cm)
Sample containers:		Sample containers:	120 mL Amber Glass Jars
			120 mL Clear Glass Jars
			Whirlpacks
Procedure/Equipment:		Procedure/Equipment:	Pickax & Disposable Scoop
Water description:		Soil description:	Brown sandy silt with 30% gravel and cobbles. Moist to wet. Water infiltration at 45 cm.
Filtration: (Y/N)			
Acidification: (Y/N)			
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)		Sampling Equipment Decontamination: (Y/N)	Y
Number washes:		Number washes:	0
Number rinses:		Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-152: Monitoring Well Sampling Log- MW 06-19, 2014

Site Name:	DYE-M		
Date of Sampling Event:	06-Aug-14		
Names of Samplers:	Shari Reed, Mark Button		
Monitoring Well ID:	MW 06-19		
Facility:	Upper Site Non-Hazardous Waste Landfill		
Monitoring Well Measured Data			
Condition of Well:	Well pipe in good condition. Water in casing to 0.31 m below well pipe. Bentonite exposed at surface.		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Solinst interface meter
Well height above ground (m)=	0.63	Depth to water surface (m)=	1.74
Diameter of well (m)=	0.04	Static water level* (m)=	1.11
Depth of installation* (m)=	3.4	Depth to bottom (m)=	2.0
Length screened section (m)=	1.9	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	0.43		
Calculations		**Notes**	
Depth of water (m)=	0.26	Evidence of sludge etc:	n/a
Well volume of water (L)=	0.33	Evidence of freezing/siltation: (compare to installation record)	freezing
Length screen collecting water (m)=	0.26		

Purging Information

Equipment: n/a

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 10 2014 0830h-0915h	0.5	6.5	7.05	162.6	n/a	colourless, cloudy.
Insufficient water to collect a sample						

Water Sampling		**Soil Sampling**	
Date and time collected:	n/a	Date and time collected:	06-Aug
Sample Number - Water:	No sample collected - dry	Sample Number - Soil:	14-8294 surface
			14-8295/96 depth (35cm)
Sample containers:		Sample containers:	120 mL Amber Glass Jars
			120 mL Clear Glass Jars
			Whirlpacks
Procedure/Equipment:		Procedure/Equipment:	Pickax & Disposable Scoop
Water description:		Soil description:	Brown gray sand with silt. Moist. Large cobbles & boulders at 35cm.
Filtration: (Y/N)			
Acidification: (Y/N)			
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)		Sampling Equipment Decontamination: (Y/N)	Y
Number washes:		Number washes:	0
Number rinses:		Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-153: Monitoring Well Sampling Log- MW 06-20, 2014

Site Name:	DYE-M		
Date of Sampling Event:	06-Aug-14		
Names of Samplers:	Shari Reed, Mark Button		
Monitoring Well ID:	MW 06-20		
Facility:	Upper Site Non-Hazardous Waste Landfill		
Monitoring Well Measured Data			
Condition of Well:	Good. Water inside casing to 0.09 m below top of well pipe.		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Solinst interface meter
Well height above ground (m)=	0.62	Depth to water surface (m)=	1.01
Diameter of well (m)=	0.04	Static water level* (m)=	0.39
Depth of installation* (m)=	3.4	Depth to bottom (m)=	1.33
Length screened section (m)=	1.9	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	0.44		
Calculations		**Notes**	
Depth of water (m)=	0.32	Evidence of sludge etc:	n/a
Well volume of water (L)=	0.40	Evidence of freezing/siltation: (compare to installation record)	freezing
Length screen collecting water (m)=	0.27		

Purging Information

Equipment: n/a

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 10 2014 0920h	1	5.5	7.7	114.1	n/a	colourless, cloudy.

Water Sampling		**Soil Sampling**	
Date and time collected:	Aug. 10 2014, 0937h	Date and time collected:	06-Aug
Sample Number - Water:	14-8180	Sample Number - Soil:	14-8297 surface
	14-8181		14-8298/99 depth (45cm)
Sample containers:	6x40ml VOA / 2x 125ml CG	Sample containers:	120 mL Amber Glass Jars
	4x 500ml AG / 2x 1L AG		120 mL Clear Glass Jars x2
	2x 125 ml HDPE		Whirlpacks
Procedure/Equipment:	Waterra and foot valve.	Procedure/Equipment:	Pickax & Disposable Scoop
Water description:	Colourless, cloudy.	Soil description:	Moist sand with 20% gravel. Area surrounded by rip rap (fill) on surface. No vegetation in area. Same at depth (evenly mixed).
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y
Number washes:	1	Number washes:	0
Number rinses:	1	Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-154 Monitoring Well Sampling Log- MW07-21, 2014

Site Name:	DYE-M		
Date of Sampling Event:	06-Aug-14		
Names of Samplers:	Shari Reed, Mark Button		
Monitoring Well ID:	MW 07-21		
Facility:	Upper Site Non-Hazardous Waste Landfill		
Monitoring Well Measured Data			
Condition of Well:	Good. Water inside casing 0.31 m above top, outer seal good. Dent in outer casing.		
Procedure/Equipment:	measuring tape	Procedure/Equipment:	Solinst interface meter
Well height above ground (m)=	0.59	Depth to water surface (m)=	1.36
Diameter of well (m)=	0.04	Static water level* (m)=	0.77
Depth of installation* (m)=	3.5	Depth to bottom (m)=	1.49
Length screened section (m)=	1.9	Free product thickness (mm)=	n/a
Depth to top of screen* (m)=	0.50		
Calculations		**Notes**	
Depth of water (m)=	0.13	Evidence of sludge etc:	n/a
Well volume of water (L)=	0.16	Evidence of freezing/siltation: (compare to installation record)	freezing
Length screen collecting water (m)=	0.13		

Purging Information

Equipment: n/a

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of water
Aug. 10 2014 1110h	0.5	6.8	6.3	85	n/a	n/a
1115h	1.3	6.2	7.5	109.6	n/a	colourless, cloudy, translucent

Water Sampling		**Soil Sampling**	
Date and time collected:	10-Aug	Date and time collected:	06-Aug
Sample Number - Water:	14-8182	Sample Number - Soil:	14-8300/31 surface
			14-8332 depth (45cm)
Sample containers:	3x40ml VOA / 2x 125ml CG	Sample containers:	120 mL Amber Glass Jars
	2x 500ml AG / 1x 1L AG		120 mL Clear Glass Jars
			Whirlpacks
Procedure/Equipment:	Waterra and foot valve	Procedure/Equipment:	Pickax & Disposable Scoop
Water description:	Colourless, cloudy, translucent	Soil description:	Coarse sand. Area surrounded by rip-rap (fill) on surface. No vegetation in area. Same at depth - evenly mixed.
Filtration: (Y/N)	N		
Acidification: (Y/N)	N		
		GPS Coordinates	
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y
Number washes:	1	Number washes:	0
Number rinses:	1	Number rinses:	1

n/a=not applicable

*From ground surface. All other measurements are assumed to be from the top of the casing.

Table B-155: DYE-M Upper Site NWS Landfill - Soil Analytical Results

Sample #	Location	Depth	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	PCBs	PHC			
													F1	F2	F3	F4
		(cm)	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
Laboratory Detection Limits 2008			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.0030	10	4.0	9.0	8.0
Laboratory Detection Limits 2011			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2013			3.0	5.0	5.0	1.0	10	15	20	0.20	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2014			3.0	5.0	5.0	1.0	10	15	20	0.20	0.010	0.010	10	10	10	10
2008 Baseline Monitoring Data																
08-11819*/20	DM-18	0-10	34	76	15	<1.0	14	65	85	1.4	<0.10	0.13	<10	<4.0	33	12
08-11821*/22*	DM-18	30-40	27	58	14	<1.0	16	57	59	<1.0	<0.10	0.0081	<10	37	21	9.4
08-11823*/24	DM-19	0-10	16	27	8.5	<1.0	<10	48	23	<1.0	<0.10	<0.0030	<10	<4.0	11	8.7
08-11825*/26	DM-19	30-40	9.0	13	5.2	<1.0	<10	32	<20	<1.0	<0.10	<0.0030	<10	<4.0	13	<8.0
08-11827*/28	DM-20	0-10	7.9	13	<5.0	<1.0	11	30	<20	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
08-11829*/30	DM-20	30-40	10	15	5.3	<1.0	14	34	<20	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
08-11831*/32	DM-21	0-10	13	23	9.3	<1.0	<10	49	<20	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
08-11833*/34	DM-21	30-40	14	17	10	<1.0	<10	80	<20	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
08-11835*/36	DM-22Old	0-10	13	44	9.7	<1.0	<10	42	31	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
08-11837*/38	DM-22Old	30-40	14	42	10	<1.0	<10	36	48	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	10
2011 Baseline Monitoring Data																
11-12878*/79	DM-18	0-10	43	84	16	<1.0	<10	41	84	2.9	<0.10	<0.050	<10	16	21	9.6
11-12880*/81	DM-18	30-40	20	33	8.4	<1.0	16	63	37	<1.0	<0.10	<0.050	<10	37	18	<8.0
11-12882*/83	DM-19	0-10	14	20	8.0	<1.0	<10	41	<20	<1.0	<0.10	0.28	<10	<4.0	<9.0	<8.0
11-12884*/85	DM-19	20-30	14	20	7.4	<1.0	<10	38	20	<1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-12886*/87	DM-20	0-10	8.8	20	6.4	<1.0	<10	36	<20	<1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-12888*/89	DM-20	30-40	7.3	12	<5.0	<1.0	<10	30	<20	<1.0	<0.10	<0.050	<10	<4.0	22	18
11-12890*/91	DM-21	0-10	15	31	11	<1.0	<10	62	<20	<1.0	<0.10	<0.050	<10	<4.0	<9.0	8.2
11-12892*/93	DM-21	30-40	19	26	13	<1.0	11	87	<20	1.3	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-12894*/95*	DM-22Old	0-10	15	49	15	<1.0	<10	66	57	<1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-12896*/97	DM-22Old	20-30	17	39	11	<1.0	<10	47	38	<1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
2013 Baseline Monitoring Data																
13-25148*/49	DM-18	0-10	48	140	18	<1.0	11	45	150	2.6	<0.10	<0.050	<10	12	17	9.0
13-25150*/51*	DM-18	30-40	56	140	18	<1.0	<10	42	140	2.7	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25152*/53	DM-19	0-10	15	21	<5.0	<1.0	<10	33	<20	0.64	<0.10	<0.050	<10	9.5	17	9.7
13-25154*/55	DM-19	20-30	13	19	<5.0	<1.0	<10	32	<20	0.85	<0.10	<0.050	<10	13	36	14
13-25156*/57	DM-20	0-10	21	22	5.1	<1.0	11	41	<20	0.85	<0.10	<0.050	<10	12	29	19
13-25158*/59	DM-20	30-40	15	19	7.3	<1.0	39	69	<20	2.4	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25160*/61*	DM-21	0-10	19	27	7.0	<1.0	<10	47	<20	1.3	<0.10	<0.050	<10	12	<9.0	<8.0
13-25162*/63	DM-21	30-40	19	26	8.7	<1.0	<10	58	<20	1.4	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25164*/65	DM-22Old	0-10	16	47	9.2	<1.0	<10	61	57	0.90	<0.10	<0.050	<10	24	30	25
13-25166*/67	DM-22Old	20-30	18	49	11	<1.0	<10	64	50	1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
2014 First Year Monitoring Data																
14-8274*	DM-18	0-10	23	28	9.6	<1.0	15	59	26	1.1	<0.010	<0.010	<10	<10	<10	<10
14-8275*/76	DM-18	40-50	23	25	9.6	<1.0	15	64	21	1.0	<0.010	<0.010	<10	<10	<10	<10
14-8277*	DM-19	0-10	17	24	6.4	<1.0	<10	42	20	0.60	<0.010	<0.010	<10	<10	<10	<10
14-8278*	DM-19	40-50	14	17	<5.0	<1.0	<10	36	<20	0.70	<0.010	<0.010	<10	<10	<10	<10
14-8283*	DM-20	0-10	34	61	12	<1.0	<10	44	25	0.60	<0.010	<0.010	<10	<10	<10	<10
14-8284*	DM-20	30-40	16	13	<5.0	<1.0	33	59	<20	0.70	<0.010	<0.010	<10	<10	<10	<10
14-8285*/86	DM-21	0-10	15	18	8.2	<1.0	13	92	<20	1.1	<0.010	<0.010	<10	<10	<10	<10
14-8287*	DM-21	45-55	21	16	9.2	<1.0	14	120	<20	1.6	<0.010	<0.010	<10	<10	<10	<10
14-8288*	DM-22Old	0-10	31	72	13	<1.0	10	64	54	1.2	<0.010	<0.010	<10	<10	<10	<10
14-8290*/91*	DM-22Old	25-30	14	29	6.8	<1.0	<10	43	25	0.5	<0.010	<0.010	<10	<10	<10	<10
14-8233*	DM-22	5-10	33	48	7.9	<1.0	<10	44	25	0.90	<0.10	<0.050	N/A	N/A	N/A	N/A
14-8234*	DM-22	45-50	28	50	8.0	<1.0	<10	49	27	0.90	<0.10	<0.050	N/A	N/A	N/A	N/A
14-8280*/81*	DM-23	0-10	43	44	9.3	<1.0	11	84	82	1.3	<0.010	<0.010	<10	<10	<10	<10
14-8282*	DM-23	25-35	20	33	7	<1.0	<10	46	27	0.70	<0.010	<0.010	<10	<10	<10	<10

*Sample was analyzed. Where both duplicates were analyzed, the result presented is an average of both samples. Duplicates not analyzed were archived.

Table B-156: Soil Sampling Log- Upper Site NWS Landfill, 2008

Site Name:	DYE-M
Date of Sampling Event:	August 18, 2008
Names of Samplers:	Molly Brewis, Bryarly McEachern, Kristin Andruchow
Facility:	Upper Site NWS Landfill

Soil Sampling

Sample Location ID:	DM-18	Sample Location ID:	DM-19
Sample Number:	Surface: 08-11819/20	Sample Number:	Surface: 08-11823/24
	Depth: 08-11821/22 (~30 cm)		Depth: 08-11825/26 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
GPS:	20W 0572592 7394739	GPS:	20W 0572599 7394630
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment Decontamination:	N	Sampling Equipment Decontamination:	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-20	Sample Location ID:	DM-21
Sample Number:	Surface: 08-11827/28	Sample Number:	Surface: 08-11831/32
	Depth: 08-11829/30 (~30 cm)		Depth: 08-11833/34 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
GPS:	20W 0572559 7394663	GPS:	20W 0572516 7394684
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment Decontamination:	N	Sampling Equipment Decontamination:	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-22		
Sample Number:	Surface: 08-11835/36		
	Depth: 08-11837/38 (~30 cm)		
Sample containers:	Whirlpaks, 120 mL AG jars		
GPS:	20W 0572495 7394730		
Procedure/Equipment:	Disposable scoops, shovel		
Soil description:	*		
Sampling Equipment Decontamination:	N		
Number washes:	N/A		
Number rinses:	N/A		

* Info not available from original log

Table B-157: Soil Sampling Log- Upper Site NWS Landfill, 2011

Site Name:	DYE-M		
Date of Sampling Event:	August 10, 2011		
Names of Samplers:	Ian Goode, Jennah Dharamshi, Alicia Spencer		
Facility:	Upper Site NWS Landfill		
Soil Sampling			
Sample Location ID:	DM-18	Sample Location ID:	DM-19
Sample Number:	Surface: 11-12878/79	Sample Number:	Surface: 11-12882/83
	Depth: 11-12880/81 (~30 cm)		Depth: 11-12884/85 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
GPS:	20W 0572592 7394739	GPS:	20W 0572599 7394630
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	Dark Brown 80% fines, 20% rocks 10% vegetation Surface debris in sampling location	Soil description:	Dark Brown 80% fines, 20% rocks 10% vegetation Surface debris in sampling location
Sampling Equipment Decontamination: (Y/N)	N	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-20	Sample Location ID:	DM-21
Sample Number:	Surface: 11-12886/87	Sample Number:	Surface: 11-12890/91
	Depth: 11-12888/89 (~30 cm)		Depth: 11-12892/93 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
GPS:	20W 0572559 7394663	GPS:	20W 0572516 7394684
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	Dark Brown, 50% fines; 50% rocks. Boulders surrounding, 0% vegetation	Soil description:	Dark Brown - Wet, 80% fines; 20% rocks, 0% Vegetation. Water seeps in @ 5cm depth
Sampling Equipment Decontamination: (Y/N)	N	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-22		
Sample Number:	Surface: 11-12894/95		
	Depth: 11-12896/97 (~30 cm)		
Sample containers:	Whirlpaks, 120 mL AG jars		
GPS:	20W 0572495 7394730		
Procedure/Equipment:	Disposable scoops, shovel		
Soil description:	Medium - Dark Brown, 40% fines, 60% rocks. Boulders around, 5% vegetation		
Sampling Equipment Decontamination: (Y/N)	N		
Number washes:	N/A		
Number rinses:	N/A		

Table B-158: Soil Sampling Log- Upper Site NWS Landfill, 2013

Site Name:	DYE-M		
Date of Sampling Event:	03-Aug-13		
Names of Samplers:	Ian Goode and Tom Partridge		
Facility:	Upper Site NWS Landfill RA 9		
Soil Sampling			
Sample Location ID:	DM-18	Sample Location ID:	DM-19
Sample Number:	13-25148/49 surface	Sample Number:	13-25152/53 surface
	13-25150/51 depth (30 cm)		13-25154/55 depth (30 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars
Procedure/Equipment:	Shovel and Disposable scoops	Procedure/Equipment:	Shovel and Disposable scoops
Soil description:	Dark brown fine sand with gravel. Some vegetation. Medium moisture. Same at depth.	Soil description:	Dark brown fine sand with gravel. Minimal vegetation. Medium moisture. Same at depth.
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	1	Number washes:	1
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-20	Sample Location ID:	DM-21
Sample Number:	13-25156/57 surface	Sample Number:	13-25160/61 surface
	13-25158/59 depth (30 cm)		13-25162/63 depth (30 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars
Procedure/Equipment:	Shovel and Disposable scoops	Procedure/Equipment:	Shovel and Disposable scoops
Soil description:	Dark brown fine sand with gravel. Minimal vegetation. Medium moisture. Same at depth.	Soil description:	Dark brown fine sand with gravel. Minimal vegetation. Low moisture. Same at depth.
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	1	Number washes:	1
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-22		
Sample Number:	13-25164/65 surface		
	13-25166/67 depth (30 cm)		
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars		
Procedure/Equipment:	Shovel and Disposable scoops		
Soil description:	Dark brown fine sand with gravel. Minimal vegetation. Low moisture. Same at depth.		
Sampling Equipment Decontamination: (Y/N)	Y - Pickax		
Number washes:	1		
Number rinses:	1		

Table B-159: Soil Sampling Log Upper Site NWS, 2014

Site Name:	DYE-M		
Date of Sampling Event:	07-Aug-14		
Names of Samplers:	Shari Reed, Mark Button		
Facility:	Upper Site NWS RA 9		
Soil Sampling			
Sample Location ID:	DM-18	Sample Location ID:	DM-19
Sample Number:	14-8274 surface 14-8275/76 depth (50 cm)	Sample Number:	14-8277 surface 14-8278/79 depth (50 cm)
Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars	Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars x2
Procedure/Equipment:	Shovel and Disposable scoops	Procedure/Equipment:	Shovel and Disposable scoops
Soil description:	Brown sand with silt and 30% gravel. Well mixed. Medium moisture. Soil same at depth. Vegetative cover consists of 75% moss/lichen. Painted metal debris in area.	Soil description:	Light brown and dark brown sand with pea gravel and cobbles. Well mixed. Medium moisture. Soil same at depth. No vegetation in area. Surrounding area contains pink coloured soil.
Sampling Equipment	Y - Pickax	Sampling Equipment	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-20	Sample Location ID:	DM-21
Sample Number:	14-8283 surface 14-8284 depth (40 cm)	Sample Number:	14-8285/86 surface 14-8287 depth (55 cm)
Sample containers:	Whirlpacks, 120 mL Amber Glass Jars,	Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120
Procedure/Equipment:	Shovel and Disposable scoops	Procedure/Equipment:	Shovel and Disposable scoops
Soil description:	Grey brown sand with silt with 10% gravel. Well mixed. Medium moisture. Soil same at depth. No vegetation in area. Surrounding area contains pink coloured soil.	Soil description:	Grey brown sand with silt with 10% gravel and cobbles. No vegeation in area. Medium moisture. Same at depth.
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-22Old	Sample Location ID:	DM-22
Sample Number:	14-8288/89 surface 14-8290/91 depth (30 cm)	Sample Number:	14-8233 surface 14-8234 depth (50 cm)
Sample containers:	Whirlpacks, 120 mL Amber Glass Jars,	Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120
Procedure/Equipment:	Shovel and Disposable scoops	Procedure/Equipment:	Shovel and Disposable scoops
Soil description:	Grey angular gravel and boulders at surface. Brown sand with 50% gravel & cobbles. Minimal vegetation in area. Low moisture. Same at depth.	Soil description:	Silty sand with gravel & cobbles. Same at depth. South side of test pit has black sand from 25 to 50 cm.
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1

Table B-160: DYE-M Upper Site South Landfill - West - Soil Analytical Results

Sample #	Location	Depth	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	PCBs	PHC			
													F1	F2	F3	F4
		(cm)	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
Laboratory Detection Limits 2007-2011			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.0030	10	4.0	9.0	8.0
Laboratory Detection Limits 2012			5.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2013			3.0	5.0	5.0	1.0	10	15	20	0.20	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2014			3.0	5.0	5.0	1.0	10	15	20	0.20	0.01	0.010	10	10	10	10
2008 Baseline Monitoring Data																
08-11689*/90	DM-23	0-10	10	21	<5.0	<1.0	<10	27	<20	<1.0	<0.10	<0.0030	<10	<4.0	13	10
08-11691*/92	DM-23	30-40	15	38	8.4	<1.0	<10	36	27	<1.0	<0.10	<0.0030	<10	4.5	9.0	9.0
08-11693*/94*	DM-24	0-10	33	61	15	<1.0	<10	97	120	<1.0	<0.10	0.0084	<10	<4.0	78	40
08-11695*/96	DM-24	30-40	<3.0	95	18	<1.0	<10	82	190	<1.0	<0.10	<0.0030	<10	<4.0	10	<8.0
08-11697*/98	DM-25	0-10	25	58	15	<1.0	<10	67	91	<1.0	<0.10	<0.0030	<10	<4.0	190	130
08-11699*/11798	DM-25	30-40	23	48	13	<1.0	<10	68	71	<1.0	<0.10	<0.0030	<10	<4.0	31	21
08-11799*/00	DM-26	0-10	12	24	7.7	<1.0	<10	50	35	<1.0	<0.10	0.0085	<10	<4.0	11	8.7
08-11801*/02	DM-26	30-40	11	25	7.8	<1.0	<10	40	33	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
08-11803*/04	DM-27	0-10	20	35	12	<1.0	<10	59	39	<1.0	<0.10	<0.0030	<10	<4.0	18	11
08-11805*/06	DM-27	30-40	19	27	14	<1.0	<10	75	37	<1.0	<0.10	<0.0030	<10	<4.0	13	12
08-11807*/08	DM-28	0-10	23	34	16	<1.0	<10	120	38	<1.0	<0.10	0.0045	<10	<4.0	30	25
08-11809*/10	DM-28	30-40	9.3	16	12	<1.0	<10	77	23	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
08-11811*/12	DM-29	0-10	12	42	7.4	<1.0	<10	27	20	<1.0	<0.10	<0.0030	<10	<4.0	14	10
08-11813*/14	DM-29	30-40	14	39	7.9	<1.0	<10	29	<20	1.2	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
08-11815*/16	DM-30	0-10	12	12	<5.0	<1.0	<10	22	<20	<1.0	<0.10	<0.0030	<10	<4.0	12	<8.0
08-11817*/18	DM-30	30-40	13	9.4	<5.0	<1.0	<10	18	<20	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
2011 Baseline Monitoring Data																
11-12898*/99	DM-23	0-10	19	58	11	<1.0	<10	38	33	<1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-12900*/01	DM-23	20-30	14	48	9.7	<1.0	<10	31	28	<1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-12902*/03	DM-24	0-10	25	35	14	<1.0	<10	57	58	<1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-12904*/05	DM-24	20-30	31	53	14	<1.0	<10	55	78	<1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-12906*/07	DM-25	0-10	28	60	18	<1.0	<10	67	88	1.6	<0.10	<0.050	<10	<4.0	56	19
11-12908*/09	DM-25	20-30	25	83	19	<1.0	<10	85	100	1.8	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-12910*/11	DM-26	0-10	21	53	14	<1.0	<10	73	61	<1.0	<0.10	<0.050	<10	<4.0	<9.0	11
11-12912*/13*	DM-26	20-30	23	42	14	<1.0	<10	67	55	1.3	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-12914*/15	DM-27	0-10	21	37	13	<1.0	<10	60	44	1.6	<0.10	<0.050	<10	<4.0	16	<8.0
11-12916*/17	DM-27	20-30	18	33	16	<1.0	<10	78	44	1.1	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-12918*/19	DM-28	0-10	18	25	15	<1.0	<10	96	34	1.2	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-12920*/21	DM-28	30-40	19	51	17	<1.0	<10	68	41	<1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-12922*/22	DM-29	0-10	14	23	10	<1.0	<10	33	<20	<1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-12924*/25	DM-29	30-40	20	54	13	<1.0	<10	40	32	<1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-12926*/27*	DM-30	0-10	18	31	8.7	<1.0	<10	35	23	<1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-12928*/29	DM-30	30-40	17	26	7.5	<1.0	<10	32	22	<1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
2013 Baseline Monitoring Data																
13-25116*/17	DM-23	0-10	17	66	9.3	<1.0	<10	38	35	0.90	<0.10	<0.050	<10	<4.0	12	9.0
13-25118*/19	DM-23	25-35	11	39	<5.0	<1.0	<10	24	<20	0.70	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25120*/21*	DM-24	0-10	33	60	11	<1.0	<10	84	99	1.5	<0.10	<0.050	<10	<4.0	14	10
13-25122*/23	DM-24	25-35	8.5	52	8.5	<1.0	<10	57	44	0.70	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25124*/25	DM-25	0-10	31	61	12	<1.0	<10	66	88	2.0	<0.10	<0.050	<10	<4.0	11	<8.0
13-25126*/27	DM-25	25-35	24	41	10	<1.0	<10	72	57	2.0	<0.10	<0.050	<10	5.6	11	<8.0
13-25128*/29	DM-26	0-10	28	55	10	<1.0	<10	65	54	2.1	<0.10	0.088	<10	5.7	11	<8.0
13-25130*/31*	DM-26	25-35	18	37	7.7	<1.0	<10	51	48	1.5	<0.10	<0.050	<10	6.8	<9.0	<8.0
13-25132*/33	DM-27	0-10	19	36	5.8	<1.0	<10	38	33	1.1	<0.10	<0.050	<10	13	43	30
13-25134*/35	DM-27	25-35	21	24	7.5	<1.0	<10	59	22	2.2	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25136*/37	DM-28	0-10	16	20	8.9	<1.0	<10	79	28	1.1	<0.10	<0.050	<10	9.9	17	12
13-25138*/39	DM-28	25-35	14	22	9.0	<1.0	<10	70	28	0.69	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25140*/41*	DM-29	0-10	18	38	6.2	<1.0	<10	33	25	0.82	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25142*/43	DM-29	25-35	23	61	11	<1.0	<10	45	33	1.2	<0.10	<0.050	<10	7.9	9.8	<8.0
13-25144*/45	DM-30	0-10	23	33	7.7	<1.0	<10	37	27	1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25146*/47	DM-30	25-35	19	13	7.2	<1.0	<10	24	<20	<0.20	<0.10	<0.050	<10	<4.0	<9.0	<8.0

Table B-160: DYE-M Upper Site South Landfill - West - Soil Analytical Results (cont'd)

Sample #	Location	Depth	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	PCBs	PHC			
													F1	F2	F3	F4
		(cm)	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
Laboratory Detection Limits 2007-2011			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.0030	10	4.0	9.0	8.0
Laboratory Detection Limits 2012			5.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2013			3.0	5.0	5.0	1.0	10	15	20	0.20	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2014			3.0	5.0	5.0	1.0	10	15	20	0.20	0.01	0.010	10	10	10	10
2014 First Year Monitoring Data																
14-8277*	DM-19	0-10	17	24	6.4	<1.0	<10	42	20	0.60	<0.010	<0.010	<10	<10	<10	<10
14-8278*	DM-19	40-50	14	17	<5.0	<1.0	<10	36	<20	0.70	<0.010	<0.010	<10	<10	<10	<10
14-8280*/81*	DM-23	0-10	43	44	9.3	<1.0	11	84	82	1.3	<0.010	<0.010	<10	<10	<10	<10
14-8282*	DM-23	25-35	20	33	7	<1.0	<10	46	27	0.70	<0.010	<0.010	<10	<10	<10	<10
14-8254*	DM-24	0-10	33	73	12	<1.0	<10	82	92	0.50	<0.010	<0.010	<10	<10	<10	<10
14-8255*/56	DM-24	25-35	72	170	20	<1.0	<10	110	170	0.90	<0.010	<0.010	<10	16	<10	<10
14-8257*	DM-25	0-10	31	82	14	<1.0	<10	81	89	1.1	<0.010	<0.010	<10	<10	<10	<10
14-8258*	DM-25	25-35	16	130	15	<1.0	<10	94	71	0.70	<0.010	<0.010	<10	10	<10	<10
14-8260*/61*	DM-26	0-10	72	50	11	<1.0	<10	74	60	1.2	<0.010	<0.010	<10	<10	<10	<10
14-8262*	DM-26	25-35	77	50	13	<1.0	<10	94	62	1.5	<0.010	<0.010	<10	10	<10	<10
14-8263*	DM-27	0-10	28	58	13	<1.0	<10	78	58	0.90	<0.010	<0.010	<10	<10	<10	<10
14-8264*	DM-27	25-35	20	38	14	<1.0	<10	96	61	1.0	<0.010	<0.010	<10	<10	<10	<10
14-8265*/66	DM-28	0-10	27	78	14	<1.0	<10	67	51	0.80	<0.010	<0.010	<10	<10	<10	<10
14-8267*	DM-28	25-35	15	43	10	<1.0	<10	74	32	0.50	<0.010	<0.010	<10	<10	<10	<10
14-8268*	DM-29	0-10	16	59	7.8	<1.0	<10	32	30	0.30	<0.010	<0.010	<10	<10	<10	<10
14-8270*/71*	DM-29	25-35	15	50	6.8	<1.0	<10	27	23	0.60	<0.010	<0.010	<10	<10	<10	<10
14-8272*	DM-30	0-10	20	35	6.8	<1.0	<10	44	28	0.60	<0.010	<0.010	<10	<10	<10	<10
14-8273*	DM-30	25-35	31	14	6.2	<1.0	<10	32	<20	0.30	<0.010	<0.010	<10	<10	<10	<10

*Sample was analyzed. Where both duplicates were analyzed, the result presented is an average of both samples. Duplicates not analyzed were archived.

Table B-161: Soil Sampling Log- Upper Site South Landfill - West, 2008

Site Name:	DYE-M		
Date of Sampling Event:	August 18, 2008		
Names of Samplers:	Molly Brewis, Bryarly McEachern, Kristin Andruchow		
Facility:	Upper Site South Landfill - West		
Soil Sampling			
Sample Location ID:	DM-23	Sample Location ID:	DM-24
Sample Number:	Surface: 08-11689/90	Sample Number:	Surface: 08-11693/94
	Depth: 08-11691/92 (~30 cm)		Depth: 08-11695/96 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
GPS:	20W 0572582 7394629	GPS:	20W 0572609 7394553
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment Decontamination:	N	Sampling Equipment Decontamination:	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-25	Sample Location ID:	DM-26
Sample Number:	Surface: 08-11697/98	Sample Number:	Surface: 08-11799/00
	Depth: 08-11699/11798		Depth: 08-11801/02(~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
GPS:	20W 0572566 7394548	GPS:	20W 0572519 7394545
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment Decontamination:	N	Sampling Equipment Decontamination:	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-27	Sample Location ID:	DM-28
Sample Number:	Surface: 08-11803/04	Sample Number:	Surface: 08-11807/08
	Depth: 08-11805/06 (~30 cm)		Depth: 08-11809/10(~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
GPS:	20W 0572480 7394518	GPS:	20W 0572445 7394547
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment Decontamination:	N	Sampling Equipment Decontamination:	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-29	Sample Location ID:	DM-30
Sample Number:	Surface: 08-11811/12	Sample Number:	Surface: 08-11815/16
	Depth: 08-11813/14 (~30 cm)		Depth: 08-11817/18 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
GPS:	20W 0572452 7394591	GPS:	20W 0572484 7394620
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment Decontamination:	N	Sampling Equipment Decontamination:	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

* Info not available from original log

Table B-162: Soil Sampling Log- Upper Site South Landfill - West, 2011

Site Name:	DYE-M		
Date of Sampling Event:	August 10, 2011		
Names of Samplers:	Ian Goode, Jennah Dharamshi, Alicia Spencer		
Facility:	Upper Site South Landfill - West		
Soil Sampling			
Sample Location ID:	DM-23	Sample Location ID:	DM-24
Sample Number:	Surface: 11-12898/99	Sample Number:	Surface: 11-12902/03
	Depth: 11-12900/01 (~30 cm)		Depth: 11-12904/05 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
GPS:	20W 0572582 7394629	GPS:	20W 0572609 7394553
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	Medium Brown, 80% fines, 20% gravel, Dry, 0% vegetation	Soil description:	Dark Brown, 60% fines, 40% gravel with some large rocks
Sampling Equipment Decontamination: (Y/N)	N	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-25	Sample Location ID:	DM-26
Sample Number:	Surface: 11-12906/07	Sample Number:	Surface: 11-12910/11
	Depth:11-12908/09 (~30 cm)		Depth: 11-12912/13 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
GPS:	20W 0572566 7394548	GPS:	20W 0572519 7394545
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	Dark Brown - Wet, 80% fines, 20% rocks. Water seeps in @ 5cm deep. 0% vegetation	Soil description:	Dark Brown, 90% fines, 10% gravel, 0% vegetation
Sampling Equipment Decontamination: (Y/N)	N	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-27	Sample Location ID:	DM-28
Sample Number:	Surface: 11-12914/15	Sample Number:	Surface: 11-12918/19
	Depth: 11-12916/17 (~30 cm)		Depth: 11-12920/21 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
GPS:	20W 0572480 7394518	GPS:	20W 0572445 7394547
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	Medium Brown - dry 70% fines, 30% gravel 2% vegetation	Soil description:	Light Brown @ surface Medium Brown @ depth 80% sand, 20% medium sized rocks, 10% vegetation
Sampling Equipment Decontamination: (Y/N)	N	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-29	Sample Location ID:	DM-30
Sample Number:	Surface: 11-12922/23	Sample Number:	Surface: 11-12926/27
	Depth: 11-12924/25 (~30 cm)		Depth: 11-12928/29 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
GPS:	20W 0572452 7394591	GPS:	20W 0572484 7394620
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	Medium Brown, 70% fines, 30% gravel, Rocky surface 0% vegetation	Soil description:	Medium reddish Brown 60% fines, 40% gravel & rocks rocky surface, 0% vegetation
Sampling Equipment Decontamination: (Y/N)	N	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

Table B-163: Soil Sampling Log- Upper Site South Landfill - West, 2013

Site Name:	DYE-M		
Date of Sampling Event:	02-Aug-13		
Names of Samplers:	Ian Goode and Tom Partridge		
Facility:	Upper Site South Landfill (West)		
Soil Sampling			
Sample Location ID:	DM-23	Sample Location ID:	DM-24
Sample Number:	13-25116/17 surface	Sample Number:	13-25120/21 surface
	13-25118/19 depth (30 cm)		13-25122/23 depth (30 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars
Procedure/Equipment:	Shovel and Disposable scoops	Procedure/Equipment:	Shovel and Disposable scoops
Soil description:	Boulder field, some organic material, gravel, fine sand. Depth: Gravel, fine sand, low moisture, same as surface.	Soil description:	Dark brown fine sand with vobbles, medium moisture. No vegetation. At 20 cm depth layer of white coarse sand. Frozen ground at 40 cm.
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y
Number washes:	1	Number washes:	1
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-25	Sample Location ID:	DM-26
Sample Number:	13-25124/25 surface	Sample Number:	13-25128/29 surface
	13-25126/27 depth (30 cm)		13-25130/31 depth (30 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars
Procedure/Equipment:	Shovel and Disposable scoops	Procedure/Equipment:	Shovel and Disposable scoops
Soil description:	Dark brown fine sand with gravel. No vegetation. Medium moisture. Same at depth.	Soil description:	Dark brown fine sand with gravel. No vegetation. Low moisture. Same at depth.
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	1	Number washes:	1
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-27	Sample Location ID:	DM-28
Sample Number:	13-25132/33 surface	Sample Number:	13-25136/37 surface
	13-25134/35 depth (30 cm)		13-25138/39 depth (30 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars
Procedure/Equipment:	Shovel and Disposable scoops	Procedure/Equipment:	Shovel and Disposable scoops
Soil description:	Dark brown fine sand with gravel. Minimal vegetation. Medium moisture. Same at depth.	Soil description:	Dark brown fine sand with gravel. Minimal vegetation. Low moisture. Same at depth.
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y
Number washes:	1	Number washes:	1
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-29	Sample Location ID:	DM-30
Sample Number:	13-25140/41 surface	Sample Number:	13-25144/45 surface
	13-25142/43 depth (30 cm)		13-25146/47 depth (30 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars
Procedure/Equipment:	Shovel and Disposable scoops	Procedure/Equipment:	Shovel and Disposable scoops
Soil description:	Dark brown fine sand with gravel. Minimal vegetation. Medium moisture. Same at depth.	Soil description:	Dark brown fine sand with gravel. Minimal vegetation. Medium moisture. Same at depth.
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y
Number washes:	1	Number washes:	1
Number rinses:	1	Number rinses:	1

Table B-164: Soil Sampling Log - Upper Site South Landfill - West, 2014

Site Name:	DYE-M		
Date of Sampling Event:	06-Aug-14		
Names of Samplers:	Mike Musclow, Sharilyn Hoobin		
Facility:	Upper Site South Landfill - West		
Soil Sampling			
Sample Location ID:	DM-23	Sample Location ID:	DM-24
Sample Number:	14-8280/81 surface	Sample Number:	14-8254 surface
	14-8282 depth (50 cm)		14-8255/56 depth (50 cm)
Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars	Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars
Procedure/Equipment:	Shovel and Disposable scoops	Procedure/Equipment:	Shovel and Disposable scoops
Soil description:	Brown sand with grey lenses. Well mixed. Medium moisture. Soil same at depth. Large cobbles throughout. No vegetation. Sample taken to toe of South Landfill in native ground.	Soil description:	Gray sand with silt. Quartz lens at 40 cm, mica at base. 80% grey angular cobbles and gravel. Well mixed. Medium moisture. Soil same at depth. No vegetation.
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-25	Sample Location ID:	DM-26
Sample Number:	14-8257 surface	Sample Number:	14-8260/61 surface
	14-8258/59 depth (50 cm)		14-8262 depth (50 cm)
Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars	Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars
Procedure/Equipment:	Shovel and Disposable scoops	Procedure/Equipment:	Shovel and Disposable scoops
Soil description:	Fine sand and 10% angular grey cobbles. Well mixed. Medium moisture. Soil same at depth. No vegetation in area.	Soil description:	Silty sand with 10% angular gravel. 10% vegetative cover in area. Low moisture. Same at depth.
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-27	Sample Location ID:	DM-28
Sample Number:	14-8263 surface	Sample Number:	14-8265/66 surface
	14-8264 depth (50 cm)		14-8267 depth (50 cm)
Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars	Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars
Procedure/Equipment:	Shovel and Disposable scoops	Procedure/Equipment:	Shovel and Disposable scoops
Soil description:	Silty sand with 20% grey angular gravel. Medium moisture. Same at depth. No vegetation in area.	Soil description:	Sandy with 30% gravel. Low moisture. Same at depth. Large grey angular boulders in area. No vegetation in area.
Sampling Equipment	Y - Pickax	Sampling Equipment	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-29	Sample Location ID:	DM-30
Sample Number:	14-8268/69 surface	Sample Number:	14-8272 surface
	14-8270/71 depth (35 cm)		14-8273 depth (35 cm)
Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars	Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars
Procedure/Equipment:	Shovel and Disposable scoops	Procedure/Equipment:	Shovel and Disposable scoops
Soil description:	Sandy dry dark brown material. 1% vegetation. Same at depth. Angular grey gravel and boulders surrounding area.	Soil description:	Coarse sand with 10% gravel. No vegetation. Medium moisture. Same at depth. Angular gravel in area.
Sampling Equipment	Y - Pickax	Sampling Equipment	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1

Table B-165: DYE-M Upper Site West Landfill - Soil Analytical Results

Sample #	Location	Depth	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	PCBs	PHC			
													F1	F2	F3	F4
		(cm)	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
Laboratory Detection Limits 2007-2011			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.0030	10	4.0	9.0	8.0
Laboratory Detection Limits 2012			5.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.050	30	10	10	10
Laboratory Detection Limits 2013			3.0	5.0	5.0	1.0	10	15	20	0.20	0.10	0.050	10	4.0	9.0	8.0
2008 Baseline Monitoring Data																
08-11649*/50	DM-31	0-10	45	21	11	<1.0	<10	99	110	<1.0	<0.10	0.11	<10	4.2	35	17
08-11651*/52	DM-31	35-45	35	18	9.5	<1.0	<10	86	92	<1.0	<0.10	0.027	<10	6.8	9.4	<8.0
08-11657*/58	DM-32	0-10	52	38	15	<1.0	<10	100	160	<1.0	<0.10	<0.0030	<10	6.8	12	<8.0
08-11659*/60	DM-32	30-40	58	39	15	<1.0	<10	100	170	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
08-11661*/62	DM-33	0-10	19	41	11	<1.0	<10	44	43	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
08-11663*/64	DM-33	35-45	27	39	13	<1.0	<10	52	54	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	12
08-11653*/54	DM-34	0-10	19	49	13	<1.0	<10	41	32	<1.0	<0.10	<0.0030	<10	5.4	<9.0	<8.0
08-11655*/56	DM-34	30-40	19	41	13	<1.0	<10	40	30	<1.0	<0.10	<0.0030	<10	5.3	<9.0	<8.0
08-29275*/76	DM-37	0-10	69	52	19	<1.0	<10	120	140	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	8.9
08-29277*/78	DM-37	30-40	52	40	16	<1.0	<10	110	130	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
08-29283*/84	DM-39	0-10	64	37	15	<1.0	<10	140	130	<1.0	<0.10	<0.0030	<10	<4.0	9.3	<8.0
08-29285*/86*	DM-39	30-40	71	26	16	<1.0	<10	120	120	<1.0	<0.10	<0.0030	<10	8.2	17	<8.0
08-29279*/80	08-29279	0-10	38	36	15	<1.0	<10	80	95	1.3	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
08-29281*/82	08-29279	30-40	45	35	13	<1.0	<10	74	90	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
08-11633*/34	DM-40	0-10	43	46	13	<1.0	25	100	110	<1.0	<0.10	<0.0030	<10	<4.0	34	18
08-11635*/36	DM-40	30-40	58	41	13	<1.0	12	140	150	<1.0	<0.10	<0.0030	<10	<4.0	48	17
08-11637*/38	DM-41	0-10	110	43	16	<1.0	59	360	130	<1.0	<0.10	0.020	<10	38	76	14
08-11639*/40	DM-41	30-40	59	37	15	<1.0	13	140	120	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
08-11641*/42	DM-47	0-10	59	70	20	<1.0	<10	130	180	<1.0	<0.10	0.019	21	680	120	10
08-11643*/44*	DM-47	30-40	75	62	22	<1.0	<10	160	210	<1.0	<0.10	<0.0030	<10	67	14	<8.0
08-11645*/46	DM-49	0-10	98	160	29	<1.0	<10	140	***280***	1.6	<0.10	0.0031	<10	5.8	30	11
08-11647*/48	DM-49	30-40	160	210	38	<1.0	10	190	***300***	2.5	<0.10	<0.0030	<10	<4.0	9.2	<8.0
08-11621*/22*	DM-50	0-10	35	48	12	<1.0	20	76	91	<1.0	<0.10	0.003	<10	6.6	69	17
08-11623*/24	DM-50	30-40	76	96	18	<1.0	15	78	150	<1.0	<0.10	0.0047	<10	5.1	89	28
08-11625*/26	DM-51	0-10	41	70	16	<1.0	18	87	120	<1.0	<0.10	0.029	<10	4.8	84	29
08-11627*/28	DM-51	30-40	53	50	16	<1.0	21	110	140	<1.0	<0.10	0.030	50	530	570	140
08-11629*/30	DM-52	0-10	76	260	42	<1.0	<10	56	73	<1.0	<0.10	0.0062	<10	<4.0	26	10
08-11631*/32	DM-52	30-40	82	160	33	<1.0	<10	72	84	<1.0	<0.10	0.023	<10	<4.0	37	13
2009 Baseline Monitoring Data																
09-21617*/18	DM-35	0-10	85	99	23	<1.0	<10	120	140	2.1	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
09-21619*/20*	DM-35	30-40	120	43	14	<1.0	<10	130	160	2.2	<0.10	<0.0030	<10	14	27	<8.0
09-21605*/06	DM-36	0-10	84	58	17	<1.0	12	100	150	<1.0	<0.10	<0.0030	<10	<4.0	12	<8.0
09-21607*/08	DM-36	30-40	68	53	16	<1.0	11	96	130	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
09-21609*/10	DM-37	0-10	79	44	18	<1.0	<10	130	150	<1.0	<0.10	<0.0030	<10	<4.0	22	<8.0
09-21611*/12	DM-37	30-40	39	35	14	<1.0	<10	100	110	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
09-21613*/14	DM-39	0-10	48	76	20	<1.0	11	56	61	<1.0	<0.10	<0.0030	<10	4.2	<9.0	<8.0
09-21615*/16	DM-39	30-40	46	93	20	<1.0	13	59	61	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
09-21573*/74	DM-40	0-10	76	73	23	<1.0	<10	130	130	1.2	<0.10	<0.0030	<10	13	12	<8.0
09-21575*/76	DM-40	30-40	120	37	9.6	<1.0	17	140	150	2.8	<0.10	<0.0030	<10	18	14	<8.0
09-21577*/78*	DM-41	0-10	91	48	15	<1.0	36	250	130	<1.0	<0.10	0.0059	<10	23	54	<8.0
09-21579*/80	DM-41	30-40	51	47	15	<1.0	<10	100	110	<1.0	<0.10	<0.0030	<10	4.3	16	<8.0
09-21581*/82	DM-42	0-10	53	55	19	<1.0	<10	120	160	<1.0	<0.10	<0.0030	<10	<4.0	11	<8.0
09-21583*/84	DM-42	30-40	39	57	18	<1.0	<10	98	130	<1.0	<0.10	<0.0030	<10	<4.0	10	<8.0
09-21585*/86	DM-43	0-10	40	43	18	<1.0	<10	73	120	<1.0	<0.10	<0.0030	<10	<4.0	14	<8.0
09-21587*/88	DM-43	30-40	30	46	15	<1.0	<10	59	93	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
09-21589*/90	DM-44	0-10	97	38	17	<1.0	<10	180	190	<1.0	<0.10	<0.0030	<10	6.6	<9.0	<8.0
09-21591*/92	DM-44	30-40	160	65	15	<1.0	<10	130	130	1.1	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
09-21593*/94	DM-45	0-10	76	93	23	<1.0	26	120	120	<1.0	<0.10	<0.0030	<10	<4.0	9.1	<8.0
09-21595*/96	DM-45	30-40	86	120	24	<1.0	16	170	170	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
09-21597*/98	DM-46	0-10	71	63	15	<1.0	21	100	130	1.2	<0.10	0.0071	<10	<4.0	12	<8.0
09-21599*/00	DM-46	30-40	73	58	14	<1.0	19	100	120	<1.0	<0.10	<0.0030	<10	77	200	19
09-21601*/02	DM-48	0-10	110	350	44	<1.0	<10	110	***440***	13	<0.10	0.0043	<10	4.7	130	26
09-21603*/04	DM-48	30-40	88	120	18	<1.0	<10	95	170	6.8	<0.10	<0.0030	<10	<4.0	<9.0	<8.0

Table B-165: DYE-M Upper Site West Landfill - Soil Analytical Results (cont'd

Sample #	Location	Depth	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	PCBs	PHC			
													F1	F2	F3	F4
		(cm)	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
Laboratory Detection Limits 2007-2011			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.0030	10	4.0	9.0	8.0
Laboratory Detection Limits 2012			5.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.050	30	10	10	10
Laboratory Detection Limits 2013			3.0	5.0	5.0	1.0	10	15	20	0.20	0.10	0.050	10	4.0	9.0	8.0
2011 Baseline Monitoring Data																
11-12954*/55	DM-31	0-10	55	39	14	<1.0	14	110	120	<1.0	<0.10	0.19	<10	5.5	31	8.7
11-12956*/57*	DM-31	30-40	54	43	15	<1.0	<10	100	120	<1.0	<0.10	0.08	<10	5.0	83	35
11-12958*/59	DM-32	0-10	67	48	18	<1.0	10	120	180	2.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-12960*/61	DM-32	30-40	99	46	14	<1.0	11	94	170	3.4	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-12962*/63	DM-33	0-10	24	43	13	<1.0	<10	58	60	<1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-12964*/65	DM-33	30-40	20	50	14	<1.0	<10	49	47	<1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-12966*/67	DM-34	0-10	15	57	12	<1.0	<10	43	38	1.3	<0.10	<0.050	<10	10	<9.0	<8.0
11-12968*/69	DM-34	30-40	12	45	14	<1.0	<10	34	27	1.6	<0.10	<0.050	<10	7.2	<9.0	<8.0
11-12942*/43	DM-47	0-10	55	52	16	<1.0	13	100	120	1.1	<0.10	0.050	<10	33	15	<8.0
11-12944*/45	DM-47	30-40	88	84	28	<1.0	27	190	230	<1.0	<0.10	0.060	<10	370	32	8.6
11-12946*/47	DM-48	0-10	130	380	49	<1.0	<10	120	***460***	13	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-12948*/49	DM-48	30-40	150	130	26	<1.0	13	130	190	8.9	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-12950*/51	DM-49	0-10	97	120	25	<1.0	13	140	***310***	<1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
11-12952*/53	DM-49	30-40	100	170	31	<1.0	10	160	210	1.4	<0.10	<0.0050	<10	<4.0	10	8.7
11-12930*/31	DM-50	0-10	29	42	13	<1.0	11	56	68	<1.0	<0.10	0.050	<10	<4.0	29	<8.0
11-12932*/33	DM-50	30-40	58	78	17	<1.0	20	95	140	<1.0	<0.10	0.19	<10	4.6	54	13
11-12934*/35	DM-51	0-10	41	74	18	<1.0	24	83	99	2.0	<0.10	<0.050	<10	5.5	22	<8.0
11-12936*/37	DM-51	30-40	42	65	16	<1.0	19	85	98	<1.0	<0.10	0.050	<10	220	26	<8.0
11-12938*/39	DM-52	0-10	80	350	50	<1.0	<10	66	92	<1.0	<0.10	<0.050	<10	<4.0	10	<8.0
11-12940*/41	DM-52	30-40	91	190	37	<1.0	<10	70	86	<1.0	<0.10	<0.050	<10	<4.0	28	<8.0
2012 Baseline Monitoring Data																
12-44798*/99	DM-35	0-10	80	100	22	<1.0	<10	140	150	3.3	<0.10	<0.050	<10	<4.0	<9.0	<8.0
12-44800*/01	DM-35	20-30	88	53	12	<1.0	<10	170	190	2.2	<0.10	<0.050	<10	160	73	<8.0
12-44802*/03	DM-36	0-10	94	73	17	<1.0	27	140	190	1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
12-44804*/05	DM-36	20-30	82	77	18	<1.0	19	130	180	1.2	<0.10	<0.050	<10	<4.0	<9.0	<8.0
12-44806*/07	DM-37	0-10	65	46	13	<1.0	<10	130	150	1.5	<0.10	<0.050	<10	<4.0	12	<8.0
12-44808*/09	DM-37	20-30	62	46	12	<1.0	<10	120	150	1.4	<0.10	<0.050	<10	<4.0	10	<8.0
12-44814*/15*	DM-38	0-10	66	66	15	<1.0	110	310	96	2.3	<0.10	<0.050	<30	<10	<10	<10
12-44816*/17	DM-38	20-30	65	79	16	<1.0	57	160	76	2.2	<0.10	<0.050	<30	<10	<10	<10
12-44810*/11*	DM-39	0-10	74	51	13	<1.0	<10	180	170	1.1	<0.10	<0.050	<10	4.5	21	<8.0
12-44812*/13	DM-39	20-30	85	37	12	<1.0	<10	140	170	<1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
12-44750*/51*	DM-40	0-10	71	79	28	<1.0	<10	140	120	3.0	<0.10	<0.050	<30	<10	<10	<10
12-44752*/53	DM-40	20-30	150	45	12	<1.0	18	190	230	2.1	0.0061	<0.050	<30	<10	<10	<10
12-44754*/55	DM-41	0-10	71	47	17	<1.0	22	160	140	2.0	0.023	<0.050	<30	26	80	<10
12-44756*/57	DM-41	20-30	62	45	18	<1.0	<10	120	130	1.3	0.0063	<0.050	<30	<10	<10	<10
12-44758*/59	DM-42	0-10	50	48	18	<1.0	<10	110	130	1.0	<0.10	<0.050	<30	<10	<10	<10
12-44760*/61	DM-42	20-30	46	43	17	<1.0	<10	100	130	0.9	<0.10	<0.050	<30	<10	<10	<10
12-44762*/63*	DM-43	0-10	47	40	21	<1.0	<10	71	110	1.3	<0.10	<0.050	<30	<10	<10	<10
12-44764*/65	DM-43	20-30	36	42	19	<1.0	<10	68	100	1.2	<0.10	<0.050	<30	<10	<10	<10
12-44766*/67	DM-44	0-10	84	52	21	<1.0	<10	160	170	3.0	<0.10	<0.050	<30	<10	<10	<10
12-44768*/69	DM-44	20-30	110	40	16	<1.0	19	150	140	2.3	0.023	<0.050	<30	<10	<10	<10
12-44770*/71	DM-45	0-10	61	84	19	<1.0	<10	95	95	1.2	<0.10	<0.050	<30	<10	<10	<10
12-44772*/73	DM-45	20-30	82	94	22	<1.0	12	150	150	1.6	<0.10	<0.050	<30	<10	<10	<10
12-44774*/75	DM-46	0-10	70	53	16	<1.0	21	100	120	3.8	0.0062	<0.050	<30	<10	<10	<10
12-44776*/77	DM-46	20-30	63	58	16	<1.0	<10	89	93	2.2	<0.10	<0.050	<30	116	200	<10
2013 Baseline Monitoring Data																
13-25340*/41*	DM-31	0-10	59	42	11	<1.0	<10	140	160	1.7	<0.10	<0.050	<10	4.6	<9.0	<8.0
13-25342*/43	DM-31	30-40	54	34	8.1	<1.0	<10	120	140	1.3	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25344*/45	DM-32	0-10	86	43	10	<1.0	11	120	190	3.5	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25346*/47	DM-32	30-40	63	31	10	<1.0	<10	91	130	3.2	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25348*/49	DM-33	0-10	18	40	7.6	<1.0	<10	47	44	1.3	<0.10	<0.050	<10	7.4	10	17
13-25350*/51*	DM-33	30-40	28	60	13	<1.0	<10	63	60	1.1	<0.10	<0.050	<10	4.4	<9.0	23.0
13-25352*/53	DM-34	0-10	36	58	18	<1.0	<10	74	47	2.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25354*/55	DM-34	30-40	36	54	17	<1.0	<10	76	43	1.3	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25320*/21*	DM-35	0-10	110	38	7.3	<1.0	18	160	180	3.8	<0.10	<0.050	<10	38	50	<8.0
13-25322*/23	DM-35	30-40	110	42	8.3	<1.0	15	150	180	2.5	<0.10	<0.050	<10	56	110	11
13-25324*/25	DM-36	0-10	110	71	16	<1.0	15	130	190	1.4	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25326*/27	DM-36	30-40	91	63	14	<1.0	15	110	170	0.71	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25328*/29	DM-37	0-10	66	42	10	<1.0	<10	110	140	3.3	<0.10	<0.050	<10	4.7	<9.0	<8.0
13-25330*/31*	DM-37	30-40	49	46	11	<1.0	<10	120	140	1.4	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25332*/33	DM-38	0-10	90	60	12	<1.0	56	160	68	1.9	<0.10	<0.050	<10	6.4	16	22
13-25334*/35	DM-38	30-40	92	61	12	<1.0	58	170	72	2.6	<0.10	<0.050	<10	5.4	20	26.0

Table B-165: DYE-M Upper Site West Landfill - Soil Analytical Results (cont'd

Sample #	Location	Depth	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	PCBs	PHC			
													F1	F2	F3	F4
		(cm)	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
Laboratory Detection Limits 2007-2011			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.0030	10	4.0	9.0	8.0
Laboratory Detection Limits 2012			5.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.050	30	10	10	10
Laboratory Detection Limits 2013			3.0	5.0	5.0	1.0	10	15	20	0.20	0.10	0.050	10	4.0	9.0	8.0
13-25336*/37	DM-39	0-10	78	47	11	<1.0	<10	160	170	2.0	<0.10	<0.050	<10	17	21	<8.0
13-25338*/39	DM-39	30-40	95	38	11	<1.0	<10	150	170	2.2	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25292*/93	DM-40	0-10	85	77	19	<1.0	<10	130	120	3.0	<0.10	<0.050	<10	9.6	14	<8.0
13-25294*/95	DM-40	30-40	85	77	19	<1.0	<10	130	120	2.7	<0.10	<0.050	<10	41	18	<8.0
13-25296*/97	DM-41	0-10	55	46	11	<1.0	28	150	120	1.3	<0.10	<0.050	<10	9.4	40	11
13-25298*/99	DM-41	30-40	68	52	12	<1.0	<10	110	130	1.5	<0.10	<0.050	<10	33	<9.0	<8.0
13-25300*/01*	DM-42	0-10	44	64	16	<1.0	<10	110	150	1.2	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25302*/03	DM-42	30-40	40	82	15	<1.0	<10	100	140	1.3	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25304*/05	DM-43	0-10	41	42	12	<1.0	<10	74	120	0.90	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25306*/07	DM-43	30-40	35	49	14	<1.0	<10	74	120	0.88	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25308*/09	DM-44	0-10	160	37	8.4	<1.0	11	180	190	4.3	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25310*/11*	DM-44	30-40	60	60	11	<1.0	<10	120	130	1.3	<0.10	<0.050	<10	6.7	18	8.3
13-25312*/13	DM-45	0-10	84	110	18	<1.0	10	120	130	1.6	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25314*/15	DM-45	30-40	82	100	16	<1.0	10	120	130	1.6	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25316*/17	DM-46	0-10	66	57	10	***7.5***	13	99	100	3.2	<0.10	<0.050	<10	10	56	8.2
13-25318*/19	DM-46	30-40	95	52	10	<1.0	27	130	150	5.6	<0.10	<0.050	<10	97	460	48
13-25052*/53	DM-47	0-10	64	53	11	<1.0	14	100	130	2.5	<0.10	0.15	<10	74	99	17
13-25054*/55	DM-47	30-40	67	59	16	<1.0	10	140	190	2.0	<0.10	<0.050	<10	17	<9.0	<8.0
13-25056*/57	DM-48	0-10	99	330	35	<1.0	<10	100	***420***	18	<0.10	<0.050	<10	9.6	18	19
13-25058*/59	DM-48	30-40	160	170	24	<1.0	14	140	230	11	<0.10	<0.050	<10	8.2	<9.0	<8.0
13-25060*/61*	DM-49	0-10	88	76	16	<1.0	11	120	180	2.4	<0.10	<0.050	<10	11	<9.0	<8.0
13-25062*/63	DM-49	30-40	100	27	6.6	<1.0	11	150	180	1.1	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25064*/65	DM-50	0-10	68	52	10	<1.0	<10	78	140	2.6	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25066*/67	DM-50	30-40	80	43	10	<1.0	12	94	150	2.9	<0.10	<0.050	<10	5.8	<9.0	<8.0
13-25068*/69	DM-51	0-10	32	47	8.7	<1.0	14	60	74	2.0	<0.10	<0.050	<10	7.9	44	23
13-25070*/71*	DM-51	30-40	46	60	11	<1.0	22	80	110	2.4	<0.10	<0.050	28	240	150	32
13-25072*/73	DM-52	0-10	77	260	40	<1.0	<10	68	79	1.2	<0.10	<0.050	<10	<4.0	14	8.5
13-25074*/75	DM-52	30-40	76	200	34	<1.0	<10	48	57	0.40	<0.10	<0.050	<10	<4.0	14	<8.0
2014 First Year Monitoring Data																
14-8433*	DM-31	5-10	57	30	9.1	<1.0	27	118	130	1.0	<0.010	<0.010	<10	<10	<10	<10
14-8434*	DM-31	45-50	49	30	7.3	<1.0	<10	97	100	0.70	<0.010	<0.010	<10	<10	<10	<10
14-8430*/31*	DM-32	5-10	66	33	10	<1.0	<10	115	150	2.8	<0.010	<0.010	<10	<10	<10	<10
14-8432*	DM-32	45-50	90	30	8	<1.0	<10	108	150	5.3	<0.010	<0.010	<10	<10	<10	<10
14-8375*/76	DM-33	5-10	24	45	11	<1.0	<10	60	56	0.60	<0.010	<0.010	<10	<10	<10	<10
14-8377*	DM-33	45-50	27	63	11	<1.0	<10	60	60	0.80	<0.010	<0.010	<10	<10	<10	<10
14-8378*	DM-34	5-10	30	55	16	<1.0	<10	65	42	1.1	<0.010	<0.010	<10	<10	<10	<10
14-8380*/81*	DM-34	45-50	25	65	16	<1.0	<10	58	37	0.90	<0.010	<0.010	<10	<10	<10	<10
14-8438*	DM-35	5-10	50	150	23	<1.0	<10	44	53	0.60	<0.010	<0.010	<10	<10	<10	<10
14-8440*/41*	DM-35	45-50	25	76	12	<1.0	11	45	41	1.0	<0.010	<0.010	<10	<10	<10	<10
14-8442*	DM-36	5-10	98	48	13	<1.0	13	135	180	1.2	<0.010	<0.010	<10	<10	<10	<10
14-8443*	DM-36	45-50	93	38	10	<1.0	12	106	140	2.9	<0.010	<0.010	<10	19	<10	<10
14-8435*/36	DM-37	5-10	53	37	10	<1.0	<10	106	130	1.4	<0.010	<0.010	<10	<10	<10	<10
14-8437*	DM-37	45-50	37	32	7.6	<1.0	<10	84	100	1.1	<0.010	<0.010	<10	<10	<10	<10
14-8382*	DM-38	5-10	58	61	15	<1.0	94	284	84	1.7	0.020	<0.010	<10	<10	<10	<10
14-8383*	DM-38	45-50	64	63	13	<1.0	100	265	76	1.6	<0.010	<0.010	<10	<10	<10	<10
14-8427*	DM-39	5-10	95	37	11	<1.0	<10	147	160	1.6	<0.010	<0.010	<10	<10	<10	<10
14-8428*	DM-39	45-50	110	37	11	<1.0	<10	154	170	2.0	<0.010	<0.010	<10	<10	<10	<10
14-8367*	DM-40	5-10	97	51	11	<1.0	11	158	200	2.7	0.020	<0.010	<10	<10	<10	<10
14-8368*	DM-40	45-50	100	48	11	<1.0	<10	180	***300***	2.5	<0.010	<0.010	<10	<10	<10	<10
14-8370*/71*	DM-41	5-10	69	44	11	<1.0	34	155	125	1.3	<0.010	<0.010	<10	<10	<10	<10
14-8372*	DM-41	35-40	76	73	16	<1.0	15	170	180	1.6	<0.010	<0.010	<10	<10	<10	<10
14-8373*	DM-42	5-10	84	150	41	<1.0	<10	180	120	3.8	<0.010	<0.010	<10	<10	<10	<10
14-8374*	DM-42	50-55	69	42	12	<1.0	<10	130	140	1.5	<0.010	<0.010	<10	<10	<10	<10
14-8350*/51*	DM-43	5-10	40	45	12	<1.0	<10	73	110	1.1	<0.010	<0.010	<10	<10	<10	<10
14-8352*	DM-43	45-50	38	48	12	<1.0	<10	79	110	0.9	<0.010	<0.010	<10	<10	<10	<10
14-8353*	DM-44	5-10	110	41	13	<1.0	<10	180	190	3.7	<0.010	<0.010	<10	<10	<10	<10
14-8354*	DM-44	45-50	190	51	11	<1.0	11	170	180	4.9	0.023	<0.010	<10	<10	15	<10
14-8355*/56	DM-45	5-10	110	98	21	<1.0	10	160	170	2.2	0.030	<0.010	<10	<10	<10	<10
14-8357*	DM-45	45-50	100	100	17	<1.0	11	160	190	1.8	0.024	<0.010	<10	<10	<10	<10
14-8358*	DM-46	5-10	70	81	14	<1.0	18	100	150	3.9	<0.010	<0.010	<10	<10	13	<10
14-8360*/61*	DM-46	45-50	160	46	8	<1.0	11	160	160	11	<0.010	<0.010	<10	<10	<10	<10
14-8342*	DM-47	5-10	93	98	22	<1.0	11	190	***290***	3.2	<0.010	<0.010	15	2100	39	<10
14-8343*	DM-47	45-50	83	110	17	<1.0	14	140	210	2.9	<0.010	0.059	<10	600	12	<10

Table B-165: DYE-M Upper Site West Landfill - Soil Analytical Results (cont'd

Sample #	Location	Depth	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	PCBs	PHC			
													F1	F2	F3	F4
		(cm)	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
Laboratory Detection Limits 2007-2011			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.0030	10	4.0	9.0	8.0
Laboratory Detection Limits 2012			5.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.050	30	10	10	10
Laboratory Detection Limits 2013			3.0	5.0	5.0	1.0	10	15	20	0.20	0.10	0.050	10	4.0	9.0	8.0
14-8347*	DM-48	5-10	130	320	36	<1.0	16	140	***450***	15	<0.010	<0.010	<10	<10	16	<10
14-8348*	DM-48	45-50	130	190	24	<1.0	12	130	***280***	12	0.017	<0.010	<10	<10	<10	<10
14-8344*	DM-49	5-10	120	37	9.0	<1.0	<10	150	220	1.0	<0.010	<0.010	14	230	<10	<10
14-8345*/46	DM-49	45-50	130	31	8.3	<1.0	<10	150	200	0.9	<0.010	<0.010	<10	<10	<10	<10
14-8338*	DM-50	5-10	100	79	14	<1.0	24	82	***260***	3.3	0.015	<0.010	<10	<10	<10	<10
14-8340*/41*	DM-50	35-40	120	74	15	<1.0	10	99	***260***	4.3	<0.010	<0.010	<10	<10	<10	<10
14-8362*	DM-51	5-10	46	62	13	<1.0	13	86	110	2.0	<0.010	0.018	<10	<10	<10	<10
14-8363*	DM-51	30-35	56	54	11	<1.0	23	100	130	1.7	<0.010	0.066	19	1500	390	<10
14-8364*	DM-52	5-10	87	290	43	<1.0	<10	61	75	0.60	<0.010	<0.010	<10	<10	<10	<10
14-8365*/66	DM-52	40-45	78	220	34	<1.0	<10	55	61	0.70	<0.010	<0.010	<10	<10	<10	<10

*Sample was analyzed. Where both duplicates were analyzed, the result presented is an average of both samples. Duplicates not analyzed were archived.

ǂ Concentrations in bold and italics are above DLCU Tier II criteria.

Table B-166: Soil Sampling Log- Upper Site West Landfill, 2008

Site Name:	DYE-M		
Date of Sampling Event:	August 18, 2008		
Names of Samplers:	Molly Brewis, Bryarly McEachern, Kristin Andruchow		
Facility:	Upper Site West Landfill		
Soil Sampling			
Sample Location ID:	DM-31	Sample Location ID:	DM-32
Sample Number:	Surface: 08-11649/50	Sample Number:	Surface: 08-11657/58
	Depth: 08-11651/52 (~30 cm)		Depth:08-11659/60 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
GPS:	20W 0571153 7394960	GPS:	20W 0571094 7394904
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment Decontamination: (Y/N)	N	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-33	Sample Location ID:	DM-34
Sample Number:	Surface: 08-11661/62	Sample Number:	Surface: 08-11653/54
	Depth: 08-11663/64 (~30 cm)		Depth: 08-11655/56 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
GPS:	20W 0571073 7394962	GPS:	20W 0571137 7395021
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment Decontamination: (Y/N)	N	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-37	Sample Location ID:	DM-39
Sample Number:	Surface: 08-29275/76	Sample Number:	Surface: 08-29283/84
	Depth: 08-29277/78 (~30 cm)		Depth: 08-29285/86 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
GPS:	20W 0571073 7394962	GPS:	20W 0571137 7395021
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment Decontamination: (Y/N)	N	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	08-29279	Sample Location ID:	DM-40
Sample Number:	Surface: 08-29279/80	Sample Number:	Surface: 08-11633/34
	Depth: 08-29281/82 (~30 cm)		Depth: 08-11635/36 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
GPS:	Not taken.	GPS:	Not taken.
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment Decontamination: (Y/N)	N	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-41	Sample Location ID:	DM-47
Sample Number:	Surface: 08-11637/38	Sample Number:	Surface: 08-11641/42
	Depth: 08-11639/40 (~30 cm)		Depth: 08-11643/44 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
GPS:	Not taken.	GPS:	20W 0571694 7395047
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment Decontamination: (Y/N)	N	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

Table B-166: Soil Sampling Log -Upper Site West Landfill, 2008 (cont'd)

Sample Location ID:	DM-49	Sample Location ID:	DM-50
Sample Number:	Surface: 08-11645/46	Sample Number:	Surface: 08-11621/22
	Depth: 08-11647/48 (~30 cm)		Depth: 08-11623/24 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
GPS:	20W 0571726 7395119	GPS:	20W 0571693 7394983
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment Decontamination: (Y/N)	N	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-51	Sample Location ID:	DM-52
Sample Number:	Surface: 08-11625/26	Sample Number:	Surface: 08-11629/30
	Depth: 08-11627/28		Depth: 08-11631/32
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
GPS:	20W 0571634 7394979	GPS:	20W 0571648 7395025
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment Decontamination: (Y/N)	N	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

* Info not available from original log

Table B-167: Soil Sampling Log- Upper Site West Landfill, 2009

Site Name:	DYE-M		
Date of Sampling Event:	August 6, 2009		
Names of Samplers:	Ryan Vettorazzo, Jen Joubert, Mihiri DeSilva, Chris McNevin		
Facility:	Upper Site West Landfill		
Soil Sampling			
Sample Location ID:	DM-35	Sample Location ID:	DM-36
Sample Number:	Surface: 09-21617/18	Sample Number:	Surface: 09-21605/06
	Depth: 09-21619/20 (~30 cm)		Depth: 09-21607/08 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment Decontamination: (Y/N)	N	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-37	Sample Location ID:	DM-39
Sample Number:	Surface: 09-21609/10	Sample Number:	Surface: 09-21613/14
	Depth: 09-21611/12(~30 cm)		Depth: 09-21615/16 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment Decontamination: (Y/N)	N	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-40	Sample Location ID:	DM-41
Sample Number:	Surface: 09-21573/74	Sample Number:	Surface: 09-21577/78
	Depth: 09-21575/76 (~30 cm)		Depth: 09-21579/80 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment Decontamination: (Y/N)	N	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-42	Sample Location ID:	DM-43
Sample Number:	Surface: 09-21581/82	Sample Number:	Surface: 09-21585/86
	Depth: 09-21583/84 (~30 cm)		Depth: 09-21587/88 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment Decontamination: (Y/N)	N	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-44	Sample Location ID:	DM-45
Sample Number:	Surface: 09-21589/90	Sample Number:	Surface: 09-21593/94
	Depth: 09-21591/92		Depth: 09-21595/96
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment Decontamination: (Y/N)	N	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

Table B-167: Soil Sampling Log -Upper Site West Landfill, 2009 (cont'd)

Sample Location ID:	DM-46	Sample Location ID:	DM-48
Sample Number:	Surface: 09-21597/98	Sample Number:	Surface: 09-21601/02
	Depth: 09-21599/00		Depth: 09-21603/04
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment Decontamination: (Y/N)	N	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

* Info not available from original log

Table B-168: Soil Sampling Log- Upper Site West Landfill, 2011

Site Name:	DYE-M		
Date of Sampling Event:	August 11, 2011		
Names of Samplers:	Ian Goode, Jennah Dharamshi, Alicia Spencer		
Facility:	Upper Site West Landfill		
Soil Sampling			
Sample Location ID:	DM-31	Sample Location ID:	DM-32
Sample Number:	Surface: 11-12954/55	Sample Number:	Surface: 11-12958/59
	Depth: 11-12956/57 (~30 cm)		Depth:11-12960/61 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
GPS:	20W 0571153	GPS:	20W 0571094
	7394960		7394904
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	Medium Brown, 80% fines, 20% gravel, 0% vegetation	Soil description:	Dark Brown, rocky surface, 80% fines, 20% rocks, 0% vegetation
Sampling Equipment Decontamination: (Y/N)	N	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-33	Sample Location ID:	DM-34
Sample Number:	Surface: 11-12962/63	Sample Number:	Surface: 11-12966/67
	Depth: 11-12964/65 (~30 cm)		Depth:11-12968/69 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
GPS:	20W 0571073	GPS:	20W 0571137
	7394962		7395021
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	80% fines, 20% medium &large rocks, rocky surface, 0% vegetation	Soil description:	Medium - dark Brown colour, 60% fines, 40% rocks, rocky surface, 5% vegetation
Sampling Equipment Decontamination: (Y/N)	N	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-47	Sample Location ID:	DM-48
Sample Number:	Surface: 11-12942/43	Sample Number:	Surface: 11-12946/47
	Depth:11-12944/45 (~30 cm)		Depth: 11-12948/49 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
GPS:	20W 0571694	GPS:	20W 0571670
	7395047		7395125
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	Dark Brown - Moist 80% fines, 20% rocks 0% vegetation	Soil description:	Medium Reddish Brown 70% fines, 30% medium sized rocks, 0% vegetation
Sampling Equipment Decontamination: (Y/N)	N	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

Table B-168: Soil Sampling Log- Upper Site West Landfill, 2011 (cont'd)

Sample Location ID:	DM-49	Sample Location ID:	DM-50
Sample Number:	Surface: 11-12950/51	Sample Number:	Surface: 11-12930/31
	Depth:11-12952/53 (~30 cm)		Depth:11-12932/33 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
GPS:	20W 0571726 7395119	GPS:	20W 0571693 7394983
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	Medium Brown - Moist 80% fines, 20% rocks, 2% vegetation, water @ 30cm	Soil description:	Medium Brown, 80% fines, 20% gravel, large rocks @ 20cm, 0% vegetation, metal debris (nails)
Sampling Equipment Decontamination: (Y/N)	N	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-51	Sample Location ID:	DM-52
Sample Number:	Surface: 11-12934/35	Sample Number:	Surface: 11-12938/39
	Depth:11-12936/37		Depth:11-12940/41
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
GPS:	20W 0571634 7394979	GPS:	20W 0571648 7395025
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	Medium Brown, 80% fines, 20% gravel, 0% vegetation, Metal surface debris	Soil description:	Medium Reddish Brown 70% fines, 30% rocks 0% vegetation
Sampling Equipment Decontamination: (Y/N)	N	Sampling Equipment Decontamination: (Y/N)	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

Table B-169: Soil Sampling Log -Upper Site West Landfill, 2012

Site Name:	DYE-M		
Date of Sampling Event:	24-Jul-12		
Names of Samplers:	Tom Partridge, Sharilyn Hoobin, Lauren Forrester		
Facility:	West Landfill Regrade Area		
Soil Sampling			
Sample Location ID:	DM-35	Sample Location ID:	DM-36
Sample Number:	Surface: 12-44798/99	Sample Number:	Surface: 12-44802/03
	Depth: 12-44800/01 (~30 cm)		Depth: 12-44804/05 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
Procedure/Equipment:	Shovel and disposable scoop	Procedure/Equipment:	Shovel and disposable scoop
Soil description:	Site within washout area with evidence of sediment deposition. Soil rocky / gravel, damp, with fines in interstitial spaces	Soil description:	Soil rocky and very well compacted
Sampling Equipment Decontamination:	No, disposable scoops used	Sampling Equipment Decontamination:	No, disposable scoops used
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-37	Sample Location ID:	DM-38
Sample Number:	Sueface: 12-44806/07	Sample Number:	Surface: 12-44814/15
	Depth: 12-44808/09 (~30 cm)		Depth: 12-44816/17 (~15 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
Procedure/Equipment:	Shovel and disposable scoop	Procedure/Equipment:	Shovel and disposable scoop
Soil description:	Soil well compacted, somewhat rocky; more fine at depth. Small amount of vegetation present.	Soil description:	Surface debris (nails) in area. Boulder field. Sample consists of damp sandy soil from crevasse between boulders.
Sampling Equipment Decontamination:	No, disposable scoops used	Sampling Equipment Decontamination:	No, disposable scoops used
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-39	Sample Location ID:	DM-40
Sample Number:	Surface: 12-44810/11	Sample Number:	Surface: 44750/51
	Depth: 12-44812/13 (~30 cm)		Depth: 44752/53 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
Procedure/Equipment:	Shovel and disposable scoop	Procedure/Equipment:	Shovel and disposable scoop
Soil description:	Rocky, well compacted soil. Small amount of low-lying surface vegetation.	Soil description:	mostly clay at surface with a change in stratigraphy at 20 cm where orange soil was evident. Minimal vegetation. Large boulders surrounding the area.
Sampling Equipment Decontamination:	No, disposable scoops used	Sampling Equipment	No, disposable scoops used
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

Table B-169: Soil Sampling Log -Upper Site West Landfill, 2012 (cont'd)

Sample Location ID:	DM-41	Sample Location ID:	DM-42
Sample Number:	Surface: 12-44754/55	Sample Number:	Surface: 12-44758/59
	Depth: 12-44756/57 (~30 cm)		Depth: 12-44760/61 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
Procedure/Equipment:	Shovel and disposable scoop	Procedure/Equipment:	Shovel and disposable scoop
Soil description:	sandy soil, no vegetation, debris in area	Soil description:	Fine dry soil, no veg., rocky terrain mostly cobbles.
Sampling Equipment Decontamination:	No, disposable scoops used	Sampling Equipment Decontamination:	No, disposable scoops used
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-43	Sample Location ID:	DM-44
Sample Number:	Surface: 12-44762/63	Sample Number:	Surface: 12-44766/67
	Depth: 12-44764/65 (~30 cm)		Depth: 12-44768/69 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
Procedure/Equipment:	Shovel and disposable scoop	Procedure/Equipment:	Shovel and disposable scoop
Soil description:	Cobbles, sloping north, no veg., rocks at depth, surface debris in area	Soil description:	Lots of tin can debris in area (surface), fine soil with rocks, cobbles surrounding, no veg.
Sampling Equipment Decontamination:	No, disposable scoops used	Sampling Equipment	No, disposable scoops used
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-45	Sample Location ID:	DM-46
Sample Number:	Surface: 12-44770/71	Sample Number:	Surface: 12-44774/75
	Depth: 12-44772/73 (~30 cm)		Depth: 12-44776/77 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
Procedure/Equipment:	Shovel and disposable scoop	Procedure/Equipment:	Shovel and disposable scoop
Soil description:	fine soil, pea gravel surrounding, no veg.	Soil description:	Fine dry soil, pea gravel surrounding, sloping north, no veg.
Sampling Equipment Decontamination:	No, disposable scoops used	Sampling Equipment	No, disposable scoops used
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

Table B-170: Soil Sampling Log -Upper Site West Landfill, 2013

Site Name:	DYE-M		
Date of Sampling Event:	16-Aug-13		
Names of Samplers:	Tom Partridge and Alaina Leslie		
Facility:	Upper Site West Landfill		
Soil Sampling			
Sample Location ID:	DM-31	Sample Location ID:	DM-32
Sample Number:	13-25340/41 surface	Sample Number:	13-25344/45 surface
	13-25342/43 depth (30 cm)		13-25346/47 depth (30 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Reddish-brown sand. 50% angular gravel (fill). Medium moisture. No vegetation. Same at depth (evenly mixed fill).	Soil description:	Reddish-brown sand. 50% angular gravel (fill). Medium moisture. No vegetation. Same at depth (evenly mixed fill).
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-33	Sample Location ID:	DM-35
Sample Number:	13-25348/49 surface	Sample Number:	13-25220/21 surface
	13-25350/51 depth (30 cm)		13-25222/23 depth (30 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Reddish-brown silty sand. 50% angular gravel. Medium moisture. Same at depth (evenly mixed). 50% vegetation (lichen & moss).	Soil description:	Reddish-brown sandy loam. 50% sub-angular gravel (fill). Medium moisture. No vegetation. Same at depth (evenly mixed fill).
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-36	Sample Location ID:	DM-37
Sample Number:	13-25224/25 surface	Sample Number:	13-25328/29 surface
	13-25226/27 depth (30 cm)		13-25330/31 depth (30 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Reddish-brown sandy loam. 50% sub-angular gravel (fill). Medium moisture. No vegetation. Same at depth (evenly mixed fill).	Soil description:	Reddish-brown sandy loam. 50% sub-angular gravel (fill). Medium moisture. No vegetation. Same at depth (evenly mixed fill).
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-38	Sample Location ID:	DM-39
Sample Number:	13-25032/33 surface	Sample Number:	13-25336/37 surface
	13-25034/35 depth (30 cm)		13-25338/39 depth (30 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Dark brown sand surrounded by grey/black angular boulders. 50% angular gravel. Same at depth (evenly mixed).	Soil description:	Reddish-brown sandy loam. 50% sub-angular gravel (fill). Medium moisture. No vegetation. Same at depth (evenly mixed fill).
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-40	Sample Location ID:	DM-41
Sample Number:	13-25292/93 surface	Sample Number:	13-25296/97 surface
	13-25294/95 depth (30 cm)		13-25298/99 depth (30 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Reddish-brown sand. 50% angular gravel (fill). Medium moisture. Evidence of water pooling on surface. No vegetation. Same at depth (evenly mixed fill).	Soil description:	Reddish-brown sand. 50% angular gravel (fill). Medium moisture. 5% vegetation. Same at depth (evenly mixed fill). Samll pieces of debris in area (wood, nails).
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1

Table B-170: Soil Sampling Log -Upper Site West Landfill, 2013 (cont`d)

Soil Sampling			
Sample Location ID:	DM-42	Sample Location ID:	DM-43
Sample Number:	13-25300/01 surface	Sample Number:	13-25012/13 surface
	13-25302/03 depth (30 cm)		13-25014/15 depth (30 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Reddish-brown sand. 50% angular gravel (fill). Medium moisture. No vegetation. Same at depth (evenly mixed fill).	Soil description:	Brown silty sand. 50% angular gravel. Medium moisture. Same at depth (evenly mixed). 50% vegetation (lichen & moss). Area surrounded by large boulders. Appears to be native ground.
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-44	Sample Location ID:	DM-45
Sample Number:	13-25308/09 surface	Sample Number:	13-25312/13 surface
	13-25310/11 depth (30 cm)		13-25314/15 depth (30 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Coarse reddish brown sand. 50% angular gravel. Med. Moisture. Same at depth. 75% vegetation (moss).	Soil description:	Coarse reddish-brown sand. 50% angular gravel. Medium moisture. 1% vegetation.
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-46	Sample Location ID:	DM-47
Sample Number:	13-25316/17 surface	Sample Number:	13-25052/53 surface
	13-25318/19 depth (30 cm)		13-25054/55 depth 30 (cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Reddish sandy loam. 50% angular gravel. Same at depth (evenly mixed). No vegetation. Some wood debris.	Soil description:	Fine sand with some gravel, medium moisture with dark brown soil and no vegetation at surface. Soil at depth same as surface.
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-48	Sample Location ID:	DM-49
Sample Number:	13-25056/57 surface	Sample Number:	13-25060/61 surface
	13-25058/59 depth (30 cm)		13-25062/63 depth (30 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Fine sand with minimal gravel, low moisture with dark brown soil and no vegetation at surface. Soil at depth same as surface.	Soil description:	Fine sand with minimal gravel, low moisture with dark brown soil and no vegetation at surface. Soil at depth same as surface.
Sampling Equipment	Y - Pickax	Sampling Equipment	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-50	Sample Location ID:	DM-51
Sample Number:	13-25064/65 surface	Sample Number:	13-25068/69 surface
	13-25066/67 depth (30 cm)		13-25070/71 depth (30 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Fine sand with some gravel, with dark brown soil and no vegetation at surface. Soil at depth same as surface.	Soil description:	Fine sand with some gravel, with dark brown soil and no vegetation at surface. Soil at depth same as surface.
Sampling Equipment	Y - Pickax	Sampling Equipment	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-52		
Sample Number:	13-25072/73 surface		
	13-25074/75 depth (30 cm)		
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars		
Procedure/Equipment:	Pickax and Disposable scoops		
Soil description:	Fine sand (brown) with some gravel, and no vegetation at surface. Soil at depth same as surface.		
Sampling Equipment	Y - Pickax		
Number washes:	0		
Number rinses:	1		

Table B-171: Soil Sampling Log -Upper Site West Landfill, 2014

Site Name:	DYE-M		
Date of Sampling Event:	8/10/2014, 8/11/2014		
Names of Samplers:	Shari Reed, Mark Button, Sharilyn Hoobin, Mark Button		
Facility:	Upper Site West Landfill		
Soil Sampling			
Sample Location ID:	DM-31	Sample Location ID:	DM-32
Sample Number:	14-8433 surface	Sample Number:	14-8430/31 surface
	14-8434 depth (50 cm)		14-8432 depth (50 cm)
Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars	Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Gray brown sand with silt. 45% cobbles and gravel. Well mixed. Medium moisture. Soil same at depth. No vegetation in area.	Soil description:	Gray brown sand with silt. 35% cobbles and gravel. Well mixed. Medium moisture. Soil same at depth. Sample taken in erosion channel. No vegetation in area.
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-33	Sample Location ID:	DM-34
Sample Number:	14-8375/76 surface	Sample Number:	14-8378/79 surface
	14-8377 depth (50 cm)		14-8380/81 depth (50 cm)
Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars	Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable Scoops
Soil description:	Sand with 20% gravel. Well mixed. Medium moisture. Soil same at depth. Depth at 40-50 cm. Area surrounded by large boulders. No vegetation in area.	Soil description:	Boulders at surface. Sand with gravel and cobbles. Damp. 1% vegetation in area.
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	
Number rinses:	1	Number rinses:	
Sample Location ID:	DM-35	Sample Location ID:	DM-36
Sample Number:	14-8438/39 surface	Sample Number:	14-8442 surface
	14-8440/41 depth (50 cm)		14-8443 depth (50 cm)
Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars	Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Gray brown sand with silt. Well mixed. Medium moisture. Soil same at depth. No vegetation. Sample taken on road.	Soil description:	Gray brown sand with silt. with 10% cobbles & gravel. Well mixed. Medium moisture. Soil same at depth. Some vegetation in area.
Sampling Equipment	Y - Pickax	Sampling Equipment	Y - Pickax
Number washes:	0	Number washes:	
Number rinses:	1	Number rinses:	
Sample Location ID:	DM-37	Sample Location ID:	DM-38
Sample Number:	14-8335 /36 surface	Sample Number:	14-8382 surface
	14-8337 depth (50 cm)		14-8383 depth (30 cm)
Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars	Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Grey brown sand with silt with 50% gravel. Well mixed. Medium moisture. Soil same at depth. No vegetation.	Soil description:	Dark brown sand surrounded by grey angular boulders. 50% angular gravel. Same at depth (evenly mixed). Some debris (rusty nails) around location.
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1

Table B-171: Soil Sampling Log -Upper Site West Landfill, 2014 (cont`d)

Soil Sampling			
Sample Location ID:	DM-39	Sample Location ID:	DM-40
Sample Number:	14-8427 surface	Sample Number:	14-8367 surface
	14-8428/29 depth (50 cm)		14-8368/69 depth (40 cm)
Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars	Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Reddish-brown sandy loam. 50% sub-angular gravel (fill). Medium moisture. No vegetation. Same at depth (evenly mixed fill).	Soil description:	Reddish-brown sand with silt. Well mixed. Very moist. Water pooled in area. Soil same at depth. No vegetation. Bright orange soil layer at 30 cm. Wood debris in area.
Sampling Equipment Decontamination: (Y/N)	Y	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-41	Sample Location ID:	DM-42
Sample Number:	14-8370/71 surface	Sample Number:	14-8373 surface
	14-8372 depth (40 cm)		14-8374 depth (50 cm)
Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars	Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Reddish-brown sand with silt. Well mixed. Medium moisture. Soil same at depth. No vegetation. Bright orange soil layer at 30 cm. Small pieces of debris in area (wood, nails, glass). Grey angular cobbles surrouding area	Soil description:	Reddish-brown sand. 5% angular gravel (fill). Medium moisture. No vegetation. Same at depth (evenly mixed fill).
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-43	Sample Location ID:	DM-44
Sample Number:	14-8350/51 surface	Sample Number:	14-8353 surface
	14-8352 depth (50 cm)		14-8354 depth (50 cm)
Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars	Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Reddish-brown sand. 50% angular gravel and cobbles. Medium moisture. No vegetation. Same at depth (evenly mixed fill). Igneous cobbles (scoria) surrounding area (rip rap fill).	Soil description:	Coarse reddish brown sand. 50% angular gravel. Med. Moisture. Same at depth. 50% vegetation (moss).
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-45	Sample Location ID:	DM-46
Sample Number:	14-8355/56 surface	Sample Number:	14-8358/59
	14-8357 depth (50 cm)		14-8360/61 (50 cm)
Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars	Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars x2
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Coarse reddish-brown sand. 50% angular gravel. Medium moisture. 1% vegetation. Evidence of rill erosion perpendicular to facility.	Soil description:	Reddish sandy loam. 50% angular gravel. Same at depth (evenly mixed). No vegeation. Evidence of rill erosion. Some wood debris.
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	
Number washes:	0	Number washes:	
Number rinses:	1	Number rinses:	

Table B-171: Soil Sampling Log -Upper Site West Landfill, 2014 (cont`d)

Soil Sampling			
Sample Location ID:	DM-47	Sample Location ID:	DM-48
Sample Number:	14-8342 surface 14-8343 depth (40 cm)	Sample Number:	14-8347 surface 14-8348/49 depth (45 cm)
Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars	Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Fine sand with some gravel, high moisture with dark brown soil and no vegetation at surface. Soil at depth same as surface. Some debris in area (wood). Evidence of rill erosion in area. Hydrocarbon odour	Soil description:	Fine sand with 10% gravel, high moisture. No vegetation. Mica specks. Soil at depth same at depth. Debris in area (aluminum foil).
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-49	Sample Location ID:	DM-50
Sample Number:	14-8344 surface 14-8345/46 depth (45 cm)	Sample Number:	14-8338/39 surface 14-8340/41 depth (35 cm)
Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars	Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Fine sand with 10% gravel. Soil at depth same at depth. No vegetation. Slight hydrocarbon odour.	Soil description:	Fine sand with some gravel, with dark brown soil with mica flecks. No vegetation at surface. Soil at depth same as surface.
Sampling Equipment	Y - Pickax	Sampling Equipment	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-51	Sample Location ID:	DM-52
Sample Number:	14-8362 surface 14-8363 depth	Sample Number:	14-8364 surface 14-8365/66 depth (40 cm)
Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars	Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Fine sand with 10% gravel, with dark brown soil and no vegetation at surface. Soil at depth same as surface. Depth at 30-35 cm. Hydrocarbon odour.	Soil description:	Large flat cobbles under 20 cm of sand. Fine sand (brown) with 30% gravel, and no vegetation at surface. Soil at depth same as surface.
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	0	Number washes:	0
Number rinses:	1	Number rinses:	1

Table B-172: DYE-M Upper Site Pallet Line Landfill - Soil Analytical Results

Sample #	Location	Depth	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	PCBs	PHC			
													F1	F2	F3	F4
		(cm)	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
Laboratory Detection Limits 2007-2009			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.0030	10	4.0	9.0	8.0
Laboratory Detection Limits 2011-2012			5.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2013			3.0	5.0	5.0	1.0	10	15	20	0.20	0.10	0.050	10	4.0	9.0	8.0
2008 Baseline Monitoring Data																
08-11621*/22*	DM-50	0-10	35	48	12	<1.0	20	76	91	<1.0	<0.10	0.0030	<10	6.6	69	17
08-11623*/24	DM-50	30-40	76	96	18	<1.0	15	78	150	<1.0	<0.10	0.0047	<10	5.1	89	28
08-11625*/26	DM-51	0-10	41	70	16	<1.0	18	87	120	<1.0	<0.10	0.029	<10	4.8	84	29
08-11627*/28	DM-51	30-40	53	50	16	<1.0	21	110	140	<1.0	<0.10	0.030	50	530	570	140
08-11847*/48	DM-55	0-10	30	91	20	<1.0	22	73	65	1.7	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
08-11849*/29274*	DM-55	30-40	24	74	18	<1.0	19	64	57	1.7	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
08-11839*/40	DM-56	0-10	28	99	18	<1.0	<10	53	66	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	10
08-11841*/42	DM-56	30-40	24	61	13	<1.0	10	46	49	1.0	<0.10	<0.0030	<10	<4.0	9.0	<8.0
08-11843*/44	DM-57	0-10	30	100	22	<1.0	13	65	66	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
08-11845*/46	DM-57	30-40	23	110	20	<1.0	<10	47	49	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
2009 Baseline Monitoring Data																
09-21621*/22	DM-58	0-10	27	110	17	<1.0	<10	78	63	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
09-21623*/24*	DM-58	30-40	23	78	15	<1.0	<10	51	51	<1.0	<0.10	<0.0030	<10	<4.0	19	<8.0
09-21625*/26	DM-59	0-10	36	78	16	<1.0	19	58	50	<1.0	<0.10	<0.0030	<10	9.1	46	<8.0
09-21627*/28	DM-59	30-40	39	89	16	<1.0	12	45	48	<1.0	<0.10	<0.0030	21	780	130	16
09-21629*/30*	DM-60	0-10	46	75	17	<1.0	12	65	49	<1.0	<0.10	<0.0030	<10	<4.0	<9.0	<8.0
09-21631*/32	DM-60	30-40	43	120	20	<1.0	<10	51	56	<1.0	<0.10	<0.0030	<10	5.1	<9.0	<8.0
09-21633*/34	DM-61	0-10	30	63	14	<1.0	<10	43	37	<1.0	<0.10	<0.0030	<10	160	250	94
09-21635*/36	DM-61	30-40	32	61	14	<1.0	<10	42	39	<1.0	<0.10	<0.0030	<10	5.1	14	<8.0
09-21637*/38	DM-62	0-10	21	81	16	<1.0	<10	51	55	<1.0	<0.10	<0.0030	<10	14	<9.0	<8.0
09-21639*/40	DM-62	30-40	25	89	16	<1.0	<10	52	60	2.6	<0.10	<0.0030	<10	7.0	<9.0	<8.0
2011 Baseline Monitoring Data																
11-12930*/31	DM-50	0-10	29	42	13	<1.0	11	56	68	<1.0	<0.10	0.050	<10	<4.0	29	<8.0
11-12932*/33	DM-50	30-40	58	78	17	<1.0	20	95	140	<1.0	<0.10	0.19	<10	4.6	54	13
11-12934*/35	DM-51	0-10	41	74	18	<1.0	24	83	99	2.0	<0.10	<0.050	<10	5.5	22	<8.0
11-12936*/37	DM-51	30-40	42	65	16	<1.0	19	85	98	<1.0	<0.10	0.050	<10	220	26	<8.0
11-13074[1]*/75	DM-55	0-10	23	79	18	<1.0	17	56	58	<1.0	<0.10	<0.050	<10	<30	15	9.5
11-13076[1]*/77	DM-55	30-40	21	71	18	<1.0	23	62	59	1.1	<0.10	<0.050	<10	<30	10	<8.0
11-13078[1]*/79[1]*	DM-56	0-10	24	77	16	<1.0	<10	48	60	<1.0	<0.10	<0.050	<10	<30	<9.0	<8.0
11-13080[1]*/81	DM-56	30-40	22	95	16	<1.0	<10	45	56	<1.0	<0.10	<0.050	<10	<30	<9.0	<8.0
11-13082[1]*/83	DM-57	0-10	31	120	22	<1.0	11	57	67	<1.0	<0.10	<0.050	<10	<30	<9.0	<8.0
11-13084[1]*/85	DM-57	30-40	25	110	20	<1.0	<10	53	61	<1.0	<0.10	<0.050	<10	<30	<9.0	<8.0
2012 Baseline Monitoring Data																
12-29421*/22	DM-50	0-10	89	110	18	<1.0	18	100	200	2.6	<0.10	<0.050	<10	<4.0	<9.0	24
12-29423*/24	DM-50	20-30	84	55	12	<1.0	19	110	180	3.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
12-29417*/18*	DM-51	0-10	34	54	11	<1.0	19	71	96	1.4	<0.10	<0.050	<10	<4.0	19	<8.0
12-29419*/20	DM-51	20-30	57	59	14	<1.0	31	130	170	1.4	<0.10	<0.050	14	890	360	<8.0
12-29425*/26	DM-53	0-10	32	51	9.8	<1.0	21	77	86	1.3	<0.10	<0.050	<10	<4.0	9.4	<8.0
12-29427*/28	DM-53	20-30	35	72	12	<1.0	28	85	120	1.6	<0.10	<0.050	<10	<4.0	23	<8.0
12-29429*/30	DM-54	0-10	30	91	16	<1.0	79	79	67	2.0	<0.10	<0.050	<10	<4.0	10	<8.0
12-29431*/32*	DM-54	20-30	24	79	14	<1.0	49	60	52	1.6	<0.10	<0.050	<10	16	<9.0	<8.0
12-44790*/91	DM-58	0-10	27	130	17	<1.0	14	74	60	<1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
12-44792*/93*	DM-58	20-30	50	110	79	<1.0	18	57	60	1.3	<0.10	<0.050	<10	<4.0	<9.0	<8.0
12-44794*/95	DM-59	0-10	29	130	19	<1.0	18	49	47	1.1	<0.10	<0.050	<10	<4.0	35	<8.0
12-44796*/97	DM-59	20-30	32	120	19	<1.0	11	52	55	1.4	<0.10	<0.050	<10	<4.0	13	<8.0
12-44778[2]*/79	DM-60	0-10	19	80	22	<1.0	12	60	48	1.5	<0.10	<0.050	<30	<10	<10	<10
12-44780[2]*/81	DM-60	20-30	18	70	15	<1.0	<10	49	44	1.2	<0.10	<0.050	<30	<10	<10	<10
12-44782[2]*/83[2]*	DM-61	0-10	25	70	16	<1.0	<10	41	33	<1.0	<0.10	<0.050	<30	<10	<10	<10
12-44784[2]*/85	DM-61	20-30	40	70	19	<1.0	<10	65	50	1.2	<0.10	<0.050	<30	<10	<10	<10
12-44786[2]*/87[2]*	DM-62	0-10	67	120	26	<1.0	15	80	76	2.1	0.0061	<0.050	<30	<10	<10	<10
12-44788[2]*/89	DM-62	20-30	50	140	25	<1.0	12	66	65	1.4	<0.10	<0.050	<30	<10	<10	<10
2013 Baseline Monitoring Data																
13-25076*/77	DM-53	0-10	46	63	12	<1.0	19	85	110	2.6	<0.10	<0.050	<10	10	56	26
13-25078*/79	DM-53	25-35	25	43	7.7	<1.0	15	53	63	2.4	<0.10	<0.050	<10	<4.0	12	12
13-25080*/81*	DM-54	0-10	29	65	11	<1.0	27	53	47	2.4	<0.10	<0.050	<10	7.5	<9.0	<8.0

Table B-172: DYE-M Upper Site Pallet Line Landfill - Soil Analytical Results (cont'd)

Sample #	Location	Depth	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	PCBs	PHC			
													F1	F2	F3	F4
		(cm)	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
Laboratory Detection Limits 2007-2009			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.0030	10	4.0	9.0	8.0
Laboratory Detection Limits 2011-2012			5.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2013			3.0	5.0	5.0	1.0	10	15	20	0.20	0.10	0.050	10	4.0	9.0	8.0
Laboratory Detection Limits 2014			3.0	5.0	5.0	1.0	10	15	20	0.20	0.010	0.010	10	10	10	10
2013 Baseline Monitoring Data (cont`d)																
13-25082*/83	DM-54	25-35	23	64	9.8	<1.0	21	47	40	2.1	<0.10	<0.050	<10	6.2	2100	15
13-25084*/85	DM-55	0-10	28	83	12	<1.0	20	54	56	2.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25086*/87	DM-55	25-35	27	77	13	<1.0	21	58	56	2.1	<0.10	<0.050	<10	4.6	<9.0	9.3
13-25088*/89	DM-56	0-10	24	81	10	<1.0	<10	44	52	1.6	<0.10	<0.050	<10	6.4	<9.0	<8.0
13-25090*/91*	DM-56	25-35	19	57	7.8	<1.0	<10	34	39	1.0	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25092*/93	DM-57	0-10	37	120	18	<1.0	11	62	68	1.7	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25094*/95	DM-57	25-35	29	130	17	<1.0	<10	49	63	1.3	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25096*/97	DM-58	0-10	24	92	11	<1.0	<10	81	46	1.3	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25098*/99	DM-58	25-35	18	71	11	<1.0	<10	52	45	0.70	<0.10	<0.050	<10	4.2	12	<8.0
13-25100*/01*	DM-59	0-10	31	63	13	<1.0	16	64	44	1.3	<0.10	<0.050	34	840	170	28
13-25102*/03	DM-59	25-35	22	63	14	<1.0	15	76	45	1.3	<0.10	<0.050	640	1800	44	<8.0
13-25104*/05	DM-60	0-10	13	75	11	<1.0	<10	41	39	2.0	<0.10	<0.050	<10	10	<9.0	<8.0
13-25106*/07	DM-60	25-35	16	65	12	<1.0	11	49	41	2.0	<0.10	<0.050	<10	4.1	<9.0	<8.0
13-25108*/09	DM-61	0-10	21	67	10	<1.0	<10	42	36	0.70	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25110*/11*	DM-61	25-35	33	69	15	<1.0	<10	61	51	1.2	<0.10	<0.050	<10	<4.0	<9.0	<8.0
13-25112*/13	DM-62	0-10	45	130	18	<1.0	<10	58	68	2.0	<0.10	<0.050	<10	12	<9.0	<8.0
13-25114*/15	DM-62	25-35	33	120	17	<1.0	<10	53	55	1.1	<0.10	<0.050	<10	8.2	<9.0	<8.0
2014 First Year Monitoring Data																
14-8338*	DM-50	5-10	100	79	14	<1.0	24	82	***260***	3.3	0.015	<0.010	<10	<10	<10	<10
14-8340*/41*	DM-50	35-40	120	74	15	<1.0	10	99	***260***	4.3	<0.010	<0.010	<10	<10	<10	<10
14-8362*	DM-51	5-10	46	62	13	<1.0	13	86	110	2.0	<0.010	0.018	<10	<10	<10	<10
14-8363*	DM-51	30-35	56	54	11	<1.0	23	100	130	1.7	<0.010	0.066	19	1500	390	<10
14-8395*/96	DM-53	5-10	32	54	10	<1.0	12	70	87	1.4	<0.010	0.013	<10	<10	<10	<10
14-8397*	DM-53	45-50	50	65	12	<1.0	15	89	130	2.1	<0.010	<0.010	<10	<10	<10	<10
14-8393*	DM-54	5-10	35	93	15	<1.0	22	66	59	1.6	<0.010	<0.010	<10	<10	<10	<10
14-8394*	DM-54	35-40	34	82	15	<1.0	22	66	56	1.5	<0.010	<0.010	<10	<10	<10	<10
14-8384*	DM-55	5-10	39	79	16	<1.0	28	81	63	2.4	<0.010	<0.010	<10	<10	<10	<10
14-8385*/86	DM-55	45-50	36	72	15	<1.0	28	77	56	2.4	<0.010	<0.010	<10	<10	<10	<10
14-8387*	DM-56	5-10	36	97	15	<1.0	16	61	68	1.5	<0.010	<0.010	<10	<10	<10	<10
14-8388*	DM-56	45-50	32	100	15	<1.0	13	58	67	1.1	<0.010	<0.010	<10	<10	<10	<10
14-8390*/91*	DM-57	5-10	36	84	12	<1.0	<10	64	63	1.3	<0.010	<0.010	<10	<10	<10	<10
14-8392*	DM-57	40-45	27	94	13	<1.0	<10	56	54	1.0	<0.010	<0.010	<10	<10	<10	<10
14-8398*	DM-58	5-10	42	110	18	<1.0	14	85	75	1.5	<0.010	<0.010	<10	<10	<10	<10
14-8400*/01*	DM-58	45-50	30	95	16	<1.0	10	61	57	1.0	<0.010	<0.010	<10	<10	<10	<10
14-8402*	DM-59	5-10	37	100	15	<1.0	11	55	48	0.80	<0.010	<0.010	<10	210	29	<10
14-8403*	DM-59	40-45	44	71	11	<1.0	<10	43	37	0.60	<0.010	<0.010	28	720	29	<10
14-8410*/11*	DM-60	5-10	26	85	16	<1.0	<10	59	52	0.75	<0.010	<0.010	<10	<10	<10	<10
14-8412*	DM-60	40-45	18	78	14	<1.0	10	49	36	1.0	<0.010	<0.010	<10	<10	<10	<10
14-8407*	DM-61	5-10	46	81	15	<1.0	<10	63	53	0.90	<0.010	<0.010	<10	<10	<10	<10
14-8408*	DM-61	40-45	44	97	18	<1.0	<10	73	63	1.2	<0.010	<0.010	<10	<10	<10	<10
14-8404*	DM-62	5-10	33	150	19	<1.0	<10	46	53	1.1	<0.010	<0.010	<10	<10	<10	<10
14-8405*/06	DM-62	40-45	36	110	16	<1.0	<10	51	53	0.90	<0.010	<0.010	<10	<10	<10	<10

*Sample was analyzed. Where both duplicates were analyzed, the result presented is an average of both samples. Duplicates not analyzed were archived.

[1] Laboratory detection limits for PHC F2 were increased for samples 11-13074-13085

[2] Increased laboratory detection limits used for PHC F1-F4 for samples 12-44778- 44789 because analysis was conducted at a different laboratory

Table B-173: Soil Sampling Log- Upper Site Pallet Line Landfill, 2008

Site Name:	DYE-M
Date of Sampling Event:	August 18, 2008
Names of Samplers:	Molly Brewis, Bryarly McEachern, Kristin Andruchow
Facility:	Upper Site Pallet Line Landfill

Soil Sampling

Sample Location ID:	DM-50	Sample Location ID:	DM-51
Sample Number:	Surface: 08-11621/22	Sample Number:	Surface: 08-11625/26
	Depth: 08-11623/24(~30 cm)		Depth: 08-11627/28 (~30 cm)
Sample containers:	Whirlpaks and 120 mL AG jars	Sample containers:	Whirlpaks and 120 mL AG jars
Procedure/Equipment:	Plastic scoops, shovel	Procedure/Equipment:	Plastic scoops, shovel
GPS:	not taken	GPS:	571669 7394854
Soil description:	*	Soil description:	*
Sampling Equipment	N/A	Sampling Equipment Decontamination:	N/A
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-55	Sample Location ID:	DM-56
Sample Number:	Surface: 08-11847/48	Sample Number:	Surface: 08-11839/40
	Depth: 08-11849/29274 (~30 cm)		Depth: 08-11841/42 (~30 cm)
Sample containers:	Whirlpaks and 120 mL AG jars	Sample containers:	Whirlpaks and 120 mL AG jars
GPS:	20W 0571546 7394837	GPS:	20W 0571534 7394769
Procedure/Equipment:	Plastic scoops, shovel	Procedure/Equipment:	Plastic scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment	N	Sampling Equipment Decontamination:	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-57		
Sample Number:	Surface: 08-11843/44		
	Depth: 08-11845/46 (~30 cm)		
Sample containers:	Whirlpaks and 120 mL AG jars		
GPS:	20W 0571582 7394744		
Procedure/Equipment:	Plastic scoops, shovel		
Soil description:	*		
Sampling Equipment	No, disposable scoops used		
Number washes:	N/A		
Number rinses:	N/A		

* Info not available from original log

Table B-174: Soil Sampling Log- Upper Site Pallet Line Landfill, 2009

Site Name:	DYE-M		
Date of Sampling Event:	August 6, 2009		
Names of Samplers:	Ryan Vettorazzo, Jen Joubert, Mihiri DeSilva, Chris McNevin		
Facility:	Upper Site Pallet Line Landfill		
Soil Sampling			
Sample Location ID:	DM-58	Sample Location ID:	DM-59
Sample Number:	Surface: 09-21621/22	Sample Number:	Surface: 09-21625/26
	Depth: 09-21623/24 (~30 cm)		Depth: 09-21627/28 (~30 cm)
Sample containers:	Whirlpaks and 120 mL AG jars	Sample containers:	Whirlpaks and 120 mL AG jars
Procedure/Equipment:	Plastic scoops, shovel	Procedure/Equipment:	Plastic scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment	N/A	Sampling Equipment Decontamination:	N/A
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-60	Sample Location ID:	DM-61
Sample Number:	Surface: 09-21629/30	Sample Number:	Surface: 09-21633/34
	Depth: 09-21631/32(~30 cm)		Depth: 09-21635/36 (~30 cm)
Sample containers:	Whirlpaks and 120 mL AG jars	Sample containers:	Whirlpaks and 120 mL AG jars
Procedure/Equipment:	Plastic scoops, shovel	Procedure/Equipment:	Plastic scoops, shovel
Soil description:	*	Soil description:	*
Sampling Equipment	N	Sampling Equipment Decontamination:	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-62		
Sample Number:	Surface: 09-21637/38		
	Depth: 09-21639/40 (~30 cm)		
Sample containers:	Whirlpaks and 120 mL AG jars		
Procedure/Equipment:	Plastic scoops, shovel		
Soil description:	*		
Sampling Equipment	No, disposable scoops used		
Number washes:	N/A		
Number rinses:	N/A		

* Info not available from original log

Table B-175: Soil Sampling Log- Upper Site Pallet Line Landfill, 2011

Site Name:	DYE-M
Date of Sampling Event:	August 19, 2011
Names of Samplers:	Jennah Dharamshi, Justin Dee, Alicia Spencer
Facility:	Upper Site Pallet Line Landfill RA 17, 19, 20

Soil Sampling

Sample Location ID:	DM-55	Sample Location ID:	DM-56
Sample Number:	Surface: 11-13074/75	Sample Number:	Surface: 11-13078/79
	Depth: 11-13076/77 (~30 cm)		Depth: 11-13080/81 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars	Sample containers:	Whirlpaks, 120 mL AG jars
GPS:	20W 0571546 7394837	GPS:	20W 0571534 7394769
Procedure/Equipment:	Disposable scoops, shovel	Procedure/Equipment:	Disposable scoops, shovel
Soil description:	Medium Brown, 95% fines, 5% small gravel, 20% vegetation in immediate location; large rocks surrounding	Soil description:	Medium Brown, 70% fines; 30% rocks, 10% vegetation
Sampling Equipment Decontamination:	N	Sampling Equipment Decontamination:	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

Sample Location ID:	DM-57
Sample Number:	Surface: 11-13082/83
	Depth: 11-13084/85 (~30 cm)
Sample containers:	Whirlpaks, 120 mL AG jars
GPS:	20W 0571582 7394744
Procedure/Equipment:	Disposable scoops, shovel
Soil description:	Medium Brown - dry 80% fines, 20% gravel Surface: 0% vegetation, 80% gravel cover, 20% large rocks
Sampling Equipment Decontamination:	N
Number washes:	N/A
Number rinses:	N/A

Table B-176: Soil Sampling Log-Upper Site Pallet Line Landfill, 2012

Site Name:	DYE-M		
Date of Sampling Event:	27-Aug-12		
Names of Samplers:	Alaina Leslie and Sharilyn Hoobin		
Facility:	Upper Site Pallet Line Landfill		
Soil Sampling			
Sample Location ID:	DM-50	Sample Location ID:	DM-51
Sample Number:	Surface: 12-29421/422	Sample Number:	Surface: 12-29417/418
	Depth: 12-29423/424 (~30 cm)		Depth: 12-29419/420 (~30 cm)
Sample containers:	Whirlpaks and 120 mL AG jars	Sample containers:	Whirlpaks and 120 mL AG jars
Procedure/Equipment:	Plastic scoops, shovel	Procedure/Equipment:	Plastic scoops, shovel
GPS:	571697.76 7394986.7	GPS:	571628.02 7394973.98
Soil description:	No vegetation, sand, clay loam, brown soil, gravel 50% angular, cobbles.	Soil description:	Sandy loam with cobbles, light brown soil.
Sampling Equipment Decontamination:	N/A	Sampling Equipment Decontamination:	N/A
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-53	Sample Location ID:	DM-54
Sample Number:	Surface: 12-29425/426	Sample Number:	Surface: 12-29429/430
	Depth: 12-29427/428 (~30 cm)		Depth: 12-29431/432 (~30 cm)
Sample containers:	Whirlpaks and 120 mL AG jars	Sample containers:	Whirlpaks and 120 mL AG jars
GPS:	571759.05 7394992.97	GPS:	571669.25 7394854.57
Procedure/Equipment:	Plastic scoops, shovel	Procedure/Equipment:	Plastic scoops, shovel
Soil description:	No vegetation, sandy, gravel, brown soil	Soil description:	Sandy, light brown soil, no vegetation, location in boulder field. Rocky at depth
Sampling Equipment Decontamination:	N	Sampling Equipment Decontamination:	N
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A
Sample Location ID:	DM-58	Sample Location ID:	DM-59
Sample Number:	Surface: 12-12-44790/91	Sample Number:	Surface: 12-12-44794/95
	Depth: 12-12-44792/93 (~30 cm)		Depth: 12-12-44796/97 (~30 cm)
Sample containers:	Whirlpaks and 120 mL AG jars	Sample containers:	Whirlpaks and 120 mL AG jars
GPS:		GPS:	
Procedure/Equipment:	Plastic scoops, shovel	Procedure/Equipment:	Plastic scoops, shovel
Soil description:	Dry, rocky soil. No vegetation. Boulders, cobble and pea gravel, with fines in interstitial spaces.	Soil description:	North of monitoring location is washout area at toe of Landfill. Area slopes down towards southwest. Soil fine and dry at surface, somewhat moist at depth.
Sampling Equipment Decontamination:	No, disposable scoops used	Sampling Equipment Decontamination:	No, disposable scoops used
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

Table B-176: Soil Sampling Log-Upper Site Pallet Line Landfill, 2012 (cont'd)

Sample Location ID:	DM-60	Sample Location ID:	DM-61
Sample Number:	Surface: 12-44778/79	Sample Number:	Surface: 12-44782/83
	Depth: 12-44780/81 (~30 cm)		Depth: 12-44784/85 (~30 cm)
Sample containers:	Whirlpaks and 120 mL AG jars	Sample containers:	Whirlpaks and 120 mL AG jars
GPS:		GPS:	
Procedure/Equipment:	Shovel and disposable scoop	Procedure/Equipment:	Shovel and disposable scoop
Soil description:	No vegetation., large boulders, fine soil at depth.	Soil description:	Patches of vegetation where boulders are not present, large flat boulders, fine damp soil at depth.
Sampling Equipment Decontamination:	No, disposable scoops used	Sampling Equipment Decontamination:	No, disposable scoops used
Number washes:	N/A	Number washes:	N/A
Number rinses:	N/A	Number rinses:	N/A

Sample Location ID:	DM-62
Sample Number:	Surface: 12-44786/87
	Depth: 12-44788/89 (~30 cm)
Sample containers:	Whirlpaks and 120 mL AG jars
GPS:	
Procedure/Equipment:	Shovel and disposable scoop
Soil description:	Mostly cobbles with some large boulders surrounding the area, no vegetation, fine dry soil at depth.
Sampling Equipment	No, disposable scoops used
Number washes:	N/A
Number rinses:	N/A

Table B-177: Soil Sampling Log-Upper Site Pallet Line Landfill, 2013

Site Name:	DYE-M		
Date of Sampling Event:	01-Aug-13		
Names of Samplers:	Ian Goode and Tom Partridge		
Facility:	Upper Site Pallet Line Landfill		
Soil Sampling			
Sample Location ID:	DM-53	Sample Location ID:	DM-54
Sample Number:	13-25076/77 surface	Sample Number:	13-25080/81 surface
	13-25078/79 depth (30 cm)		13-25082/83 depth (30 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Fine sand (brown) with some gravel, and no vegetation at surface. Soil at depth same as surface.	Soil description:	Fine sand, moist, with some gravel and a high amount of boulders, and no vegetation at surface. More gravel at depth with coarse grained sand.
Sampling Equipment	Y - Pickax	Sampling Equipment	Y - Pickax
Number washes:	1	Number washes:	1
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-55	Sample Location ID:	DM-56
Sample Number:	13-25084/85 surface	Sample Number:	13-25088/89 surface
	13-25086/87 depth (30 cm)		13-25090/91 depth (30 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Brown sandy loam with gravel and some organic material. Same at depth with no organics.	Soil description:	Brown sandy loam with gravel and boulders, no vegetation. Same at depth.
Sampling Equipment	Y - Pickax	Sampling Equipment	Y - Pickax
Number washes:	1	Number washes:	1
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-57	Sample Location ID:	DM-58
Sample Number:	13-25092/93 surface	Sample Number:	13-25096/97 surface
	13-25094/95 depth (30 cm)		13-25098/99 depth (30 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Brown sandy loam with gravel and boulders, no vegetation. Same at depth.	Soil description:	Dark brown sand with gravel. No vegetation. Low moisture. Depth same as surface.
Sampling Equipment	Y - Pickax	Sampling Equipment	Y - Pickax
Number washes:	1	Number washes:	1
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-59	Sample Location ID:	DM-60
Sample Number:	13-25088/89 surface	Sample Number:	13-25104/05 surface
	13-25090/91 depth (30 cm)		13-25106/07 depth (30 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Dark brown sand with gravel. No vegetation. Medium moisture. Mild hydrocarbon odour at depth.	Soil description:	Light brown sand with gravel. No vegetation. Low moisture. Depth same as surface but medium moisture.
Sampling Equipment	Y - Pickax	Sampling Equipment	Y - Pickax
Number washes:	1	Number washes:	1
Number rinses:	1	Number rinses:	1

Table B-177: Soil Sampling Log - Upper Site Pallet Line Landfill (cont`d)

Soil Sampling			
Sample Location ID:	DM-61	Sample Location ID:	DM-62
Sample Number:	13-25108/09 surface	Sample Number:	13-25112/13 surface
	13-25110/11 depth (30 cm)		13-25114/15 depth (30 cm)
Sample containers:	Whirlpacks & 120 mL Amber Glass Jars	Sample containers:	Whirlpacks & 120 mL Amber Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Dark brown sand with gravel. No vegetation. Medium moisture.	Soil description:	Light brown sand with gravel. No vegetation. Low moisture. Depth same as surface. Boulders and cobbles in surrounding area.
Sampling Equipment	Y - Pickax	Sampling Equipment	Y - Pickax
Number washes:	1	Number washes:	1
Number rinses:	1	Number rinses:	1

Table B-178: Soil Sampling Log-Upper Site Pallet Line Landfill, 2014

Site Name:	DYE-M		
Date of Sampling Event:	Aug. 8 2014		
Names of Samplers:	Sharilyn Hoobin, Mike Musclow		
Facility:	Upper Site Pallet Line Landfill		
Soil Sampling			
Sample Location ID:	DM-53	Sample Location ID:	DM-54
Sample Number:	14-8395/96 surface 14-8397 depth (50 cm)	Sample Number:	14-8393 surface 14-8394 depth (40 cm)
Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars	Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Fine sand with 20% gravel, and no vegetation at surface. Soil at depth same as surface but more moist.	Soil description:	Fine dark brown sand with silt, moist, with 30% gravel and a high amount of boulders, and no vegetation at surface. Same at depth. Organics at surface.
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	1	Number washes:	1
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-55	Sample Location ID:	DM-56
Sample Number:	14-8384 surface 14-8385/86 depth (50 cm)	Sample Number:	14-8387 surface 14-8388/89 depth (50 cm)
Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars	Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Dark brown sand and silt with cobbles. Well mixed. Medium moisture. Soil same at depth. No vegetation in area.	Soil description:	Dark brown sand with silt. Some cobbles & gravel. Well mixed. Medium moisture. Soil same at depth. Some vegetation.
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	1	Number washes:	1
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-57	Sample Location ID:	DM-58
Sample Number:	14-8390/91 surface 14-8392 depth (50 cm)	Sample Number:	14-8398/99 surface 14-8400/01 depth (50 cm)
Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars	Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Dark brown sand with silt with some gravel and cobbles. Well mixed. Medium moisture. Gravel >50% at depth. 10% vegetation. Boulders surrounding area.	Soil description:	Moist, 30% gravel, clay at surface. Well mixed. Soil same at depth. No vegetation.
Sampling Equipment Decontamination: (Y/N)	Y - Pickax	Sampling Equipment Decontamination: (Y/N)	Y - Pickax
Number washes:	1	Number washes:	1
Number rinses:	1	Number rinses:	1

Table B-178: Soil Sampling Log - Upper Site Pallet Line Landfill, 2014 (cont`d)

Sample Location ID:	DM-59	Sample Location ID:	DM-60
Sample Number:	14-8402 surface	Sample Number:	14-8410/11 surface
	14-8403 depth (50 cm)		14-8412 depth (50 cm)
Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars	Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Moist, 30% gravel. Well mixed. Medium moisture. Soil same at depth. No vegetation. Strong Hydrocarbon odour.	Soil description:	Gray brown sand with silt. Well mixed. Medium moisture. Soil same at depth. No vegetation.
Sampling Equipment	Y - Pickax	Sampling Equipment	Y - Pickax
Number washes:	1	Number washes:	1
Number rinses:	1	Number rinses:	1
Sample Location ID:	DM-61	Sample Location ID:	DM-62
Sample Number:	14-8407 surface	Sample Number:	14-8404 surface
	14-8408/09 depth (50 cm)		14-8405/06 depth (45 cm)
Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars	Sample containers:	Whirlpacks, 120 mL Amber Glass Jars, 120 mL Clear Glass Jars
Procedure/Equipment:	Pickax and Disposable scoops	Procedure/Equipment:	Pickax and Disposable scoops
Soil description:	Gray brown sand with silt. with 30% cobbles & gravel. Well mixed. High moisture. Soil same at depth. No vegetation in area.	Soil description:	Gray brown sand with silt with 10% gravel. Well mixed. Medium moisture. Soil same at depth. 10% vegetation in area.
Sampling Equipment	Y - Pickax	Sampling Equipment	Y - Pickax
Number washes:	1	Number washes:	1
Number rinses:	1	Number rinses:	1

Table B-179: DYE-M Archive Samples 2014

Archive Sample #	Reference Sample #	Location	Depth (cm)	Sample Containers
Lower Site Tier II Disposal Facility				
14-8456*	14-8455	BMW 05-16	5-10	Whirlpack
14-8466*	14-8465	MW 05-13	45-50	Whirlpack
Lower Site Non-hazardous Waste Landfill				
14-8246*	14-8245	MW 09-28	5-10	Whirlpack, 120 mL Amber Glass Jar, 120 mL Clear Glass Jar
Lower Site Powerhouse Landfill				
14-8476*	14-8475	BMW 05-08	5-10	Whirlpack and 120 mL Amber Glass Jar
Lower Site Crossroads Landfill				
14-8336*	14-8335	DM-3	5-10	Whirlpack and 120 mL Amber Glass Jar
Lower Site Foundation Landfill				
14-8326*	14-8325	DM-5	40-45	Whirlpack and 120 mL Amber Glass Jar
Lower Site NWS Landfill				
14-8446*	14-8445	DM-7	40-45	Whirlpack
Upper Site Tier II Disposal Facility				
14-8426*	14-8425	BMW 07-22	45-50	Whirlpack and 120 mL Amber Glass Jar
14-8416*	14-8415	MW 07-23	5-10	Whirlpack and 120 mL Amber Glass Jar
Upper Site Non-hazardous Waste Landfill				
14-8296*	14-8295	MW 06-19	25-35	Whirlpack and 120 mL Amber Glass Jar
Upper Site Helipad Landfill				
14-8306*	14-8305	DM-12	5-10	Whirlpack and 120 mL Amber Glass Jar
14-8316*	14-8315	DM-16	0-10	Whirlpack and 120 mL Amber Glass Jar
Upper Site NWS Landfill				
14-8276*	14-8275	DM-18	40-50	Whirlpack and 120 mL Amber Glass Jar
14-8286*	14-8285	DM-21	0-10	Whirlpack and 120 mL Amber Glass Jar
Upper Site South Landfill (West)				
14-8256*	14-8255	DM-24	25-35	Whirlpack and 120 mL Amber Glass Jar
14-8266	14-8265	DM-28	0-10	Whirlpack and 120 mL Amber Glass Jar
Upper Site West Landfill				
14-8376*	14-8375	DM-33	5-10	Whirlpack and 120 mL Amber Glass Jar
14-8436*	14-8435	DM-37	5-10	Whirlpack and 120 mL Amber Glass Jar
14-8356*	14-8355	DM-45	5-10	Whirlpack and 120 mL Amber Glass Jar
14-8346*	14-8345	DM-49	45-50	Whirlpack and 120 mL Amber Glass Jar
14-8366*	14-8365	DM-52	40-45	Whirlpack and 120 mL Amber Glass Jar
Upper Site Pallet Line Landfill				
14-8396*	14-8395	DM-53	5-10	Whirlpack and 120 mL Amber Glass Jar
14-8386*	14-8385	DM-55	45-50	Whirlpack and 120 mL Amber Glass Jar
14-8406*	14-8405	DM-62	40-45	Whirlpack and 120 mL Amber Glass Jar

*Archive samples are stored in the fridges and freezers at ESG and can be analyzed upon request.

Appendix C: Quality Assurance/Quality Control

APPENDIX C: QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

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APPENDIX C: QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

ESG follows an internal quality assurance/quality control program that was implemented to allow data quality to be monitored on an ongoing basis. This program is completely described in the Quality Assurance Project Plan (QAPP) (ESG, 2013). The points relevant to the discussion of QA/QC sample collection and analysis of monitoring samples at DYE-Main, Cape Dyer are summarized here.

All samples are given sequential, numerical codes before submission to the analytical firms; these codes mask any information concerning site location, sample type or possible concentration of the sample.

Analytical firms are accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) to the standards of ISO/IEC 17025.

Accuracy is measured and controlled by instrument calibration, the use of control standards, control spikes and the collection and analysis of analytical blanks.

Control standards and control spikes are reference materials with known concentrations. After analysis of a control standard or spike, the instrument calibration is evaluated based on comparison of the results with the target concentration.

Analytical blanks are processed through extraction/digestion and analysis procedures. These blanks give a measure of the quantity of any contaminant (analyte) that may be added to the overall result during the analysis.

Precision is measured and controlled by the analysis of field and analytical duplicates. Samples of the same material that are collected in the field and submitted blind as separate samples for analysis are field duplicates. Analytical duplicates are replicate preparations and analyses of the same sample. Comparison of the average relative standard deviations (RSD%) – also known as coefficients of variation, which are calculated as the standard deviation divided by the mean – are used to evaluate laboratory precision. Acceptable limits are generally considered to be less than 40 percent RSD for inorganics, 30 percent for other analyses, with 20 percent or less considered good agreement.

The results of the QA/QC program for the monitoring sampling program at DYE-Main, Cape Dyer, are discussed below in order of analysis type. The laboratory associated with each analysis type is also listed.

A. Inorganic Elements in 2007 Soil and Water Samples – Analytical Services Unit (ASU), Queen's University

1. Accuracy

Accuracy was monitored internally by ASU with the analysis of Standard Reference materials, specifically NRC Canada Marine Reference Sediment MESS-3 and contaminated soil reference material SS-2 (Table C-1). The reported results for several elements were consistently lower than the certified value for MESS-3. This discrepancy is attributed to differences between the digestion methods used at ASU and those used to obtain the certified values. The reference values are established by a variety of techniques that analyze the total metal content of the standard substrate. By contrast, the method used in most laboratories, including the ASU lab, (*aqua regia* digestion) extracts only the available metals in the sample substrate. This is because metals present within minerals forming part of the soil matrix are not released in the extraction process. As these metals form part of the soil matrix, they are also biologically unavailable. Because these elements are not extracted under the strongly oxidizing acid digestion procedure then generally they will not become mobilized by normal weathering and are therefore not environmentally significant. The fact that numerical environmental criteria for metals are designed to be compared with potentially biologically available metal concentrations means that the level of accuracy reported above is acceptable. ASU has developed a set of warning and control limits for MESS-3 sediment analyzed using *aqua regia* digestion, and results must be within these limits. The limits were created by compiling data from each MESS-3 sample over the last several years and checking for trends such as moving averages. The data compiled takes into account day to day variations in such factors as the weighing, acid digestion procedures and instrumentation. For the current MESS-3 limits, there were over 600 data points for the arctic suite elements (Cu, Ni, Co, Cd, Pb, Zn, Cr, As) used in the development of the control limits.

Average determined results for inorganic elements in MESS-3 in this study were all within control limits (Table C-1).

Soil reference material SS-2 was also used to monitor accuracy and determined results were again within control limits. Certified values provided in Table C-1 reflect results obtained by the supplier for total digest analysis, similar to MESS-3 certified values. While the supplier also lists EPA-3050 Acid digestion values, the procedure is different from that used at ASU and digestion times are not provided by the supplier. Typically, digestion efficiencies for partial digestion methods have to be established on a lab per lab

basis. As stated for MESS-3, the control limits established for SS-2 analysis at ASU are based on hundreds of digestions performed over several years and the tolerance intervals are much smaller than those listed by the SS-2 supplier for acid digestion.

The water sample batch included a spiked control sample to monitor accuracy. Recoveries ranged from 95 to 100 percent for total metals in water samples indicating good accuracy for the method (Table C-2).

Analytical blank samples were run with the soil and water batches. Results are presented in Table C-3. All elements in the soil and water analytical blanks were below detection limits.

2. Precision/Repeatability

Precision was monitored externally by ESG using 4 pairs of soil sample field duplicates and one water field duplicate. These were homogenized in the field and submitted blind as separate samples to ASU for analysis. Average relative standard deviations (RSD%) or coefficients of variation (standard deviation divided by the mean) for sample pairs were expressed as percentages and used to evaluate laboratory precision. Acceptable limits are generally considered to be less than 40 percent relative standard deviation, with 20 percent or less considered good agreement. The average relative standard deviations for most inorganic elements in the DYE-Main monitoring soil samples were below 10 percent, indicating very good agreement between replicates. The average RSD for chromium was slightly higher at 11 percent, also showing good replication (Table C-4).

One water sample field duplicate was also submitted and the resulting RSDs ranged from 0.01 percent to 23 percent for inorganic elements (Table C-4).

Internal precision was also monitored by ASU through the use of analytical duplicates. Soil samples (five) and two water samples were analyzed in duplicate for inorganic elements (Table C-5). The average RSDs for nickel (7.0 percent), cobalt (8.4 percent), zinc (6.5 percent) and chromium (7.4 percent) in the soil replicates were below 10 percent, indicating very good precision for analysis. The average RSD for copper was 11 percent, indicating good agreement between replicates for copper analysis. Cadmium, lead and arsenic results were below detection in the analytical duplicates.

Two water samples were analyzed in duplicate and results are also listed in Table C-5. RSDs for detectable elements were below 20 percent, indicating good precision. Results for nickel and chromium in one replicate (30666) were 30 and 35 percent respectively so

these elements were repeated. The repeat sample reported RSDs of 12 percent and 16 percent, well within acceptable levels (Table C-5).

B. Mercury in Soil and Water – Analytical Services Group (ASG), Royal Military College (RMC)

1. Accuracy

Soil and water samples were analyzed for mercury along with control spiked samples. The results for these are presented in Tables C-6 and C-8; the average control recoveries were 94 percent for soil control spikes and 113 percent for mercury in water spikes. Blank samples were analyzed for mercury and results are also listed in Tables C-6 and C-8. All results for soil and water blanks were below detection.

2. Precision

Four soil sample field duplicates and one water field duplicate were submitted for analysis and results were below detection for mercury (Tables C-7 and C-8).

Two soil and one water analytical duplicates were analyzed for mercury and results were again below detection in the duplicate pairs (Tables C-7, C-8).

C. Polychlorinated Biphenyls (PCBs) in 2007 Soil – ASG, RMC

The QA/QC protocol for PCBs calls for analyses to be carried out in batches of no more than 30 samples. Each batch must include one analytical duplicate, a procedural blank and a spiked control sample. Each batch is treated as a separate unit: samples within the same batch must be worked up and analyzed continuously, and the QA/QC data considered with respect to each batch.

1. Accuracy

Internally, all samples were spiked with an aliquot of the surrogate standard decachlorobiphenyl (DCBP) prior to analysis by gas chromatography (GC) with electron capture detection (ECD), in order to measure recovery of PCBs. Sample results were corrected for this recovery. The method was calibrated using known standards of Aroclor 1254 and 1260. A calibration check standard was run with each batch to verify the calibration. Duplicates, blanks, the spiked control sample, DCBP recovery and the calibration check were all required to be within predetermined control limits.

Aroclor 1254 spiked control samples were run with the soil and water PCB analyses; the average recoveries were 119 percent in soil samples and 117 percent in water samples (Table C-9).

Each batch was monitored internally by analyzing blank samples for PCBs with the soil and water batches. All results were below detection limits for analytical, field and travel blanks (Table C-10).

2. Precision/Repeatability

Precision was monitored externally by ESG by the submission of soil and water sample field duplicates, which were homogenized in the field during collection and submitted blind to the laboratory for analysis. Four soil field duplicates and one water field duplicate were analyzed and PCBs were below detection in all but one soil pair. RSDs for the pair were 26 percent for Aroclor 1254 and 4 percent for Aroclor 1260, well within acceptable levels (Table C-11).

Precision was also monitored internally by ASG using soil and water analytical replicates (Table C-12). Three soil and one water analytical duplicates were run and all results were below detection for Aroclor PCBs (Table C-12).

D. CCME Method of Petroleum Hydrocarbons in Soil and Water – ASG, RMC

Soil and water analysis was performed as prescribed in the CCME Reference Method for Canada-Wide Standard for Petroleum Hydrocarbons in Soil, 2001. Results were reported for F1 fraction, F2 to F4 fractions and, if extra cleanup was required, Gravimetric F4G.

1. Accuracy

Three gasoline control spikes were analyzed for F1 fraction hydrocarbons in soil samples and the average recovery was 95 percent (Table C-13). Two control diesel spikes and control standards were analyzed for total hydrocarbons in soil samples resulting in average recoveries of 80 percent and 92 percent, respectively (Table C-13). Laboratory control limits allow for a 30 percent variation in spike recovery.

Water sample control spikes were analyzed for F1 fraction hydrocarbons and total hydrocarbons and the resulting recoveries were 88 percent for F1, 78 percent for total hydrocarbon diesel spikes and 88 percent for total hydrocarbon control standards in water (Table C-18).

Analytical soil blank results are listed in Table C-14 and the water blanks are listed in Table C-19. All results were below detection for hydrocarbons in the analytical blanks.

2. Precision

Precision was monitored with the analysis of field and analytical replicates.

Four soil sample field duplicates and one water sample field duplicate were submitted and the resulting average RSDs for the detectable fractions in soil samples were all within acceptable levels (Table C-15). Results were below detection for hydrocarbons in the water field duplicate (Table C-19).

In one case, one duplicate result was above the detection limit while the other was below. For these duplicates, we have not calculated RSDs. Previously in such cases, ESG calculated the relative standard deviation by a conventional method that takes the lower of the duplicate results as half of the detection limit. This method invariably leads to artificially inflated RSDs, even when the concentration in the higher result is close to the detection limit. In our experience, in such cases the two results generally are, in fact, very close and do represent good precision. For these reasons, these duplicate calculations are no longer included in the QA/QC analysis.

Three soil and two water analytical duplicates were run for CCME hydrocarbons and the results are listed in Tables C-16 and C-19. RSDs were below 20 percent in the soil replicates and results were below detection in the water replicates.

Moisture content was also reported for soil samples analyzed for CCME hydrocarbons and the field duplicate results are listed in Table C-17. The average RSD was 2.8 percent, indicating excellent agreement between replicates.

E. Total Suspended Solids (TSS) and Total Dissolved Solids (TDS) in Water Samples – ASU, Queen's University

1. Accuracy and Precision

Water samples were analyzed for TSS and the QA/QC results are presented in Table C-20. Accuracy was monitored with the analysis of control blank samples and results were below detection for all (Table C-20).

Two water samples were analyzed in duplicate for TSS and the resulting RSDs were both zero indicating excellent precision.

F. Inorganic Elements in Soil and Water Samples 2008 – Analytical Services Unit (ASU), Queen's University

1. Accuracy

ASU monitored accuracy internally with the analysis of standard reference materials, specifically NRC Canada Marine Reference Sediment MESS-3 and contaminated soil reference material SS-2 (Table C-21). Average determined results for inorganic elements in MESS-3 in this study were all within control limits (Table C-21). Soil reference material SS-2 was also used to monitor accuracy and determined results were again within control limits (Table C21).

The water sample batch included spiked control samples to monitor accuracy. Average recoveries ranged from 100 to 107 percent for total metals in water samples indicating good accuracy for the method (Table C-22).

Analytical blank samples were run with the soil and water batches. Results are presented in Table C-23. All elements in the soil and water analytical blanks were below detection limits. One water sample field blank and one travel blank were also analyzed and just the field blank showed low levels of zinc and chromium. These low level concentrations were not of concern when analyzing the sample results.

2. Precision/Repeatability

ESG monitored precision externally using 14 pairs of soil sample field duplicates and three water field duplicates. These were homogenized in the field and submitted blind as separate samples to ASU for analysis. Average relative standard deviations (RSDs) or coefficients of variation (standard deviation divided by the mean) for sample pairs were expressed as percentages and used to evaluate laboratory precision. Acceptable limits are generally considered to be less than 40 percent RSD, with 20 percent or less considered good agreement. The average RSD for most inorganic elements in the DYE-M monitoring soil samples were below 10 percent, indicating very good agreement between duplicates. The average RSD for lead was slightly higher at 12 percent, also showing good replication (Table C-24).

Three water sample field duplicates were also submitted and the resulting average RSDs ranged from 4.6 percent to 18 percent for inorganic elements (Table C-24).

ASU also monitored precision internally through the use of analytical duplicates. Soil samples (21) were analyzed in duplicate for inorganic elements (Table C-25). The average RSDs for copper (6.9 percent), nickel (5.9 percent), cobalt (3.3 percent), lead

(6.1 percent), zinc (5.2 percent) and chromium (5.6 percent) in the soil replicates were below 10 percent, indicating very good precision for analysis. The average RSD for arsenic was 33 percent, still within acceptable levels. Cadmium results were below detection in the analytical duplicates.

In some cases, one duplicate result was above the detection limit while the other was below. For these duplicates, we have not calculated RSDs. Previously in such instances, ESG calculated the RSD by a conventional method that takes the lower of the duplicate results as half of the detection limit. This method invariably led to artificially inflated RSDs, even when the concentration in the higher result was close to the detection limit. In our experience, in such cases the two results generally are, in fact, very close and do represent good precision. For these reasons, these duplicate calculations are no longer included in the QA/QC analysis.

G. Mercury in 2008 Soil and Water – Analytical Services Group (ASG), Royal Military College (RMC)

1. Accuracy

Soil and water samples were analyzed for mercury along with control spiked samples. The results for these are presented in Tables C-26 and C-28; the average control recoveries were 89 percent for soil control spikes and 95 percent for mercury in water spikes. Blank samples were analyzed for mercury and results are also listed in Tables C-26 and C-28. All results for soil and water analytical blanks and for the water travel and field blanks were below detection.

2. Precision

Fourteen soil sample field duplicates and one water field duplicate were submitted for analysis and results were below detection for mercury (Tables C-27 and C-28).

Eight soil analytical duplicates were analyzed for mercury and results were again below detection in the duplicate pairs (Tables C-27).

H. Polychlorinated Biphenyls (PCBs) in 2008 Soil – ASG, RMC

The QA/QC protocol for PCBs calls for analyses to be carried out in batches of no more than 30 samples. Each batch must include one analytical duplicate, a procedural blank and a spiked control sample. Each batch is treated as a separate unit: samples within the same batch must be worked up and analyzed continuously, and the QA/QC data considered with respect to each batch.

1. Accuracy

Internally, all samples were spiked with an aliquot of the surrogate standard decachlorobiphenyl (DCBP) prior to analysis by gas chromatography (GC) with electron capture detection (ECD), to measure recovery of PCBs. Sample results were corrected for this recovery. The method was calibrated using known standards of Aroclor 1254 and 1260. A calibration check standard was run with each batch to verify the calibration. Duplicates, blanks, the spiked control sample, DCBP recovery and the calibration check were all required to be within predetermined control limits.

Aroclor 1260 spiked control samples were run with the soil and water PCB analyses; the average recoveries were 96 percent in soil samples and 95 percent in water samples (Table C-29).

Each batch was monitored internally by analyzing blank samples for PCBs with the soil and water batches. All results were below detection limits for analytical and field blanks (Table C-30). The water sample travel blank did show Aroclor 1260 but the results were just at the detection limit.

2. Precision/Repeatability

ESG monitored precision externally by the submission of soil and water sample field duplicates. Nine soil field duplicates and one water field duplicate were analyzed, and the resulting average RSDs were 18 percent for Aroclor 1254 in soils and 7.1 percent for Aroclor 1260 in soils. The low levels of Aroclor 1260 in the water sample field duplicate resulted in an RSD of 131 percent (Table C-31). Small variations at low concentrations can result in over inflated RSD values.

ASG also monitored precision internally using soil analytical duplicates (Table C-32). Five soil duplicates were run and results were below detection for Aroclor PCBs in all but one sample pair which reported RSDs of 2.4 percent for Aroclor 1254 and 2.6 percent for Aroclor 1260 (Table C-32).

I. CCME Method of Measuring Petroleum Hydrocarbons in 2008 Soil and Water – ASG, RMC

Soil and water analysis was performed as prescribed in the CCME Reference Method for Canada-Wide Standard for Petroleum Hydrocarbons in Soil, 2001. Results were reported for F1 fraction, F2 to F4 fractions and, if extra cleanup of the sample was required for analysis, gravimetric F4G.

1. Accuracy

Nine gasoline control spikes were analyzed for F1 fraction hydrocarbons in soil samples, and the average recovery was 103 percent (Table C-33). Seven control diesel spikes and control standards were analyzed for total hydrocarbons in soil samples resulting in average recoveries of 103 percent and 114 percent, respectively (Table C-33). Laboratory control limits allow for a 30-percent variation in spike recovery.

Water sample control spikes were analyzed for F1 fraction hydrocarbons and total hydrocarbons and the resulting average recoveries were 85 percent for F1, 82 percent for total hydrocarbon diesel spikes and 80 percent for total hydrocarbon control standards in water (Table C-37).

Analytical soil blank results are listed in Table C-34 and the water blanks are listed in Table C-38. All results were below detection for hydrocarbons in the analytical blanks as well as in the water sample field and travel blanks.

2. Precision

Precision was monitored with the analysis of field and analytical duplicates.

One water and four soil sample field duplicates were submitted, and the resulting average RSDs for the detectable fractions in soil samples were all within acceptable levels (Table C-35). Results were below detection for hydrocarbons in the water field duplicate (Table C-38).

Thirteen soil and three water analytical duplicates were run for CCME hydrocarbons and the results are listed in Tables C-36 and C-38. Average RSDs were less than 10 percent in the soil duplicates, and results were below detection in the water duplicates.

J. Inorganic Elements in Soil and Water Samples, 2009 – Analytical Services Unit (ASU), Queen's University

1. Accuracy

Average determined results for inorganic elements in MESS-3 for 2009 soil sample batches were all within control limits (Table C-39). Soil reference material SS-2 was also used to monitor accuracy and determined results were again within control limits (Table C-39).

The water sample batch included a spiked control sample to monitor accuracy. Average recoveries ranged from 104 to 112 percent for total metals in water samples indicating good accuracy for the method (Table C-40).

All elements in the soil and water analytical blanks were below detection limits (Table C-41). One water sample field blank was also analyzed and results were below detection for inorganic elements in the blank (Table C-41).

2. Precision/Repeatability

ESG monitored precision externally using 10 pairs of soil sample field duplicates. These were homogenized in the field and submitted blind as separate samples to ASU for analysis. Average relative standard deviations (RSDs) were below 10 percent for all elements but arsenic, indicating very good agreement between duplicates. The average RSD for arsenic was slightly higher at 15 percent, still showing good replication (Table C-42).

ASU also monitored precision internally through the use of analytical duplicates. Soil samples (11) were analyzed in duplicate for inorganic elements (Table C-43). The average RSDs for in the soil replicates were 10 percent or less, indicating very good precision for analysis (Table C-43).

K. Mercury in 2009 Soil and Water – Analytical Services Group (ASG), Royal Military College (RMC)

1. Accuracy

Soil and water samples were analyzed for mercury along with control spiked samples. The results for these are presented in Tables C-44 and C-46; the average control recoveries were 105 percent for soil control spikes and 103 percent for mercury in water spikes. Blank samples were analyzed for mercury and results are also listed in Tables C-44 and C-46. All results for soil and water analytical blanks and for the field blank were below detection.

2. Precision

Twelve soil sample field duplicates were submitted for analysis and results were below detection for mercury in all (Table C-45).

Three soil and one water analytical duplicates were analyzed for mercury and results were again below detection in the duplicate pairs (Tables C-45 and C-46).

L. Polychlorinated Biphenyls (PCBs) in 2009 Soil – ASG, RMC

1. Accuracy

Aroclor 1260 spiked control samples were run with the soil and water PCB analyses; the average recoveries were 98 percent in soil samples and 111 percent in water samples (Table C-47).

Each batch was monitored internally by analyzing blank samples for PCBs with the soil and water batches. All results were below detection limits for analytical and field blanks (Table C-48).

2. Precision/Repeatability

ESG monitored precision externally by the submission of soil sample field duplicates. Ten soil field duplicates were analyzed, and the resulting average RSDs were 23 percent for Aroclor 1254 and 19 percent for Aroclor 1260 in soils (Table C-49). Small variations at low concentrations can result in over inflated RSD values.

ASG also monitored precision internally using analytical duplicates (Table C-50). Four soil and one water duplicate were run and results were below detection for Aroclor PCBs in all but one soil sample pair which reported RSDs of 18 percent for Aroclor 1254 and 17 percent for Aroclor 1260 (Table C-50).

M. Total Petroleum Hydrocarbon (TPH) Analysis of 2009 Soil Samples at Analytical Sciences Group (ASG), RMC

1. Accuracy and Precision

Two control spiked blanks were run with soil batches; the average recovery was 100 percent (Table C-51). Two blank samples, one field and one analytical duplicate were analyzed with the 2009 DYE-M monitoring soil samples and all reported results below detection for TPH (Table C-51).

N. CCME Method of Measuring Petroleum Hydrocarbons in 2009 Soil and Water – ASG, RMC

Soil and water analysis was performed as prescribed in the CCME Reference Method for Canada-Wide Standard for Petroleum Hydrocarbons in Soil, 2008. Results

were reported for F1 fraction, F2 to F4 fractions and, if extra cleanup of the sample was required for analysis, gravimetric F4G.

1. Accuracy

Three gasoline control spikes were analyzed for F1 fraction hydrocarbons in soil samples, and the average recovery was 102 percent (Table C-52). Three control diesel spikes and control standards were analyzed for total hydrocarbons in soil samples resulting in average recoveries of 83 percent and 81 percent, respectively (Table C-52). Laboratory control limits allow for a 30-percent variation in spike recovery.

Water sample control spikes were analyzed for F1 fraction hydrocarbons and total hydrocarbons and the resulting average recoveries were 88 percent for F1, 90 percent for total hydrocarbon diesel spikes and 104 percent for total hydrocarbon control standards in water (Table C-56).

Analytical soil blank results are listed in Table C-53 and the water blanks are listed in Table C-57. All results were below detection for hydrocarbons in the analytical blanks as well as in the water sample field blank.

2. Precision

Precision was monitored with the analysis of field and analytical duplicates.

Nine soil sample field duplicates were submitted, and the resulting average RSDs for the detectable fractions in soil samples were all below 35 percent (Table C-54). Some individual pairs showed higher RSDs but results were below criteria so no further action was taken (Table C-54).

Three soil and three water analytical duplicates were run for CCME hydrocarbons and the results are listed in Tables C-55 and C-57. Average RSDs were below 15 percent in the soil duplicates, and results were below detection in the water duplicates.

O. pH and Conductivity Analysis of 2009 Water Samples at ASG, RMC and Turbidity Analysis of Water Samples at ASU, Queen's University.

1. Accuracy

Conductivity and pH control spikes each reported average recoveries of 100 percent (Table C-58). The turbidity blank result was below detection and the water sample field blank reported acceptable levels for all three parameters (Table C-58).

2. Precision

Two analytical duplicates reported RSDs of zero for most replicates and 8 percent for the turbidity replicate indicating excellent agreement (Table C-58).

P. Inorganic Elements in Soil and Water Samples, 2011 – Analytical Services Unit (ASU), Queen's University

1. Accuracy

Average determined results for inorganic elements in MESS-3 and in SS-2 for 2011 soil sample batches were all within control limits (Table C-59).

Average recoveries for water sample control spikes ranged from 94 to 103 percent for total and dissolved metals indicating good accuracy for the method (Table C-60).

Inorganic elements in the soil and water analytical blanks were below detection. One water sample field blank was also analyzed and results were again below detection for inorganic elements (Table C-61).

2. Precision/Repeatability

ESG monitored precision externally using 17 pairs of soil sample field duplicates. These were homogenized in the field and submitted blind as separate samples to ASU for analysis. Average relative standard deviations (RSDs) were below 10 percent for most elements but arsenic reported an average RSD of 26 percent, well within acceptable levels (Table C-62). Two water sample field duplicates reported just one detectable element (zinc) with an average RSD of 58 percent (Table C-63).

Twenty-two soil samples were analyzed in duplicate for inorganic elements and the average RSDs were below 10 percent, indicating very good precision for analysis (Table C-64). Three water sample analytical duplicates were run and RSDs for the two detectable elements were 10 percent or less (Table C-64).

Q. Mercury in 2011 Soil and Water Samples – Analytical Services Group (ASG), Royal Military College (RMC)

1. Accuracy

Soil and water samples were analyzed for mercury along with control spiked samples. The results for these are presented in Tables C-65 and C-66; the average control recoveries were 87 percent for soil control spikes and 103 percent for mercury in water

spikes. All mercury results for soil and water analytical blanks and for the field blank were below detection (Tables C-65 and C-67).

2. Precision

Fourteen soil and two water sample field duplicates were submitted for analysis and results were below detection for mercury in all. Four soil and one water analytical duplicate were analyzed for mercury and results were again below detection (Tables C-66 and C-67).

R. Polychlorinated Biphenyls (PCBs) in 2011 Soil Samples – ASG, RMC

1. Accuracy

Spiked control samples were run with the soil and water PCB analyses; the average recoveries were 104 percent in soil samples and 115 percent in water samples (Tables C-68 and C-69). All results were below detection limits for PCBs in the analytical and field blanks (Table C-70).

2. Precision/Repeatability

Twenty-one soil and two water sample field duplicates were analyzed, and the resulting average RSD for soils was 30 percent for Aroclor 1254. Water field duplicate pairs showed no detectable PCBs (Table C-71).

Seven soil and two water duplicates were run and results were below detection in the water samples. The average RSD for soil replicates was 14 percent for Aroclor 1254 (Table C-72).

S. CCME Method of Measuring Petroleum Hydrocarbons in 2011 Soil and Water – ASG, RMC

1. Accuracy

Twelve gasoline control spikes were analyzed for F1 fraction hydrocarbons in soil samples, and the average recovery was 106 percent (Table C-73). Nine control diesel spikes and control standards were analyzed for total hydrocarbons in soil samples resulting in average recoveries of 90 percent and 97 percent, respectively (Table C-73).

Water sample control spikes were analyzed for F1 fraction hydrocarbons and total hydrocarbons and the resulting average recoveries were 98 percent for F1, 76

percent for total hydrocarbon diesel spikes and 99 percent for total hydrocarbon control standards in water (Table C-77).

Analytical soil blank results and the water blanks showed no detectable PHCs (Tables C-74 and C-78)

2. Precision

Twenty-one soil sample field duplicates were submitted, and the resulting average RSDs for the detectable fractions in soil samples were all below 36 percent (Table C-75). Some individual pairs showed higher RSDs but results were below criteria so no further action was taken (Table C-75). Two water sample field duplicates reported no detectable PHC results (Table C-78).

Thirteen soil and two water analytical duplicates were run for CCME hydrocarbons. Average RSDs were below 15 percent in the soil duplicates, and results were below detection in the water duplicates (Table C-76 and C-78).

T. Inorganic Elements in Soil and Water Samples, 2012 – Analytical Services Unit (ASU), Queen's University

1. Accuracy

Average determined results for inorganic elements in MESS-3 analyzed with the 2012 soil sample batches were all within control limits (Table C-79).

Average recoveries for water sample control spikes ranged from 96 to 101 percent for total and dissolved metals indicating good accuracy for the method (Table C-80).

Inorganic elements in the soil and water analytical blanks were below detection. One water sample travel blank was also analyzed and results were again below detection for inorganic elements (Table C-81).

2. Precision/Repeatability

ESG monitored precision externally using 17 pairs of soil sample field duplicates. These were homogenized in the field and submitted blind as separate samples to ASU for analysis. Average relative standard deviations (RSDs) were below 20 percent for all elements indicating good agreement (Table C-82). One sample pair (44792/93) reported cobalt results straddling the DLCU criterion with a RSD of 111 percent. The average of the two samples was over the criterion for cobalt so the sample was considered as Tier II. Results were accepted after the review of other QA/QC parameters in the batch.

Two water sample field duplicates reported average RSDs of 20 percent (nickel), 51 percent (zinc) 15 percent (chromium) and 24 percent (arsenic) (Table C-83). The higher zinc average RSD was due to one sample pair (34991/92) with results straddling the DLCU water criterion for zinc. The average of the pair was over the criterion of 1 mg/L so the sample was classified as such (Table C-83).

Nine soil samples were analyzed as analytical duplicates for inorganic elements and the average RSDs were below 20 percent for all elements and less than 10 percent for most, indicating very good precision for analysis (Table C-84). Three water sample analytical duplicates were run for total and dissolved elements and average RSDs ranged from 0.8 percent to 19 percent, well within acceptable levels (Table C-84).

U. Mercury in 2012 Soil and Water Samples – Analytical Services Unit (ASU), Queen's University

1. Accuracy

Soil samples were analyzed for mercury at ASU and the average recovery was reported as 97 percent (Table C-85). Results were below detection for mercury in the analytical blank (Table C-85).

2. Precision

Four soil sample field duplicates and two analytical duplicates were analyzed and results were below detection for mercury in all but one field duplicate. The resulting RSD was 4.6 percent, indicating very good agreement (Table C-85).

V. Mercury in 2012 Soil and Water Samples – Analytical Services Group (ASG), Royal Military College (RMC)

1. Accuracy

Soil and water samples were also analyzed for mercury at ASG. The resulting average recovery for control spikes was 85 percent for soil and 106 percent for water samples (Tables C-86 and C-88). All mercury results for soil and water analytical blanks and for the travel blank were below detection (Tables C-86 and C-88).

2. Precision

Thirteen soil and two water sample field duplicates were submitted for analysis and results were below detection for mercury in all. Mercury concentrations were also

below detection in the seven soil and one water analytical duplicate (Tables C-86 and C-88).

W. Polychlorinated Biphenyls (PCBs) in 2012 Soil and Water Samples – ASG, RMC

1. Accuracy

Spiked control samples were run with the soil and water PCB analyses; the average recoveries were 93 percent for both the soil and water spiked samples (Tables C-89 and C-90). All results were below detection limits for PCBs in the analytical blanks and the travel blank (Table C-91).

2. Precision/Repeatability

Sixteen soil and two water sample field duplicates were analyzed, just one soil sample pair showed detectable levels of PCBs with a RSD of 27 percent (Table C-92).

Four soil and two water analytical duplicates were run and results were below detection for PCBs in all samples (Table C-93).

X. CCME Method of Measuring Petroleum Hydrocarbons (PHCs) in 2012 Soil Samples – ASU, Queen's University

1. Accuracy

Seven control spikes were analyzed for F1 fraction HCs in soil samples, and the average recovery was 101 percent (Table C-94). Five control spikes were analyzed for F2-F4 HCs in soil samples resulting in an average recovery of 89 percent (Table C-94). Analytical soil blanks showed no detectable PHCs (Table C-94).

2. Precision

Two field duplicates and five analytical duplicates were analyzed for PHCs and results were below detection for all except for one soil sample which showed F3 and F4 fraction HCs close to the detection limit (Table C-94).

Y. CCME Method of Measuring Petroleum Hydrocarbons (PHCs) in 2012 Soil and Water – ASG, RMC

1. Accuracy

Five gasoline control spikes were analyzed for F1 fraction HCs in soil samples, and the average recovery was 101 percent (Table C-95). Four control diesel spikes and control standards were analyzed for total HCs in soil samples resulting in average recoveries of 79 percent and 110 percent, respectively (Table C-95). Laboratory control limits allow for a 30 percent variation in spike recovery.

Water sample control spikes were analyzed for F1 fraction hydrocarbons and total hydrocarbons and the resulting average recoveries were 106 percent for F1, 74 percent for total hydrocarbon diesel spikes and 108 percent for total hydrocarbon control standards in water (Table C-99).

Analytical soil and water blank results and the travel blank showed no detectable PHCs (Tables C-96 and C-100)

2. Precision

Nine soil sample field duplicates were submitted, and the resulting average RSDs for the detectable fractions in soil samples were 47 percent for F2 fraction and 11 percent for F3 fraction hydrocarbons (Table C-97). F2 fraction RSDs were higher than the acceptable level of 30 percent but concentrations were well below criteria levels and the results were accepted.

Four analytical duplicates were run and again, just F2 and F3 fractions showed detectable levels of PHCs. All resulting RSDs were less than 20 percent (Table C-98).

Results were below detection in the water field and analytical duplicates (Table C-100).

Z. Inorganic Elements in Soil and Water Samples, 2013 – Analytical Services Unit (ASU), Queen's University

1. Accuracy

Average determined results for inorganic elements in MESS-3 standard samples were all within control limits (Table C-101).

Average recoveries for water sample control spikes ranged from 96 to 102 percent for total and dissolved metals (Table C-102).

Inorganic elements in the soil and water analytical blanks were below detection. Very low levels of zinc were seen in the field and travel blanks but results were very close to the detection limit and are not considered to have affected sample results (Table C-103).

2. Precision/Repeatability

ESG monitored precision externally using 33 pairs of soil sample field duplicates. These were homogenized in the field and submitted blind as separate samples to ASU for analysis. Average relative standard deviations (RSDs) were below 20 percent for all elements indicating good agreement (Table C-104). Some individual RSDs were over the acceptable level but in all cases, sample concentrations were well below criteria so further analysis was not required.

Two water sample field duplicates reported average RSDs of 7.1 percent (nickel), 17 percent (zinc), 8.9 percent (chromium) and 0.04 percent (arsenic) (Table C-105).

Twenty-seven soil samples were analyzed as analytical duplicates for inorganic elements and the average RSDs were below 20 percent for all elements and less than 10 percent for most, indicating very good precision for analysis (Table C-106). Four water sample analytical duplicates were run for total and dissolved elements and average RSDs ranged from 0.1 percent to 15 percent (Table C-106).

AA. Mercury in 2013 Soil and Water Samples – Analytical Services Group (ASG), Royal Military College (RMC)

1. Accuracy

Soil samples were analyzed for mercury at ASG and the average recovery for the 10 control spikes was reported as 90 percent (Table C-107). Water control spikes (2) average recovery was 101 percent (Table C-107). Results were below detection for mercury in the soil and water analytical blanks as well as the field and travel blanks (Table C-108).

2. Precision

Thirty-three soil and two water sample field duplicates were run and results were below detection for mercury in all (Tables C-109 and C-110). Results for analytical duplicates of both soil and water samples were also below detection for mercury (Table C-110).

BB. Polychlorinated Biphenyls (PCBs) in 2013 Soil and Water Samples – ASG, RMC

1. Accuracy

Spiked control samples were run with the soil and water PCB analyses; the average recoveries were 106 percent for soil spiked samples and 80 percent for water control spikes (Tables C-111 and C-112). All results were below detection limits for PCBs in the analytical blanks, field blank and travel blank (Table C-113).

2. Precision/Repeatability

Thirty-two soil field duplicates were analyzed and the average RSD was calculated as 9.5 percent (Table C-114). Two water field duplicates showed no detectable PCBs (Table C-114).

Ten soil and one water analytical duplicates were run and results were below detection for PCBs in all but one soil sample with a RSD of 5.7 percent (Table C-115).

CC. CCME Method of Measuring Petroleum Hydrocarbons (PHCs) in 2013 Soil and Water – ASG, RMC

1. Accuracy

Eleven gasoline control spikes were analyzed for F1 fraction HCs in soil samples, and the average recovery was 100 percent (Table C-116). Twelve control diesel spikes and control standards were analyzed for total HCs in soil samples resulting in average recoveries of 88 percent and 104 percent, respectively (Table C-116). Laboratory control limits allow for a 30 percent variation in spike recovery.

Water sample control spikes were analyzed for F1 fraction hydrocarbons and total hydrocarbons and the resulting average recoveries were 94 percent for F1, 110 percent for total hydrocarbon diesel spikes and 120 percent for total hydrocarbon control standards in water (Table C-120).

Analytical soil and water blank results showed no detectable PHCs (Tables C-117 and C-120)

2. Precision

Thirty-three soil sample field duplicates were submitted, and the resulting average RSDs for the detectable fractions in soil samples ranged from 17 percent for F1 fraction

HCs to 35 percent for F4 fraction HCs (Table C-118). Some RSDs were higher than the acceptable level of 30 percent but concentrations for most were well below criteria levels and the results were accepted. One sample pair (13-25100/25101) reported F3 HCs with a RSD of 58 percent. Concentrations for this sample were above criteria for both F2 HC and F3 HC and the samples were classified as such (Table C-118). One water field duplicate reported no detectable HCs (Table C-120).

Fourteen soil sample analytical duplicates were run and resulting average RSDs were less than 20 percent for F2-F4 fractions while F1 fraction results were below detection (Table C-119).

DD. Inorganic Elements in Soil and Water Samples, 2014 – Analytical Services Unit (ASU), Queen's University

Water samples analyzed at ASU were analyzed for total inorganic elements.

1. Accuracy

Average determined results for inorganic elements in MESS-3 standard samples were all within control limits issued by ASU for 2014 (Table C-121). One water control spike yielded recoveries ranging from 83 percent to 106 percent, within the acceptable level of ± 20 percent (Table C-122).

Inorganic elements in the soil and water analytical blanks were below detection (Table C-122).

2. Precision/Repeatability

ESG monitored precision externally using 24 pairs of soil sample field duplicates. These were homogenized in the field and submitted blind as separate samples to ASU for analysis. Average relative standard deviations (RSDs) were below 20 percent for most elements indicating good agreement (Table C-123). The average RSD for lead replicates was higher at 25 percent but still well within acceptable level of 30 percent. One individual RSD for lead was over the acceptable level but sample concentrations were well below criteria so further analysis was not required (Samples 14-8470/71).

Twenty-seven soil samples were analyzed as analytical duplicates for inorganic elements and the average RSDs were below 20 percent for all elements and less than 10 percent for most, indicating very good precision for analysis (Table C-124). Again, one sample pair showed a RSD for lead over the acceptable level but results were below the

DLCC and results were accepted. Other QA/QC parameters were reviewed in the sample batch and all were acceptable so further action was not required.

EE. Mercury in 2014 Soil and Water Samples – Analytical Services Group (ASG), Royal Military College (RMC)

1. Accuracy

Soil samples were analyzed for mercury at ASG and control spike recovery was 105 percent (Table C-125). The water control spike recovery was 98 percent (Table C-125). Results were below detection for mercury in the soil and water analytical blanks (Table C-125).

2. Precision

Results for analytical duplicates of soil and water samples were below detection for mercury (Table C-125).

FF. Polychlorinated Biphenyls (PCBs) in 2014 Soil and Water Samples – ASG, RMC

1. Accuracy

Spiked control samples were run with the soil and water PCB analyses; the average recoveries for Aroclor 1254 spikes were 106 percent for soil samples and 73 percent for the single water control spike (Tables C-126 and C-127). These results are well within the allowable control limits of ± 40%. All results were below detection limits for PCBs in the analytical blanks (Tables C-126 and C-127).

2. Precision/Repeatability

Results were below detection for PCBs in both the soil and water analytical replicates (Table C-126 and C-127).

GG. CCME Method of Measuring Petroleum Hydrocarbons (PHCs) in 2014 Soil Samples – ASU, Queen's University

1. Accuracy

Nineteen control spikes were analyzed for F1 fraction HCs in soil samples, and the average recovery was 86 percent (Table C-128). Twenty control F2-F4 spikes were

analyzed for PHCs in soil sample resulting in an average recovery of 97 percent (Table C-128). Laboratory control limits allow for a 30 percent variation in spike recovery.

Analytical soil blank results showed no detectable PHCs (Table C-129)

2. Precision

Twenty-four soil sample field duplicates were submitted, and just one sample pair showed detectable levels of F3 fraction HCs, just over the detection limit with an RSD of 10% indicating good agreement (Table C-130).

Ten soil sample analytical duplicates were run and resulting average RSDs were less than 20 percent for F1 and F2 fractions while F3 average RSD was 26 percent. F4 fraction PHCs were below detection (Table C-131).

HH. CCME Method of Measuring Petroleum Hydrocarbons (PHCs) in 2014 Water Samples – ASG, RMC

1. Accuracy

One gasoline control spike was analyzed for F1 fraction HCs in water and the reported recovery was 94 percent (Table C-132). One control diesel spike and one control standard were analyzed for total HCs in water samples resulting in average recoveries of 94 percent and 108 percent, respectively (Table C-132).

Analytical blank results showed no detectable PHCs (Table C-132)

II. pH Analysis of Water Samples 2014, ASG, RMC

1. Accuracy and Precision

The water control spike yielded a recovery of 99 percent. One analytical duplicate reported a RSD of 0.2% (Table C-133).

JJ. Inorganic Element Analysis of Soil Samples 2014 Analyzed for 30 Elements at ALS Environmental, London, ON

1. Accuracy

Soil samples were analyzed for inorganics (30 elements) at ALS along with Internal Reference Material (IRM), Laboratory Control Spikes (LCS) and Matrix Spikes (MS) (Tables C-134, C-135 and C-136).

Internal Reference Material recoveries ranged from 82 percent to 109 percent (Table C-134) and from 76 percent to 113 percent for Laboratory Control Spikes (Table C-135). The lower recovery for the Laboratory Control Spike was for potassium, which is not an analyte of concern for the monitoring program. The Laboratory Control Spike recoveries range from 93 to 113 percent if the potassium recovery is removed. Matrix spike recoveries ranged from 94 percent to 112 percent (Table C-136). Notes from ALS indicate that the recovery for several elements in the Matrix spikes (anonymous samples) could not be accurately calculated due to high analyte background in the samples. Results were below detection for all elements in the analytical blanks (method blanks) (Table C-137).

2. Precision

One soil sample analytical duplicate was analyzed by ALS for inorganic elements and the resulting RSDs were below 20 percent for all elements and less than 10 percent for most, indicating very good agreement (Table C-138).

KK. Dissolved Inorganic Element Analysis of Water Samples 2014 at ALS, London ON

1. *Accuracy*

Laboratory Control Spikes (LCS) and Matrix Spikes (MS) were reported with the water inorganic analysis of 34 elements and the average recoveries ranged from 91 to 100 percent for LCS and ranged between 86 percent and 107 percent for Matrix spike samples (Table C-139). Inorganic element results were below detection in the method blanks (Table C-139). Some elements showed detectable levels in the equipment blank, however out of the elements with detectable levels in the blank, the only element that was part of the DYE-M monitoring program is lead. Sample results were reviewed to determine if the levels in the blank were sufficient to indicate cross-contamination of the samples, however all lead results were below detection in the samples. Therefore cross-contamination is not a concern.

2. *Precision*

One field duplicate and one water analytical duplicate were reported and RSDs were less than 30 percent for most elements with 3 elements in the field duplicate showing RSDs just over 30 percent (Table C-140).

LL. Mercury (Hg) Analysis of Soil and Water Samples 2014, ALS, London ON

1. Accuracy

Certified reference material (IRM), Laboratory Control Spike (LCS) and Matrix Spike (MS) results for soil are presented in Table C-141. Recoveries ranged from 84 percent to 113 percent, well within acceptable levels. Water sample LCS and MS results are listed in Table C-144 and recoveries were 98 percent and 94 percent respectively. Results for mercury were below detection in the soil and water method blanks (Tables C-142 and C-144).

2. Precision

Twenty-four field duplicates soil samples were analyzed for mercury and one sample showed detectable levels, just over the detection limit. All other mercury results for soil field duplicates were below detection (Table C-142). Thirteen soil sample analytical duplicates were analyzed and two sample pairs showed detectable levels of mercury with RSDs of 7.8 percent and 20 percent (Table C-143). Mercury results were below detection in the water analytical replicate (Table C-144).

MM. Aroclor PCB Analysis of Soil and Water Samples 2014, ALS, London ON

1. Accuracy

Laboratory Control Spike (LCS) and Matrix Spike (MS) results for soil are presented in Tables C-145 and C-146. Average recoveries ranged from 78 percent to 103 percent for LCS and from 80 percent to 90 percent for Matrix spikes, well within acceptable levels. Water sample LCS results are listed in Table C-150 and average recoveries ranged from 83 percent to 96 percent. Results for Aroclor PCBs were below detection in the soil and water method blanks (Tables C-147 and C-150).

2. Precision

Five field duplicate soil samples were analyzed for Aroclor PCBs and just one sample pair showed detectable levels of Aroclor 1254 and Aroclor 1260. RSDs were high at 82 percent and 58 percent but after reviewing other QA/QC parameters of the batch, results were accepted. Concentrations for the field duplicate were below DLCC and all other PCB results for soil field duplicates were below detection (Table C-148).

Thirteen soil sample analytical duplicates were analyzed and three sample pairs showed detectable levels of PCBs with average RSDs of 10 percent for Aroclor 1254 and 12 percent for Aroclor 1260, well within acceptable levels (Table C-149). One water laboratory control spike was analyzed in duplicate and resulting RSDs were less than 2 percent (Table C-150).

NN. CCME Method of Petroleum Hydrocarbons in Soil and Water Samples 2014 – ALS, London ON

1. *Accuracy*

ALS ran Certified Reference Material (CRM), Laboratory Control Spikes (LCS) and Matrix Spikes (MS) with the CCME hydrocarbon soil samples. Recoveries ranged from 93 percent to 109 percent for CRM, 96 percent to 106 percent for LCS and 94 percent to 110 percent for MS (Table C-151). Laboratory control limits allow for a 20 percent variation in spike recovery for F1-F4 fractions. Water sample LCS average recoveries ranged from 91 percent to 101 percent. The Matrix spike recoveries were 97 percent, 97 percent and 96 percent for F2, F3 and F4 fraction PHCs in water (Table C-153).

All results were below detection for PHCs in the soil and water method blanks (Tables C-152 and C-153).

2. *Precision*

ALS reported five anonymous soil samples which were analyzed as analytical duplicates and the resulting average RSDs (%) were less than 5 percent indicating very good agreement (Table C-152). Results were below detection for F1 fraction PHCs in the water analytical duplicate. One LCS sample was also analyzed in replicate and the RSDs for recoveries of the spike were less than 10 percent (Table C-153).

OO. Interlab Comparison of 2014 Soil and Water Inorganics, Aroclor PCBs and CCME PHCs Analyzed at ALS and ASU or ASG

ESG submitted duplicate soil samples to ASU or ASG and to ALS in a blind comparison of the analytical results. Overall, results were consistent between laboratories for each of the analyses. Inorganic element results for soil showed some variability between samples but this is attributed to sample heterogeneity and not to differences between laboratories, as described in the following section. Inorganic

element results for water were not able to be compared as ASU results were for total and ALS results were for dissolved inorganic elements.

1. Soil Inorganic Element 2014 Interlab Comparison between ALS and ASU Analytical Laboratories

Twenty-three soil samples were sent to both ASU and ALS for inorganic analysis and the comparison of results is listed in Table C-154. Average RSDs ranged from 27 percent to 37 percent indicating that there is some variability between the laboratory analyses. In some cases, (6 copper, 8 nickel and 4 chromium comparisons), results from the two labs straddled the DLCU criteria. The laboratory reporting the higher result was not consistently one lab or the other, indicating that the variability stems from the samples themselves. The variability in samples is most likely attributed to the difficulty inherent in homogenizing samples in the field before splitting.

Mercury soil results are also listed in Table C-154. Results were below detection for most sample pairs with just two soil samples analyzed at ALS reporting Hg slightly above the detection limit. One water sample was submitted for mercury analysis at both ASG and ALS and results were below detection for both (Table C-157).

2. Aroclor PCB 2014 Comparison of ALS and ASG Analytical Laboratories

Twenty-three soil samples were analyzed for Aroclor PBCs at both ALS and ASG laboratories and results were below detection for most samples (Table C-155). Just 5 samples reported some detectable PCBs with results close to the detection limit. One water sample was analyzed for PCBs at both ASG and ALS and results were below detection from both laboratories (Table C-157).

3. CCME PHC 2014 Comparison of ALS and ASU or ASG Analytical Laboratories

Twenty-three soil samples were sent to both ALS and ASU for CCME PHC analysis and results were below detection for most samples. Some individual samples showed detectable levels of PHCs from one lab while the other reported results below detection. The detectable results were reported at low levels (Table C-156).

One water sample was analyzed for PHCs at both ALS and ASG and results were below detection for all fractions (Table C-157).

Table C-1: Inorganic Element Results for Soil Internal Standards (MESS-3 and SS-2), 2007

Element	Certified Value	Mean (n=10)	ASU Control Limits
	[ppm]	[ppm]	[ppm]
1. Soil Samples			
MESS-3			
Cu	33.9 ± 1.6	31 ± 0.2	28-39
Ni	46.9 ± 2.2	36 ± 1.3	34-42
Co	14.4 ± 2.0	12 ± 0.4	10-14
Cd	0.24 ± 0.01	<1.0	-
Pb	21.1 ± 0.7	16 ± 0.5	15-21
Zn	159 ± 8	131 ± 3.0	119-153
Cr	105 ± 4	37 ± 2.0	26-54
As	21.2 ± 1.1	17 ± 0.5	13-18
SS-2			
Cu	191 ± 9.0	190 ± 12	158-225
Ni	54 ± 4.0	52 ± 0.5	49-61
Co	12 ± 1.0	14 ± 0.7	12 – 17
Cd	2.0*	1.8 ± 0.2	0.1 – 3.0
Pb	126 ± 10	111 ± 0.6	99-130
Zn	467 ± 23	460 ± 34	392-544
Cr	34 ± 4.0	43 ± 3.0	36-56
As	75 ± 10	81 ± 13	55-103

* information only, not certified

Table C-2: Inorganic Element Results for Water Sample Control Spikes, 2007

Sample	Cu [mg/L]	Ni [mg/L]	Co [mg/L]	Cd [mg/L]	Pb [mg/L]	Zn [mg/L]	Cr [mg/L]	As [mg/L]
1. Water Samples								
Control Spike								
Control	2.1	2.1	2.2	0.4	2.1	1.2	0.38	1.2
Control Target	2.2	2.2	2.2	0.4	2.2	1.2	0.4	1.2
Recovery (%)	95	97	98	100	96	98	96	99

Table C-3: Inorganic Element Results for Soil and Water Sample Analytical Blanks, 2007

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
1. Soil Samples								
Analytical Blanks								
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Sample	**Cu**	**Ni**	**Co**	**Cd**	**Pb**	**Zn**	**Cr**	**As**
	[mg/L]	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**
2. Water Samples								
Analytical Blanks								
Blank	<0.005	<0.005	<0.003	<0.001	<0.010	<0.010	<0.005	<0.003
Blank	-	<0.005	-	-	-	-	<0.005	-

Table C-4: Inorganic Element Results for Soil and Water Sample Field Duplicates, 2007

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
1. Soil Samples								
Field Duplicates								
07-30840	19	29	9.0	<1.0	12	44	49	<1.0
07-30841	25	34	11	<1.0	16	50	60	<1.0
Average	22	31	10		14	47	55	
Std Dev	3.7	3.5	1.4		2.8	4.2	7.8	
RSD (%)	17	11	14		20	9.0	14	
07-30860	15	54	11.6	<1.0	<10	27	28	<1.0
07-30861	17	64	11.9	<1.0	<10	33	28	<1.0
Average	16	59	11.8			30	28	
Std Dev	2.0	6.6	0.2			4.2	0	
RSD (%)	12	11	1.8			14	0	
07-30870	37	47	17	<1.0	<10	60	110	<1.0
07-30871	35	44	16	<1.0	<10	56	86	<1.0
Average	36	46	16			58	98	
Std Dev	1.0	2.5	0.8			2.8	17	
RSD (%)	2.8	5.4	4.8			4.9	17	
07-30880	22	31	9.9	<1.0	<10	39	59	<1.0
07-30881	24	36	11	<1.0	<10	42	71	<1.0
Average	23	33	11			40	65	
Std Dev	1.3	3.8	0.8			2.3	8.7	
RSD (%)	5.8	12	7.8			5.7	13	
Average RSD (%)	**9.5**	**9.9**	**7.1**	**-**	**-**	**8.4**	**11**	**-**
Std Dev	**± 6.4**	**± 3.0**	**± 5.3**	**-**	**-**	**± 4.2**	**± 7.7**	**-**
Sample	**Cu**	**Ni**	**Co**	**Cd**	**Pb**	**Zn**	**Cr**	**As**
	[mg/L]	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**
2. Water Samples								
Field Duplicates								
07-30670	0.02	0.05	0.004	<0.001	<0.010	1.1	0.1	<0.003
07-30671	0.01	0.05	0.004	<0.001	<0.010	0.8	0.1	<0.003
Average	0.02	0.05	0.004			0.9	0.1	
Std Dev	0	0	0.0003			0.2	0.002	
RSD (%)	10	0.01	6.6			23	3.3	

Table C-5: Inorganic Element Results for Soil and Water Sample Analytical Duplicates, 2007

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
1. Soil Samples								
Analytical Duplicates								
07-30838	28	40	14	<1.0	<10	50	80	<1.0
Duplicate	26	38	13.3	<1.0	<10	48	74	<1.0
Average	27	39	13.6			49	77	
Std Dev	1.5	1.7	0.5			1.3	4.2	
RSD (%)	5.5	4.4	3.4			2.6	5.4	
07-30850	15	71	13	<1.0	<10	33	32	<1.0
Duplicate	17	79	15	<1.0	<10	36	36	<1.0
Average	16	75	14			35	34	
Std Dev	0.9	5.5	1.5			2.5	3.1	
RSD (%)	5.7	7.3	10			7.4	8.9	
07-30862	17	61	11.5	<1.0	<10	32	28	<1.0
Duplicate	15	58	10.8	<1.0	<10	30	26	<1.0
Average	16	59	11.1			31	27	
Std Dev	1.5	2.2	0.5			1.6	2	
RSD (%)	9.4	3.7	4.8			5.1	7.4	
07-30874	18	27	9.4	<1.0	<10	36	50	<1.0
Duplicate	13	21	7.2	<1.0	<10	28	41	<1.0
Average	16	24	8.3			32	46	
Std Dev	3.5	4.4	1.6			5.5	6.6	
RSD (%)	22	19	19			18	14	
07-30890	39	41	14	<1.0	<10	47	75	<1.0
Duplicate	34	40	13.1	<1.0	<10	47	74	<1.0
Average	36	41	13.6			47	74	
Std Dev	3.6	0.4	0.7			0.02	0.6	
RSD (%)	10	1.1	4.9			0.05	0.8	
Average RSD (%)	11	7	8.4	-	-	6.5	7.4	-
Std Dev	± 6.7	± 6.9	± 6.4	-	-	± 6.7	± 5.0	-
Sample	**Cu**	**Ni**	**Co**	**Cd**	**Pb**	**Zn**	**Cr**	**As**
	[mg/L]	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**
2. Water Samples								
Analytical Duplicates								
07-30666	0.01	0.05	<0.003	<0.001	<0.010	0.71	0.08	<0.003
Duplicate	0.01	0.03	<0.003	<0.001	<0.010	0.61	0.05	<0.003
Average	0.01	0.04				0.66	0.06	
Std Dev	0	0.01				0.07	0.02	
RSD (%)	19	30				11	35	
07-30666 repeat	-	0.07	-	-	-	-	0.1	-
Duplicate	-	0.09	-	-	-	-	0.13	-
Average		0.08					0.12	
Std Dev		0.01					0.02	
RSD (%)		12					16	

Table C-5: Inorganic Element Results for Soil and Water Sample Analytical Duplicates, 2007 (cont'd)

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]
07-30669	0.02	0.06	0	<0.001	<0.010	1.8	0.09	<0.003
Duplicate	0.02	0.05	0	<0.001	<0.010	2.2	0.08	<0.003
Average	0.02	0.06	0			2	0.09	
Std Dev	0	0	0			0.3	0.01	
RSD (%)	1.5	5.7	1.3			16	7.5	
Average RSD (%)	10	16	1.3	-	-	14	20	-
Std Dev	± 12	± 13	-	-	-	± 3.3	± 14	-

Table C-6: Mercury Results for Soil Sample Control Spikes and Analytical Blanks, 2007

Sample	Hg [ppm]
1. Soil Samples	
Control Spikes	
Control	0.46
Control Target	0.4
Recovery (%)	105
Control	0.42
Control Target	0.4
Recovery (%)	95
Control	0.36
Control Target	0.44
Recovery (%)	82
Average Recovery (%)	**94**
Std Dev	**± 11**

Sample	Hg [ppm]
1. Soil Samples, cont'd	
Analytical Blanks	
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1

Table C-7: Mercury Results for Soil Sample Field Duplicates and Analytical Duplicates, 2007

Sample	Hg [ppm]
1. Soil Samples	
Field Duplicates	
07-30840	<0.1
07-30841	<0.1
07-30860	<0.1
07-30861	<0.1
07-30870	<0.1
07-30871	<0.1
07-30880	<0.1
07-30881	<0.1
Analytical Duplicates	
07-30890	< 0.1
Duplicate	< 0.1
07-30870	< 0.1
Duplicate	< 0.1

Table C-8: QA/QC Results for Mercury Analysis of Water Samples, 2007

Sample	Hg [mg/L]
1. Soil Samples	
Control Spikes	
Control Sample	0.00045
Control Target	0.0004
Recovery (%)	113
Analytical Blank	
Blank	<0.0004
Blank	<0.0004
Field Duplicates	
07-30670	<0.0004
07-30671	<0.0004
Analytical Duplicates	
07-30674	<0.0004
Duplicate	<0.0004

Table C-9: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil and Water Sample Control Spikes, 2007

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
1. Soil Samples		
Control Spikes		
Control	0.06	<0.003
Control Target	0.05	<0.003
Recovery (%)	120	
Control	0.054	<0.003
Control Target	0.05	<0.003
Recovery (%)	108	
Control	0.065	<0.003
Control Target	0.05	<0.003
Recovery (%)	130	
Average Recovery (%)	**119**	
Std Dev	**± 11**	

Sample	Aroclor 1254 [mg/L]	Aroclor 1260 [mg/L]
2. Water Samples		
Control Spike		
Control	0.00007	<0.00002
Control Target	0.00006	<0.00002
Recovery (%)	117	

Table C-10: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil and Water Sample Analytical Blanks, 2007

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
1. Soil Samples		
Analytical Blanks		
Blank	<0.003	<0.003
Blank	<0.003	<0.003
Blank	<0.003	<0.003

Sample	Aroclor 1254 [mg/L]	Aroclor 1260 [mg/L]
2. Water Samples		
Analytical Blank		
Blank	<0.00002	<0.00002

Table C-11: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil and Water Sample Field Duplicates, 2007

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
1. Soil Samples		
Field Duplicates		
07-30840	0.11	0.017
07-30841	0.16	0.018
Average	0.14	0.0175
Std Dev	0.04	0.001
RSD (%)	26	4.0
07-30860	<0.003	<0.003
07-30861	<0.003	<0.003
07-30870	<0.003	<0.003
07-30871	<0.003	<0.003
07-30880	<0.003	<0.003
07-30881	<0.003	<0.003

Sample	Aroclor 1254 [mg/L]	Aroclor 1260 [mg/L]
2. Water Samples		
Field Duplicates		
07-30670	<0.00002	<0.00002
07-30671	<0.00002	<0.00002

Table C-12: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil and Water Sample Analytical Duplicates, 2007

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
1. Soil Samples		
Analytical Duplicates		
07-30862	<0.003	<0.003
Duplicate	<0.003	<0.003
07-30878	<0.003	<0.003
Duplicate	<0.003	<0.003
07-30880	<0.003	<0.003
Duplicate	<0.003	<0.003

Sample	Aroclor 1254 [mg/L]	Aroclor 1260 [mg/L]
2. Water Samples		
Analytical Duplicate		
07-30671	<0.00002	<0.00002
Duplicate	<0.00002	<0.00002

Table C-13: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Control Spikes, 2007

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]	Total Hydrocarbons [ppm]
1. Soil Samples					
F1 Control Samples					
Control F1	26				
Control Target	29				
Recovery (%)	90				
Control F1	30				
Control Target	29				
Recovery (%)	103				
Control F1	27				
Control Target	29				
Recovery (%)	93				
Average Recovery (%)	**95**				
Std Dev	**± 7.2**				
Diesel Spikes					
Diesel Spike					45
Diesel Spike Target					50
Recovery (%)					90
Diesel Spike					35
Diesel Spike Target					50
Recovery (%)					70
Average Recovery (%)					**80**
Std Dev					**± 14**
F2-F4 Control Samples					
Control Standard					2600
Control Standard Target					2500
Recovery (%)					104
Control Standard					2000
Control Standard Target					2500
Recovery (%)					80
Average Recovery (%)					**92**
Std Dev					**± 17**

Table C-14: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Analytical Blanks, 2007

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
1. Soil Samples				
Analytical Blanks				
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0

Table C-15: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Field Duplicates, 2007

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
1. Soil Samples				
Field Duplicates				
07-30840	< 10	4.7	32	15
07-30841	< 10	4.4	22	9.7
Average		4.6	27	12
Std Dev		0.2	7.1	3.7
RSD (%)		4.7	26	30
07-30860	< 10	< 4.0	26	15
07-30861	< 10	4.9	39	15
Average			33	15
Std Dev			9.2	0
RSD (%)			28	0
07-30870	< 10	< 4.0	14	8.3
07-30871	< 10	< 4.0	12	8.3
Average			13	8.3
Std Dev			1.4	0
RSD (%)			11	0
07-30880	< 10	29	180	57
07-30881	< 10	21	200	71
Average		25	190	64
Std Dev		5.7	14	9.9
RSD (%)		23	7.4	16
Average RSD (%)		**14**	**18**	**12**
Std Dev		**± 13**	**± 11**	**± 15**

Table C-16: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Analytical Duplicates, 2007

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
1. Soil Samples				
Analytical Duplicates				
07-30832		5.0	<9.0	<8.0
Duplicate		4.7	<9.0	8.8
Average		4.9		
Std Dev		0.2		
RSD (%)		4.4		
07-30878	<10			
Duplicate	<10			
07-30890	<10	<4.0	19	14
Duplicate	<10	<4.0	16	13
Average			18	14
Std Dev			2.1	0.7
RSD (%)			12	5.2

Table C-17: Moisture Content Results for Soil Sample Field Duplicates, 2007

Sample	Moisture (%)*
1. Soil Samples	
Field Duplicates	
07-30880	9.8
07-30881	10
Average	10
Std Dev	0.2
RSD (%)	2.1
07-30840	8.6
07-30841	9.1
Average	8.9
Std Dev	0.4
RSD (%)	4.0
07-30860	12
07-30861	11.8
Average	11.9
Std Dev	0.1
RSD (%)	1.2
07-30870	10.8
07-30871	11.4
Average	11
Std Dev	0.4
RSD (%)	3.8
Average RSD (%)	**2.8**
Std Dev	**± 1.4**

*Results for moisture content of soil samples analyzed for CCME Hydrocarbons

Table C-18: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Water Sample Control Spikes, 2007

Sample	F1 (C6-C10) [mg/L]	F2 (C10-C16) [mg/L]	F3 (C16-C34) [mg/L]	F4 (C34-C50) [mg/L]	Total Hydrocarbons [mg/L]
1. Water Samples					
F1 Control Samples					
Control F1	0.14				
Control Target	0.16				
Recovery (%)	88				
Diesel Spikes					
Diesel Spike					7.8
Diesel Spike Target					10
Recovery (%)					78
F2-F4 Control Samples					
Control Standard					2200
Control Standard Target					2500
Recovery (%)					88

Table C-19: QA/QC Results for Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Analysis of Water Samples, 2007

Sample	F1 (C6-C10) [mg/L]	F2 (C10-C16) [mg/L]	F3 (C16-C34) [mg/L]	F4 (C34-C50) [mg/L]	Total Hydrocarbons [mg/L]
1. Water Samples					
Analytical Blank					
Blank	< 0.05	< 0.5	< 1.0	< 1.0	
Field Duplicates					
07-30670	< 0.05	< 0.5	< 1.0	< 1.0	
07-30671	< 0.05	< 0.5	< 1.0	< 1.0	
Analytical Duplicates					
07-30666	< 0.05				
Duplicate	< 0.05				
07-30674		< 0.5	< 1.0	< 1.0	
Duplicate		< 0.5	< 1.0	< 1.0	

Table C-20: QA/QC Results for Total Suspended Solids (TSS) and Total Dissolved Solids (TDS) Analysis of Water Samples, 2007

Sample	Total Suspended Solids [mg/L]
1. Soil Samples	
Analytical Blanks	
Blank	< 1.0
Blank	< 1.0
Analytical Duplicates	
07-30636	190
Duplicate	190
Average	190
Std Dev	0
RSD (%)	0
07-30649	52
Duplicate	52
Average	52
Std Dev	0
RSD (%)	0
Average RSD (%)	**0**
Std Dev	**0**

Table C-21: Inorganic Element Results for Soil Internal Standards (MESS-3 and SS-2), 2008

Element	MESS-3 Certified Value	Mean (n=10)	ASU Control Limits
	[ppm]	[ppm]	[ppm]
Cu	33.9 ± 1.6	31 ± 2.5	28-39
Ni	46.9 ± 2.2	38 ± 3.0	34-42
Co	14.4 ± 2.0	12 ± 1.1	10-14
Cd	0.24 ± 0.01	<1.0	-
Pb	21.1 ± 0.7	17 ± 1.2	15-21
Zn	159 ± 8	137 ± 11	119-153
Cr	105 ± 4	41 ± 5.0	26-54
As	21.2 ± 1.1	16 ± 1.7	13-18

Element	SS-2 Certified Value	Mean (n=10)	ASU Control Limits
	[ppm]	[ppm]	[ppm]
Cu	191 ± 9.0	189 ± 9.5	158-225
Ni	54 ± 4.0	54 ± 3.5	49-61
Co	12 ± 1.0	14 ± 1.1	12 – 17
Cd	2.0**	1.8 ± 0.12	0.1 – 3.0
Pb	126 ± 10	114 ± 6.3	99-130
Zn	467 ± 23	481 ± 17	392-544
Cr	34 ± 4.0	44 ± 3.6	43-49
As	75 ± 10	74 ± 10	55-103

**Cadmium results for SS-2 not certified - for information only.

Table C-22: Inorganic Element Results for Water Sample Control Spikes, 2008

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]
Control Spikes								
Control	2.16	2.25	2.17	0.4	2.22	1.23	0.39	1.24
Control Target	2.2	2.2	2.2	0.4	2.2	1.2	0.4	1.2
Recovery (%)	98	102	99	100	101	103	98	103
Control	2.36	2.35	2.23	0.44	2.4	1.3	0.41	1.3
Control Target	2.2	2.2	2.2	0.4	2.2	1.2	0.4	1.2
Recovery (%)	107	107	101	110	109	112	103	110
Average Recovery (%)	**103**	**105**	**100**	**105**	**105**	**107**	**100**	**106**
Std Dev	**± 6.4**	**± 3.2**	**± 1.9**	**± 7.1**	**± 5.8**	**± 6.5**	**± 3.5**	**± 4.4**

Table C-23: Inorganic Element Results for Soil and Water Sample Analytical Blanks and Field Blanks, 2008

Sample	Cu [ppm]	Ni [ppm]	Co [ppm]	Cd [ppm]	Pb [ppm]	Zn [ppm]	Cr [ppm]	As [ppm]
1. Soil Samples								
Analytical Blanks								
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0

Sample	Cu [mg/L]	Ni [mg/L]	Co [mg/L]	Cd [mg/L]	Pb [mg/L]	Zn [mg/L]	Cr [mg/L]	As [mg/L]
2. Water Samples								
Analytical Blanks								
Blank	<0.005	<0.005	<0.003	<0.001	<0.010	<0.020	<0.005	<0.003
Blank	<0.005	<0.005	<0.003	<0.001	<0.010	<0.010	<0.005	<0.003
Field Blanks								
08-9743	<0.005	<0.005	<0.003	<0.001	<0.010	0.02	0.01	<0.003
08-37753	<0.005	<0.005	<0.003	<0.001	<0.010	<0.020	<0.005	<0.003

Table C-24: Inorganic Element Results for Soil and Water Sample Field Duplicates, 2008

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
1. Soil Samples								
Field Duplicates								
08-9750	37	44	13.7	<1.0	<10	59	83	<1.0
08-9751	35	43	13.7	<1.0	<10	62	81	<1.0
Average	36	43	13.7			61	82	
Std Dev	1.1	0.6	0.03			1.8	1.0	
RSD (%)	2.9	1.4	0.2			3.0	1.2	
08-9768	19	33	10.3	<1.0	<10	39	57	<1.0
08-9769	21	30	9.1	<1.0	<10	36	52	<1.0
Average	20	31	9.7			38	54	
Std Dev	1.0	1.6	0.8			1.9	3.6	
RSD (%)	4.9	5.2	8.4			5.0	6.6	
08-9776	19.7	28	9.4	<1.0	<10	40	51	<1.0
08-9777	19.2	27	9.2	<1.0	<10	42	47	<1.0
Average	19.4	27	9.3			41	49	
Std Dev	0.4	1.0	0.2			1.2	2.7	
RSD (%)	2.1	3.5	2.1			2.8	5.4	
08-9798	74	71	17.5	<1.0	11.9	92	123	10.6
08-9799	75	75	18.9	<1.0	11.5	96	128	10.3
Average	75	73	18.2		11.7	94	125	10.5
Std Dev	0.3	2.3	1.0		0.3	2.7	3.2	0.2
RSD (%)	0.3	3.2	5.5		2.4	2.9	2.5	2.3
08-11577	16	25	8.7	<1.0	<10	28	47	<1.0
08-11578	13	23	7.5	<1.0	<10	25	41	<1.0
Average	14	24	8.1			27	44	
Std Dev	1.8	1.5	0.9			2.1	4.2	
RSD (%)	12	6.2	11			8	9.6	
08-11599	34	75	15.1	<1.0	21	68	57	<1.0
08-11600	34	76	16.2	<1.0	28	131	70	<1.0
Average	34	76	15.7		24	99	64	
Std Dev	0	0.6	0.8		4.7	45	9.1	
RSD (%)	0	0.8	4.9		20	45	14	
08-11621	35	48	12.1	<1.0	17	76	94	<1.0
08-11622	33	47	11.8	<1.0	23	75	87	<1.0
Average	34	48	11.9		20	76	91	
Std Dev	0.9	0.3	0.2		4.2	1.1	5.3	
RSD (%)	2.6	0.6	1.9		21	1.5	5.8	
08-11643	70	58	20	<1.0	<10	148	192	<1.0
08-11644	79	66	23	<1.0	<10	169	222	<1.0
Average	75	62	22			159	207	
Std Dev	6.7	5.4	2.6			15	21	
RSD (%)	8.9	8.7	12			9.2	10	

Table C-24: Inorganic Element Results for Soil Sample Field Duplicates, 2008, cont'd

Sample	Cu [ppm]	Ni [ppm]	Co [ppm]	Cd [ppm]	Pb [ppm]	Zn [ppm]	Cr [ppm]	As [ppm]
1. Soil Samples, cont'd								
Field Duplicates, cont'd								
08-11667	27	37	12.1	<1.0	<10	45	70	<1.0
08-11668	28	37	12.4	<1.0	<10	46	74	<1.0
Average	27	37	12.3			46	72	
Std Dev	0.6	0.5	0.3			0.3	2.6	
RSD (%)	2.2	1.5	2.2			0.8	3.6	
08-11685	28	38	13	<1.0	<10	44	72	<1.0
08-11686	31	43	14.5	<1.0	<10	47	75	<1.0
Average	29	40	13.7			45	73	
Std Dev	2.1	3.3	1.1			2.6	2.2	
RSD (%)	7.2	8.1	7.7			5.8	3.0	
08-11693	32	61	15.3	<1.0	<10	97	117	<1.0
08-11694	33	60	15.3	<1.0	11	96	113	<1.0
Average	33	60	15.3			97	115	
Std Dev	0.2	0.8	0			0.8	2.8	
RSD (%)	0.7	1.3	0.02			0.9	2.4	
08-11821	29	63	14.3	<1.0	16.9	59	63	1.05
08-11822	25	53	13.4	<1.0	14.4	54	54	<1.0
Average	27	58	13.8		15.6	57	59	
Std Dev	2.7	7.1	0.62		1.7	3.6	6.5	
RSD (%)	9.8	12	4.4		11	6.3	11	
08-11849	23	74	18.5	<1.0	17.8	67	59	1.5
08-29274	25	73	17.5	<1.0	18.8	61	54	1.8
Average	24	73	18		18.3	64	57	1.7
Std Dev	1.2	0.4	0.7		0.7	3.8	3.9	0.2
RSD (%)	5.0	0.6	4.1		3.8	6	6.8	13.1
08-29285	73	26	15.3	<1.0	<10	118	125	<1.0
08-29286	69	26	16	<1.0	<10	118	123	<1.0
Average	71	26	15.6			118	124	
Std Dev	2.7	0.21	0.5			0.33	0.98	
RSD (%)	3.8	0.8	3.2			0.28	0.8	
Average RSD (%)	**4.5**	**3.9**	**4.8**		**12**	**6.9**	**6.0**	**7.7**
Std Dev	**± 3.8**	**± 3.7**	**± 3.7**		**± 8.5**	**± 11**	**± 4.1**	**± 7.7**

Table C-24: Inorganic Element Results for Soil Sample Field Duplicates, 2008, cont'd

Sample	Cu [mg/L]	Ni [mg/L]	Co [mg/L]	Cd [mg/L]	Pb [mg/L]	Zn [mg/L]	Cr [mg/L]	As [mg/L]
2. Water Samples								
Field Duplicates								
08-9736	0.035	0.144	0.006	<0.001	0.01	0.11	0.255	<0.003
08-9737	0.028	0.135	0.004	<0.001	<0.010	0.14	0.26	<0.003
Average	0.03	0.14	0.005			0.12	0.26	
Std Dev	0.01	0.01	0.001			0.02	0.01	
RSD (%)	17	4.7	18			14	2.6	
Sample	**Cu [mg/L]**	**Ni [mg/L]**	**Co [mg/L]**	**Cd [mg/L]**	**Pb [mg/L]**	**Zn [mg/L]**	**Cr [mg/L]**	**As [mg/L]**
2. Water Samples, cont'd								
Field Duplicates, cont'd								
08-11700	<0.005	<0.005	<0.003	<0.001	<0.010	0.069	0.03	0.004
08-11701	<0.005	<0.005	<0.003	<0.001	<0.010	0.076	0.031	<0.003
Average						0.07	0.03	
Std Dev						0	0	
RSD (%)						6.1	6.6	
08-29510	<0.005	<0.005	<0.003	<0.001	<0.010	<0.020	<0.005	<0.003
08-29511	<0.005	<0.005	<0.003	<0.001	<0.010	<0.020	<0.005	<0.003
Average RSD (%)	**17**	**4.7**	**18**	**-**	**-**	**10**	**4.6**	**-**
Std Dev	**-**	**-**	**-**	**-**	**-**	**± 5.6**	**± 2.8**	**-**

Table C-25: Inorganic Element Results for Soil Sample Analytical Duplicates, 2008

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
Analytical Duplicates								
08-09754	118	25	9.2	<1.0	<10	36	51	<1.0
Duplicate	20	29.0	10	<1.0	<10	40	58	<1.0
Average	19	27	9.6			38	54	
Std Dev	1.6	2.7	0.6			2.7	5.5	
RSD (%)	8.3	9.9	6.0			7.1	10.1	
08-09768	19.7	32	10.1	<1.0	<10	38	57	<1.0
Duplicate	18.7	33	10.4	<1.0	<10	40	57	<1.0
Average	19.2	33	10.3			39	57	
Std Dev	0.7	0.5	0.2			1.1	0.2	
RSD (%)	3.7	0.6	1.9			2.7	0.4	
08-09780	16.4	28	9.3	<1.0	<10	37	56	<1.0
Duplicate	16.8	30	10	<1.0	<10	38	57	<1.0
Average	16.6	29	9.7			38	57	
Std Dev	0.32	0.98	0.52			1.1	1.2	
RSD (%)	1.9	3.3	5.3			3	2	
08-09794	19.2	103	17.4	<1.0	<10	43	41	<1.0
Duplicate	19.2	106	16.8	<1.0	<10	36	38	1.0
Average	19.2	105	17.1			39	40	
Std Dev	0	2.5	0.41			5.3	2.2	
RSD (%)	0	2.3	2.4			13.4	5.5	
08-11577	16.1	26	8.9	<1.0	<10	29	48	<1.0
Duplicate	15	24	8.6	<1.0	<10	27	46	<1.0
Average	15.5	25	8.7			28	47	
Std Dev	0.78	1.4	0.21			1.6	1.7	
RSD (%)	5.0	5.5	2.4			5.8	3.6	
08-11589	19.5	29	19.7	<1.0	<10	49	66	<1.0
Duplicate	17.6	28	17.8	<1.0	<10	45	58	<1.0
Average	18.6	29	18.8			47	62	
Std Dev	1.3	0.8	1.3			3.1	5.7	
RSD (%)	7.0	2.7	7.0			6.5	9.1	
08-11601	50	64	16.4	<1.0	17.4	101	104	1.5
Duplicate	45	64	16.4	<1.0	18	94	95	2.7
Average	47	64	16.4		17.7	97	100	2.1
Std Dev	3.4	0.1	0.05		0.4	5.2	6.5	0.8
RSD (%)	7.1	0.2	0.3		2.4	5.4	6.6	40
08-11615	46	31	11.9	<1.0	<10	73	26	1.2
Duplicate	39	26.0	11.9	<1.0	<10	64	23	<1.0
Average	43	28	11.9			68	24	
Std Dev	4.8	3.9	0.04			6.4	2.5	
RSD (%)	11	14	0.3			9.4	10	

Table C-25: Inorganic Element Results for Soil Sample Analytical Duplicates, 2008, cont'd

Sample	Cu [ppm]	Ni [ppm]	Co [ppm]	Cd [ppm]	Pb [ppm]	Zn [ppm]	Cr [ppm]	As [ppm]
1. Soil Samples, cont'd								
Analytical Duplicates, cont'd								
08-11643	70	57	19.6	<1.0	<10	148	189	<1.0
Duplicate	69.0	59	19.8	<1.0	<10	149	195	<1.0
Average	70	58	19.7			148	192	
Std Dev	0.47	1.2	0.13			1.2	4.1	
RSD (%)	0.7	2.1	0.7			0.8	2.1	
08-11655	20.0	37	13.2	<1.0	<10	40	28	<1.0
Duplicate	16.8	45	13.2	<1.0	<10	39	33	<1.0
Average	18.5	41	13.2			40	30	
Std Dev	2.4	6.1	0.01			0.6	3.5	
RSD (%)	13	15	0.11			1.5	12	
08-11668	28	39	12.8	<1.0	<10	47	79	<1.0
Duplicate	28.0	36	12.1	<1.0	<10	45	69	<1.0
Average	28.0	37	12.4			46	74	
Std Dev	0.07	2.4	0.5			1.2	7.0	
RSD (%)	0.3	6.4	3.9			2.6	9.5	
08-11694	35	64	16.4	<1.0	13	102	122	<1.0
Duplicate	30	55	14.3	<1.0	<10	91	105	<1.0
Average	33	60	15.3			96	113	
Std Dev	3.9	6.3	1.5			7.8	12.1	
RSD (%)	12	11	9.7			8.2	11	
08-11694	30	65.0	17.9	<1.0	<10	95	120	<1.0
Duplicate	38.0	61	16.7	<1.0	<10	92	118	<1.0
Average	34	63	17.3			93	119	
Std Dev	6.1	2.3	0.9			2.1	1.8	
RSD (%)	18	3.7	5.1			2.3	1.5	
08-11805	21	29	16	<1.0	<10	77	38	<1.0
Duplicate	19.5	26	12.8	<1.0	<10	66	38	<1.0
Average	20	27	14.4			72	38	
Std Dev	1.3	2.4	2.3			7.9	0.08	
RSD (%)	6.5	8.7	16			11	0.22	
08-11805	19.3	27	14	<1.0	<10	74	37	<1.0
Duplicate	17.8	27	14	<1.0	<10	76	37	<1.0
Average	18.6	27	14			75	37	
Std Dev	1	0.06	0.04			1.2	0.1	
RSD (%)	5.6	0.2	0.3			1.6	0.3	

Table C-25: Inorganic Element Results for Soil Sample Analytical Duplicates, 2008, cont'd

Sample	Cu [ppm]	Ni [ppm]	Co [ppm]	Cd [ppm]	Pb [ppm]	Zn [ppm]	Cr [ppm]	As [ppm]
1. Soil Samples, cont'd								
Analytical Duplicates, cont'd								
08-11819	36	72	14	<1.0	11.6	60	81	<1.0
Duplicate	35	72	13.9	<1.0	12	60	78	1
Average	36	72	13.9		11.8	60	80	
Std Dev	1.3	0.3	0.08		0.2	0.33	2.3	
RSD (%)	3.8	0.4	0.6		1.9	0.54	2.8	
08-11819	34	74	14.6	<1.0	12.5	66	84	1.7
Duplicate	35	77	14.5	<1.0	15.2	65	85	1.19
Average	34	76	14.5		13.8	65	85	1.4
Std Dev	0.63	1.9	0.04		1.9	0.91	0.45	0.4
RSD (%)	1.8	2.5	0.2		14	1.4	0.5	25
08-11831	12	20	8.1	<1.0	<10	42	<20	<1.0
Duplicate	10.4	23	8	<1.0	<10	42	<20	<1.0
Average	11	22	8.1			42		
Std Dev	1.2	2.2	0.08			0.04		
RSD (%)	10	10	1.1			0.08		
08-11831	14.3	25	9.3	<1.0	<10	52	<20	<1.0
Duplicate	12.7	21	9.3	<1.0	<10	46	<20	<1.0
Average	13.5	23	9.3			49		
Std Dev	1.1	3.1	0.01			3.9		
RSD (%)	8.5	13	0.08			7.9		
08-11845	23	113	19.9	<1.0	<10	47	50	<1.0
Duplicate	23	107	19.8	<1.0	<10	46	47	1.03
Average	23	110	19.8			47	49	
Std Dev	0.2	4.1	0.1			0.6	1.8	
RSD (%)	0.8	3.8	0.5			1.3	3.8	
08-29281	51	37	13.4	<1.0	<10	83	100	<1.0
Duplicate	39	33	12.2	<1.0	<10	66	80	<1.0
Average	45	35	12.8			74	90	
Std Dev	8.6	3.3	0.8			12	14	
RSD (%)	19	9.5	6.6			16	15	
Average RSD (%)	**6.9**	**5.9**	**3.3**	**-**	**6.1**	**5.2**	**5.6**	**33**
Std Dev	**± 5.5**	**± 4.8**	**± 4.0**	**-**	**± 6.8**	**± 4.5**	**± 4.6**	**-**

Table C-26: Mercury Results for Soil Sample Control Spikes and Analytical Blanks, 2008

Sample	Hg [ppm]
Control Spikes	
Control	0.38
Control Target	0.4
Recovery (%)	86
Control	0.34
Control Target	0.4
Recovery (%)	77
Control	0.38
Control Target	0.44
Recovery (%)	86
Control	0.43
Control Target	0.44
Recovery (%)	98
Control	0.41
Control Target	0.4
Recovery (%)	93
Control	0.41
Control Target	0.4
Recovery (%)	93
Control	0.38
Control Target	0.44
Recovery (%)	86
Control	0.4
Control Target	0.44
Recovery (%)	91
Average Recovery (%)	**89**
Std Dev	**± 6.2**

Sample	Hg [ppm]
Analytical Blanks	
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1

Table C-27: Mercury Results for Soil Sample Field Duplicates and Analytical Duplicates, 2008

Sample	Hg [ppm]
Field Duplicates	
08-9750	<0.1
08-9751	<0.1
08-9768	<0.1
08-9769	<0.1
08-9776	<0.1
08-9777	<0.1
08-9798	<0.1
08-9799	<0.1
08-11577	<0.1
08-11578	<0.1
08-11599	<0.1
08-11600	<0.1
08-11621	<0.1
08-11622	<0.1
08-11643	<0.1
08-11644	<0.1
08-11667	<0.1
08-11668	<0.1
08-11685	<0.1
08-11686	<0.1
08-11693	<0.1
08-11694	<0.1
08-11821	<0.1
08-11822	<0.1
08-11849	<0.1
08-29274	<0.1
08-29285	<0.1
08-29286	<0.1

Sample	Hg [ppm]
Analytical Duplicates	
08-9764	<0.1
Duplicate	<0.1
08-9800	<0.1
Duplicate	<0.1
08-11595	<0.1
Duplicate	<0.1
08-11625	<0.1
Duplicate	<0.1
08-11651	<0.1
Duplicate	<0.1
08-11683	<0.1
Duplicate	<0.1
08-11689	<0.1
Duplicate	<0.1
08-11813	<0.1
Duplicate	<0.1

Table C-28: QA/QC Results for Mercury Analysis of Water Samples, 2008

Sample	Hg [mg/L]
Control Spikes	
Control Sample	0.004
Control Target	0.0044
Recovery (%)	91
Control Sample	0.004
Control Target	0.004
Recovery (%)	100
Average Recovery (%)	**95**
Std Dev	**± 6.4**
Field Duplicates	
08-9736	<0.0004
08-9737	<0.0004
Analytical Blanks	
Blank	<0.0004
Blank	<0.0004
Field Blanks	
08-9743	<0.0004
Travel Blank	
08-37753	<0.0004

Table C-29: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil and Water Sample Control Spikes, 2008

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
1. Soil Samples		
Control Spikes		
Control	<0.003	0.054
Control Target	<0.003	0.05
Recovery (%)		108
Control	<0.003	0.037
Control Target	<0.003	0.05
Recovery (%)		74
Control	<0.003	0.037
Control Target	<0.003	0.05
Recovery (%)		74
Control	<0.003	0.054
Control Target	<0.003	0.05
Recovery (%)		108
Control	<0.003	0.055
Control Target	<0.003	0.05
Recovery (%)		110
Control	<0.003	0.036
Control Target	<0.003	0.05
Recovery (%)		72
Control	<0.003	0.056
Control Target	<0.003	0.05
Recovery (%)		112
Control	<0.003	0.054
Control Target	<0.003	0.05
Recovery (%)		108
Average Recovery (%)		**96**
Std Dev		**± 19**

Sample	Aroclor 1254 [mg/L]	Aroclor 1260 [mg/L]
2. Water Samples		
Control Spike		
Control	< 0.00002	0.00019
Control Target	< 0.00002	0.0002
Recovery (%)		95

Table C-30: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil and Water Sample Analytical Blanks and Field Blanks, 2008

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
1. Soil Samples		
Analytical Blanks		
Blank	< 0.003	< 0.003
Blank	< 0.003	< 0.003
Blank	< 0.003	< 0.003
Blank	< 0.003	< 0.003
Blank	< 0.003	< 0.003
Blank	< 0.003	< 0.003
Blank	< 0.003	< 0.003
Blank	< 0.003	< 0.003

Sample	Aroclor 1254 [mg/L]	Aroclor 1260 [mg/L]
2. Water Samples		
Analytical Blank		
Blank	< 0.00002	< 0.00002
Field Blanks		
08-9743	< 0.00002	< 0.00002
Travel Blanks		
08-37753	< 0.00002	0.00002

Table C-31: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil and Water Sample Field Duplicates, 2008

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
1. Soil Samples		
Field Duplicates		
08-9750	<0.003	<0.003
08-9751	<0.003	<0.003
08-9768	<0.003	<0.003
08-9769	<0.003	<0.003
08-9776	0.012	0.0058
08-9777	0.011	0.006
Average	0.012	0.0059
Std Dev	0.001	0.0001
RSD (%)	6.1	2.4
08-9798	<0.003	<0.003
08-9799	<0.003	<0.003
08-11577	<0.003	<0.003
08-11578	<0.003	<0.003
08-11599	0.17	0.17
08-11600	0.16	0.14
Average	0.17	0.16
Std Dev	0.01	0.02
RSD (%)	4.3	14
08-11621	0.01	0.01
08-11622	0.01	0.01
Average	0.01	0.01
Std Dev	0	0
RSD (%)	0	5.2
08-11643	<0.003	0.003
08-11644	<0.003	<0.003
08-11667	<0.003	<0.003
08-11668	<0.003	<0.003
08-11685	<0.003	<0.003
08-11686	<0.003	<0.003
08-11693	0	<0.003
08-11694	0.01	<0.003
Average	0.01	
Std Dev	0.01	
RSD (%)	61	

Table C-31: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil and Water Sample Field Duplicates, 2008 , cont'd

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
1. Soil Samples, cont'd		
Field Duplicates, cont'd		
08-11849	<0.003	<0.003
08-29274	<0.003	<0.003
08-29285	<0.003	<0.003
08-29286	<0.003	<0.003
Average RSD (%)	**18**	**7.1**
Std Dev	**± 29**	**± 5.9**

Sample	Aroclor 1254 [mg/L]	Aroclor 1260 [mg/L]
2. Water Samples		
Field Duplicates		
08-9736	<0.00002	0.0008
08-9737	<0.00002	0.00003
Average		0.0004
Std Dev		0.0005
RSD (%)		131

Table C-32: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil Sample Analytical Duplicates, 2008

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
1. Soil Samples		
Analytical Duplicates		
08-9750	<0.003	<0.003
Duplicate	<0.003	<0.003
08-11603	0.03	0.027
Duplicate	0.029	0.028
Average	0.03	0.03
Std Dev	0.7	0.7
RSD (%)	2.4	2.6
08-11673	<0.003	<0.003
Duplicate	<0.003	<0.003
08-11687	<0.003	<0.003
Duplicate	<0.003	<0.003
08-11697	<0.003	<0.003
Duplicate	<0.003	<0.003

Table C-33: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Control Spikes, 2008

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]	Total Hydrocarbons [ppm]
1. Soil Samples					
F1 Control Samples					
Control F1	31				
Control Target	29				
Recovery (%)	107				
Control F1	32				
Control Target	29				
Recovery (%)	110				
Control F1	30				
Control Target	29				
Recovery (%)	103				
Control F1	31				
Control Target	29				
Recovery (%)	107				
Control F1	33				
Control Target	29				
Recovery (%)	114				
Control F1	34				
Control Target	29				
Recovery (%)	117				
Control F1	28				
Control Target	29				
Recovery (%)	97				
Control F1	24				
Control Target	29				
Recovery (%)	83				
Control F1	27				
Control Target	29				
Recovery (%)	93				
Average Recovery (%)	**103**				
Std Dev	**± 11**				

Table C-33: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Control Spikes, 2008, cont'd

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]	Total Hydrocarbons [ppm]
Diesel Spikes					
Diesel Spike					58
Diesel Spike Target					50
Recovery (%)					116
Diesel Spike					49
Diesel Spike Target					50
Recovery (%)					98
Diesel Spike					54
Diesel Spike Target					50
Recovery (%)					108
Diesel Spike					46
Diesel Spike Target					50
Recovery (%)					92
Diesel Spike					45
Diesel Spike Target					50
Recovery (%)					90
Diesel Spike					59
Diesel Spike Target					50
Recovery (%)					118
Diesel Spike					51
Diesel Spike Target					50
Recovery (%)					102
Average Recovery (%)					**103**
Std Dev					**± 11**
F2-F4 Control Samples					
Control Standard					2,700
Control Standard Target					2,500
Recovery (%)					108
Control Standard					2,800
Control Standard Target					2,500
Recovery (%)					112
Control Standard					2,800
Control Standard Target					2,500
Recovery (%)					112

Table C-33: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Control Spikes, 2008, cont'd

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]	Total Hydrocarbons [ppm]
F2-F4 Control Samples, cont'd					
Control Standard					2,600
Control Standard Target					2,500
Recovery (%)					104
Control Standard					2,900
Control Standard Target					2,500
Recovery (%)					116
Control Standard					3,100
Control Standard Target					2,500
Recovery (%)					124
Control Standard					3,000
Control Standard Target					2,500
Recovery (%)					120
Average Recovery (%)					**114**
Std Dev					**± 6.9**

Table C-34: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Analytical Blanks, 2008

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
1. Soil Samples				
Analytical Blanks				
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10			
Blank	< 10			
Blank	< 10			

Table C-35: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Field Duplicates, 2008

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
1. Soil Samples				
Field Duplicates				
08-9750	<10	4.3	21	10
08-9751	<10	<4.0	26	11
Average			24	11
Std Dev			3.5	0.7
RSD (%)			15	6.7
08-9768	<10	<4.0	12	10
08-9769	<10	<4.0	11	10
Average			12	10
Std Dev			0.7	0
RSD (%)			6.1	0
08-9776	<10	<4.0	59	17
08-9777	<10	<4.0	54	21
Average			57	19
Std Dev			3.5	2.8
RSD (%)			6.3	15
08-9798	<10	<4.0	22	16
08-9799	<10	6.0	30	14
Average			26	15
Std Dev			5.7	1.4
RSD (%)			22	9.4
08-11577	<10	<4.0	<9.0	<8.0
08-11578	<10	<4.0	<9.0	<8.0
08-11599	<10	20	360	97
08-11600	<10	17	210	57
Average		19	285	77
Std Dev		2.1	106	28
RSD (%)		12	37	37
08-11621	<10	8.6	47	12
08-11622	<10	4.6	91	21
Average		6.6	69	17
Std Dev		2.8	31	6.4
RSD (%)		43	45	39
08-11643	<10	58	19	<8.0
08-11644	<10	73	9.4	<8.0
Average		66	14	
Std Dev		11	6.8	
RSD (%)		16	48	

Table C-35: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Field Duplicates, 2008, cont'd

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
1. Soil Samples, cont'd				
Field Duplicates, cont'd				
08-11667	<10	10	16	11
08-11668	<10	9.4	12	14
Average		9.7	14	13
Std Dev		0.4	2.8	2.1
RSD (%)		4.4	20	17
08-11685	<10	<4.0	<9.0	<8.0
08-11686	<10	24	<9.0	<8.0
08-11693	<10	<4.0	68	40
08-11694	<10	<4.0	88	40
Average			78	40
Std Dev			14	0
RSD (%)			18	0
08-11821	<10	38	18	10
08-11822	<10	36	23	8.8
Average		37	21	9.4
Std Dev		1.4	3.5	0.9
RSD (%)		3.8	17	9.0
08-11849	<10	<4.0	<9.0	<8.0
08-29274	<10	<4.0	<9.0	<8.0
Average RSD (%)		**16**	**23**	**15**
Std Dev		**± 16**	**± 15**	**± 14**

Table C-36: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Analytical Duplicates, 2008

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
1. Soil Samples				
Analytical Duplicates				
08-9750	<10			
Duplicate	<10			
08-9756		<4.0	42	20
Duplicate		<4.0	50	21
Average			46	21
Std Dev			5.7	0.7
RSD (%)			12	3.4
08-9798	<10	<4.0	23	17
Duplicate	<10	<4.0	20	14
Average			22	16
Std Dev			2.1	2.1
RSD (%)			9.9	14
08-10689	<10			
Duplicate	<10			
08-11617		6.1	48	22
Duplicate		5.7	43	23
Average		5.9	46	23
Std Dev		0.3	3.5	0.7
RSD (%)		4.8	7.8	3.1
08-10803	<10			
Duplicate	<10			
08-11577	<10			
Duplicate	<10			
08-11619	<10			
Duplicate	<10			
08-11668	<10	8.9	13	14
Duplicate	<10	9.9	11	14
Average		9.4	12	14
Std Dev		0.7	1.4	0
RSD (%)		7.5	12	0
08-11685		<4.0	<9.0	<8.0
Duplicate		<4.0	<9.0	<8.0
08-11833		<4.0	<9.0	<8.0
Duplicate		<4.0	<9.0	<8.0
08-11839	<10			
Duplicate	<10			
08-29283		<4.0	9.9	8.2
Duplicate		<4.0	<9.0	<8.0
Average RSD (%)		**6.2**	**10**	**5.1**
Std Dev		**± 1.9**	**± 2.1**	**± 6.0**

Table C-37: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Water Sample Control Spikes, 2008

Sample	F1 (C6-C10) [mg/L]	F2 (C10-C16) [mg/L]	F3 (C16-C34) [mg/L]	F4 (C34-C50) [mg/L]	Total Hydrocarbons [mg/L]
1. Water Samples					
F1 Control Samples					
Control F1	0.14				
Control Target	0.16				
Recovery (%)	88				
Control F1	0.15				
Control Target	0.16				
Recovery (%)	94				
Control F1	0.12				
Control Target	0.16				
Recovery (%)	75				
Average Recovery (%)	**85**				
Std Dev	**± 9.5**				
Diesel Spikes					
Diesel Spike					8.2
Diesel Spike Target					10
Recovery (%)					82
Diesel Spike					8.2
Diesel Spike Target					10
Recovery (%)					82
Average Recovery (%)					**82**
Std Dev					**± 0**
F2-F4 Control Samples					
Control Standard					2,000
Control Standard Target					2,500
Recovery (%)					80
Control Standard					2,000
Control Standard Target					2,500
Recovery (%)					80
Average Recovery (%)					**80**
Std Dev					**± 0**

Table C-38: QA/QC Results for Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Analysis of Water Samples, 2008

Sample	F1 (C6-C10) [mg/L]	F2 (C10-C16) [mg/L]	F3 (C16-C34) [mg/L]	F4 (C34-C50) [mg/L]	Total Hydrocarbons [mg/L]
1. Water Samples					
Field Duplicates					
08-9736	< 0.05	< 0.5	< 1.0	< 1.0	
08-9737	< 0.05	< 0.5	< 1.0	< 1.0	
Analytical Duplicates					
08-9738	<0.05				
Duplicate	<0.05				
08-9736	<0.05				
Duplicate	<0.05				
08-9731	<0.05				
Duplicate	<0.05				
Analytical Blanks					
Blank	<0.05	< 0.5	< 1.0	< 1.0	
Blank	<0.05	< 0.5	< 1.0	< 1.0	
Blank	<0.05				
Field Blanks					
08-9743	<0.05	< 0.5	< 1.0	< 1.0	
Travel Blanks					
08-37753	<0.05	< 0.5	< 1.0	< 1.0	

Table C-39: Inorganic Element Results for Soil Internal Standards (MESS-3 and SS-2), 2009

Element	MESS-3 Certified Value	Mean (n=10)	ASU Control Limits
	[ppm]	[ppm]	[ppm]
Cu	33.9 ± 1.6	31 ± 1.1	25.7-38.7
Ni	46.9 ± 2.2	38 ± 0.7	32.4-43.2
Co	14.4 ± 2.0	11 ± 0.3	10.4-13.9
Cd	0.24 ± 0.01	<1.0	-
Pb	21.1 ± 0.7	17 ± 0.3	14.2-19.8
Zn	159 ± 8	131 ± 6.9	115-152
Cr	105 ± 4	39 ± 2.4	25.8-55
As	21.2 ± 1.1	14 ± 0.7	14.1-19.2

Element	SS-2 Certified Value	Mean (n=10)	ASU Control Limits
	[ppm]	[ppm]	[ppm]
Cu	191 ± 9.0	186 ± 9.5	160-232
Ni	54 ± 4.0	52 ± 1.5	48-62.8
Co	12 ± 1.0	13 ± 0.3	11.8-16.9
Cd	2.0**	1.6 ± 0.02	1.3-2.8
Pb	126 ± 10	112 ± 4.6	97.6-137
Zn	467 ± 23	428 ± 7.7	389-563
Cr	34 ± 4.0	43 ± 2.5	34.7-52.7
As	75 ± 10	76 ± 4.4	53-99.7

**Cadmium results for SS-2 not certified - for information only.

Table C-40: Inorganic Element Results for Water Sample Control Spikes, 2009

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]
Control Spikes								
Control	1.8	1.7	1.7	8.3	8.6	3.2	0.89	0.81
Control Target	1.6	1.6	1.6	0.8	8.0	3.0	0.8	0.8
Recovery (%)	113	107	108	104	107	107	112	102

Table C-41: Inorganic Element Results for Soil and Water Sample Analytical Blanks and Field Blanks, 2009

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
1. Soil Samples								
Analytical Blanks								
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Sample	**Cu**	**Ni**	**Co**	**Cd**	**Pb**	**Zn**	**Cr**	**As**
	[mg/L]	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**
2. Water Samples								
Analytical Blanks								
Blank	<0.005	<0.005	<0.003	<0.001	<0.010	<0.010	<0.005	<0.003
Field Blanks								
09-21643	<0.005	<0.005	<0.003	<0.001	<0.010	<0.010	<0.005	<0.003

Table C-42: Inorganic Element Results for Soil Sample Field Duplicates, 2009

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
1. Soil Samples								
Field Duplicates								
09-21485	25	60	13.2	<1.0	<10	47	38	<1.0
09-21486	23	63	13.5	<1.0	<10	44	35	<1.0
Average	24	62	13.3			45	36	
Std Dev	1.5	2.4	0.2			1.7	1.8	
RSD (%)	6.1	3.9	1.5			3.7	5.1	
09-21506	23	29	9.2	<1.0	16.8	48	55	<1.0
09-21507	24	30	9.1	<1.0	14.9	49	55	<1.0
Average	24	29	9.2		15.9	49	55	
Std Dev	0.2	0.03	0.1		1.3	0.5	0.4	
RSD (%)	0.7	0.1	0.6		8.1	1.1	0.6	
09-21510					<10			
09-21511					<10			
09-21520	61	81	17.8	<1.0	<10	35	79	8.4
09-21521	53	74	14.8	<1.0	<10	32	65	9.1
Average	57	77	16.3			33	72	8.7
Std Dev	5.3	5.4	2.1			2.2	9.8	0.4
RSD (%)	9.3	6.9	13			6.8	14	5.1
09-21532	28	38	12	<1.0	11.6	55	74	1.2
09-21533	25	33	10.9	<1.0	<10	48	66	1.5
Average	27	36	11.5			51	70	1.4
Std Dev	2.4	3	0.8			4.5	5.8	0.3
RSD (%)	8.8	8.4	7.2			8.7	8.3	20
09-21558	26	36	12.2	<1.0	<10	47	73	<1.0
09-21559	28	39	13.4	<1.0	<10	53	81	1.6
Average	27	37	12.8			50	77	
Std Dev	1.9	2.2	0.83			4.2	5.7	
RSD (%)	6.9	5.8	6.5			8.5	7.3	
09-21577	85	46	14.5	<1.0	34	241	122	<1.0
09-21578	96	49	15.9	<1.0	37	265	138	<1.0
Average	90	48	15.2		36	253	130	
Std Dev	7.6	2.5	1.0		2.1	17	11	
RSD (%)	8.5	5.3	6.7		5.9	6.6	8.4	
09-21619	119	46	13.7	<1.0	<10	133	162	2.5
09-21620	114	40	12.6	<1.0	<10	131	160	1.9
Average	117	43	13.2			132	161	2.2
Std Dev	3.7	4.1	0.8			1.5	1.3	0.4
RSD (%)	3.2	9.6	5.9			1.1	0.8	20
09-21623	25	90	16	<1.0	<10	55	58	<1.0
09-21624	21	66	13	<1.0	<10	46	44	<1.0
Average	23	78	14			51	51	
Std Dev	2.8	17	2.4			6.3	9.9	
RSD (%)	12	21	17			12	20	

Table C-42: Inorganic Element Results for Soil Sample Field Duplicates, 2009 (cont'd)

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
09-21629	45	72	16.1	<1.0	12.3	64	48	1.4
09-21630	47	77	16.9	<1.0	12.3	65	50	<1.0
Average	46	74	16.5		12.3	65	49	
Std Dev	1.7	3.2	0.5		0.05	0.5	1.6	
RSD (%)	3.8	4.3	3.3		0.4	0.8	3.3	
Average RSD (%)	**6.6**	**7.3**	**6.8**		**4.8**	**5.5**	**7.5**	**15**
Std Dev	**± 3.5**	**± 6.0**	**± 5.1**		**± 4.0**	**± 4.1**	**± 6.1**	**± 8.4**

Table C-43: Inorganic Element Results for Soil and Water Sample Analytical Duplicates, 2009

Sample	Cu [ppm]	Ni [ppm]	Co [ppm]	Cd [ppm]	Pb [ppm]	Zn [ppm]	Cr [ppm]	As [ppm]
1. Soil Samples								
Analytical Duplicates								
09-21487	31	71	16.3	<1.0	<10	54	45	1.1
Duplicate	31	70	16.3	<1.0	<10	52	44	1.1
Average	31	70	16.3			53	44	1.1
Std Dev	0.4	0.4	0.02			1.1	0.6	0.04
RSD (%)	0.5	0.5	0.1			2.1	1.3	3.2
09-21504	27	36	11.8	<1.0	10.6	60	77	<1.0
Duplicate	28	38	12	<1.0	14.5	62	82	<1.0
Average	27	37	11.9		12.6	61	79	
Std Dev	0.7	1.0	0.1		2.8	1.7	4.1	
RSD (%)	2.6	2.6	0.8		22	2.7	5.1	
09-21514					<10			
Duplicate					<10			
09-21526					<10			
Duplicate					<10			
09-21538	24	33	10.9	<1.0	<10	44	66	1.4
Duplicate	24	30	10.1	<1.0	<10	42	61	1.1
Average	24	32	10.5			43	64	1.3
Std Dev	0.5	1.4	0.6			1.2	3.4	0.3
RSD (%)	1.9	4.6	5.5			2.8	5.4	22
09-21552	19.2	29	9.1	<1.0	<10	34	51	1.01
Duplicate	19	29	9.3	<1.0	<10	35	55	<1.0
Average	19	29	9.2			35	53	
Std Dev	0.1	0.5	0.1			0.7	3.1	
RSD (%)	0.7	1.9	1.3			1.9	5.9	
09-21566	10.5	33	11.2	<1.0	10.1	43	52	1.2
Duplicate	10.9	33	12	<1.0	10.3	43	52	1.4
Average	10.7	33	11.6		10.2	43	52	1.3
Std Dev	0.32	0.3	0.57		0.13	0.08	0.45	0.1
RSD (%)	3.0	0.9	4.9		1.3	0.2	0.9	9.8
09-21595	80	110	22	<1.0	14.8	159	159	<1.0
Duplicate	92	130	25	<1.0	16.5	178	181	<1.0
Average	86	120	24		15.7	168	170	
Std Dev	8.4	14	2.6		1.2	14	15	
RSD (%)	9.8	12	11.2		7.9	8.2	8.9	

Table C-43: Inorganic Element Results for Soil and Water Sample Analytical Duplicates, 2009 cont'd

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
1. Soil Samples, cont'd								
Analytical Duplicates, cont'd								
09-21609	78	43	16.8	<1.0	<10	127	150	<1.0
Duplicate	81	45	18.4	<1.0	<10	134	158	<1.0
Average	79	44	17.6			130	154	
Std Dev	2.5	1.4	1.2			4.5	5.6	
RSD (%)	3.1	3.2	6.6			3.4	3.6	
09-21621	24	105	15.8	<1.0	<10	71	61	<1.0
Duplicate	30	116	18	<1.0	<10	84	66	<1.0
Average	27	111	16.9			78	63	
Std Dev	4.0	7.9	1.6			9.3	3.7	
RSD (%)	14.7	7.1	9.2			12	5.9	
09-21631	44	118	20	<1.0	<10	52	57	<1.0
Duplicate	43	117	19.4	<1.0	<10	50	55	<1.0
Average	43	118	19.7			51	56	
Std Dev	0.67	0.71	0.42			1.3	1.9	
RSD (%)	1.5	0.6	2.2			2.7	3.4	
Average RSD (%)	**4.2**	**3.6**	**4.7**	**-**	**10**	**4.0**	**4.5**	**-**
Std Dev	**± 4.8**	**± 3.6**	**± 3.9**	**-**	**± 11**	**± 3.7**	**± 2.5**	**-**

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]
1. Water Samples								
Analytical Duplicates								
09-21562	0.12	0.26	0.034	0.0014	0.014	0.59	0.44	<0.003
09-21562	0.12	0.33	0.036	0.0013	0.015	0.58	0.62	<0.003
Average	0.12	0.29	0.035	0.0014	0.015	0.58	0.53	
Std Dev	0	0.05	0.001	0.0001	0.0003	0.01	0.12	
RSD (%)	0	17	2.6	4.1	2.4	2.3	23	

Table C-44: Mercury Results for Soil Sample Control Spikes and Analytical Blanks, 2009

Sample	Hg [ppm]
Control Spikes	
Control	0.4
Control Target	0.44
Recovery (%)	91
Control	0.45
Control Target	0.44
Recovery (%)	102
Control	0.53
Control Target	0.44
Recovery (%)	120
Average Recovery (%)	**105**
Std Dev	**± 15**
Analytical Blanks	
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1

Table C-45: Mercury Results for Soil Sample Field Duplicates and Analytical Duplicates, 2009

Sample	Hg [ppm]
Field Duplicates	
09-21485	<0.1
09-21486	<0.1
09-21506	<0.1
09-21507	<0.1
09-21520	<0.1
09-21521	<0.1
09-21532	<0.1
09-21533	<0.1
09-21558	<0.1
09-21559	<0.1
09-21577	<0.1
09-21578	<0.1
09-21619	<0.1
09-21620	<0.1
09-21623	<0.1
09-21624	<0.1
09-21629	<0.1
09-21630	<0.1
Analytical Duplicates	
09-21480	<0.1
Duplicate	<0.1
09-21559	<0.1
Duplicate	<0.1
09-21623	<0.1
Duplicate	<0.1

Table C-46: Mercury Analysis of Water QA/QC Samples, 2009

Sample	Hg [mg/L]
Control Spikes	
Control Sample	0.0041
Control Target	0.004
Recovery (%)	103
Analytical Blanks	
Blank	<0.0004
Field Blank	
09-21643	<0.0004
Analytical Duplicates	
09-21562	<0.0004
Duplicate	<0.0004

Table C-47: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil and Water Sample Control Spikes, 2009

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
1. Soil Samples		
Control Spikes		
Control	<0.003	0.055
Control Target	<0.003	0.05
Recovery (%)		110
Control	<0.003	0.049
Control Target	<0.003	0.05
Recovery (%)		98
Control	<0.003	0.045
Control Target	<0.003	0.05
Recovery (%)		90
Control	<0.003	0.054
Control Target	<0.003	0.05
Recovery (%)		108
Control	<0.003	0.041
Control Target	<0.003	0.05
Recovery (%)		82
Average Recovery (%)		**98**
Std Dev		**± 12**

Sample	Aroclor 1254 [mg/L]	Aroclor 1260 [mg/L]
2. Water Samples		
Control Spike		
Control	< 0.00002	0.00048
Control Target	< 0.00002	0.0005
Recovery (%)		96
Control	< 0.00002	0.00063
Control Target	< 0.00002	0.0005
Recovery (%)		126
Average Recovery (%)		**111**
Std Dev		**± 21**

Table C-48: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil and Water Sample Analytical Blanks and Field Blanks, 2009

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
1. Soil Samples		
Analytical Blanks		
Blank	< 0.003	< 0.003
Blank	< 0.003	< 0.003
Blank	< 0.003	< 0.003
Blank	< 0.003	< 0.003
Blank	< 0.003	< 0.003

Sample	Aroclor 1254 [mg/L]	Aroclor 1260 [mg/L]
2. Water Samples		
Analytical Blank		
Blank	< 0.00002	< 0.00002
Blank	< 0.00002	< 0.00002
Field Blanks		
09-21643	< 0.00002	< 0.00002

Table C-49: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil Sample Field Duplicates, 2009

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
1. Soil Samples		
Field Duplicates		
09-21485	< 0.003	< 0.003
09-21486	< 0.003	< 0.003
09-21506	0.33	< 0.003
09-21507	0.5	< 0.003
Average	0.44	
Std Dev	0.15	
RSD (%)	34	
09-21510	< 0.003	< 0.003
09-21511	< 0.003	< 0.003
09-21520	< 0.003	< 0.003
09-21521	< 0.003	< 0.003
09-21532	0.1	0.022
09-21533	0.15	0.029
Average	0.13	
Std Dev	0.04	
RSD (%)	28	
09-21558	< 0.003	< 0.003
09-21559	< 0.003	< 0.003
09-21577	0.0056	< 0.003
09-21578	0.0061	< 0.003
Average	0.01	
Std Dev	0	
RSD (%)	6.0	
09-21619	< 0.003	< 0.003
09-21620	< 0.003	< 0.003
09-21623	< 0.003	< 0.003
09-21624	< 0.003	< 0.003
09-21629	< 0.003	< 0.003
09-21630	< 0.003	< 0.003
Average RSD (%)	**23**	**19**
Std Dev	**± 15**	**-**

Table C-50: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil and Water Sample Analytical Duplicates, 2009

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
1. Soil Samples		
Analytical Duplicates		
09-21480	0.0096	0.0055
Duplicate	0.0074	0.0043
Average	0.0085	0.0049
Std Dev	1.6	0.8
RSD (%)	18	17
09-21518	<0.003	<0.003
Duplicate	<0.003	<0.003
09-21550	<0.003	<0.003
Duplicate	<0.003	<0.003
09-21605	<0.003	<0.003
Duplicate	<0.003	<0.003

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
2. Water Samples		
Analytical Duplicates		
09-21484	< 0.00002	< 0.00002
Duplicate	< 0.00002	< 0.00002

Table C-51: Total Petroleum Hydrocarbon (TPH) Results for Soil QA/QC Samples, 2009

Sample	TPH [ppm]	% Fuel	% Lubricating Oil and Grease
1. Soil Samples			
Control Spikes			
Diesel Spike	180	100	0
Diesel Spike Target	200	100	0
Recovery (%)	90		
Diesel Spike	220	100	0
Diesel Spike Target	200	100	0
Recovery (%)	110		
Average Recovery (%)	**100**		
Std Dev	**± 14**		
Analytical Blanks			
Blank	<40	n/a	n/a
Blank	<40	n/a	n/a
Field Duplicate			
09-21510	<40	n/a	n/a
09-21511	<40	n/a	n/a
Analytical Duplicate			
09-21510	<40	n/a	n/a
09-21511	<40	n/a	n/a

Table C-52: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Control Spikes, 2009

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]	Total Hydrocarbons [ppm]
1. Soil Samples					
F1 Control Samples					
Control F1	29				
Control Target	29				
Recovery (%)	100				
Control F1	30				
Control Target	29				
Recovery (%)	103				
Control F1	30				
Control Target	29				
Recovery (%)	103				
Average Recovery (%)	**102**				
Std Dev	**± 2.0**				
Diesel Spikes					
Diesel Spike					41
Diesel Spike Target					50
Recovery (%)					82
Diesel Spike					41
Diesel Spike Target					50
Recovery (%)					82
Diesel Spike					43
Diesel Spike Target					50
Recovery (%)					86
Average Recovery (%)					**83**
Std Dev					**± 2.3**
F2-F4 Control Samples					
Control Standard					1,200
Control Standard Target					2,500
Recovery (%)					48
Control Standard					2,400
Control Standard Target					2,500
Recovery (%)					96
Control Standard					2,500
Control Standard Target					2,500
Recovery (%)					100
Average Recovery (%)					**81**
Std Dev					**± 29**

Table C-53: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Analytical Blanks, 2009

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
1. Soil Samples				
Analytical Blanks				
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0

Table C-54: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Field Duplicates, 2009

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
1. Soil Samples				
Field Duplicates				
09-21485	< 10	6.7	29	8.7
09-21486	< 10	< 4.0	82	11
Average			56	9.9
Std Dev			37	1.6
RSD (%)			68	17
09-21506	62	350	66	47
09-21507	99	700	88	40
Average	81	520	77	44
Std Dev	26	240	16	4.9
RSD (%)	33	46	20	11
09-21520	16	< 4.0	< 9.0	< 8.0
09-21521	14	4.1	13	< 8.0
Average	15			
Std Dev	1.4			
RSD (%)	9.4			
09-21532	16	4.7	37	12
09-21533	12	13	49	17
Average	14	8.9	43	14.5
Std Dev	2.8	5.9	8.5	3.5
RSD (%)	20	66	20	24
09-21558	< 10	5.5	11	< 8.0
09-21559	< 10	5.5	41	< 8.0
Average		5.5	26	
Std Dev		0	21	
RSD (%)		0	82	
09-21577	< 10	18	46	< 8.0
09-21578	< 10	27	61	9.8
Average		23	54	
Std Dev		6.4	11	
RSD (%)		28	20	
09-21619	< 10	16	30	< 8.0
09-21620	< 10	12	24	< 8.0
Average		14	27	
Std Dev		2.8	4.2	
RSD (%)		20	16	
09-21623	< 10	< 4.0	22	< 8.0
09-21624	< 10	< 4.0	16	< 8.0
Average			19	
Std Dev			4.2	
RSD (%)			22	
09-21629	< 10	< 4.0	12	< 8.0
09-21630	< 10	4.7	< 9.0	< 8.0
Average RSD (%)	**21**	**32**	**35**	**17**
Std Dev	**± 12**	**± 25**	**± 27**	**± 6.6**

Table C-55: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Analytical Duplicates, 2009

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
1. Soil Samples				
Analytical Duplicates				
08-21480	<10	8.7	70	18
Duplicate	<10	6.6	86	22
Average		7.7	78	20
Std Dev		1.5	11	2.8
RSD (%)		19	15	14
09-21550	<10	4.5	44	14
Duplicate	<10	5.6	48	17
Average		5.1	46	16
Std Dev		0.8	2.8	2.1
RSD (%)		15	6.1	14
09-21605	<10	<4.0	11	<8.0
Duplicate	<10	<4.0	13	<8.0
Average			12	
Std Dev			1.4	
RSD (%)			12	
Average RSD (%)		**14**	**11**	**14**
Std Dev		**± 2.8**	**± 4.3**	**± 0.3**

Table C-56: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Water Sample Control Spikes, 2009

Sample	F1 (C6-C10) [mg/L]	F2 (C10-C16) [mg/L]	F3 (C16-C34) [mg/L]	F4 (C34-C50) [mg/L]	Total Hydrocarbons [mg/L]
F1 Control Samples					
Control F1	0.14				
Control Target	0.16				
Recovery (%)	88				
Control F1	0.14				
Control Target	0.16				
Recovery (%)	88				
Average Recovery (%)	**88**				
Std Dev	**0**				
Diesel Spikes					
Diesel Spike					8.0
Diesel Spike Target					10
Recovery (%)					80
Diesel Spike					9.9
Diesel Spike Target					10
Recovery (%)					99
Average Recovery (%)					**90**
Std Dev					**± 13**
F2-F4 Control Samples					
Control Standard					2,400
Control Standard Target					2,500
Recovery (%)					96
Control Standard					2,800
Control Standard Target					2,500
Recovery (%)					112
Average Recovery (%)					**104**
Std Dev					**± 11**

Table C-57: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Analysis of Water QA/QC Samples, 2009

Sample	F1 (C6-C10) [mg/L]	F2 (C10-C16) [mg/L]	F3 (C16-C34) [mg/L]	F4 (C34-C50) [mg/L]
Analytical Blanks				
Blank	<0.05	< 0.5	< 1.0	< 1.0
Blank	<0.05	< 0.5	< 1.0	< 1.0
Field Blank				
09-21643	<0.05	< 0.5	< 1.0	< 1.0
Analytical Duplicates				
09-21484	<0.05			
Duplicate	<0.05			
09-21497		< 0.5	< 1.0	< 1.0
Duplicate		< 0.5	< 1.0	< 1.0
09-21562	<0.05			
Duplicate	<0.05			

Table C-58: pH (ASG), Conductivity (ASG) and Turbidity (ASU) Results for Water Sample Control Spikes and Analytical Blanks, 2009

Sample	Conductivity (µS/cm)	Turbidity (NTU)	pH
Control Spikes			
Control	147		7.00
Control Target	147		7.00
Recovery (%)	100		100
Control	146		7.00
Control Target	147		7.00
Recovery (%)	99		100
Control			
Control Target			
Recovery (%)			
Average Recovery (%)	**100**		**100**
Std Dev	**± 0.5**		**± 0**
Analytical Blanks			
Blank		<0.25	
Field Blanks			
09-21643	2.62	0.28	7.26
Analytical Duplicates			
09-21499	1,000		7.02
Duplicate	1,000		7.02
Average	1,000		7.02
Std Dev	0		0
RSD (%)	0		0
09-50202	5.1	0.25	7.19
Duplicate	5.1	0.28	7.19
Average	5.1	0.27	7.19
Std Dev	0	0.02	0
RSD (%)	0	8.0	0

Table C-59: Inorganic Element Results for Soil Internal Standards (MESS-3 and SS-2), 2011

Element	MESS-3 Certified Value	Mean (n=8)	ASU Control Limits 2011
	[ppm]	[ppm]	[ppm]
Cu	33.9 ± 1.6	31 ± 2.4	26.4-35.2
Ni	46.9 ± 2.2	39 ± 2.0	32.5-44.1
Co	14.4 ± 2.0	12 ± 0.5	9.8-14.3
Cd	0.24 ± 0.01	<1.0	<1.0
Pb	21.1 ± 0.7	18 ± 0.6	15.6-20.6
Zn	159 ± 8	137 ± 5.4	116-154
Cr	105 ± 4	41 ± 3.5	24.6-57.5
As	21.2 ± 1.1	18 ± 1.4	14.8-20.0

Element	SS-2 Certified Value	Mean (n=8)	ASU Control Limits 2011
	[ppm]	[ppm]	[ppm]
Cu	191 ± 9.0	193 ± 17	150-230
Ni	54 ± 4.0	56 ± 3.8	44.5-62.5
Co	12 ± 1.0	15 ± 0.6	11.0-17.0
Cd	2.0**	1.9 ± 0.1	1.2-2.5
Pb	126 ± 10	115 ± 9.7	93.7-138
Zn	467 ± 23	475 ± 24	373-534
Cr	34 ± 4.0	47 ± 1.9	32.9-53.2
As	75 ± 10	83 ± 10	53.2-98.5

**Cadmium results for SS-2 not certified - for information only.

Table C-60: Inorganic Element Control Spikes for Total and Dissolved Metals in 2011 Water Samples

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]
Total Metals								
Control	-	-	-	-	-	2.96	-	0.74
Control Target	-	-	-	-	-	3.0	-	0.8
Recovery (%)						99		93
Control	-	-	-	-	-	3.02	-	0.75
Control Target	-	-	-	-	-	3.0	-	0.8
Recovery (%)						101		94
Control	-	-	-	-	-	3.02	-	0.75
Control Target	-	-	-	-	-	3.0	-	0.8
Recovery (%)						101		94
Average Recovery (%)						**100**		**94**
Std Dev						**± 1.2**		**± 1**
Dissolved Metals								
Control	1.59	1.63	1.59	0.804	8.1	-	0.82	-
Control Target	1.6	1.6	1.6	0.8	8.0	-	0.8	-
Recovery (%)	99	102	99	101	101		103	
Control	1.55	1.54	1.59	0.79	8.03	-	0.82	-
Control Target	1.6	1.6	1.6	0.8	8.0	-	0.8	-
Recovery (%)	97	96	99	98	100		103	
Control	1.59	1.63	1.59	0.804	8.1	-	0.82	-
Control Target	1.6	1.6	1.6	0.8	8.0	-	0.8	-
Recovery (%)	99	102	99	101	101		103	
Average Recovery (%)	**99**	**100**	**99**	**100**	**101**		**103**	
Std Dev	**± 1.4**	**± 3.2**	**± 0**	**± 1.2**	**± 0.4**		**± 0.2**	

Table C-61: Inorganic Element Results for Soil and Water Sample Analytical Blanks, 2011

Sample	Cu [ppm]	Ni [ppm]	Co [ppm]	Cd [ppm]	Pb [ppm]	Zn [ppm]	Cr [ppm]	As [ppm]
1. Soil Samples								
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<5.0	<7.0	<5.0	<1.0	<10	<15	<20	<1.0
Blank	<5.0

Table C-61: Inorganic Element Results for Soil and Water Sample Analytical Blanks, 2011 (cont'd)

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]
2. Water Samples								
Total Metals								
Blank	-	-	-	-	-	<0.010	-	<0.003
Blank	-	-	-	-	-	<0.010	-	<0.003
Blank	-	-	-	-	-	<0.010	-	<0.003
11-12217 Field Blank	-	-	-	-	-	<0.010	-	<0.003
Dissolved Metals								
Blank	<0.005	<0.005	<0.003	<0.001	<0.010	-	<0.005	-
Blank	<0.005	<0.005	<0.003	<0.001	<0.010	-	<0.005	-
Blank	<0.005	<0.005	<0.003	<0.001	<0.010	-	<0.005	-
11-12217 Field Blank	<0.005	<0.005	<0.003	<0.001	<0.010	-	<0.005	-

Table C-62: Inorganic Element Results for Soil Sample Field Duplicates, 2011

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
1. Soil Samples								
Field Duplicates								
11-12860	23	53	11.7	<1.0	<10	53	36	<1.0
11-12861	31	59	14.2	<1.0	11	63	44	1.1
Average	27	56	13			58	40	
Std Dev	5.4	3.8	1.8			7.1	5.7	
RSD (%)	20	6.8	14			12	14	
11-12894	14.7	50	14.7	<1.0	<10	70	59	<1.0
11-12895	14.6	48	13.6	<1.0	<10	61	55	<1.0
Average	15	49	14.2			66	57	
Std Dev	0.1	1.5	0.8			6.1	2.5	
RSD (%)	0.5	3.0	5.5			9.3	4.5	
11-12912	24	44	13.8	<1.0	<10	68	59	1.2
11-12913	21	40	13.3	<1.0	<10	66	51	1.3
Average	22	42.0	13.6			67	55	1.3
Std Dev	2.0	2.6	0.3			1.2	5.3	0.1
RSD (%)	9.1	6.1	2.5			1.8	9.7	4.7
11-12926	17.2	30	8.3	<1.0	<10	33	21	<1.0
11-12927	18.5	31	9.1	<1.0	<10	37	24	<1.0
Average	17.9	31	8.7			35	22	
Std Dev	0.9	0.9	0.6			2.9	2.1	
RSD (%)	5.2	3	7.2			8.2	9.6	
11-12956	53	42	14.5	<1.0	<10	97	109	<1.0
11-12957	54	43	14.7	<1.0	<10	111	122	1.1
Average	54	42	14.6			104	116	
Std Dev	0.9	1.0	0.14			9.4	9.0	
RSD (%)	1.6	2.4	1.0			9.0	7.8	
11-12970	27	40	12.5	<1.0	<10	62	68	<1.0
11-12971	24	37	11.6	<1.0	<10	58	68	<1.0
Average	25	38	12			60	68	
Std Dev	1.9	2.2	0.6			2.7	0.2	
RSD (%)	7.6	5.7	5.3			4.5	0.2	
11-12994	23	44	10.8	<1.0	20	51	44	<1.0
11-12995	21	41	11	<1.0	17	54	39	<1.0
Average	22	42	10.9		19	53	41	
Std Dev	1.3	2.6	0.2		2.5	2	3.5	
RSD (%)	5.8	6.1	1.4		13	3.8	8.4	
11-13026	86	72	19.7	<1.0	15	110	144	9.6
11-13027	78	65	17.5	<1.0	12	97	136	9.1
Average	82	69	18.6		14	104	140	9.4
Std Dev	6.2	4.7	1.6		2.1	9.2	5.7	0.4
RSD (%)	7.5	6.8	8.4		16	8.9	4.0	3.8

Table C-62: Inorganic Element Results for Soil Sample Field Duplicates, 2011 (cont'd)

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
11-13038	8.7	35	18.3	<1.0	21	72	65	<1.0
11-13039	9	36	18.4	<1.0	19	67	62	<1.0
Average	8.9	35	18.4		20	70	64	
Std Dev	0.2	0.6	0.1		1.4	3.5	2.1	
RSD (%)	2.4	1.8	0.39		7.1	5.1	3.3	
11-13050	35	39	14.4	<1.0	15.8	64	78	1.2
11-13051	37	38	14.2	<1.0	14.9	59	76	1.5
Average	36	38	14.3		15.3	61	77	1.4
Std Dev	1.0	0.6	0.2		0.7	3.0	1.1	0.2
RSD (%)	2.7	1.7	1.3		4.3	4.9	1.4	15
11-13060	22	45	13.1	<1.0	<10	44	68	4.9
11-13061	22	35	12.4	<1.0	<10	42	66	1.5
Average	22	40	12.8			43	67	3.2
Std Dev	0.1	7.0	0.5			1.4	0.8	2.4
RSD (%)	0.6	17	3.7			3.2	1.2	76
11-13068	20	30	9.7	<1.0	<10	37	54	<1.0
11-13069	21	35	10.6	<1.0	<10	37	61	<1.0
Average	21	32	10.1			37	58	
Std Dev	0.5	3.8	0.6			0.2	4.7	
RSD (%)	2.6	12	6.4			0.5	8.2	
11-13078	24	79	15.8	<1.0	10.2	49	63	<1.0
11-13079	23	75	14.7	<1.0	<10	46	57	<1.0
Average	23	77	15.2			47	60	
Std Dev	0.4	2.6	0.8			2.3	3.8	
RSD (%)	1.8	3.4	5.0			4.9	6.4	
11-13090					<10			
11-13091					<10			
11-13096					<10			
11-13097					<10			
11-38120	22	39	12.2	<1.0	<10	51	70	<1.0
11-38121	20	34	12.1	<1.0	<10	43	68	<1.0
Average	21	37	12.2			47	69	
Std Dev	1.1	3.5	0.04			5.9	1.4	
RSD (%)	5.4	9.5	0.4			12	2.0	
11-38126	23	40	12.8	<1.0	<10	42	74	1.0
11-38127	21	34	11.9	<1.0	<10	39	63	1.7
Average	22	37	12.3			41	69	1.3
Std Dev	1.6	4.5	0.6			2.3	7.4	0.5
RSD (%)	7.1	12	5.1			5.8	11	33
Average RSD (%)	**5.3**	**6.5**	**4.5**		**10**	**6.3**	**6.1**	**26**
Std Dev	**± 4.9**	**± 4.5**	**± 3.6**		**± 5.3**	**± 3.5**	**± 4.1**	**± 30**

Table C-63: Inorganic Element Analysis of Water Sample Field Duplicates, 2011

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]
11-12190	<0.005	<0.005	<0.003	<0.001	<0.010	7.9	<0.005	<0.003
11-12191	<0.005	<0.005	<0.003	0.003	<0.010	3.9	<0.005	<0.003
Average						5.9		
Std Dev						2.8		
RSD (%)						48		
11-12210	<0.005	<0.005	<0.003	<0.001	<0.010	0.7	<0.005	<0.003
11-12211	<0.005	<0.005	<0.003	<0.001	<0.010	0.3	<0.005	<0.003
Average						0.5		
Std Dev						0.3		
RSD (%)						67		
Average RSD (%)						**58**		
Std Dev						**± 14**		

Table C-64: Inorganic Element Results for Soil and Water Sample Analytical Duplicates, 2011

Sample	Cu [ppm]	Ni [ppm]	Co [ppm]	Cd [ppm]	Pb [ppm]	Zn [ppm]	Cr [ppm]	As [ppm]
1. Soil Samples								
Analytical Duplicates								
11-12467					<10			
Duplicate					<10			
11-12850	79	192	30	<1.0	12	92	64	<1.0
Duplicate	74	172	27	<1.0	<10	80	56	<1.0
Average	77	182	28			86	60	
Std Dev	3.8	14	2.3			8.3	6.1	
RSD (%)	5.0	7.8	8.3			9.6	10	
11-12876	22	58	12	<1.0	<10	37	30	<1.0
Duplicate	20	51	9.7	<1.0	<10	37	24	<1.0
Average	21	54	11			37	27	
Std Dev	0.9	5.3	1.3			0.1	3.7	
RSD (%)	4.4	9.8	13			0.4	14	
11-12888	7.6	11.4	<5.0	<1.0	<10	28	<20	<1.0
Duplicate	7.0	12.8	<5.0	<1.0	<10	31	<20	<1.0
Average	7.3	12.1				30		
Std Dev	0.4	1.0				2.2		
RSD (%)	5.5	8.2				7.4		
11-12900	16.9	59	12	<1.0	<10	35	37	<1.0
Duplicate	11.6	37	7.8	<1.0	<10	26	20	<1.0
Average	14.3	48	9.7			31	28	
Std Dev	3.7	16	2.7			6.2	12	
RSD (%)	26	32	28			20	41	
11-12913	22	40	13.9	<1.0	<10	69	55	1.3
Duplicate	20	40	12.8	<1.0	<10	63	48	1.4
Average	21	40	13.3			66	51	1.3
Std Dev	1.2	0.1	0.8			4.4	5.1	0.1
RSD (%)	5.9	0.1	6.0			6.7	10	5.3
11-12924	19.7	56	12.8	<1.0	<10	40	33	<1.0
Duplicate	20	53	12.6	<1.0	<10	40	31	<1.0
Average	19.9	54	12.7			40	32	
Std Dev	0.3	2.2	0.1			0	1.7	
RSD (%)	1.4	4.1	0.8			0	5.4	
11-12936	42	63	15.9	<1.0	18.8	84	96	1.1
Duplicate	42	67	16.7	<1.0	19.5	86	100	<1.0
Average	42	65	16.3		19.1	85	98	
Std Dev	0.2	2.9	0.6		0.5	1.6	2.7	
RSD (%)	0.5	4.5	3.5		2.6	1.9	2.8	

Table C-64: Inorganic Element Results for Soil and Water Sample Analytical Duplicates, 2011 (cont'd)

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
11-12950	96	116	24	<1.0	13.6	138	318	<1.0
Duplicate	99	125	26	<1.0	12.7	142	312	<1.0
Average	97	120	25		13.1	140	315	
Std Dev	2.2	6.6	1.2		0.6	3.1	3.7	
RSD (%)	2.3	5.5	4.9		4.7	2.2	1.2	
11-12962	23	40	12.3	<1.0	<10	57	60	<1.0
Duplicate	25	47	13.1	<1.0	<10	59	61	1.3
Average	24	43	12.7			58	60	
Std Dev	1.6	5.2	0.6			1.6	0.4	
RSD (%)	6.7	12	4.5			2.8	0.7	
11-12974	29	36	11.8	<1.0	<10	52	69	<1.0
Duplicate	30	39	13.6	<1.0	<10	58	74	<1.0
Average	29	38	12.7			55	71	
Std Dev	0.5	2.2	1.3			4.5	3.9	
RSD (%)	1.7	5.8	10			8.2	5.5	
11-12988	36	44	15.3	<1.0	<10	54	81	1.1
Duplicate	34	44	14.6	<1.0	<10	51	80	1.4
Average	35	44	15			53	80	1.2
Std Dev	1.4	0.2	0.5			1.9	1.1	0.2
RSD (%)	3.9	0.3	3.4			3.7	1.4	17
11-13000	12	64	12	<1.0	<10	26	26	<1.0
Duplicate	11	51	9.6	<1.0	<10	21	22	<1.0
Average	12	57	11			23	24	
Std Dev	1.0	9.0	1.5			3.3	3.0	
RSD (%)	8.2	15.6	14			14	12	
11-13012	15	25	9.5	<1.0	<10	32	47	<1.0
Duplicate	19	27	10.5	<1.0	<10	35	49	<1.0
Average	17	26	10			33	48	
Std Dev	2.5	1.4	0.7			2.1	1.5	
RSD (%)	15	5.4	7.2			6.3	3.1	
11-13026	90	75	21	<1.0	15	116	147	9.9
Duplicate	83	69	18.8	<1.0	14.3	103	141	9.3
Average	86	72	19.7		14.7	110	144	9.6
Std Dev	5.5	4.0	1.2		0.5	9.2	4.2	0.5
RSD (%)	6.4	5.5	6.1		3.4	8.4	2.9	4.7
11-13038	8.2	33	17.4	<1.0	19.9	70	62	<1.0
Duplicate	9.1	37	19.2	<1.0	22	74	68	<1.0
Average	8.7	35	18.3		21	72	65	
Std Dev	0.7	2.3	1.3		1.8	2.5	4.5	
RSD (%)	7.8	6.7	7.0		8.4	3.4	6.9	

Table C-64: Inorganic Element Results for Soil and Water Sample Analytical Duplicates, 2011 (cont'd)

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
11-13046	27	34	11.7	<1.0	17	54	65	<1.0
Duplicate	31	37	13.2	<1.0	14	60	76	<1.0
Average	29	36	12.5		15	57	71	
Std Dev	3.0	2.0	1.1		2.0	4.5	7.2	
RSD (%)	10	5.6	8.5		13	7.9	10	
11-13052	25	37	12.8	<1.0	<10	46	69	<1.0
Duplicate	27	39	13.4	<1.0	<10	48	69	1.2
Average	26	38	13.1			47	69	
Std Dev	1.2	1.5	0.5			1.0	0.4	
RSD (%)	4.5	4.0	3.5			2.1	0.6	
11-13064	41	49	17.3	<1.0	<10	58	90	1.7
Duplicate	42	50	18.2	<1.0	<10	59	94	1.7
Average	41	49	17.7			58	92	1.7
Std Dev	0.4	0.7	0.6			0.7	2.8	0.03
RSD (%)	0.9	1.5	3.2			1.2	3.0	1.7
11-13076	21	76	17.8	<1.0	23	63	58	1.4
Duplicate	21	67	17.7	<1.0	23	60	60	<1.0
Average	21	71	17.7		23	62	59	
Std Dev	0.3	6.2	0.04		0.5	2.2	1.2	
RSD (%)	1.3	8.7	0.2		2.3	3.5	2.0	
11-13088					<10			
Duplicate					<10			
11-13098					<10			
Duplicate					<10			
Average RSD (%)	**6.2**	**7.6**	**7.3**	**-**	**5.7**	**5.8**	**7.4**	**7.2**
Std Dev	**± 6.1**	**± 7.1**	**± 6.3**	**-**	**± 4.2**	**± 5.1**	**± 9.4**	**± 6.8**
Sample	**Cu**	**Ni**	**Co**	**Cd**	**Pb**	**Zn**	**Cr**	**As**
	[mg/L]	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**
1. Water Samples								
Total Metals								
11-12202	-	-	-	-	-	<0.010	-	<0.003
Duplicate	-	-	-	-	-	<0.010	-	<0.003
11-12212	-	-	-	-	-	6.3	-	<0.003
Duplicate	-	-	-	-	-	6.1	-	<0.003
Average						6.2		
Std Dev						0.2		
RSD (%)						3.1		
11-12217	-	-	-	-	-	<0.010	-	<0.003
Duplicate	-	-	-	-	-	<0.010	-	<0.003

Table C-64: Inorganic Element Results for Soil and Water Sample Analytical Duplicates, 2011 (cont'd)

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
Dissolved Metals								
11-12202	<0.005	<0.005	<0.003	<0.001	<0.010	-	<0.005	-
Duplicate	<0.005	<0.005	<0.003	<0.001	<0.010	-	<0.005	-
11-12212	0.007	0.012	<0.003	<0.001	<0.010	-	<0.005	-
Duplicate	<0.005	0.01	<0.003	<0.001	<0.010	-	<0.005	-
Average		0.01						
Std Dev		0.001						
RSD (%)		10						
11-12217	<0.005	<0.005	<0.003	<0.001	<0.010	-	<0.005	-
Duplicate	<0.005	<0.005	<0.003	<0.001	<0.010	-	<0.005	-

Table C-65: Mercury Results for Soil Sample Control Spikes and Analytical Blanks, 2011

Sample	Hg [ppm]
Control Spikes	
Control	0.45
Control Target	0.44
Recovery (%)	102
Control	0.45
Control Target	0.44
Recovery (%)	102
Control	0.36
Control Target	0.44
Recovery (%)	82
Control	0.34
Control Target	0.44
Recovery (%)	77
Control	0.33
Control Target	0.44
Recovery (%)	75
Control	0.35
Control Target	0.44
Recovery (%)	80
Control	0.39
Control Target	0.44
Recovery (%)	89
Average Recovery (%)	**87**
Std Dev	**± 12**
Analytical Blanks	
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1

Table C-66: Mercury Results for Soil Sample Field Duplicates and Analytical Duplicates, 2011

Sample	Hg [ppm]
Field Duplicates	
11-12860	<0.1
11-12861	<0.1
11-12894	<0.1
11-12895	<0.1
11-12912	<0.1
11-12913	<0.1
11-12926	<0.1
11-12927	<0.1
11-12956	<0.1
11-12957	<0.1
11-12970	<0.1
11-12971	<0.1
11-12994	<0.1
11-12995	<0.1
11-13026	<0.1
11-13027	<0.1
11-13038	<0.1
11-13039	<0.1
11-13060	< 0.1
11-13061	< 0.1
11-13068	< 0.1
11-13069	< 0.1
11-13078	< 0.1
11-13079	< 0.1
11-38120	<1.0
11-38121	<1.0
11-38126	<1.0
11-38127	<1.0

Table C-66: Mercury Results for Soil Sample Field Duplicates and Analytical Duplicates, 2011 (cont'd)

Sample	Hg [ppm]
Analytical Duplicates	
11-12850	<0.1
Duplicate	<0.1
11-12910	<0.1
Duplicate	<0.1
11-38126	<0.1
Duplicate	<0.1
11-12970	<0.1
Duplicate	<0.1

Table C-67: Mercury Analysis of Water QA/QC Samples, 2011

Sample	Hg [mg/L]
Control Spikes	
Control Sample	0.004
Control Target	0.004
Recovery (%)	100
Control Sample	0.0042
Control Target	0.004
Recovery (%)	105
Control Sample	0.0042
Control Target	0.004
Recovery (%)	105
Average Recovery (%)	**103**
Std Dev	**± 2.9**
Analytical Blanks	
Blank	<0.0004
Blank	<0.0004
Blank	<0.0004
11-12217 Field Blank	<0.0004
Field Duplicates	
11-12190	<0.0004
11-12191	<0.0004
11-12210	<0.0004
11-12211	<0.0004
Analytical Duplicates	
11-12193	< 0.0004
Duplicate	< 0.0004

Table C-68: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil Sample Control Spikes, 2011

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
1. Soil Samples		
Control	4.2	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	84	
Control	5.0	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	100	
Control	6.4	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	128	
Control	3.5	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	70	
Control	5.6	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	112	
Control	5.1	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	102	
Control	6.4	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	128	
Control	5.3	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	106	
Average Recovery (%)	**104**	
Std Dev	**± 20**	

Table C-69: Aroclor Polychlorinated Biphenyl (PCB) Results for Water Sample Control Spikes, 2011

Sample	Aroclor 1254	Aroclor 1260
	[mg/L]	[mg/L]
Water Samples		
Control	< 0.00002	0.0017
Control Target	< 0.00002	0.0015
Recovery (%)		113
Control	< 0.00002	0.00059
Control Target	< 0.00002	0.0005
Recovery (%)		118
Control	< 0.00002	0.0017
Control Target	< 0.00002	0.0015
Recovery (%)		113
Average Recovery (%)		**115**
Std Dev		**± 2.7**

Table C-70: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil and Water Sample Analytical Blanks 2011

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
1. Soil Samples		
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05

Sample	Aroclor 1254 [mg/L]	Aroclor 1260 [mg/L]
2. Water Samples		
Blank	< 0.00002	< 0.00002
Blank	< 0.00002	< 0.00002
Blank	< 0.00002	< 0.00002
11-12217 Field Blank	< 0.00002	< 0.00002

Table C-71: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil Sample Field Duplicates, 2011

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
1. Soil Samples		
11-12467	< 0.05	< 0.05
11-12468	< 0.05	< 0.05
11-12846	0.06	< 0.05
11-12847	< 0.05	< 0.05
11-12860	0.05	< 0.05
11-12861	0.07	< 0.05
Average	0.06	
Std Dev	0.01	
RSD (%)	24	
11-12876	< 0.05	< 0.05
11-12877	< 0.05	< 0.05
11-12894	< 0.05	< 0.05
11-12895	< 0.05	< 0.05
11-12912	< 0.05	< 0.05
11-12913	< 0.05	< 0.05
11-12926	< 0.05	< 0.05
11-12927	< 0.05	< 0.05
11-12956	0.07	< 0.05
11-12957	0.09	< 0.05
Average	0.08	
Std Dev	0.01	
RSD (%)	18	
11-12970	<0.05	<0.05
11-12971	<0.05	<0.05
11-12994	<0.05	<0.05
11-12995	<0.05	<0.05
11-13010	<0.05	<0.05
11-13011	<0.05	<0.05
11-13026	< 0.05	< 0.05
11-13027	< 0.05	< 0.05
11-13038	< 0.05	< 0.05
11-13039	< 0.05	< 0.05

Table C-71: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil Sample Field Duplicates, 2011 (cont'd)

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
11-13050	0.06	< 0.05
11-13051	0.1	< 0.05
Average	0.09	
Std Dev	0.04	
RSD (%)	47	
11-13060	< 0.05	< 0.05
11-13061	< 0.05	< 0.05
11-13068	< 0.05	< 0.05
11-13069	< 0.05	< 0.05
11-13078	< 0.05	< 0.05
11-13079	< 0.05	< 0.05
11-13090	< 0.05	< 0.05
11-13091	< 0.05	< 0.05
11-13096	< 0.05	< 0.05
11-13097	< 0.05	< 0.05
11-38120	0.08	< 0.05
11-38121	0.05	< 0.05
Average	0.07	
Std Dev	0.02	
RSD (%)	33	
11-38126	< 0.05	0.066
11-38127	< 0.05	< 0.05
Average RSD (%)	**30**	
Std Dev	**± 13**	
Sample	**Aroclor 1254 [mg/L]**	**Aroclor 1260 [mg/L]**
2. Water Samples		
11-12190	< 0.00002	< 0.00002
11-12191	< 0.00002	< 0.00002
11-12210	< 0.00002	< 0.00002
11-12211	< 0.00002	< 0.00002

Table C-72: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil and Water Sample Analytical Duplicates, 2011

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
1. Soil Samples		
11-12467	< 0.05	< 0.05
Duplicate	< 0.05	< 0.05
11-12850	0.2	< 0.05
Duplicate	0.23	< 0.05
Average	0.22	
Std Dev	0.02	
RSD (%)	9.9	
11-12918	< 0.05	< 0.05
Duplicate	< 0.05	< 0.05
11-12970	< 0.05	< 0.05
Duplicate	< 0.05	< 0.05
11-13051	0.1	< 0.05
Duplicate	0.13	< 0.05
Average	0.12	
Std Dev	0.02	
RSD (%)	18	
11-13098	< 0.05	< 0.05
Duplicate	< 0.05	< 0.05
11-38124	0.61	< 0.05
Duplicate	0.74	< 0.05
Average	0.68	
Std Dev	0.09	
RSD (%)	14	
Average RSD (%)	**14**	
Std Dev	**± 4.3**	
Sample	**Aroclor 1254 [ppm]**	**Aroclor 1260 [ppm]**
2. Water Samples		
11-12187	< 0.00002	< 0.00002
Duplicate	< 0.00002	< 0.00002
11-12213	< 0.00002	< 0.00002
Duplicate	< 0.00002	< 0.00002

Table C-73: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Control Spikes, 2011

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]	Total Hydrocarbons [ppm]
1. Soil Samples					
F1 Control Samples					
Control F1	28				
Control Target	29				
Recovery (%)	97				
Control F1	31				
Control Target	29				
Recovery (%)	107				
Control F1	33				
Control Target	29				
Recovery (%)	114				
Control F1	29				
Control Target	29				
Recovery (%)	100				
Control F1	29				
Control Target	29				
Recovery (%)	100				
Control F1	32				
Control Target	29				
Recovery (%)	110				
Control F1	31				
Control Target	29				
Recovery (%)	107				
Control F1	30				
Control Target	29				
Recovery (%)	103				
Control F1	31				
Control Target	29				
Recovery (%)	107				
Control F1	31				
Control Target	29				
Recovery (%)	107				
Control F1	31				
Control Target	29				
Recovery (%)	107				

Table C-73: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Control Spikes, 2011 (cont'd)

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]	Total Hydrocarbons [ppm]
Control F1	32				
Control Target	29				
Recovery (%)	110				
Average Recovery (%)	**106**				
Std Dev	**± 4.9**				
F2-F4 Control Samples					
Diesel Spike					45
Diesel Spike Target					50
Recovery (%)					90
Diesel Spike					38
Diesel Spike Target					50
Recovery (%)					76
Diesel Spike					46
Diesel Spike Target					50
Recovery (%)					92
Diesel Spike					46
Diesel Spike Target					50
Recovery (%)					92
Diesel Spike					35
Diesel Spike Target					50
Recovery (%)					70
Diesel Spike					52
Diesel Spike Target					50
Recovery (%)					104
Diesel Spike					37
Diesel Spike Target					50
Recovery (%)					74
Diesel Spike					48
Diesel Spike Target					50
Recovery (%)					96
Diesel Spike					56
Diesel Spike Target					50
Recovery (%)					112
Average Recovery (%)					**90**
Std Dev					**± 14**

Table C-73: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Control Spikes, 2011 (cont'd)

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]	Total Hydrocarbons [ppm]
F2-F4 Control Samples					
Control Standard					2,200
Control Standard Target					2,500
Recovery (%)					88
Control Standard					2,200
Control Standard Target					2,500
Recovery (%)					88
Control Standard					2,200
Control Standard Target					2,500
Recovery (%)					88
Control Standard					2,400
Control Standard Target					2,500
Recovery (%)					96
Control Standard					2,400
Control Standard Target					2,500
Recovery (%)					96
Control Standard					2,600
Control Standard Target					2,500
Recovery (%)					104
Control Standard					2,700
Control Standard Target					2,500
Recovery (%)					108
Control Standard					2,600
Control Standard Target					2,500
Recovery (%)					104
Control Standard					2,600
Control Standard Target					2,500
Recovery (%)					104
Average Recovery (%)					**97**
Std Dev					**± 8.0**

Table C-74: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Analytical Blanks, 2009

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
Analytical Blanks				
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 30	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10			
Blank	< 10			
Blank	< 10			

Table C-75: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Field Duplicates, 2011

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
1. Soil Samples				
11-12467	<10	< 30	13	< 8.0
11-12468	<10	< 30	< 9.0	< 8.0
11-12845	<10	< 30	31	30
11-12846	<10	< 30	56	15
Average			44	23
Std Dev			18	11
RSD (%)			41	47
11-12860	<10	< 4.0	56	20
11-12861	<10	< 4.0	98	42
Average			77	31
Std Dev			30	16
RSD (%)			39	50
11-12876	<10	< 4.0	< 9.0	< 8.0
11-12877	<10	4.1	< 9.0	8.1
11-12894	<10	< 4.0	< 9.0	< 8.0
11-12895	<10	< 4.0	13	8.3
11-12912	<10	< 4.0	< 9.0	< 8.0
11-12913	<10	< 4.0	< 9.0	< 8.0
11-12926	<10	< 4.0	< 9.0	< 8.0
11-12927	<10	< 4.0	< 9.0	< 8.0
11-12956	<10	4.9	55	25
11-12957	<10	5.1	110	45
Average		5.0	83	35
Std Dev		0.1	39	14
RSD (%)		2.8	47	40
11-12970	<10	74	57	12
11-12971	<10	89	50	14
Average		82	54	13
Std Dev		11	4.9	1.4
RSD (%)		13	9.3	11
11-12994	<10	4.5	40	12
11-12995	<10	4.2	31	11
Average		4.4	36	12
Std Dev		0.2	6.4	0.7
RSD (%)		4.9	18	6.1

Table C-75: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Field Duplicates, 2011 (cont'd)

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
11-13010	<10	4.9	14	9
11-13011	<10	4.5	17	11
Average		4.7	16	10
Std Dev		0.3	2.1	1.4
RSD (%)		6.0	14	14
11-13026	< 10	< 4.0	< 9.0	< 8.0
11-13027	< 10	4.4	< 9.0	< 8.0
11-13038	< 10	< 4.0	< 9.0	< 8.0
11-13039	< 10	< 4.0	< 9.0	< 8.0
11-13050	< 10	5.5	< 9.0	< 8.0
11-13051	< 10	27	38	18
Average		16		
Std Dev		15		
RSD (%)		94		
11-13060	< 10	25	10	< 8.0
11-13061	< 10	10	< 9.0	< 8.0
Average		18		
Std Dev		11		
RSD (%)		61		
11-13068	< 10	< 30	18	12
11-13069	< 10	< 30	16	10
Average			17	11
Std Dev			1.4	1.4
RSD (%)			8.3	13
11-13078	< 10	< 30	< 9.0	< 8.0
11-13079	< 10	< 30	< 9.0	< 8.0
11-13090	< 10	< 30	< 9.0	< 8.0
11-13091	< 10	< 30	< 9.0	< 8.0
11-13096	< 10	< 30	< 9.0	< 8.0
11-13097	< 10	< 30	< 9.0	< 8.0
11-38120	< 10	< 30	41	18
11-38121	< 10	< 30	36	19
Average			39	19
Std Dev			3.5	0.7
RSD (%)			9.2	3.8
11-38126	< 10	< 4.0	9.9	< 8.0
11-38127	< 10	< 4.0	9.5	< 8.0
Average			9.7	
Std Dev			0.3	
RSD (%)			2.9	
Average RSD (%)		**36**	**21**	**23**
Std Dev		**± 40**	**± 17**	**± 19**

Table C-76: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Analytical Duplicates, 2011

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
1. Soil Samples				
11-12864	<10			
Duplicate	<10			
11-12892		<4.0	<9.0	<8.0
Duplicate		<4.0	<9.0	<8.0
11-12894		<4.0	<9.0	<8.0
Duplicate		<4.0	<9.0	<8.0
11-12913	<10			
Duplicate	<10			
11-12942		32	17	<8.0
Duplicate		33	13	<8.0
Average		33	15	
Std Dev		0.7	2.8	
RSD (%)		2.2	19	
11-12962	<10			
Duplicate	<10			
11-12970	<10			
Duplicate	<10			
11-12992		5.4	<9.0	<8.0
Duplicate		5.6	<9.0	<8.0
Average		5.5		
Std Dev		0.1		
RSD (%)		2.6		
11-13018	<10	<4.0	11	<8.0
Duplicate	<10	<4.0	9.6	<8.0
Average			10	
Std Dev			1	
RSD (%)			9.6	
11-13064	<10	4.1	<9.0	<8.0
Duplicate	<10	4.8	<9.0	<8.0
Average		4.5		
Std Dev		0.5		
RSD (%)		11		
11-13084	<10			
Duplicate	<10			
11-13097	<10			
Duplicate	<10			

Table C-76: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Analytical Duplicates, 2011 (cont'd)

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
11-38124	<10	<4.0	71	27
Duplicate	<10	<4.0	61	27
Average			66	27
Std Dev			7.1	0
RSD (%)			11	0
Average RSD (%)	**-**	**5.3**	**13**	**0**
Std Dev	**-**	**± 5.1**	**± 5.0**	**-**

Table C-77: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Water Sample Control Spikes, 2011

Sample	F1 (C6-C10) [mg/L]	F2 (C10-C16) [mg/L]	F3 (C16-C34) [mg/L]	F4 (C34-C50) [mg/L]	Total Hydrocarbons [mg/L]
F1 Control Samples					
Control F1	0.15				
Control Target	0.16				
Recovery (%)	94				
Control F1	0.16				
Control Target	0.16				
Recovery (%)	100				
Control F1	0.16				
Control Target	0.16				
Recovery (%)	100				
Average Recovery (%)	**98**				
Std Dev	**± 3.6**				
Diesel Spikes					
Diesel Spike					8.5
Diesel Spike Target					10
Recovery (%)					85
Diesel Spike					7.2
Diesel Spike Target					10
Recovery (%)					72
Diesel Spike					7.2
Diesel Spike Target					10
Recovery (%)					72
Average Recovery (%)					**76**
Std Dev					**± 7.5**
F2-F4 Control Samples					
Control Standard					2,400
Control Standard Target					2,500
Recovery (%)					96
Control Standard					2,500
Control Standard Target					2,500
Recovery (%)					100
Control Standard					2,500
Control Standard Target					2,500
Recovery (%)					100
Average Recovery (%)					**99**
Std Dev					**± 2.3**

Table C-78: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Analysis of Water QA/QC Samples, 2011

Sample	F1 (C6-C10) [mg/L]	F2 (C10-C16) [mg/L]	F3 (C16-C34) [mg/L]	F4 (C34-C50) [mg/L]
Analytical Blanks				
Blank	<0.05	< 0.5	< 1.0	< 1.0
Blank	<0.05	< 0.5	< 1.0	< 1.0
Blank	<0.05	< 0.5	< 1.0	< 1.0
11-12217 Field Blank	<0.05	< 0.5	< 1.0	< 1.0
Field Duplicates				
11-12190	<0.05	<0.5	<1.0	<1.0
11-12191	<0.05	<0.5	<1.0	<1.0
11-12210	<0.05	< 0.5	< 1.0	< 1.0
11-12211	<0.05	< 0.5	< 1.0	< 1.0
Analytical Duplicates				
11-12187	<0.05			
Duplicate	<0.05			
11-12194		< 0.5	< 1.0	< 1.0
Duplicate		< 0.5	< 1.0	< 1.0

Table C-79: Inorganic Element Results for Soil Internal Standard MESS-3, 2012

Element	MESS-3 Certified Value	Mean (n=10)	ASU Control Limits 2012
	[ppm]	[ppm]	[ppm]
Cu	33.9 ± 1.6	31 ± 2.7	26.4-35.2
Ni	46.9 ± 2.2	39 ± 2.9	32.5-44.1
Co	14.4 ± 2.0	12 ± 0.9	9.8-14.3
Cd	0.24 ± 0.01	<1.0	<1.0
Pb	21.1 ± 0.7	19 ± 0.7	15.6-20.6
Zn	159 ± 8	133 ± 9.6	116-154
Cr	105 ± 4	42 ± 3.6	24.6-57.5
As	21.2 ± 1.1	18 ± 1.2	14.8-20.0

Table C-80: Inorganic Element Control Spikes for Total and Dissolved Metals in 2012 Water Samples, ASU

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]
Total Metals								
Control	-	-	-	-	-	0.0479	0.015	0.046
Control Target	-	-	-	-	-	0.048	0.016	0.048
Recovery (%)						100	95	95
Control	-	-	-	-	-	0.049	0.016	0.045
Control Target	-	-	-	-	-	0.048	0.016	0.048
Recovery (%)						103	100	94
Control	-	-	-	-	-	0.047	0.02	0.0477
Control Target	-	-	-	-	-	0.048	0.016	0.048
Recovery (%)						99	96	99
Average Recovery (%)						**100**	**97**	**96**
Std Dev						**± 2.0**	**± 2.6**	**± 2.8**
Dissolved Metals								
Control	0.088	0.089	0.086	0.015	0.085	-	-	-
Control Target	0.088	0.088	0.088	0.016	0.1	-	-	-
Recovery (%)	101	101	98	96	97			
Control	0.09	0.087	0.088	0.016	0.086	-	-	-
Control Target	0.088	0.088	0.088	0.016	0.1	-	-	-
Recovery (%)	102	99	101	99	98			
Control	0.088	0.085	0.088	0.016	0.087	-	-	-
Control Target	0.088	0.088	0.088	0.016	0.1	-	-	-
Recovery (%)	100	97	101	98	99			
Average Recovery (%)	**101**	**99**	**100**	**98**	**98**			
Std Dev	**± 0.8**	**± 2.4**	**± 1.7**	**± 1.2**	**± 1.2**			

Table C-81: Inorganic Element Results for Soil and Water Sample Analytical Blanks, 2012

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
1. Soil Samples								
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Sample	**Cu**	**Ni**	**Co**	**Cd**	**Pb**	**Zn**	**Cr**	**As**
	[mg/L]	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**
2. Water Samples								
Total Metals								
Blank	-	-	-	-	-	<0.005	<0.005	<0.001
Blank	-	-	-	-	-	<0.005	<0.005	<0.001
Blank	-	-	-	-	-	<0.005	<0.005	<0.001
Travel Blank 12-34994	-	-	-	-	-	<0.005	<0.005	<0.001
Dissolved Metals								
Blank	<0.005	<0.005	<0.003	<0.001	<0.005	-	-	-
Blank	<0.005	<0.005	<0.003	<0.001	<0.005	-	-	-
Blank	<0.005	<0.005	<0.003	<0.001	<0.005	-	-	-
Travel Blank 12-34994	<0.005	<0.005	<0.003	<0.001	<0.005	-	-	-

Table C-82: Inorganic Element Results for Soil Sample Field Duplicates, 2012, ASU

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
12-29418	32	52	10.4	<1.0	18	67	93	1.3
12-29419	35	55	11	<1.0	20	75	98	1.4
Average	33	53	11		19	71	96	1.4
Std Dev	2.4	2.3	0.4		1.4	5.7	3.5	0.1
RSD (%)	7.2	4.3	4.0		7.4	8.0	3.7	5.2
12-29431	26	90	16	<1.0	53	66	60	1.8
12-29432	22	67	12	<1.0	45	53	44	1.4
Average	24	79	14		49	60	52	1.6
Std Dev	2.6	16	2.8		5.7	9.2	11	0.3
RSD (%)	11	21	20		12	15	22	18
12-44750	67	82	29	<1.0	<10	127	112	3.1
12-44751	74	76	26	<1.0	11	137	131	2.8
Average	71	79	27			132	121	3
Std Dev	4.8	3.9	1.6			7.2	14	0.2
RSD (%)	6.8	5.0	5.8			5.4	11	7.2
12-44762	48	40	21	<1.0	<10	70	114	1.4
12-44763	45	40	20	<1.0	<10	71	110	1.2
Average	46	40	21			71	112	1.3
Std Dev	1.6	0.1	0.7			0.5	2.9	0.1
RSD (%)	3.4	0.1	3.2			0.7	2.6	11
12-44782	23	70	15.3	<1.0	<10	39	31	0.7
12-44783	26	75	15.6	<1.0	<10	43	34	1.0
Average	24	73	15.4			41	32	0.9
Std Dev	1.8	3.4	0.2			2.9	2.0	0.2
RSD (%)	7.2	4.7	1.4			7.1	6.1	25
12-44786	69	128	27	<1.0	14.7	86	79	2.0
12-44787	64	114	24	<1.0	14.7	74	72	2.2
Average	67	121	25		14.7	80	76	2.1
Std Dev	3.7	10	2.1		0.01	9	5.4	0.1
RSD (%)	5.6	8.3	8.1		0.05	11	7.2	6.7
12-44792	71	99	140	<1.0	18	52	54	1.6
12-44793	29	113	17	<1.0	18	62	65	0.9
Average	50	106	79		18	57	60	1.3
Std Dev	29	10	87		0	7.1	7.8	0.5
RSD (%)	59	9.7	111		0	12	13	40
12-44810	71	47	12	<1.0	<10	160	161	1.1
12-44811	76	55	14	<1.0	11	185	182	1.1
Average	73	51	13			173	172	1.1
Std Dev	3.7	5.4	1.6			18	15	0
RSD (%)	5.1	11	12			10	8.7	0

Table C-82: Inorganic Element Results for Soil Sample Field Duplicates, 2012, ASU (cont'd)

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
12-44814	64	63	15.1	<1.0	105	287	93	2.0
12-44815	67	69	15.3	<1.0	122	317	98	2.5
Average	65	66	15.2		114	302	96	2.2
Std Dev	2.4	4.4	0.12		12	21	3.2	0.3
RSD (%)	3.7	6.7	0.8		11	7.0	3.4	14
12-44832	24	72	13.4	<1.0	<10	44	40	1.1
12-44833	25	81	13.5	<1.0	<10	43	42	1.1
Average	24	77	13.4			44	41	1.1
Std Dev	0.6	6.4	0.06			0.3	1.6	0.1
RSD (%)	2.6	8.3	0.5			0.7	4.0	5.0
12-44834	90	69	21	<1.0	15.2	114	142	10
12-44835	89	71	20	<1.0	15	111	140	10.8
Average	90	70	20		15.1	113	141	10.4
Std Dev	0.7	0.9	0.3		0.2	1.8	1.1	0.6
RSD (%)	0.8	1.3	1.6		1.0	1.6	0.8	5.6
12-44848	49	66	29	<1.0	63	170	125	2.6
12-44849	48	63	33	<1.0	84	211	126	2.4
Average	48	64	31		74	191	125	2.5
Std Dev	0.7	2.1	3.1		15	29	0.5	0.2
RSD (%)	1.5	3.3	10		20	15	0.4	7.3
12-44852	25	31	7.9	<1.0	12	66	57	1.2
12-44853	31	37	8.8	<1.0	16	58	62	1.9
Average	28	34	8.3		14	62	59	1.6
Std Dev	4.0	4.0	0.6		3.1	5.6	4.1	0.5
RSD (%)	14	12	7.6		22	9.1	6.9	30
12-44864	21	31	8.0	<1.0	<10	37	60	1.3
12-44865	26	38	9.9	<1.0	<10	45	77	1.7
Average	24	35	8.9			41	68	1.5
Std Dev	3.8	5.2	1.3			5.1	12	0.3
RSD (%)	16	15	15			13	18	22
12-44876	54	62	15	<1.0	<10	69	108	2.2
12-44877	55	64	16	<1.0	<10	72	114	2.7
Average	54	63	16			71	111	2.4
Std Dev	1.2	1.6	0.5			1.9	4.6	0.4
RSD (%)	2.3	2.5	3.3			2.6	4.1	15
12-44888	25	34	8.5	<1.0	<10	41	65	1.5
12-44889	24	34	8.6	<1.0	<10	41	61	1.5
Average	25	34	8.5			41	63	1.5
Std Dev	0.7	0.1	0.1			0.2	3.2	0.04
RSD (%)	2.7	0.4	1.1			0.4	5	2.9
12-44896	20	27	6.2	<1.0	<10	31	48	0.8
12-44897	18	27	6.2	<1.0	<10	31	50	1.1
Average	19	27	6.2			31	49	0.9
Std Dev	1.0	0.1	0.1			0.2	1.8	0.2
RSD (%)	5.0	0.3	0.8			0.7	3.6	25
Average RSD (%)	**9.1**	**6.7**	**12**		**9.1**	**7.1**	**7.1**	**14**
Std Dev	**± 14**	**± 5.7**	**± 26**		**± 8.7**	**± 5.3**	**± 5.8**	**± 11**

Table C-83: Inorganic Element Analysis of Water Sample Field Duplicates, 2012, ASU

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]
12-34980	<0.005	0.009	<0.003	<0.001	<0.005	3.4	0.21	0.003
12-34981	<0.005	0.012	<0.003	<0.001	<0.005	6.2	0.17	0.006
Average		0.011				4.8	0.19	0.005
Std Dev		0.002				2.0	0.03	0.002
RSD (%)		20				41	15	47
12-34991	<0.005	0.024	<0.003	<0.001	<0.005	0.6	0.5	0.008
12-34992	<0.005	<0.005	<0.003	<0.001	<0.005	1.6	0.4	0.008
Average						1.1	0.45	0.008
Std Dev						0.7	0.1	0
RSD (%)						62	16	0
Average RSD (%)	**-**	**20**	**-**	**-**	**-**	**51**	**15**	**24**
Std Dev	**-**	**-**	**-**	**-**	**-**	**± 14**	**± 0.6**	**± 33**

Table C-84: Inorganic Element Results for Soil and Water Sample Analytical Duplicates, 2012

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
1. Soil Samples								
Analytical Duplicates								
12-29417	32	52	11	<1.0	17.7	67	93	1.1
Duplicate	31	51	9.9	<1.0	17.6	67	92	1.5
Average	32	51	10		17.7	67	92	1.3
Std Dev	1.2	0.05	0.7		0.1	0.2	1.2	0.3
RSD (%)	3.8	0.1	6.6		0.3	0.3	1.3	22
12-44790	26	114	15	<1.0	13	69	56	1.0
Duplicate	28	142	18	<1.0	15	79	63	0.8
Average	27	128	17		14	74	60	0.9
Std Dev	1.7	20	2.3		1.6	7.4	4.4	0.2
RSD (%)	6.5	16	14		12	10	7.4	18
12-44802	93	70	15.6	<1.0	27	137	185	0.96
Duplicate	95	77	17.7	<1.0	26	139	196	0.98
Average	94	73	16.6		26	138	191	0.97
Std Dev	1.0	4.9	1.5		0.8	1.1	7.5	0.01
RSD (%)	1.1	6.7	9.0		3.1	0.8	3.9	1.5
12-44818	30	64	10.1	<1.0	17	70	58	0.83
Duplicate	33	63	11.9	<1.0	27	82	63	1.1
Average	31	64	11		22	76	61	0.98
Std Dev	2.6	0.7	1.3		6.7	8.4	3.5	0.2
RSD (%)	8.1	1.1	12		31	11	5.7	22
12-44832	25	77	14.6	<1.0	<10	45	41	1.3
Duplicate	23	68	12.1	<1.0	<10	42	39	0.9
Average	24	72	13.4			44	40	1.1
Std Dev	1.1	6.4	1.8			2.3	1.6	0.3
RSD (%)	4.4	8.9	13			5.2	4.0	27
12-44844	19.3	34	10.8	<1.0	10.8	36	47	1.3
Duplicate	20	36	11	<1.0	10.4	38	47	0.8
Average	20.0	35	11		10.6	37	47	1.0
Std Dev	0.5	1.2	0.2		0.2	1.4	0.02	0.3
RSD (%)	2.5	3.4	1.4		2.2	3.8	0.04	33
12-44854	33	45	11	<1.0	11	59	86	1.6
Duplicate	32	43	10.7	<1.0	12	61	85	1.4
Average	33	44	10.9		11	60	85	1.5
Std Dev	0.6	1.4	0.3		0.6	1.9	0.8	0.1
RSD (%)	1.7	3.3	2.4		5.6	3.2	0.9	8.5
12-44866	44	42	11	<1.0	19.9	69	87	2.7
Duplicate	34	36	9.2	<1.0	21	57	74	1.9
Average	39	39	10		20	63	80	2.3
Std Dev	6.6	3.7	1.4		0.7	8.3	8.6	0.5
RSD (%)	17	9.5	13		3.3	13	11	23

Table C-84: Inorganic Element Results for Soil and Water Sample Analytical Duplicates, 2012 (cont'd)

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
12-44878	29	40	11	<1.0	<10	50	80	1.2
Duplicate	29	38	10	<1.0	<10	47	74	1.1
Average	29	39	10			48	77	1.1
Std Dev	0	1.6	0.4			2.1	3.9	0.1
RSD (%)	0	4.0	4.0			4.4	5.1	6.6
Average RSD (%)	**5.1**	**5.8**	**8.4**	-	**8.1**	**5.8**	**4.3**	**18**
Std Dev	**± 5.2**	**± 4.9**	**± 5.0**	-	**± 11**	**± 4.6**	**± 3.4**	**± 10**
Sample	**Cu**	**Ni**	**Co**	**Cd**	**Pb**	**Zn**	**Cr**	**As**
	[mg/L]	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**
1. Water Samples								
Total Metals in Analytical Duplicates								
12-34966	-	-	-	-	-	0.23	0.13	0.005
Duplicate	-	-	-	-	-	0.26	0.2	0.006
Average						0.25	0.16	0.006
Std Dev						0.03	0.05	0.001
RSD (%)						11	32	14
12-34989	-	-	-	-	-	7.1	0.088	0.001
Duplicate	-	-	-	-	-	7.4	0.085	0.001
Average						7.2	0.086	0.001
Std Dev						0.2	0.002	0.0003
RSD (%)						2.7	2.9	23
12-34998	-	-	-	-	-	1.5	0.14	0.007
Duplicate	-	-	-	-	-	1.3	0.1	0.006
Average						1.4	0.12	0.006
Std Dev						0.1	0.03	0.001
RSD (%)						8.6	23	12
Average RSD (%)						**7.3**	**19**	**16**
Std Dev						**± 4.1**	**± 15**	**± 6.2**
Dissolved Metals in Analytical Duplicates								
12-34966	<0.005	<0.005	<0.003	<0.001	<0.005	-	-	-
Duplicate	<0.005	<0.005	0.005	<0.001	<0.005	-	-	-
12-34987	-	-	-	-	<0.005	-	-	-
Duplicate	-	-	-	-	<0.005	-	-	-
12-34989	<0.005	0.0141	<0.003	<0.001	<0.005			
Duplicate	<0.005	0.0144	<0.003	<0.001	<0.005			
Average		0.014						
Std Dev		0.0002						
RSD (%)		1.3						
12-34998	0.0053	0.009	<0.003	<0.001	<0.005	-	-	-
Duplicate	0.0053	0.009	<0.003	<0.001	<0.005	-	-	-
Average	0.0053	0.009						
Std Dev	0.00002	0.00002						
RSD (%)	0.36	0.25						
Average RSD (%)	**1.9**	**0.8**	-	-	-	-	-	-
Std Dev	-	**± 0.7**	-	-	-	-	-	-

Table C-85: Mercury Results for Soil QA/QC Samples, 2012, ASU

Sample	Hg [ppm]
Control Spikes	
Control	0.087
Control Target	0.091
Recovery (%)	96
Control	0.09
Control Target	0.091
Recovery (%)	99
Control	0.088
Control Target	0.091
Recovery (%)	97
Average Recovery (%)	**97**
Std Dev	**± 1.7**
Analytical Blanks	
Blank	<0.005
Field Duplicates	
12-44750	<0.005
12-44751	<0.005
12-44762	<0.005
12-44763	<0.005
12-44782	<0.005
12-44783	<0.005
12-44786	0.006
12-44787	0.0059
Average	0.006
Std Dev	0.3
RSD (%)	4.6
Analytical Duplicates	
12-44763	<0.005
Duplicate	<0.005
12-44782	<0.005
Duplicate	<0.005

Table C-86: Mercury Results for Soil Control Spike and Blank Samples, 2012, ASG

Sample	Hg [ppm]
Control Spikes	
Control	0.35
Control Target	0.44
Recovery (%)	80
Control	0.36
Control Target	0.44
Recovery (%)	82
Control	0.36
Control Target	0.44
Recovery (%)	82
Control	0.37
Control Target	0.44
Recovery (%)	84
Control	0.37
Control Target	0.44
Recovery (%)	84
Control	0.43
Control Target	0.44
Recovery (%)	98
Control	0.33
Control Target	0.44
Recovery (%)	75
Control	0.41
Control Target	0.44
Recovery (%)	93
Average Recovery (%)	**85**
Std Dev	**± 7.4**
Analytical Blanks	
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1

Table C-87: Mercury Results for Soil Duplicate Samples, 2012, ASG

Sample	Hg [ppm]
Field Duplicates	
12-29417	<0.1
12-29418	<0.1
12-29431	<0.1
12-29432	<0.1
12-44792	<0.1
12-44793	<0.1
12-44810	<0.1
12-44811	<0.1
12-44814	<0.1
12-44815	<0.1
12-44832	<0.1
12-44833	<0.1
12-44834	<0.1
12-44835	<0.1
12-44848	<0.1
12-44849	<0.1
12-44852	<0.1
12-44853	<0.1
12-44864	<0.1
12-44865	<0.1
12-44876	<0.1
12-44877	<0.1
12-44888	< 0.1
12-44889	< 0.1
12-44896	< 0.1
12-44897	< 0.1

Table C-87: Mercury Results for Soil Duplicate Samples, 2012, ASG (cont'd)

Sample	Hg [ppm]
Analytical Duplicates	
12- 29429	<0.1
Duplicate	<0.1
12- 44812	<0.1
Duplicate	<0.1
12- 44814	<0.1
Duplicate	<0.1
12- 44844	<0.1
Duplicate	<0.1
12- 44870	<0.1
Duplicate	<0.1
12- 44896	<0.1
Duplicate	<0.1
12- 44904	<0.1
Duplicate	<0.1

Table C-88: Mercury Analysis of Water QA/QC Samples, 2012, ASG

Sample	Hg [mg/L]
Control Spikes	
Control	0.0043
Control Target	0.004
Recovery (%)	108
Control	0.0042
Control Target	0.004
Recovery (%)	105
Average Recovery (%)	**106**
Std Dev	**± 1.8**
Analytical Blanks	
Blank	<0.0004
Blank	<0.0004
Travel Blank 12-34994	<0.0004
Field Duplicates	
12-34980	<0.0004
12-34981	<0.0004
12-34991	<0.0004
12-34992	<0.0004
Analytical Duplicates	
12-34994	< 0.0004
Duplicate	< 0.0004

Table C-89: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil Sample Control Spikes, 2012

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
1. Soil Samples		
Control	3.5	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	70	
Control	5.4	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	108	
Control	6.0	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	120	
Control	4.6	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	92	
Control	4.7	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	94	
Control	3.8	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	76	
Control	5.4	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	108	
Control	6.0	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	120	
Control	4.7	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	94	
Control	3.5	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	70	
Control	4.7	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	94	
Control	3.5	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	70	
Average Recovery (%)	**93**	
Std Dev	**± 19**	

Table C-90: Aroclor Polychlorinated Biphenyl (PCB) Results for Water Sample Control Spikes, 2012

Sample	Aroclor 1254	Aroclor 1260
	[mg/L]	[mg/L]
Water Samples		
Control	< 0.003	0.016
Control Target	< 0.003	0.015
Recovery (%)		107
Control	< 0.003	0.012
Control Target	< 0.003	0.015
Recovery (%)		80
Control	< 0.003	0.014
Control Target	< 0.003	0.015
Recovery (%)		93
Average Recovery (%)		**93**
Std Dev		**± 13**

Table C-91: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil and Water Sample Analytical Blanks 2012

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
1. Soil Samples		
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05

Sample	Aroclor 1254 [mg/L]	Aroclor 1260 [mg/L]
2. Water Samples		
Blank	< 0.003	< 0.003
Blank	< 0.003	< 0.003
Blank	< 0.003	< 0.003
Travel Blank 12-34994	< 0.003	< 0.003

Table C-92: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil and Water Sample Field Duplicates, 2012

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
1. Soil Samples		
12-29417	<0.05	<0.05
12-29418	<0.05	<0.05
12-29431	<0.05	<0.05
12-29432	<0.05	<0.05
12-44750	<0.05	<0.05
12-44751	<0.05	<0.05
12-44762	<0.05	<0.05
12-44763	<0.05	<0.05
12-44782	<0.05	<0.05
12-44783	<0.05	<0.05
12-44786	<0.05	<0.05
12-44787	<0.05	<0.05
12-44792	<0.05	<0.05
12-44793	<0.05	<0.05
12-44814	<0.05	<0.05
12-44815	<0.05	<0.05
12-44810	<0.05	<0.05
12-44811	<0.05	<0.05
12-44834	<0.05	<0.05
12-44835	<0.05	<0.05
12-44848	<0.05	<0.05
12-44849	<0.05	<0.05
12-44852	0.2	<0.05
12-44853	0.3	<0.05
Average	0.3	
Std Dev	0.1	
RSD (%)	27	
12-44864	<0.05	<0.05
12-44865	<0.05	<0.05
12-44876	<0.05	<0.05
12-44877	<0.05	<0.05
12-44888	< 0.05	< 0.05
12-44889	< 0.05	< 0.05
12-44896	< 0.05	< 0.05
12-44897	< 0.05	< 0.05

Table C-92: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil and Water Sample Field Duplicates, 2012 (cont'd)

Sample	Aroclor 1254 [mg/L]	Aroclor 1260 [mg/L]
2. Water Samples		
12-34980	<0.003	<0.003
12-34981	<0.003	<0.003
12-34991	<0.003	<0.003
12-34992	<0.003	<0.003

Table C-93: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil and Water Sample Analytical Duplicates, 2012

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
1. Soil Samples		
12-29417	<0.05	<0.05
Duplicate	<0.05	<0.05
12-44762	<0.05	<0.05
Duplicate	<0.05	<0.05
12-44766	<0.05	<0.05
Duplicate	<0.05	<0.05
12-44865	<0.05	<0.05
Duplicate	<0.05	<0.05
Sample	**Aroclor 1254 [ppm]**	**Aroclor 1260 [ppm]**
2. Water Samples		
12-34994	< 0.003	< 0.003
Duplicate	< 0.003	< 0.003
12-34967	< 0.003	< 0.003
Duplicate	< 0.003	< 0.003

Table C-94: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Control Spikes, 2012, ASU

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
Control Spikes				
Control Spike	190	133		
Control Target	167	154		
Recovery (%)	114	86		
Control Spike	180			
Control Target	167			
Recovery (%)	108			
Control Spike	156	189		
Control Target	176	170		
Recovery (%)	89	111		
Control Spike	156	140		
Control Target	176	170		
Recovery (%)	89	82		
Control Spike	179	130		
Control Target	167	160		
Recovery (%)	107	81		
Control Spike	174	132		
Control Target	167	160		
Recovery (%)	104	83		
Control Spike	167			
Control Target	167			
Recovery (%)	100			
Average Recovery (%)	**101**	**89**		
Std Dev	**± 9.7**	**± 13**		
Analytical Blanks				
Blank	<30	<10	<10	<10
Blank	<10	<10	<10	<10
Blank	<30	<10	<10	<10
Blank	<30	<10	<10	<10
Blank	<30	<10	<10	<10
Field Duplicates				
12-44834	<10	<10	<10	<10
12-44835	<10	<10	<10	<10
12-44848	<10	<10	19	11
12-44849	<10	<10	<10	<10

Table C-94: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Control Spikes, 2012, ASU (cont'd)

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
Analytical Duplicates				
12-44763	<30	<10	<10	<10
Duplicate	<30	<10	<10	<10
12-44780	<30	<10	<10	<10
Duplicate	<30	<10	<10	<10
12-44816	<30	<10	<10	<10
Duplicate	<30	<10	<10	<10
12-44836	<10	-	-	-
Duplicate	<10	-	-	-
12-44849	-	<10	<10	<10
Duplicate		<10	<10	<10

Table C-95: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Control Spikes, 2012, ASG

Sample	F1	F2	F3	F4
	(C6-C10)	(C10-C16)	(C16-C34)	(C34-C50)
	[ppm]	[ppm]	[ppm]	[ppm]
Control Spikes				
Control Spike F1	31			
Control Target	29			
Recovery (%)	107			
Control Spike F1	27			
Control Target	29			
Recovery (%)	93			
Control Spike F1	28			
Control Target	29			
Recovery (%)	97			
Control Spike F1	31			
Control Target	29			
Recovery (%)	107			
Control Spike F1	28			
Control Target	29			
Recovery (%)	97			
Average Recovery (%)	**101**			
Std Dev	**± 9.7**			
F2-F4 Control Samples				
Diesel Spike		41		
Diesel Spike Target		50		
Recovery (%)		82		
Diesel Spike		37		
Diesel Spike Target		50		
Recovery (%)		74		
Diesel Spike		38		
Diesel Spike Target		50		
Recovery (%)		76		
Diesel Spike		41		
Diesel Spike Target		50		
Recovery (%)		82		
Average Recovery (%)		**79**		
Std Dev		**± 4.1**		

Table C-95: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Control Spikes, 2012, ASG (cont'd)

Sample	F1	F2	F3	F4
	(C6-C10)	(C10-C16)	(C16-C34)	(C34-C50)
	[ppm]	[ppm]	[ppm]	[ppm]
F2-F4 Control Samples cont'd				
Control Standard		2700		
Control Standard Target		2500		
Recovery (%)		108		
Control Standard		3000		
Control Standard Target		2500		
Recovery (%)		120		
Control Standard		2600		
Control Standard Target		2500		
Recovery (%)		104		
Control Standard		2700		
Control Standard Target		2500		
Recovery (%)		108		
Average Recovery (%)		**110**		
Std Dev		**± 6.9**		

Table C-96: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Analytical Blanks, 2012, ASG

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
Analytical Blanks				
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0

Table C-97: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Field Duplicates, 2012

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
1. Soil Samples				
12-29417	<10	<4.0	17	<8.0
12-29418	<10	<4.0	20	<8.0
Average			19	
Std Dev			2.1	
RSD (%)			11	
12-29431	<10	29	9	< 8.0
12-29432	<10	< 4.0	< 9.0	< 8.0
12-44792	<10	<4.0	<9.0	<8.0
12-44793	<10	<4.0	<9.0	<8.0
12-44852	<10	< 4.0	< 9.0	< 8.0
12-44853	<10	7.8	< 9.0	< 8.0
12-44864	<10	4.5	< 9.0	< 8.0
12-44865	<10	15	< 9.0	< 8.0
Average		9.8		
Std Dev		7.4		
RSD (%)		76		
12-44876	<10	5.7	< 9.0	< 8.0
12-44877	<10	5.4	< 9.0	< 8.0
Average		5.6		
Std Dev		0.2		
RSD (%)		3.8		
12-44888	<10	5.5	< 9.0	< 8.0
12-44889	<10	< 4.0	< 9.0	< 8.0
12-44896	<10	4.7	< 9.0	< 8.0
12-44897	<10	12	16	< 8.0
Average		8.4		
Std Dev		5.2		
RSD (%)		62		
12-44900	<10	<4.0	<9.0	<8.0
12-44901	<10	<4.0	9.1	<8.0
Average RSD (%)	**-**	**47**	**11**	**-**
Std Dev	**-**	**± 38**	**-**	**-**

Table C-98: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Analytical Duplicates, 2012

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
1. Soil Samples				
12-29417	<10	<4.0	16	<8.0
Duplicate	<10	<4.0	18	<8.0
Average			17	
Std Dev			1.4	
RSD (%)			8.3	
12-44850	<10	6.6	11	<8.0
Duplicate	<10	5.6	13	<8.0
Average		6.1	12	
Std Dev		0.7	1.4	
RSD (%)		12	12	
12-44896	<10			
Duplicate	<10			
12-44898	<10			
Duplicate	<10			
Average RSD (%)	**-**	**12**	**10**	-
Std Dev	**-**	**-**	**± 2.5**	-

Table C-99: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Water Sample Control Spikes, 2012

Sample	F1 (C6-C10) [mg/L]	F2 (C10-C16) [mg/L]	F3 (C16-C34) [mg/L]	F4 (C34-C50) [mg/L]	Total Hydrocarbons [mg/L]
F1 Control Samples					
Control F1	0.17				
Control Target	0.16				
Recovery (%)	106				
Control F1	0.17				
Control Target	0.16				
Recovery (%)	106				
Control F1	0.17				
Control Target	0.16				
Recovery (%)	106				
Average Recovery (%)	**106**				
Std Dev	**0**				
Diesel Spikes					
Diesel Spike					8.2
Diesel Spike Target					10
Recovery (%)					82
Diesel Spike					7.0
Diesel Spike Target					10
Recovery (%)					70
Diesel Spike					7.0
Diesel Spike Target					10
Recovery (%)					70
Average Recovery (%)					**74**
Std Dev					**± 6.9**
F2-F4 Control Samples					
Control Standard					2,700
Control Standard Target					2,500
Recovery (%)					108
Control Standard					2,700
Control Standard Target					2,500
Recovery (%)					108
Control Standard					2,700
Control Standard Target					2,500
Recovery (%)					108
Average Recovery (%)					**108**
Std Dev					**0**

Table C-100: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Analysis of Water QA/QC Samples, 2012

Sample	F1 (C6-C10) [mg/L]	F2 (C10-C16) [mg/L]	F3 (C16-C34) [mg/L]	F4 (C34-C50) [mg/L]
Analytical Blanks				
Blank	<0.05	< 0.5	< 1.0	< 1.0
Blank	<0.05	< 0.5	< 1.0	< 1.0
Blank	<0.05	< 0.5	< 1.0	< 1.0
Travel Blank 12-34994	<0.05	< 0.5	< 1.0	< 1.0
Field Duplicates				
12-34980	<0.05	<0.5	<1.0	<1.0
12-34981	<0.05	<0.5	<1.0	<1.0
12-34991	<0.05	<0.5	<1.0	<1.0
12-34992	<0.05	<0.5	<1.0	<1.0
Analytical Duplicates				
12-34963	<0.05			
Duplicate	<0.05			
12-34995		< 0.5	< 1.0	< 1.0
Duplicate		< 0.5	< 1.0	< 1.0

Table C-101: Inorganic Element Results for Soil Internal Standard MESS-3, 2013

Element	MESS-3 Certified Value	Mean (n=19)	ASU Control Limits
	[ppm]	[ppm]	[ppm]
Cu	33.9 ± 1.6	32 ± 1.9	26.4-35.2
Ni	46.9 ± 2.2	39 ± 2.8	32.5-44.1
Co	14.4 ± 2.0	12 ± 0.93	9.8-14.3
Cd	0.24 ± 0.01	<1.0	<1.0
Pb	21.1 ± 0.7	20 ± 1.9	15.6-20.6
Zn	159 ± 8	131 ± 10	116-154
Cr	105 ± 4	40 ± 3.9	24.6-57.5
As	21.2 ± 1.1	20 ± 1.6	14.8-20.0

Table C-102: Inorganic Element Control Spikes for Total and Dissolved Metals in 2013 Water Samples, ASU

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]
Total Metals								
Control	-	-	-	-	-	0.045	0.0161	0.051
Control Target	-	-	-	-	-	0.048	0.016	0.048
Recovery (%)						95	101	106
Control	-	-	-	-	-	0.047	0.0161	0.047
Control Target	-	-	-	-	-	0.048	0.016	0.048
Recovery (%)						98	101	97
Average Recovery (%)						**96**	**101**	**102**
Std Dev						**± 2.1**	**± 0.04**	**± 6.4**
Dissolved Metals								
Control	0.086	0.088	0.085	0.0156	0.085	-	-	-
Control Target	0.088	0.088	0.088	0.016	0.1	-	-	-
Recovery (%)	98	100	97	97	97			
Control	0.086	0.09	0.086	0.0155	0.086	-	-	-
Control Target	0.088	0.088	0.088	0.016	0.1	-	-	-
Recovery (%)	100	102	98	97	98			
Average Recovery (%)	**99**	**101**	**97**	**97**	**97**			
Std Dev	**± 1.4**	**± 1.1**	**± 0.8**	**± 0.03**	**± 0.5**			

Table C-103: Inorganic Element Results for Soil and Water Sample Analytical Blanks, 2013

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
1. Soil Samples								
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	3.6	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	4.4	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Sample	**Cu**	**Ni**	**Co**	**Cd**	**Pb**	**Zn**	**Cr**	**As**
	[mg/L]	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**
2. Water Samples								
Total Metals								
Blank	-	-	-	-	-	<0.005	<0.005	<0.001
Blank	-	-	-	-	-	<0.005	<0.005	<0.001
Field Blank 13-29585						0.006	<0.005	<0.001
Travel Blank 13-29586	-	-	-	-	-	0.005	<0.005	<0.001
Dissolved Metals								
Blank	<0.005	<0.005	<0.003	<0.001	<0.005	-	-	-
Blank	<0.005	<0.005	<0.003	<0.001	<0.005	-	-	-
Field Blank 13-29585	<0.005	<0.005	<0.003	<0.001	<0.005	-	-	-
Travel Blank 13-29586	<0.005	<0.005	<0.003	<0.001	<0.005	-	-	-

Table C-104: Inorganic Element Results for Soil Sample Field Duplicates, 2013, ASU

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
13-25000	60	180	23	<1.0	<10	54	50	1.2
13-25001	57	147	19	<1.0	<10	51	48	1.1
Average	59	164	21			52	49	1.1
Std Dev	1.6	24	2.4			2.3	1.1	0.04
RSD (%)	2.7	15	11			4.5	2.2	3.1
13-25010	45	65	10.8	<1.0	20	93	85	3.1
13-25011	48	70	11.2	<1.0	23	97	88	2.9
Average	47	68	11		21	95	86	3.0
Std Dev	2.0	3.1	0.3		2.7	2.4	2.1	0.2
RSD (%)	4.2	4.6	3.0		13	2.6	2.4	4.8
13-25020	45	50	10	<1.0	<10	64	31	1.2
13-25021	40	53	9.4	<1.0	<10	59	31	3.0
Average	43	51	9.7			62	31	2.1
Std Dev	3.9	1.5	0.5			3.9	0.1	1.2
RSD (%)	9.1	2.9	5.1			6.3	0.2	58
13-25030	40	39	8.9	<1.0	<10	44	69	2.6
13-25031	30	42	9.6	<1.0	<10	43	76	1.6
Average	35	40	9.2			43	73	2.1
Std Dev	7.2	1.9	0.5			0.1	5.1	0.7
RSD (%)	21	4.8	5.6			0.2	7.0	33
13-25040	27	38	8.5	<1.0	12	49	72	1.7
13-25041	29	40	8.7	<1.0	13	51	73	2.3
Average	28	39	8.6		13	50	73	2.0
Std Dev	1.0	1.5	0.1		0.9	1.6	0.8	0.4
RSD (%)	3.5	3.8	1.6		7.3	3.2	1.2	21
13-25050	32	42	9.9	<1.0	<10	46	75	1.9
13-25051	29	38	8.8	<1.0	<10	41	68	2.2
Average	31	40	9.4			43	72	2.0
Std Dev	2.4	2.6	0.8			3.6	4.7	0.2
RSD (%)	7.8	6.6	8.2			8.4	6.6	11
13-25060	88	76	15	<1.0	11	125	178	2.0
13-25061	87	76	15.8	<1.0	10.8	120	171	2.7
Average	88	76	15.4		10.9	123	175	2.4
Std Dev	0.7	0.04	0.6		0.1	3.4	4.9	0.5
RSD (%)	0.8	0.05	3.7		0.9	2.7	2.8	20
13-25070	47	61	11	<1.0	23	82	112	2.4
13-25071	45	58	10.7	<1.0	20	78	107	2.4
Average	46	60	11		22	80	109	2.4
Std Dev	1.3	2.3	0.2		2.4	2.6	3.7	0.01
RSD (%)	2.8	3.8	1.8		11	3.3	3.4	0.3

Table C-104: Inorganic Element Results for Soil Sample Field Duplicates, 2013, ASU (cont'd)

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
13-25080	30	66	10	<1.0	29	54	46	2.1
13-25081	28	64	10.6	<1.0	25	51	47	2.6
Average	29	65	10.3		27	53	47	2.3
Std Dev	1.7	1.5	0.5		2.9	2.6	0.8	0.3
RSD (%)	5.8	2.3	4.4		11	5.0	1.6	14
13-25090	25	70	9.8	<1.0	<10	42	51	1.3
13-25091	13	41	5.8	<1.0	<10	25	27	0.6
Average	19	56	7.8			33	39	1.0
Std Dev	7.9	20	2.8			12	17	0.5
RSD (%)	42	37	36			35	42	53
13-25100	31	66	14.5	<1.0	15.4	67	45	1.3
13-25101	30	59	12.2	<1.0	16.5	60	43	1.2
Average	31	63	13.3		15.9	64	44	1.3
Std Dev	0.4	4.9	1.6		0.75	4.6	1.3	0.04
RSD (%)	1.4	7.8	12		4.7	7.2	3.0	3.5
13-25110	35	72	17	<1.0	<10	63	55	1.3
13-25111	31	66	13	<1.0	<10	59	48	1.0
Average	33	69	15			61	52	1.2
Std Dev	2.9	4.6	3.2			3.3	5.3	0.2
RSD (%)	8.7	6.6	21			5.4	10	20
13-25120	32	56	10	<1.0	<10	78	88	1.3
13-25121	33	64	12	<1.0	<10	89	107	1.6
Average	33	60	11			84	97	1.4
Std Dev	0.5	5.7	1.1			7.8	14	0.2
RSD (%)	1.5	9.6	10			9.3	14	17
13-25130	16	35	7.4	<1.0	<10	46	44	1.5
13-25131	19	39	7.9	<1.0	<10	55	51	1.4
Average	18	37	7.7			50	47	1.4
Std Dev	2.3	3.2	0.4			6.2	4.7	0.1
RSD (%)	13	8.7	5.1			12	9.9	5.5
13-25140	17	37	6.4	<1.0	<10	35	25	0.84
13-25141	18	39	5.8	<1.0	<10	31	24	0.79
Average	17	38	6.1			33	25	0.82
Std Dev	1.2	1.1	0.4			2.8	0.2	0.04
RSD (%)	6.6	2.9	7.1			8.3	0.7	4.4
13-25150	52	117	17	<1.0	<10	39	125	2.6
13-25151	60	145	20	<1.0	<10	44	147	2.8
Average	56	131	18			41	136	2.7
Std Dev	5.5	20	2.4			3.5	16	0.2
RSD (%)	9.8	15	13			8.4	11	6.5

Table C-104: Inorganic Element Results for Soil Sample Field Duplicates, 2013, ASU (cont'd)

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
13-25160	20	28	7.5	<1.0	<10	50	<20	1.0
13-25161	18	25	6.4	<1.0	<10	44	<20	1.6
Average	19	26	6.9			47		1.3
Std Dev	1.8	1.7	0.8			4.1		0.4
RSD (%)	9.4	6.5	11			8.6		33
13-25170	29	43	12	<1.0	<10	47	74	1.5
13-25171	29	42	11	<1.0	<10	44	72	1.7
Average	29	43	11			46	73	1.6
Std Dev	0.2	0.3	0.5			2.1	1.1	0.2
RSD (%)	0.6	0.8	4.5			4.5	1.5	9.6
13-25180	33	38	12.8	<1.0	<10	54	69	1.2
13-25181	32	38	12.8	<1.0	<10	51	67	1.1
Average	33	38	12.8			53	68	1.1
Std Dev	0.7	0.1	0.01			2.0	1.3	0.05
RSD (%)	2.3	0.2	0.05			3.8	1.9	4.1
13-25184	30	35	10	<1.0	<10	50	76	2.2
13-25185	28	34	10.1	<1.0	<10	45	73	2.2
Average	29	34	10			48	75	2.2
Std Dev	0.9	0.8	0.1			3.0	1.7	0.02
RSD (%)	2.9	2.4	0.6			6.3	2.3	1.0
13-25200	36	40	11.2	<1.0	<10	56	91	1.9
13-25201	34	38	11.1	<1.0	<10	57	87	2.0
Average	35	39	11.1			57	89	2.0
Std Dev	1.7	1.9	0.05			1.0	2.7	0.1
RSD (%)	4.9	4.9	0.5			1.8	3.0	3.7
13-25210	29	41	9.7	<1.0	<10	54	72	1.7
13-25211	28	38	9.1	<1.0	28	50	67	2.4
Average	28	40	9.4			52	70	2.0
Std Dev	0.6	1.9	0.4			2.5	3.2	0.5
RSD (%)	2.2	4.8	4.0			4.9	4.5	24
13-25220	82	74	14.9	<1.0	13.8	109	146	9.4
13-25221	65	71	13.8	<1.0	13.7	89	124	7.0
Average	74	73	14.3		13.8	99	135	8.2
Std Dev	12	2.6	0.8		0.1	14	16	1.7
RSD (%)	16	3.5	5.3		0.5	14	12	21
13-25230	41	84	26	<1.0	101	198	133	2.9
13-25231	33	84	24	<1.0	107	210	140	2.3
Average	37	84	25		104	204	136	2.6
Std Dev	6.1	0.1	1.6		4.1	8.3	5.0	0.45
RSD (%)	17	0.2	6.4		3.9	4.1	3.7	17

Table C-104: Inorganic Element Results for Soil Sample Field Duplicates, 2013, ASU (cont'd)

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
13-25240	16.9	48	9.8	<1.0	<10	44	28	1.4
13-25241	17.2	49	11	<1.0	<10	40	24	0.9
Average	17.1	49	10			42	26	1.1
Std Dev	0.2	0.8	0.9			3.1	2.6	0.3
RSD (%)	1.3	1.6	8.1			7.4	10	30
13-25250	26	46	14	<1.0	<10	60	26	1.2
13-25251	29	49	12	<1.0	<10	46	30	0.7
Average	27	48	13			53	28	1.0
Std Dev	2.1	1.9	1.2			9.8	3.1	0.4
RSD (%)	7.5	4.1	9.5			19	11	37
13-25280	22	33	8.3	<1.0	<10	39	57	0.9
13-25281	24	34	8.6	<1.0	<10	39	60	1.2
Average	23	33	8.4			39	59	1.0
Std Dev	1.5	0.9	0.2			0.3	2.1	0.2
RSD (%)	6.5	2.6	2.5			0.8	3.5	18
13-25290	40	53	15	<1.0	<10	63	98	1.9
13-25291	37	48	13	<1.0	<10	57	91	1.9
Average	38	51	14			60	95	1.9
Std Dev	2.3	3.4	1.0			3.9	4.5	0.02
RSD (%)	5.9	6.7	7.4			6.4	4.8	0.8
13-25300	46	69	16.9	<1.0	<10	112	147	1.4
13-25301	41	58	14.4	<1.0	<10	107	143	0.9
Average	44	63	15.6			109	145	1.1
Std Dev	4.1	7.1	1.8			3.9	2.8	0.4
RSD (%)	9.3	11	11			3.5	1.9	31
13-25310	59	66	12	<1.0	<10	120	128	1.2
13-25311	61	53	9.7	<1.0	<10	111	115	1.4
Average	60	60	11			115	121	1.3
Std Dev	1.9	9.4	1.3			6.4	8.9	0.1
RSD (%)	3.2	16	12			5.6	7.3	8.2
13-25320	122	40	7.4	<1.0	19	167	194	3.8
13-25321	104	36	7.2	<1.0	17	139	168	3.7
Average	113	38	7.3		18	153	181	3.7
Std Dev	13	2.8	0.1		1.1	20	18	0.1
RSD (%)	11	7.5	1.8		6.4	13	9.9	1.8
13-25330	50	48	12	<1.0	<10	117	143	0.9
13-25331	47	44	10	<1.0	<10	111	132	1.9
Average	49	46	11			114	138	1.4
Std Dev	1.5	3.5	1.0			3.8	7.7	0.7
RSD (%)	3.2	7.5	8.8			3.3	5.6	51

Table C-104: Inorganic Element Results for Soil Sample Field Duplicates, 2013, ASU (cont'd)

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
13-25340	55	38	10	<1.0	<10	126	145	1.6
13-25341	62	45	12	<1.0	11	145	168	1.8
Average	59	41	11			135	157	1.7
Std Dev	4.9	5.4	1.1			13	16	0.2
RSD (%)	8.4	13	10			9.9	10	12
Average RSD (%)	**7.6**	**6.8**	**7.7**	**-**	**6.4**	**7.2**	**6.6**	**18**
Std Dev	**± 7.8**	**± 6.9**	**± 6.8**	**-**	**± 4.4**	**± 6.4**	**± 7.6**	**± 16**

Table C-105: Inorganic Element Analysis of Water Sample Field Duplicates, 2013, ASU

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]
Total Metals								
13-29580	-	-	-	-	-	1.9	0.23	0.004
13-29581	-	-	-	-	-	1.6	0.19	0.004
Average						1.8	0.21	0.004
Std Dev						0.2	0.03	0
RSD (%)						12	15	0.04
13-29590	-	-	-	-	-	0.11	0.076	0.002
13-29591	-	-	-	-	-	0.08	0.079	<0.001
Average						0.1	0.078	
Std Dev						0.02	0.002	
RSD (%)						22	2.7	
Average RSD (%)	**-**	**-**	**-**	**-**	**-**	**17**	**8.9**	**0.04**
Std Dev	**-**	**-**	**-**	**-**	**-**	**± 7.1**	**± 8.7**	**-**
Dissolved Metals								
13-29580	<0.005	0.027	<0.003	<0.001	<0.005	-	-	-
13-29581	<0.005	0.025	<0.003	<0.001	<0.005	-	-	-
Average		0.026						
Std Dev		0.002						
RSD (%)		7.1						
13-29590	<0.005	<0.005	<0.003	<0.001	<0.005	-	-	-
13-29591	<0.005	<0.005	<0.003	<0.001	<0.005	-	-	-

Table C-106: Inorganic Element Results for Soil and Water Sample Analytical Duplicates, 2013

Sample	Cu [ppm]	Ni [ppm]	Co [ppm]	Cd [ppm]	Pb [ppm]	Zn [ppm]	Cr [ppm]	As [ppm]
1. Soil Samples								
Analytical Duplicates								
13-25000	63	196	24	<1.0	<10	56	51	1.3
Duplicate	57	165	21	<1.0	<10	52	48	1.1
Average	60	180	23			54	50	1.2
Std Dev	4.0	21	2.5			2.3	2.4	0.2
RSD (%)	6.6	12	11			4.2	4.9	13
13-25016	23	53	10.9	<1.0	11.7	77	54	2.2
Duplicate	26	56	11.7	<1.0	12.2	77	55	1.8
Average	25	54	11.3		12	77	54	2.0
Std Dev	2.0	1.6	0.6		0.3	0.2	0.9	0.3
RSD (%)	8.2	2.9	4.8		2.8	0.3	1.6	14
13-25028	37	42	8.7	<1.0	20	56	73	1.6
Duplicate	38	43	9.1	<1.0	23	62	78	2.4
Average	37	43	8.9		22	59	76	2.0
Std Dev	0.4	1.1	0.3		2.8	3.8	3.6	0.5
RSD (%)	1.0	2.6	3.3		13	6.4	4.8	26
13-25052	65	55	11.2	<1.0	14.3	104	134	2.4
Duplicate	64	50	10.6	<1.0	14.2	104	133	2.6
Average	64	53	10.9		14.3	104	134	2.5
Std Dev	0.8	4.0	0.4		0.04	0.3	0.9	0.1
RSD (%)	1.2	7.6	3.6		0.3	0.3	0.7	5.5
13-25064	70	54	11.0	<1.0	<10	83	152	2.8
Duplicate	66	49	9.5	<1.0	<10	73	130	2.5
Average	68	52	10.0			78	141	2.6
Std Dev	2.8	3.1	0.8			6.7	16	0.2
RSD (%)	4.1	6.0	8.2			8.5	11	6.8
13-25072	79	271	41	<1.0	<10	66	81	1.5
Duplicate	74	245	39	<1.0	<10	71	77	<1.0
Average	77	258	40			68	79	
Std Dev	3.7	18	1.5			3.3	3.5	
RSD (%)	4.8	7.0	3.8			4.8	4.4	
13-25101	31	58	13	<1.0	18	60	42	1.6
Duplicate	30	60	12	<1.0	15	61	44	0.9
Average	30	59	12		17	60	43	1.2
Std Dev	0.8	1.5	0.7		1.9	1.2	1.2	0.5
RSD (%)	2.5	2.5	5.5		12	2.1	2.9	39
13-25112	44	142	20	<1.0	<10	61	71	1.6
Duplicate	46	120	17	<1.0	<10	55	66	2.3
Average	45	131	18			58	68	2.0
Std Dev	1.0	16	1.7			3.8	3.8	0.5
RSD (%)	2.3	12	9.3			6.6	5.5	25

Table C-106: Inorganic Element Results for Soil and Water Sample Analytical Duplicates, 2013 (cont'd)

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
13-25124	31	63	11	<1.0	<10	65	85	1.8
Duplicate	30	60	12	<1.0	<10	67	91	2.2
Average	31	61	12			66	88	2.0
Std Dev	0.8	1.8	0.5			1.7	4.1	0.3
RSD (%)	2.5	2.9	4.1			2.5	4.7	14
13-25136	15.7	19.8	9.0	<1.0	<10	81	29	1.3
Duplicate	15.6	19.4	8.8	<1.0	<10	76	27	0.9
Average	15.6	19.6	8.9			79	28	1.1
Std Dev	0.1	0.3	0.1			3.3	1.4	0.3
RSD (%)	0.7	1.5	1.2			4.1	4.9	24
13-25148	51	145	18	<1.0	12	47	156	2.7
Duplicate	45	129	17	<1.0	<10	43	143	2.4
Average	48	137	18			45	150	2.6
Std Dev	4.3	12	1.2			2.7	9.5	0.2
RSD (%)	9.1	8.7	7.0			6.0	6.3	8.3
13-25160	19.9	27	6.9	<1.0	<10	47	<20	1.4
Duplicate	20	28	8.1	<1.0	<10	53	21	0.7
Average	20	28	7.5			50		1.0
Std Dev	0.2	1.2	0.8			4.3		0.5
RSD (%)	0.7	4.5	11			8.5		45
13-25171	29	43	10.9	<1.0	<10	45	73	1.7
Duplicate	28	42	10.8	<1.0	<10	44	71	1.8
Average	29	42	10.9			44	72	1.7
Std Dev	0.2	0.5	0.0			1.1	1.6	0.1
RSD (%)	0.8	1.2	0.1			2.4	2.2	3.1
13-25182	27	32	10.3	<1.0	<10	42	53	1.5
Duplicate	27	30	10.7	<1.0	<10	43	53	1.0
Average	27	31	10.5			43	53	1.2
Std Dev	0.4	1.1	0.3			0.5	0.1	0.3
RSD (%)	1.3	3.6	2.7			1.2	0.2	25
13-25196	26	29	8.0	<1.0	10.9	48	59	2.6
Duplicate	29	32	8.9	<1.0	10.9	53	66	1.8
Average	27	31	8.5		10.9	50	63	2.2
Std Dev	2.1	2.3	0.7		0.04	3.4	5.1	0.5
RSD (%)	7.7	7.4	7.9		0.4	6.8	8.1	25
13-25210	27	41	9.6	<1.0	<10	52	70	1.6
Duplicate	30	41	9.7	<1.0	10.5	55	73	1.7
Average	29	41	9.7			54	72	1.7
Std Dev	2.1	0.2	0.1			2.7	2.2	0.1
RSD (%)	7.2	0.4	0.9			5.0	3.1	3.9

Table C-106: Inorganic Element Results for Soil and Water Sample Analytical Duplicates, 2013 (cont'd)

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
13-25221	65	72	14	<1.0	13.8	91	124	6.9
Duplicate	65	70	13	<1.0	13.6	87	124	7.1
Average	65	71	14		13.7	89	124	7.0
Std Dev	0.1	1.0	0.6		0.1	2.9	0.6	0.2
RSD (%)	0.2	1.5	4.6		0.7	3.3	0.5	2.7
13-25228	44	89	19	<1.0	35	101	96	2.3
Duplicate	41	74	17	<1.0	33	105	90	1.9
Average	42	82	18		34	103	93	2.1
Std Dev	1.9	11	1.5		1.3	2.3	4.1	0.3
RSD (%)	4.4	13	8.4		3.9	2.3	4.4	16
13-25238	44	398	33	<1.0	<10	44	100	3.3
Duplicate	40	251	27	<1.0	<10	47	81	6.0
Average	42	325	30			46	91	4.7
Std Dev	2.6	104	4.4			2.3	14	1.9
RSD (%)	6.2	32	15			5.2	16	40
13-25252	19	50	11	<1.0	<10	32	28	1.1
Duplicate	21	52	9.7	<1.0	<10	33	30	0.5
Average	20	51	10			33	29	0.8
Std Dev	1.4	1.2	0.6			1.1	1.7	0.5
RSD (%)	6.9	2.4	5.8			3.5	5.7	56
13-25284	21	28	7.4	<1.0	<10	33	50	1.2
Duplicate	22	28	7.3	<1.0	<10	35	50	1.2
Average	21	28	7.3			34	50	1.2
Std Dev	0.4	0.3	0.1			1.3	0.1	0.1
RSD (%)	1.7	0.9	0.7			3.8	0.2	4.3
13-25296	55	49	10.9	<1.0	31	144	119	1.3
Duplicate	54	43	10.2	<1.0	25	150	119	1.3
Average	55	46	10.5		28	147	119	1.3
Std Dev	0.9	4.7	0.5		3.8	4.7	0.4	0
RSD (%)	1.6	10	5.1		13	3.2	0.3	0.4
13-25304	41	41	11	<1.0	<10	73	115	0.8
Duplicate	42	43	13	<1.0	<10	75	118	1.1
Average	41	42	12			74	117	0.9
Std Dev	1.1	1.6	1.2			0.8	1.8	0.2
RSD (%)	2.6	3.8	9.8			1.0	1.5	24
13-25320	117	38	6.8	<1.0	20	163	186	4.0
Duplicate	126	41	8.0	<1.0	17	171	202	3.6
Average	122	40	7.4		19	167	194	3.8
Std Dev	6.6	1.8	0.8		1.7	5.4	11	0.3
RSD (%)	5.4	4.5	11		9.3	3.2	5.8	7.2

Table C-106: Inorganic Element Results for Soil and Water Sample Analytical Duplicates, 2013 (cont'd)

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
13-25331	47	41	10	<1.0	<10	110	133	2.1
Duplicate	48	46	11	<1.0	<10	112	131	1.8
Average	47	44	10			111	132	1.9
Std Dev	0.1	4.0	0.6			1.3	1.6	0.2
RSD (%)	0.1	9.2	5.3			1.2	1.2	11
13-25342	55	38	8.4	<1.0	<10	126	139	1.5
Duplicate	53	29	7.7	<1.0	<10	124	135	1.2
Average	54	34	8.1			125	137	1.3
Std Dev	1.5	6.7	0.5			1.7	2.4	0.2
RSD (%)	2.7	20	5.7			1.3	1.8	14
13-25354	40	58	19	<1.0	11	85	48	1.4
Duplicate	32	50	15	<1.0	<10	67	39	1.2
Average	36	54	17			76	43	1.3
Std Dev	5.8	5.8	2.7			13	6.3	0.2
RSD (%)	16	11	16			17	15	12
Average RSD (%)	**4.0**	**7.1**	**6.3**	**-**	**6.1**	**4.2**	**4.5**	**18**
Std Dev	**± 3.6**	**± 6.8**	**± 4.0**	**-**	**± 5.6**	**± 3.4**	**± 4.1**	**± 14**
Sample	**Cu**	**Ni**	**Co**	**Cd**	**Pb**	**Zn**	**Cr**	**As**
	[mg/L]	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**	**[mg/L]**
1. Water Samples								
Total Metals in Analytical Duplicates								
13-29584	-	-	-	-	-	22	0.03	0.002
Duplicate	-	-	-	-	-	23	0.034	0.001
Average						23	0.03	0
Std Dev						0.5	0	0
RSD (%)						2.2	8.9	22
13-29589	-	-	-	-	-	0.17	0.16	0.002
Duplicate	-	-	-	-	-	0.15	0.18	0.002
Average						0.16	0.17	0
Std Dev						0.01	0.01	0
RSD (%)						8.8	8.3	7.4
Average RSD (%)						**5.5**	**8.6**	**15**
Std Dev						**± 4.7**	**± 0.4**	**± 11**
Dissolved Metals in Analytical Duplicates								
13-29584	<0.005	0.042	<0.003	<0.001	<0.005	-	-	-
Duplicate	<0.005	0.0424	<0.003	<0.001	<0.005	-	-	-
Average		0.04						
Std Dev		0						
RSD (%)		0.1						
13-29589	<0.005	<0.005	<0.003	<0.001	<0.005	-	-	-
Duplicate	0.005	<0.005	<0.003	<0.001	<0.005	-	-	-

Table C-107: Mercury Results for Soil and Water Control Spikes, 2013, ASU

Sample	Hg [ppm]
Control Spikes	
1. Soil Samples	
Control	0.37
Control Target	0.44
Recovery (%)	84
Control	0.39
Control Target	0.44
Recovery (%)	89
Control	0.41
Control Target	0.44
Recovery (%)	93
Control	0.37
Control Target	0.44
Recovery (%)	84
Control	0.46
Control Target	0.44
Recovery (%)	105
Control	0.34
Control Target	0.44
Recovery (%)	77
Control	0.39
Control Target	0.44
Recovery (%)	89
Control	0.43
Control Target	0.44
Recovery (%)	98
Control	0.45
Control Target	0.44
Recovery (%)	102
Control	0.37
Control Target	0.44
Recovery (%)	84
Average Recovery (%)	**90**
Std Dev	**± 8.8**
2. Water Samples	**mg/L**
Control Sample	0.0041
Control Target	0.004
Recovery (%)	103
Control Sample	0.004
Control Target	0.004
Recovery (%)	100
Average Recovery (%)	**101**
Std Dev	**± 1.8**

Table C-108: Mercury Results for Soil and Water Blanks, 2013, ASU

Sample	Hg [ppm]
Analytical Blanks	
1. Soil Samples	
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1
Blank	< 0.1
2. Water Samples	**mg/L**
Blank	<0.0004
Blank	<0.0004
Field Blank 13-29585	<0.0004
Travel Blank 13-29586	<0.0004

Table C-109: Mercury Results for Soil Field Duplicate Samples, ASG, 2013

Sample	Hg [ppm]
Field Duplicates	
13-25000	< 0.1
13-25001	< 0.1
13-25010	< 0.1
13-25011	< 0.1
13-25020	< 0.1
13-25021	< 0.1
13-25030	< 0.1
13-25031	< 0.1
13-25040	< 0.1
13-25041	< 0.1
13-25050	< 0.1
13-25051	< 0.1
13-25060	< 0.1
13-25061	< 0.1
13-25070	< 0.1
13-25071	< 0.1
13-25080	< 0.1
13-25081	< 0.1
13-25090	< 0.1
13-25091	< 0.1
13-25100	< 0.1
13-25101	< 0.1
13-25110	< 0.1
13-25111	< 0.1
13-25120	< 0.1
13-25121	< 0.1
13-25130	< 0.1
13-25131	< 0.1
13-25140	< 0.1
13-25141	< 0.1
13-25150	< 0.1
13-25151	< 0.1
13-25160	< 0.1
13-25161	< 0.1

Sample	Hg [ppm]
Field Duplicates	
13-25170	< 0.1
13-25171	< 0.1
13-25180	< 0.1
13-25181	< 0.1
13-25184	< 0.1
13-25185	< 0.1
13-25200	< 0.1
13-25201	< 0.1
13-25210	< 0.1
13-25211	< 0.1
13-25220	< 0.1
13-25221	< 0.1
13-25230	< 0.1
13-25231	< 0.1
13-25240	< 0.1
13-25241	< 0.1
13-25250	< 0.1
13-25251	< 0.1
13-25280	< 0.1
13-25281	< 0.1
13-25290	< 0.1
13-25291	< 0.1
13-25300	< 0.1
13-25301	< 0.1
13-25310	< 0.1
13-25311	< 0.1
13-25320	< 0.1
13-25321	< 0.1
13-25330	< 0.1
13-25331	< 0.1
13-25340	< 0.1
13-25341	< 0.1

Table C-110: Mercury Results for Soil and Water Duplicate Samples, 2013, ASG

Sample	Hg [ppm]
Analytical Duplicates	
1. Soil Samples	
13-25226	<0.1
Duplicate	<0.1
13-25185	<0.1
Duplicate	<0.1
13-25132	<0.1
Duplicate	<0.1
13-25078	<0.1
Duplicate	<0.1
13-25024	<0.1
Duplicate	<0.1
13-25354	<0.1
Duplicate	<0.1
2. Water Samples	**mg/L**
Analytical Duplicate	
13-28586	<0.0004
Duplicate	<0.0004
Field Duplicates	
13-29580	<0.0004
13-29581	<0.0004
13-29590	<0.0004
13-29591	<0.0004

Table C-111: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil Sample Control Spikes, 2013

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
1. Soil Samples		
Control	4.1	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	82	
Control	5.8	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	116	
Control	5.4	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	108	
Control	6.0	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	120	
Control	5.2	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	104	
Control	5.5	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	110	
Control	5.1	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	102	
Control	5.4	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	108	
Control	5.1	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	102	
Average Recovery (%)	**106**	
Std Dev	**± 11**	

Table C-112: Aroclor Polychlorinated Biphenyl (PCB) Results for Water Sample Control Spikes, 2013

Sample	Aroclor 1254	Aroclor 1260
	[mg/L]	[mg/L]
Water Samples		
Control	< 0.003	0.012
Control Target	< 0.003	0.015
Recovery (%)		80
Control	< 0.003	0.012
Control Target	< 0.003	0.015
Recovery (%)		80
Average Recovery (%)		**80**
Std Dev		**± 0**

Table C-113: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil and Water Sample Analytical Blanks 2013

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
1. Soil Samples		
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05

Sample	Aroclor 1254 [mg/L]	Aroclor 1260 [mg/L]
2. Water Samples		
Blank	< 0.003	< 0.003
Blank	< 0.003	< 0.003
Field Blank 13-29585	< 0.003	< 0.003
Travel Blank 13-29586	< 0.003	< 0.003

Table C-114: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil and Water Sample Field Duplicates, 2013

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
1. Soil Samples		
13-25000	0.13	< 0.05
13-25001	0.14	< 0.05
Average	0.14	
Std Dev	0.01	
RSD (%)	5.2	
13-25010	0.4	< 0.05
13-25011	0.3	< 0.05
Average	0.3	
Std Dev	0.1	
RSD (%)	27	
13-25020	< 0.05	< 0.05
13-25021	< 0.05	< 0.05
13-25030	< 0.05	< 0.05
13-25031	< 0.05	< 0.05
13-25040	0.07	< 0.05
13-25041	0.06	< 0.05
Average	0.07	
Std Dev	0.01	
RSD (%)	8.4	
13-25050	< 0.05	< 0.05
13-25051	< 0.05	< 0.05
13-25060	< 0.05	< 0.05
13-25061	< 0.05	< 0.05
13-25070	< 0.05	< 0.05
13-25071	< 0.05	< 0.05
13-25080	< 0.05	< 0.05
13-25081	< 0.05	< 0.05
13-25090	< 0.05	< 0.05
13-25091	< 0.05	< 0.05
13-25100	< 0.05	< 0.05
13-25101	< 0.05	< 0.05
13-25110	< 0.05	< 0.05
13-25111	< 0.05	< 0.05
13-25120	< 0.05	< 0.05
13-25121	< 0.05	< 0.05

Table C-114: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil and Water Sample Field Duplicates, 2013 (cont'd)

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
13-25130	< 0.05	< 0.05
13-25131	< 0.05	< 0.05
13-25140	< 0.05	< 0.05
13-25141	< 0.05	< 0.05
13-25150	0.05	< 0.05
13-25151	< 0.05	< 0.05
13-25160	< 0.05	< 0.05
13-25161	< 0.05	< 0.05
13-25170	< 0.05	< 0.05
13-25171	< 0.05	< 0.05
13-25180	< 0.05	< 0.05
13-25181	< 0.05	< 0.05
13-25210	0.24	< 0.05
13-25211	0.22	< 0.05
Average	0.23	
Std Dev	0.01	
RSD (%)	6.1	
13-25220	< 0.05	< 0.05
13-25221	< 0.05	< 0.05
13-25230	< 0.05	< 0.05
13-25231	< 0.05	< 0.05
13-25240	0.1	< 0.05
13-25241	0.1	< 0.05
Average	0.1	
Std Dev	0	
RSD (%)	0	
13-25250	< 0.05	< 0.05
13-25251	< 0.05	< 0.05
13-25280	< 0.05	< 0.05
13-25281	< 0.05	< 0.05
13-25290	< 0.05	< 0.05
13-25291	< 0.05	< 0.05
13-25300	< 0.05	< 0.05
13-25301	< 0.05	< 0.05
13-25310	< 0.05	< 0.05
13-25311	< 0.05	< 0.05

Table C-114: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil and Water Sample Field Duplicates, 2013 (cont'd)

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
13-25320	< 0.05	< 0.05
13-25321	< 0.05	< 0.05
13-25330	< 0.05	< 0.05
13-25331	< 0.05	< 0.05
13-25340	< 0.05	< 0.05
13-25341	< 0.05	< 0.05
13-25350	< 0.05	< 0.05
13-25351	< 0.05	< 0.05
Average RSD (%)	**9.5**	
Std Dev	**± 11**	

Sample	Aroclor 1254 [mg/L]	Aroclor 1260 [mg/L]
2. Water Samples		
13-29580	<0.003	<0.003
13-29581	<0.003	<0.003
13-29590	<0.003	<0.003
13-29591	<0.003	<0.003

Table C-115: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil and Water Sample Analytical Duplicates, 2013

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
1. Soil Samples		
13-25000	0.13	<0.05
Duplicate	0.12	<0.05
Average	0.13	
Std Dev	0.01	
RSD (%)	5.7	
13-25044	<0.05	<0.05
Duplicate	<0.05	<0.05
13-25090	<0.05	<0.05
Duplicate	<0.05	<0.05
13-25140	<0.05	<0.05
Duplicate	<0.05	<0.05
13-25182	<0.05	<0.05
Duplicate	<0.05	<0.05
13-25202	<0.05	<0.05
Duplicate	<0.05	<0.05
13-25254	<0.05	<0.05
Duplicate	<0.05	<0.05
13-25256	<0.05	<0.05
Duplicate	<0.05	<0.05
13-25301	<0.05	<0.05
Duplicate	<0.05	<0.05
13-25354	<0.05	<0.05
Duplicate	<0.05	<0.05
Sample	**Aroclor 1254 [ppm]**	**Aroclor 1260 [ppm]**
2. Water Samples		
13-29580	< 0.003	< 0.003
Duplicate	< 0.003	< 0.003

Table C-116: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Control Spikes, 2013, ASG

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
Control Spikes				
Control Spike F1	26			
Control Target	29			
Recovery (%)	90			
Control Spike F1	31			
Control Target	29			
Recovery (%)	107			
Control Spike F1	31			
Control Target	29			
Recovery (%)	107			
Control Spike F1	29			
Control Target	29			
Recovery (%)	100			
Control Spike F1	32			
Control Target	29			
Recovery (%)	110			
Control Spike F1	30			
Control Target	29			
Recovery (%)	103			
Control Spike F1	30			
Control Target	29			
Recovery (%)	103			
Control Spike F1	27			
Control Target	29			
Recovery (%)	93			
Control Spike F1	26			
Control Target	29			
Recovery (%)	90			
Control Spike F1	32			
Control Target	29			
Recovery (%)	110			
Control Spike F1	26			
Control Target	29			
Recovery (%)	90			
Average Recovery (%)	**100**			
Std Dev	**± 8.4**			

Table C-116: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Control Spikes, 2013, ASG (cont'd)

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
F2-F4 Control Samples				
Diesel Spike			46	
Diesel Spike Target			50	
Recovery (%)			92	
Diesel Spike			39	
Diesel Spike Target			50	
Recovery (%)			78	
Diesel Spike			40	
Diesel Spike Target			50	
Recovery (%)			80	
Diesel Spike			45	
Diesel Spike Target			50	
Recovery (%)			90	
Diesel Spike			45	
Diesel Spike Target			50	
Recovery (%)			90	
Diesel Spike			56	
Diesel Spike Target			50	
Recovery (%)			112	
Diesel Spike			42	
Diesel Spike Target			50	
Recovery (%)			84	
Diesel Spike			42	
Diesel Spike Target			50	
Recovery (%)			84	
Diesel Spike			41	
Diesel Spike Target			50	
Recovery (%)			82	
Diesel Spike			41	
Diesel Spike Target			50	
Recovery (%)			82	
Diesel Spike			38	
Diesel Spike Target			50	
Recovery (%)			76	
Diesel Spike			50	
Diesel Spike Target			50	
Recovery (%)			100	
Average Recovery (%)			**88**	
Std Dev			**± 10**	

Table C-116: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Control Spikes, 2013, ASG (cont'd)

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
F2-F4 Control Samples cont'd				
Control Standard			2700	
Control Standard Target			2500	
Recovery (%)			108	
Control Standard			2600	
Control Standard Target			2500	
Recovery (%)			104	
Control Standard			2600	
Control Standard Target			2500	
Recovery (%)			104	
Control Standard			2100	
Control Standard Target			2500	
Recovery (%)			84	
Control Standard			2700	
Control Standard Target			2500	
Recovery (%)			108	
Control Standard			2700	
Control Standard Target			2500	
Recovery (%)			108	
Control Standard			2700	
Control Standard Target			2500	
Recovery (%)			108	
Control Standard			2700	
Control Standard Target			2500	
Recovery (%)			108	
Control Standard			2700	
Control Standard Target			2500	
Recovery (%)			108	
Control Standard			2700	
Control Standard Target			2500	
Recovery (%)			108	
Control Standard			2700	
Control Standard Target			2500	
Recovery (%)			108	
Control Standard			2700	
Control Standard Target			2500	
Recovery (%)			108	
Control Standard			2200	
Control Standard Target			2500	
Recovery (%)			88	
Average Recovery (%)			**104**	
Std Dev			**± 8.4**	

Table C-117: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Analytical Blanks, 2013, ASG

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
Analytical Blanks				
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank	< 10	< 4.0	< 9.0	< 8.0
Blank		< 4.0	< 9.0	< 8.0
Blank		< 4.0	< 9.0	< 8.0

Table C-118: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Field Duplicates, 2013

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
1. Soil Samples				
13-25000	< 10	< 4.0	11	11
13-25001	< 10	< 4.0	17	130
Average			14	71
Std Dev			4.2	84
RSD (%)			30	119
13-25010	< 10	5.2	230	65
13-25011	< 10	5.1	180	51
Average		5.2	205	58
Std Dev		0.1	35	9.9
RSD (%)		1.4	17	17
13-25020	< 10	4.4	< 9.0	< 8.0
13-25021	< 10	< 4.0	< 9.0	< 8.0
13-25030	< 10	7.8	< 9.0	< 8.0
13-25031	< 10	6.8	< 9.0	< 8.0
Average		7.3		
Std Dev		0.7		
RSD (%)		9.7		
13-25040	< 10	6.7	15	< 8.0
13-25041	< 10	5.7	9.3	< 8.0
Average		6.2	12	
Std Dev		0.7	4.0	
RSD (%)		11	33	
13-25050	< 10	4.5	< 9.0	< 8.0
13-25051	< 10	11	< 9.0	< 8.0
Average		7.8		
Std Dev		4.6		
RSD (%)		59		
13-25060	< 10	13	< 9.0	< 8.0
13-25061	< 10	8.0	< 9.0	< 8.0
Average		11		
Std Dev		3.5		
RSD (%)		34		
13-25070	33	250	130	31
13-25071	23	230	170	33
Average	28	240	150	32
Std Dev	7.1	14	28	1.4
RSD (%)	25	5.9	19	4.4

Table C-118: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Field Duplicates, 2013 (cont'd)

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
13-25080	< 10	9.4	< 9.0	< 8.0
13-25081	< 10	5.5	< 9.0	< 8.0
Average		7.5		
Std Dev		2.8		
RSD (%)		37		
13-25090	< 10	< 4.0	< 9.0	< 8.0
13-25091	< 10	< 4.0	< 9.0	< 8.0
13-25100	32	900	100	21
13-25101	36	780	240	34
Average	34	840	170	28
Std Dev	2.8	85	99	9.2
RSD (%)	8.3	10	58	33
13-25110	<10	< 4.0	< 9.0	< 8.0
13-25111	<10	21	< 9.0	< 8.0
13-25120	<10	6.5	17	10
13-25121	<10	< 4.0	11	< 8.0
Average			14	
Std Dev			4.2	
RSD (%)			30	
13-25130	25	6.5	< 9.0	< 8.0
13-25131	<10	7.1	< 9.0	< 8.0
Average		6.8		
Std Dev		0.4		
RSD (%)		6.2		
13-25140	<10	< 4.0	< 9.0	< 8.0
13-25141	<10	< 4.0	< 9.0	< 8.0
13-25150	<10	< 4.0	< 9.0	< 8.0
13-25151	<10	< 4.0	< 9.0	< 8.0
13-25160	<10	10	< 9.0	< 8.0
13-25161	<10	14	< 9.0	< 8.0
Average		12		
Std Dev		2.8		
RSD (%)		24		
13-25170	<10	8.4	< 9.0	< 8.0
13-25171	<10	< 4.0	< 9.0	< 8.0
13-25180	<10	< 4.0	< 9.0	< 8.0
13-25181	<10	< 4.0	< 9.0	< 8.0

Table C-118: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Field Duplicates, 2013 (cont'd)

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
13-25200	< 10	< 4.0	12	8.8
13-25201	< 10	< 4.0	< 9.0	< 8.0
13-25210	< 10	< 4.0	33	19
13-25211	< 10	6.2	55	26
Average			44	23
Std Dev			16	4.9
RSD (%)			35	22
13-25220	< 10	7.1	16	13
13-25221	< 10	7.2	10	8.6
Average		7.2	13	11
Std Dev		0.1	4.2	3.1
RSD (%)		1.0	33	29
13-25230	< 10	< 4.0	< 9.0	< 8.0
13-25231	< 10	< 4.0	< 9.0	< 8.0
13-25240	< 10	< 4.0	37	14
13-25241	< 10	4.9	59	25
Average			48	20
Std Dev			16	7.8
RSD (%)			32	40
13-25250	< 10	5.4	25	19
13-25251	< 10	< 4.0	13	15
Average			19	17
Std Dev			8.5	2.8
RSD (%)			45	17
13-25280	< 10			
13-25281	< 10			
13-25290	< 10			
13-25291	< 10			
13-25300	< 10			
13-25301	< 10			
13-25310	< 10			
13-25311	< 10			
13-25320	< 10			
13-25321	< 10			
13-25330	< 10			
13-25331	< 10			

Table C-118: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Field Duplicates, 2013 (cont'd)

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
13-25340	< 10			
13-25341	< 10			
13-25350	< 10			
13-25351	< 10			
Average RSD (%)	**17**	**18**	**33**	**35**
Std Dev	**± 12**	**± 18**	**± 12**	**± 36**

Table C-119: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Analytical Duplicates, 2013

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
1. Soil Samples				
13-25000	<10	<4.0	12	12
Duplicate	<10	<4.0	10	9.7
Average			11	11
Std Dev			1.4	1.6
RSD (%)			13	15
13-25044	<10	5.7	12	<8.0
Duplicate	<10	7.6	16	<8.0
Average		6.7	14	
Std Dev		1.3	2.8	
RSD (%)		20	20	
13-25090	<10			
Duplicate	<10			
13-25094		<4.0	<9.0	<8.0
Duplicate		<4.0	<9.0	<8.0
13-25096	<10			
Duplicate	<10			
13-25134		<4.0	<9.0	<8.0
Duplicate		<4.0	<9.0	<8.0
13-25141	<10			
Duplicates	<10			
13-25180		<4.0	<9.0	<8.0
Duplicate		<4.0	<9.0	<8.0
13-25204	<10	6.2	34	21
Duplicate	<10	7.4	40	26
Average		6.8	37	24
Std Dev		0.8	4.2	3.5
RSD (%)		12	11	15
13-25250	<10	5.7	25	20
Duplicate	<10	5.1	24	17
Average		5.4	25	19
Std Dev		0.4	0.7	2.1
RSD (%)		7.9	2.9	11
13-25256	<10	15	84	43
Duplicate	<10	14	89	39
Average		15	87	41
Std Dev		0.7	3.5	2.8
RSD (%)		4.9	4.1	6.9

Table C-119: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Analytical Duplicates, 2013 (cont'd)

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
13-25301	<10	<4.0	<9.0	<8.0
Duplicate	<10	<4.0	<9.0	<8.0
13-25346	<10			
Duplicate	<10			
13-25354		<4.0	<9.0	<8.0
Duplicate		<4.0	<9.0	<8.0
Average RSD (%)		**11**	**10**	**12**
Std Dev		**± 6.7**	**± 7.1**	**± 3.9**

Table C-120: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Water QA/QC Samples, 2013

Sample	F1 (C6-C10) [mg/L]	F2 (C10-C16) [mg/L]	F3 (C16-C34) [mg/L]	F4 (C34-C50) [mg/L]
F1 Control Samples				
Control F1	0.15			
Control Target	0.16			
Recovery (%)	94			
Diesel Spikes				
Diesel Spike		11		
Diesel Spike Target		10		
Recovery (%)		110		
F2-F4 Control Samples				
Control Standard		3000		
Control Standard Target		2500		
Recovery (%)		120		
Analytical Blank				
Blank	<0.05			
Field Duplicate				
13-29590	<0.05	<0.5	<1.0	<1.0
13-29591	<0.05	<0.5	<1.0	<1.0

Table C-121: Inorganic Element Results for Soil Internal Standard MESS-3, 2014

Element	MESS-3 Certified Value	Mean (n=14)	ASU Control Limits
	[ppm]	[ppm]	[ppm]
Cu	33.9 ± 1.6	31 ± 2.7	25.7 - 35.6
Ni	46.9 ± 2.2	40 ± 3.3	30.7 - 42.9
Co	14.4 ± 2.0	12 ± 0.9	9.8 - 13.9
Cd	0.24 ± 0.01	<1.0	<1.0
Pb	21.1 ± 0.7	20 ± 1.4	15.2 - 23.4
Zn	159 ± 8	133 ± 11	108 - 150
Cr	105 ± 4	38 ± 3.6	24.4 - 47.7
As	21.2 ± 1.1	20 ± 1.4	14.9 - 20.8

Table C-122: Inorganic Element Results for Water Control Spike and for Water and Soil Sample Analytical Blanks, 2014

Sample	Cu (total)	Ni (total)	Co (total)	Cd (total)	Pb (total)	Zn (total)	Cr (total)	As (total)
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
1. Water Samples								
Control Spike								
Control	0.086	0.073	0.084	0.015	0.087	0.047	0.017	0.046
Control Target	0.088	0.088	0.088	0.016	0.088	0.048	0.016	0.048
Recovery (%)	98	83	95	94	99	98	106	96
Analytical Blank								
Blank	<0.005	<0.005	<0.003	<0.001	<0.005	0.008	<0.005	<0.001
Sample	**Cu**	**Ni**	**Co**	**Cd**	**Pb**	**Zn**	**Cr**	**As**
	[ppm]	**[ppm]**	**[ppm]**	**[ppm]**	**[ppm]**	**[ppm]**	**[ppm]**	**[ppm]**
2. Soil Samples								
Analytical Blank								
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2

Table C-123: Inorganic Element Results for Soil Sample Field Duplicates, 2014, ASU

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
14-8240	39	45	11.2	<1.0	67	81	84	1.2
14-8241	49	49	11.9	<1.0	38	80	93	1.8
Average	44	47	11.5		52	80	89	1.5
Std Dev	6.7	3.0	0.5		20	0.7	6.2	0.4
RSD (%)	15	6.4	4.4		39	0.8	7.0	28
14-8250	19	29	6.6	<1.0	<10	33	51	0.7
14-8251	20	33	7.3	<1.0	<10	37	56	0.7
Average	20	31	6.9			35	54	0.7
Std Dev	0.7	2.6	0.5			2.5	3.5	0
RSD (%)	3.3	8.3	6.5			7.2	6.4	0
14-8260	95	54	11.3	<1.0	<10	78	67	1.3
14-8261	49	46	10.5	<1.0	<10	69	53	1.1
Average	72	50	10.9			73	60	1.2
Std Dev	33	6.2	0.6			6.8	10	0.2
RSD (%)	46	12	5.1			9.2	17	12
14-8270	16	51	7.2	<1.0	<10	28	24	0.6
14-8271	14	48	6.4	<1.0	<10	25	22	0.6
Average	15	50	6.8			27	23	0.6
Std Dev	1.1	2.1	0.6			2.2	2.0	0
RSD (%)	7.2	4.2	8.1			8.3	8.7	0
14-8280	41	40	8.5	<1.0	<10	82	83	1.0
14-8281	45	48	10	<1.0	11	86	80	1.5
Average	43	44	9.4			84	82	1.2
Std Dev	2.6	5.9	1.2			2.8	1.9	0.4
RSD (%)	6.1	13	13			3.3	2.4	28
14-8290	17	31	8.0	<1.0	<10	45	29	0.6
14-8291	11	27	5.6	<1.0	<10	41	21	0.4
Average	14	29	6.8			43	25	0.5
Std Dev	4.2	3.3	1.6			2.6	5.1	0.2
RSD (%)	30	11	24			6.0	20	30
14-8300	15.4	47	8.5	<1.0	<10	34	23	0.6
14-8301	16.3	50	9.1	<1.0	<10	33	25	0.5
Average	15.8	49	8.8			33	24	0.55
Std Dev	0.7	2.6	0.4			0.4	1.8	0.1
RSD (%)	4.1	5.5	4.7			1.1	7.5	14
14-8310	49	86	13	<1.0	17	91	103	5.8
14-8311	35	56	8.9	<1.0	12	66	71	3.9
Average	42	71	11		15	78	87	4.9
Std Dev	10	21	3.0		3.5	18	22	1.3
RSD (%)	24	30	27		24	23	26	27

Table C-123: Inorganic Element Results for Soil Sample Field Duplicates, 2014, ASU (cont'd)

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
14-8320	32	171	18.4	<1.0	11.6	48	78	0.8
14-8321	30	164	17.3	<1.0	11.9	47	79	1.1
Average	31	168	17.9		11.7	48	79	0.9
Std Dev	1.1	5.0	0.8		0.2	0.6	0.8	0.2
RSD (%)	3.5	3.0	4.2		1.4	1.3	1.0	19
14-8330	27	38	8.6	<1.0	<10	40	69	1.3
14-8331	24	33	7.4	<1.0	<10	37	62	1.0
Average	25	36	8.0			38	66	1.1
Std Dev	2.4	4.2	0.8			2.3	5.1	0.2
RSD (%)	9.5	12	10			6.1	7.8	14
14-8340	127	75	14.7	<1.0	10.1	98	258	4.6
14-8341	110	73	13.9	<1.0	10.2	100	255	3.9
Average	118	74	14.3		10.1	99	257	4.2
Std Dev	11.6	1.7	0.6		0.1	1.3	2.5	0.5
RSD (%)	9.8	2.3	4.0		0.7	1.3	1.0	11
14-8350	33	37	10	<1.0	<10	61	95	1.2
14-8351	46	53	14	<1.0	<10	85	125	0.9
Average	39	45	12			73	110	1.1
Std Dev	9.1	11	2.2			17	22	0.2
RSD (%)	23	25	18			24	20	21
14-8360	145	45	7.8	<1.0	<10	141	144	10
14-8361	176	46	7.9	<1.0	11.2	175	179	12
Average	160	46	7.8			158	162	11
Std Dev	22	0.7	0.05			24	25	1.5
RSD (%)	14	1.5	0.7			16	16	14
14-8370	59	42	10.0	<1.0	41	126	115	1.2
14-8371	79	46	11	<1.0	27	177	125	1.4
Average	69	44	11		34	151	120	1.3
Std Dev	14	3.4	0.6		9.7	36	6.9	0.2
RSD (%)	21	7.7	5.8		29	24	5.8	11
14-8380	25	73	16.5	<1.0	<10	59	39	0.9
14-8381	24	56	15	<1.0	<10	56	34	0.9
Average	24	65	16			57	36	0.9
Std Dev	0.7	12	1.1			1.9	3.2	0
RSD (%)	2.9	19	7.0			3.4	8.7	0
14-8390	41	96	14	<1.0	<10	74	74	1.5
14-8391	31	71	11	<1.0	<10	54	51	1.0
Average	36	84	12			64	63	1.3
Std Dev	7.1	18	2.6			14	16	0.4
RSD (%)	20	21	21			22	26	29

Table C-123: Inorganic Element Results for Soil Sample Field Duplicates, 2014, ASU (cont'd)

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
14-8400	32	97	17	<1.0	10.1	63	59	1.0
14-8401	27	92	15	<1.0	<10	58	54	1.0
Average	29	94	16			60	57	1.0
Std Dev	3.1	3.9	1.3			3.4	3.8	0.02
RSD (%)	10	4.2	7.9			5.6	6.6	1.9
14-8410	34	87	15.8	<1.0	<10	58	52	0.8
14-8411	17	83	15.7	<1.0	<10	59	51	0.7
Average	26	85	15.8			58	51	0.75
Std Dev	12	3.2	0.13			0.6	0.8	0.1
RSD (%)	46	3.8	0.8			1.0	1.5	9.4
14-8420	26	45	10.1	<1.0	<10	37	62	1.1
14-8421	27	44	10.7	<1.0	10.1	42	63	1.1
Average	26	44	10.4			39	63	1.1
Std Dev	0.6	0.5	0.4			3.8	0.6	0.02
RSD (%)	2.3	1.0	3.9			9.6	1.0	1.7
14-8430	64	33	10	<1.0	<10	110	144	2.6
14-8431	67	32	9.7	<1.0	<10	115	152	2.9
Average	65	32	9.8			113	148	2.7
Std Dev	2.3	0.6	0.2			3.6	6.1	0.2
RSD (%)	3.6	1.7	2.1			3.2	4.1	8.3
14-8440	25	78	12	<1.0	10.4	44	40	1.0
14-8441	25	74	11.8	<1.0	10.7	45	41	1.0
Average	25	76	11.9		10.5	44	41	1.0
Std Dev	0.1	2.9	0.1		0.2	1.0	0.7	0.02
RSD (%)	0.4	3.8	0.8		1.6	2.2	1.7	2.4
14-8450	40	74	16	<1.0	<10	91	133	2.0
14-8451	34	64	14	<1.0	<10	77	113	1.8
Average	37	69	15			84	123	1.9
Std Dev	4.7	7.4	1.5			9.8	14	0.2
RSD (%)	13	11	10			12	12	8.6
14-8460	23	40	8.6	<1.0	<10	47	74	1.5
14-8461	26	42	9.6	<1.0	<10	50	77	1.8
Average	25	41	9.1			49	76	1.7
Std Dev	1.7	1.8	0.7			2.0	2.3	0.3
RSD (%)	7.0	4.4	8.1			4.0	3.1	15
14-8470	24	34	7.4	<1.0	12	53	71	1.5
14-8471	23	37	6.9	<1.0	45	50	80	1.7
Average	23	35	7.2		28	51	75	1.6
Std Dev	0.8	2.4	0.3		23	1.7	7.0	0.2
RSD (%)	3.6	6.7	4.6		82	3.3	9.3	11
Average RSD (%)	**14**	**9.1**	**8.4**	**-**	**25**	**8.2**	**9.1**	**13**
Std Dev	**± 13**	**± 7.7**	**± 7.3**	**-**	**± 29**	**± 7.8**	**± 7.7**	**± 9.8**

Table C-124: Inorganic Element Results for Soil Sample Analytical Duplicates, 2014

Sample	Cu [ppm]	Ni [ppm]	Co [ppm]	Cd [ppm]	Pb [ppm]	Zn [ppm]	Cr [ppm]	As [ppm]
1. Soil Samples								
Analytical Duplicates								
14-8240	39	43	11.2	<1.0	108	85	83	1.3
Duplicate	40	46	11.1	<1.0	26	76	86	1.1
Average	39	45	11.2		67	81	84	1.2
Std Dev	1.0	1.8	0.1		58	6.1	2.6	0.1
RSD (%)	2.7	3.9	0.9		87	7.5	3.1	12
14-8252	25	41	9.8	<1.0	<10	48	75	1.3
Duplicate	24	41	9.2	<1.0	<10	43	75	1.0
Average	25	41	9.5			46	75	1.2
Std Dev	0.8	0.4	0.5			2.9	0.2	0.2
RSD (%)	3.3	0.9	4.8			6.4	0.3	13
14-8261	46	43	10.4	<1.0	<10	64	49	1.1
Duplicate	51	48	10.6	<1.0	<10	73	57	1.2
Average	49	46	10.5			69	53	1.1
Std Dev	3.6	3.9	0.2			6.7	5.3	0.1
RSD (%)	7.3	8.6	1.6			9.8	10	8.1
14-8270	17	54	7.3	<1.0	<10	28	25	0.5
Duplicate	15	48	7.1	<1.0	<10	28	24	0.6
Average	16	51	7.2			28	24	0.6
Std Dev	1.2	4.4	0.1			0.2	0.4	0.1
RSD (%)	7.4	8.6	1.3			0.6	1.7	13
14-8278	14.2	16.7	<5.0	<1.0	<10	34	<20	0.7
Duplicate	13.9	17.7	5.3	<1.0	<10	37	<20	0.7
Average	14	17.2				36		0.7
Std Dev	0.2	0.7				2.1		0
RSD (%)	1.7	4.1				5.9		0
14-8287	24	17	9.4	<1.0	15	128	<20	1.7
Duplicate	17	16	9.0	<1.0	13	113	<20	1.5
Average	21	16	9.2		14	121		1.6
Std Dev	4.8	1.1	0.3		1.5	11		0.1
RSD (%)	23	6.8	3.1		11	9.0		8.8
14-8295	14.7	79	12	<1.0	<10	29	28	0.3
Duplicate	16.4	84	13	<1.0	<10	32	32	0.6
Average	15.6	82	12			30	30	0.5
Std Dev	1.2	3.7	0.7			2.0	2.7	0.2
RSD (%)	7.6	4.5	5.9			6.5	8.9	47
14-8304	24	58	10	<1.0	12	62	38	1.4
Duplicate	31	57	12	<1.0	16	71	41	1.5
Average	28	57	11		14	67	40	1.4
Std Dev	4.8	0.2	1.3		3.0	6.7	2.3	0.1
RSD (%)	17	0.3	12		21	10	5.9	6.6

Table C-124: Inorganic Element Results for Soil Sample Analytical Duplicates, 2014 (cont'd)

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
14-8310	52	92	14	<1.0	16.5	95	106	5.7
Duplicate	46	80	12	<1.0	17.6	87	100	5.9
Average	49	86	13		17.1	91	103	5.8
Std Dev	4.4	9.1	1.7		0.7	5.2	4.2	0.1
RSD (%)	9.0	11	13		4.3	5.7	4.1	2.2
14-8314	31	78	10.5	<1.0	35	79	47	1.1
Duplicate	32	78	10.9	<1.0	34	78	48	1.1
Average	31	78	10.7		35	78	47	1.1
Std Dev	0.5	0.2	0.2		0.5	0.8	0.9	0.02
RSD (%)	1.7	0.2	2.2		1.5	1.1	1.9	1.8
14-8323	21	30	7.3	<1.0	<10	35	59	1.1
Duplicate	19	28	7.0	<1.0	<10	35	59	1.0
Average	20	29	7.2			35	59	1.0
Std Dev	1.2	1.4	0.2			0.3	0.4	0.1
RSD (%)	6.1	4.6	3.1			0.9	0.7	5.4
14-8332	22	34	7.6	<1.0	<10	34	57	5.6
Duplicate	25	37	7.9	<1.0	<10	34	64	1.0
Average	23	36	7.8			34	61	3.3
Std Dev	2.3	1.9	0.2			0.1	5.0	3.2
RSD (%)	9.9	5.3	2.8			0.4	8.3	98
14-8341	104	68	13	<1.0	<10	92	243	3.5
Duplicate	117	77	15	<1.0	11	109	267	4.3
Average	110	73	14			100	255	3.9
Std Dev	9.1	6.7	1.8			12	17	0.6
RSD (%)	8.3	9.2	13			12	6.5	14
14-8352	36	50	12	<1.0	<10	78	107	0.8
Duplicate	40	46	12.4	<1.0	<10	81	115	0.9
Average	38	48	12.2			79	111	0.85
Std Dev	2.5	2.8	0.3			2.5	5.1	0.07
RSD (%)	6.7	5.9	2.3			3.2	4.6	8.3
14-8361	174	45	7.7	<1.0	11.5	174	176	12.1
Duplicate	178	48	8.0	<1.0	10.8	177	183	12.3
Average	176	46	7.9		11.2	175	179	12.2
Std Dev	2.7	2.2	0.2		0.5	1.7	4.4	0.1
RSD (%)	1.5	4.8	2.6		4.7	1.0	2.5	0.8
14-8370	55	45	10.2	<1.0	29	128	117	1.1
Duplicate	63	38	10.3	<1.0	53	124	113	1.4
Average	59	42	10.3		41	126	115	1.2
Std Dev	6.0	4.6	0.0		17	2.6	3.0	0.2
RSD (%)	10	11	0.1		41	2.1	2.6	15

Table C-124: Inorganic Element Results for Soil Sample Analytical Duplicates, 2014 (cont'd)

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
14-8378	28	52	15	<1.0	<10	60	39	0.9
Duplicate	32	57	17	<1.0	<10	69	45	1.2
Average	30	54	16			65	42	1.1
Std Dev	2.9	4.1	1.8			6.3	4.1	0.2
RSD (%)	9.6	7.5	11			9.7	9.7	21
14-8387	38	107	16	<1.0	15.8	64	73	1.4
Duplicate	33	87	14	<1.0	15.6	57	64	1.6
Average	36	97	15		15.7	61	68	1.5
Std Dev	3.3	14	1.4		0.2	5.2	5.9	0.2
RSD (%)	9.3	14	9.4		1.2	8.6	8.6	12
14-8395	31	52	10	<1.0	10.9	67	85	1.4
Duplicate	33	56	10	<1.0	12.8	72	89	1.3
Average	32	54	10		11.9	70	87	1.4
Std Dev	1.6	2.6	0.5		1.3	3.5	2.5	0.04
RSD (%)	4.9	4.8	4.8		11	5.0	2.8	3.2
14-8404	33	151	19	<1.0	<10	45	54	0.7
Duplicate	33	152	19.0	<1.0	10	47	52	1.4
Average	33	151	19			46	53	1.1
Std Dev	0.3	0.5	0.1			1.3	1.9	0.5
RSD (%)	0.9	0.4	0.4			2.8	3.6	49
14-8413	84	78	15.2	<1.0	10.9	118	155	11.1
Duplicate	80	74	14.1	<1.0	11.9	106	141	10.5
Average	82	76	14.7		11.4	112	148	10.8
Std Dev	3.0	3.0	0.8		0.7	8.3	9.9	0.5
RSD (%)	3.7	3.9	5.1		6.3	7.4	6.7	4.3
14-8422	29	72	15	<1.0	18.9	49	147	1.3
Duplicate	32	81	17	<1.0	17.6	52	160	1.0
Average	31	77	16		18.2	50	154	1.2
Std Dev	2.3	6.7	1.6		0.9	2.1	9.2	0.2
RSD (%)	7.4	8.8	9.8		5.2	4.1	6.0	17
14-8431	66	32	10	<1.0	<10	116	153	2.9
Duplicate	68	31	10	<1.0	<10	115	152	2.9
Average	67	32	10			115	152	2.9
Std Dev	1.0	0.6	0.0			1.0	1.0	0.03
RSD (%)	1.4	2.0	0.2			0.9	0.7	1.0
14-8437	38	32	7.5	<1.0	<10	82	98	1.1
Duplicate	36	33	7.7	<1.0	<10	86	101	1.1
Average	37	32	7.6			84	100	1.1
Std Dev	1.1	1.2	0.1			2.2	1.7	0
RSD (%)	3.0	3.6	1.7			2.6	1.7	0.04

Table C-124: Inorganic Element Results for Soil Sample Analytical Duplicates, 2014 (cont'd)

Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
14-8451	31	58	13	<1.0	<10	71	102	1.8
Duplicate	36	70	15	<1.0	<10	83	124	1.8
Average	34	64	14			77	113	1.8
Std Dev	3.1	8.1	1.5			8.0	15	0.1
RSD (%)	9.1	13	11			10	14	2.6
14-8460	22	38	8.1	<1.0	<10	46	70	1.5
Duplicate	25	42	9.1	<1.0	<10	48	77	1.5
Average	23	40	8.6			47	74	1.5
Std Dev	2.0	2.8	0.7			1.4	4.9	0.03
RSD (%)	8.7	7.2	7.6			3.0	6.6	1.9
14-8468	20	39	8.5	<1.0	<10	50	65	1.3
Duplicate	22	39	7.7	<1.0	<10	50	101	1.2
Average	21	39	8.1			50	83	1.3
Std Dev	1.1	0.2	0.6			0.2	25	0.1
RSD (%)	5.0	0.6	7.4			0.4	30	8.4
14-8477	18	28	7.2	<1.0	<10	34	51	0.8
Duplicate	18.2	31	7.0	<1.0	<10	32	53	0.8
Average	18.1	29	7.1			33	52	0.8
Std Dev	0.2	1.9	0.1			1.7	1.4	0
RSD (%)	0.8	6.6	1.5			5.2	2.6	0
Average RSD (%)	**6.7**	**5.8**	**5.1**		**18**	**5.1**	**5.9**	**13**
Std Dev	**± 5.0**	**± 3.8**	**± 4.2**		**± 26**	**± 3.6**	**± 6.0**	**± 21**

Table C-125: Mercury Results for Soil and Water QA/QC, 2014, ASG

Sample	Hg
1. Soil Samples	**[ppm]**
Control Spike	
Control	0.46
Control Target	0.44
Recovery (%)	105
Analytical Blank	
Blank	< 0.1
Analytical Duplicate	
14-8429	< 0.1
Duplicate	< 0.1
2. Water Samples	**mg/L**
Control Spike	
Control Sample	0.0039
Control Target	0.004
Recovery (%)	98
Analytical Blank	
Blank	< 0.004
Analytical Duplicate	
14-8187	< 0.004
Duplicate	< 0.004

Table C-126: Aroclor Polychlorinated Biphenyl (PCB) Results for Soil QA/QC Samples 2014

Sample	Aroclor 1254 [ppm]	Aroclor 1260 [ppm]
Control Spikes		
Control	5.6	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	112	
Control	5.0	< 0.05
Control Target	5.0	< 0.05
Recovery (%)	100	
Average Recovery (%)	**106**	
Std Dev	**± 8.5**	
Analytical Blanks		
Blank	< 0.05	< 0.05
Blank	< 0.05	< 0.05
Analytical Duplicates		
14-8234	<0.05	<0.05
Duplicate	<0.05	<0.05
14-8469	<0.05	<0.05
Duplicate	<0.05	<0.05

Table C-127: Aroclor Polychlorinated Biphenyl (PCB) Results for Water Samples 2014

Sample	Aroclor 1254	Aroclor 1260
	[mg/L]	[mg/L]
Control Spike		
Control	0.011	< 0.003
Control Target	0.015	< 0.003
Recovery (%)	73	
Analytical Blank		
Blank	<0.003	<0.003
Analytical Duplicate		
14-8187	<0.003	<0.003
Duplicate	<0.003	<0.003

Table C-128: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Control Spikes, 2014, ASU

Sample	F1 (C6-C10) [ppm]	F2 - F4 (C10-C50) [ppm]
Control Spikes		
Control Spike	127	180
Control Target	154	170
Recovery (%)	82	106
Control Spike	133	179
Control Target	154	170
Recovery (%)	86	105
Control Spike	145	169
Control Target	154	170
Recovery (%)	94	99
Control Spike	142	166
Control Target	154	170
Recovery (%)	92	98
Control Spike	126	152
Control Target	154	170
Recovery (%)	82	89
Control Spike	142	166
Control Target	154	170
Recovery (%)	92	98
Control Spike	127	175
Control Target	154	170
Recovery (%)	82	103
Control Spike		187
Control Target		170
Recovery (%)		110
Control Spike	129	159
Control Target	154	170
Recovery (%)	84	94
Control Spike	126	
Control Target	154	
Recovery (%)	82	
Control Spike	153	157
Control Target	154	170
Recovery (%)	99	92
Control Spike	127	176
Control Target	154	170
Recovery (%)	82	104

Table C-128: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Control Spikes, 2014, ASU (cont'd)

Sample	F1 (C6-C10) [ppm]	F2 - F4 (C10-C50) [ppm]
Control Spike	137	160
Control Target	154	170
Recovery (%)	89	94
Control Spike	130	172
Control Target	154	170
Recovery (%)	84	101
Control Spike	126	152
Control Target	154	170
Recovery (%)	82	89
Control Spike	123	171
Control Target	154	170
Recovery (%)	80	101
Control Spike		166
Control Target		170
Recovery (%)		98
Control Spike	125	141
Control Target	154	170
Recovery (%)	81	83
Control Spike	133	163
Control Target	154	170
Recovery (%)	86	96
Control Spike	126	156
Control Target	154	170
Recovery (%)	82	92
Control Spike	126	150
Control Target	154	170
Recovery (%)	82	88
Average Recovery (%)	**86**	**97**
Std Dev	**± 5.4**	**± 6.9**

Table C-129: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Analytical Blanks, 2014, ASU

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
Analytical Blanks				
Blank	<10	<10	<10	<10
Blank	<10	<10	<10	<10
Blank	<10	<10	<10	<10
Blank	<10	<10	<10	<10
Blank	<10	<10	<10	<10
Blank	<10	<10	<10	<10
Blank	<10	<10	<10	<10
Blank	<10	<10	<10	<10
Blank	<10	<10	<10	<10
Blank	<10	<10	<10	<10
Blank	<10	<10	<10	<10
Blank	<10	<10	<10	<10
Blank	<10	<10	<10	<10

Table C-130: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Field Duplicates, 2014, ASU

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]	TPH Sum [ppm]
1. Soil Samples					
14-8240	<10	<10	<10	<10	<40
14-8241	<10	<10	<10	<10	<40
14-8250	<10	<10	<10	<10	<40
14-8251	<10	<10	<10	<10	<40
14-8260	<10	<10	<10	<10	<40
14-8261	<10	<10	<10	<10	<40
14-8270	<10	<10	<10	<10	<40
14-8271	<10	<10	<10	<10	<40
14-8280	<10	<10	<10	<10	<40
14-8281	<10	<10	<10	<10	<40
14-8290	<10	<10	<10	<10	<40
14-8291	<10	<10	<10	<10	<40
14-8300	<10	<10	<10	<10	<40
14-8301	<10	<10	<10	<10	<40
14-8310	<10	<10	<10	<10	<40
14-8311	<10	<10	<10	<10	<40
14-8320	<10	<10	<10	<10	<40
14-8321	<10	<10	<10	<10	<40
14-8330	<10	<10	<10	<10	<40
14-8331	<10	<10	<10	<10	<40
14-8340	<10	<10	<10	<10	<40
14-8341	<10	<10	<10	<10	<40
14-8350	<10	<10	<10	<10	<40
14-8351	<10	<10	<10	<10	<40
14-8360	<10	<10	<10	<10	<40
14-8361	<10	<10	<10	<10	<40
14-8370	<10	<10	<10	<10	<40
14-8371	<10	<10	<10	<10	<40
14-8380	<10	<10	<10	<10	<40
14-8381	<10	<10	<10	<10	<40
14-8390	<10	<10	<10	<10	<40
14-8391	<10	<10	<10	<10	<40

Table C-130: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Field Duplicates, 2014, ASU (cont'd)

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]	TPH Sum [ppm]
14-8400	<10	<10	<10	<10	<40
14-8401	<10	<10	<10	<10	<40
14-8410	<10	<10	<10	<10	<40
14-8411	<10	<10	<10	<10	<40
14-8420	<10	<10	<10	<10	<40
14-8421	<10	<10	<10	<10	<40
14-8430	<10	<10	<10	<10	<40
14-8431	<10	<10	<10	<10	<40
14-8440	<10	<10	<10	<10	<40
14-8441	<10	<10	<10	<10	<40
14-8450	<10	<10	<10	<10	<40
14-8451	<10	<10	<10	<10	<40
14-8460	<10	<10	<10	<10	<40
14-8461	<10	<10	<10	<10	<40
14-8470	<10	<10	13	<10	<40
14-8471	<10	<10	15	<10	<40
Average			14		
Std Dev			1.4		
RSD (%)			10		

Table C-131: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Soil Sample Analytical Duplicates, 2014, ASU

Sample	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
1. Soil Samples				
14-8263	<10	<10	<10	<10
Duplicate	<10	<10	<10	<10
14-8288	<10	<10	<10	<10
Duplicate	<10	<10	<10	<10
14-8317	20	4910	102	<10
Duplicate	30	5240	68	<10
Average	25	5075	85	
Std Dev	7.1	233	24	
RSD (%)	28	4.6	28	
14-8342	15	2160	45	<10
Duplicate	14	1930	32	<10
Average	14.5	2045	39	
Std Dev	0.7	163	9.2	
RSD (%)	4.9	8.0	24	
14-8367	<10	<10	<10	<10
Duplicate	<10	<10	<10	<10
14-8392	<10	<10	<10	<10
Duplicate	<10	<10	<10	<10
14-8404	<10	-	-	-
Duplicate	<10			
14-8417		<10	<10	<10
Duplicate		<10	<10	<10
14-8435	<10	<10	<10	<10
Duplicate	<10	<10	<10	<10
14-8463	<10	<10	<10	<10
Duplicate	<10	<10	<10	<10
Average RSD (%)	**17**	**6.3**	**26**	
Std Dev	**± 17**	**± 2.4**	**± 3.1**	

Table C-132: Canadian Council of Ministers of the Environment (CCME) Hydrocarbon Results for Water QA/QC Samples, 2014, ASG

Sample	F1 (C6-C10) [mg/L]	F2 (C10-C16) [mg/L]	F3 (C16-C34) [mg/L]	F4 (C34-C50) [mg/L]
F1 Control Sample				
Control F1	0.15			
Control Target	0.16			
Recovery (%)	94			
Diesel Spike				
Diesel Spike		9.4		
Diesel Spike Target		10		
Recovery (%)		94		
F2-F4 Control Sample				
Control Standard		2700		
Control Standard Target		2500		
Recovery (%)		108		
Analytical Blanks				
Blank	<0.05			
Blank		<0.5	<1.0	<1.0

Table C-133: pH Analysis of Water QA/QC Samples, 2014, ASG

Sample ID	pH
Control Spike	
Control	6.96
Control Target	7.0
Recovery (%)	99
Analytical Duplicate	
14-8187	7.6
Duplicate	7.6
Average	7.6
Std Dev	0.01
RSD (%)	0.19

Table C-134: Inorganic Element Results for Soil IRM Samples, ALS

Analyte	IRM	IRM Target	Recovery		IRM	IRM Target	Recovery		IRM	IRM Target	Recovery
	[ppm]	[ppm]	(%)		[ppm]	[ppm]	(%)		[ppm]	[ppm]	(%)
Internal Reference Material (IRM)											
Aluminum (Al)	25800	27200	95		26300	27200	97		29500	27200	108
Antimony (Sb)	13	14.0	94		12	14.0	88		13	14.0	95
Arsenic (As)	31	34	91		31	34	92		34	34	102
Barium (Ba)	72	76	96		71	76	94		82	76	109
Beryllium (Be)	4.0	4.3	94		3.9	4.3	92		5.0	4.3	118
Boron (B)	15	16.0	97		13	16.0	85		20	16.0	127
Cadmium (Cd)	6.1	6.4	96		6.0	6.4	94		6.6	6.4	103
Calcium (Ca)	25600	27300	94		26300	27300	96		31900	27300	117
Chromium (Cr)	59.0	62	95		60	62	96		66.0	62	106
Cobalt (Co)	15	16	94		15	16	95		16.1	15.5	104
Copper (Cu)	45	47	96		45	47	95		49	47.0	103
Iron (Fe)	25600	27000	95		26300	27000	97		28800	27000	107
Lead (Pb)	19	19.0	99		18.7	19.4	96		22	19	111
Lithium (Li)	36	34	105		34	34	100		43	34	127
Magnesium (Mg)	14900	15500	96		15000	15500	97		17000	15500	110
Manganese (Mn)	800	780	104		740	780	96		820	780	106
Molybdenum (Mo)	1.7	2.1	81		1.7	2.1	81		1.7	2.1	81
Nickel (Ni)	44	48	93		45	48	94		50	48	104
Phosphorus (P)	1180	1300	91		1140	1300	88		1360	1300	105
Potassium (K)	1480	1580	94		1460	1580	92		1820	1580	115
Selenium (Se)	6.9	6.9	100		6.3	6.9	91		6.9	6.9	100
Silver (Ag)	11	12	95		11.6	12	97		11.8	12	98
Sodium (Na)	170	170	100		170	170	100		200	170	118
Strontium (Sr)	426	456	93		435	456	95		453	456	99
Thallium (Tl)	5.3	5.7	93		5.2	5.7	92		6.1	5.7	108
Tin (Sn)	9.0	9.4	96		8.7	9.4	93		11	9.4	116
Titanium (Ti)	600	660	91		540	660	82		700	660	107
Uranium (U)	1.6	1.8	89		1.6	1.8	89		1.9	1.8	106
Vanadium (V)	50	53	95		50	53	95		57	53	108
Zinc (Zn)	77	82	94		77	82	94		86	82	104

Table C-134: Inorganic Element Results for Soil IRM Samples, ALS (cont'd)

Analyte	IRM	IRM Target	Recovery		IRM	IRM Target	Recovery		Average Recovery	Std Dev	Limits
	[ppm]	[ppm]	(%)		[ppm]	[ppm]	(%)		(%)	[ppm]	(%)
Internal Reference Material (IRM)											
Aluminum (Al)	28400	27200	104		27300	27200	100		**101**	**± 5.6**	70-130
Antimony (Sb)	13.7	14.1	97		13.5	14.1	96		**94**	**± 3.6**	70-130
Arsenic (As)	34	34	100		33	34	99		**97**	**± 4.8**	70-130
Barium (Ba)	77	76	102		75	76	99		**100**	**± 5.9**	70-130
Beryllium (Be)	4.2	4.3	98		4.2	4.3	98		**100**	**± 10**	70-130
Boron (B)	15.8	15.7	101		15	16.0	95		**101**	**± 16**	70-130
Cadmium (Cd)	6.4	6.4	101		6.5	6.4	102		**99**	**± 4.0**	70-130
Calcium (Ca)	28000	27300	103		27600	27300	101		**102**	**± 9.0**	70-130
Chromium (Cr)	64.0	62	102		62	62	100		**100**	**± 4.7**	70-130
Cobalt (Co)	15.9	15.5	103		16	15.5	103		**100**	**± 4.8**	70-130
Copper (Cu)	49	47	103		48	47	101		**100**	**± 3.9**	70-130
Iron (Fe)	28500	27000	106		27000	27000	100		**101**	**± 5.1**	70-130
Lead (Pb)	19.2	19.4	99		18.9	19.4	97		**101**	**± 5.9**	70-130
Lithium (Li)	36	34	106		36	34	107		**109**	**± 10**	70-130
Magnesium (Mg)	16000	15500	103		15500	15500	100		**101**	**± 5.5**	70-130
Manganese (Mn)	780	780	100		800	780	104		**102**	**± 4.1**	70-130
Molybdenum (Mo)	1.7	2.1	81		1.8	2.1	86		**82**	**± 2.1**	70-131
Nickel (Ni)	49	48	104		48	48.0	101		**99**	**± 5.4**	70-130
Phosphorus (P)	1280	1300	99		1240	1300	95		**96**	**± 6.4**	70-130
Potassium (K)	1680	1580	106		1520	1580	96		**101**	**± 9.7**	70-130
Selenium (Se)	6.8	6.9	99		6.5	6.9	94		**97**	**± 3.9**	70-130
Silver (Ag)	11	12	95		11.8	12	98		**97**	**± 1.7**	70-130
Sodium (Na)	180	170	106		170	170	100		**105**	**± 7.7**	70-130
Strontium (Sr)	419	456	92		433	456	95		**95**	**± 2.8**	70-130
Thallium (Tl)	5.5	5.7	97		5.4	5.7	95		**97**	**± 6.6**	70-130
Tin (Sn)	9.5	9.4	101		9.2	9.4	98		**101**	**± 9.1**	70-130
Titanium (Ti)	660	660	101		580	660	89		**94**	**± 9.9**	70-130
Uranium (U)	1.7	1.8	94		1.7	1.8	94		**94**	**± 6.8**	70-131
Vanadium (V)	54	53	103		51	53	98		**100**	**± 5.8**	70-130
Zinc (Zn)	82	82	100		81	82	98		**98**	**± 4.4**	70-130

Table C-135: Inorganic Element Results for Soil LCS Samples, ALS

Analyte	LCS Recovery (%)	LCS Recovery (%)	LCS Recovery (%)	LCS Recovery (%)	LCS Recovery (%)		Average Recovery (%)	Std Dev	Limits (%)
Laboratory Control Spike (LCS)									
Aluminum (Al)	111		115				**113**	**± 2.8**	80-120
Antimony (Sb)	103	99	93	100	97		**98**	**± 3.6**	80-120
Arsenic (As)	96	99	99	94	96		**97**	**± 2.4**	80-120
Barium (Ba)	101	103	98	96	97		**99**	**± 2.8**	80-120
Beryllium (Be)	92	89	109	90	90		**94**	**± 8.4**	80-120
Bismuth (Bi)	100	103	99	95	96		**98**	**± 3.2**	80-120
Boron (B)	99	94	105	94	95		**97**	**± 4.7**	80-120
Cadmium (Cd)	100	100	99	97	98		**99**	**± 1.3**	80-120
Calcium (Ca)	97	99	99	95	97		**97**	**± 1.7**	80-120
Chromium (Cr)	98	101	98	97	99		**99**	**± 1.4**	80-120
Cobalt (Co)	97	99	98	95	96		**97**	**± 1.6**	80-120
Copper (Cu)	97	99	99	98	98		**98**	**± 0.9**	80-120
Iron (Fe)	102	108	96	97	98		**100**	**± 4.9**	80-120
Lead (Pb)	100	100	99	96	99		**99**	**± 1.7**	80-120
Lithium (Li)	94	92	116	94	95		**98**	**± 9.9**	80-120
Magnesium (Mg)	99	100	101	92	92		**97**	**± 4.5**	80-120
Manganese (Mn)	98	98	110	96	98		**100**	**± 5.7**	80-120
Molybdenum (Mo)	101	101	96	98	99		**99**	**± 2.2**	80-120
Nickel (Ni)	96	99	98	97	98		**98**	**± 1.1**	80-120
Phosphorus (P)	89	92	109	88	90		**93**	**± 8.8**	80-120
Potassium (K)	77	76	78	74	76		**76**	**± 1.3**	80-120
Selenium (Se)	106	105	99	102	103		**103**	**± 2.7**	80-120
Silver (Ag)	102	98	96	100	98		**99**	**± 2.2**	80-120
Sodium (Na)	100	99	103	94	96		**98**	**± 3.5**	80-120
Strontium (Sr)	101	97	95	93	95		**96**	**± 3.2**	80-120
Thallium (Tl)	101	102	97	94	99		**99**	**± 3.0**	80-120
Tin (Sn)	101	102	94	98	98		**98**	**± 2.9**	80-120
Titanium (Ti)	96	97	103	92	92		**96**	**± 4.5**	80-120
Uranium (U)	102	105	99	104	104		**103**	**± 2.5**	80-120
Vanadium (V)	100	101	99	97	99		**99**	**± 1.4**	80-120
Zinc (Zn)	100	100	98	102	105		**101**	**± 2.7**	80-120

Table C-136: Inorganic Element Results for Soil MS Samples, ALS

Analyte	MS Recovery (%)	MS Recovery (%)	MS Recovery (%)	MS Recovery (%)	MS Recovery (%)	Average Recovery (%)	Std Dev	Limits (%)
Matrix Spike (MS)								
Aluminum (Al)	MS-B	MS-B	MS-B	MS-B	MS-B			70-130
Antimony (Sb)	101	78	98	102	95	**95**	**± 9.9**	70-130
Arsenic (As)	100	MS-B	101	98	90	**97**	**± 5.1**	70-130
Barium (Ba)	MS-B	MS-B	MS-B	MS-B	MS-B			70-130
Beryllium (Be)	105	106	121	104	102	**108**	**± 7.8**	70-130
Bismuth (Bi)	94	97	100	102	99	**98**	**± 2.9**	70-130
Boron (B)	101	92	120	126	96	**107**	**± 15**	70-130
Cadmium (Cd)	113	100	106	105	107	**106**	**± 4.6**	70-130
Calcium (Ca)	MS-B	MS-B	MS-B	MS-B	MS-B			70-130
Chromium (Cr)	MS-B	MS-B	MS-B	MS-B	MS-B			70-130
Cobalt (Co)	102	MS-B	101	100	MS-B	**101**	**± 1.0**	70-130
Copper (Cu)	MS-B	MS-B	MS-B	MS-B	MS-B			70-130
Iron (Fe)	MS-B	MS-B	MS-B	MS-B	MS-B			70-130
Lead (Pb)	MS-B	MS-B	MS-B	MS-B	MS-B			70-130
Lithium (Li)	101	94	115	111	102	**105**	**± 8.4**	70-130
Magnesium (Mg)	MS-B	MS-B	MS-B	MS-B	MS-B			70-130
Manganese (Mn)	MS-B	MS-B	MS-B	MS-B	MS-B			70-130
Molybdenum (Mo)	112	MS-B	108	109	111	**110**	**± 2.0**	70-130
Nickel (Ni)	MS-B	MS-B	MS-B	MS-B	MS-B			70-130
Phosphorus (P)	MS-B	MS-B	MS-B	MS-B	MS-B			70-130
Potassium (K)	MS-B	MS-B	MS-B	MS-B	MS-B			70-130
Selenium (Se)	112	116	106	110	100	**109**	**± 5.9**	70-130
Silver (Ag)	101	98	101	104	105	**102**	**± 2.8**	70-130
Sodium (Na)	106	MS-B	108	106	MS-B	**107**	**± 1.6**	70-130
Strontium (Sr)	MS-B	MS-B	MS-B	MS-B	MS-B			70-130
Thallium (Tl)	95	89	96	97	94	**94**	**± 3.3**	70-130
Tin (Sn)	110	116	105	108	107	**109**	**± 4.1**	70-130
Titanium (Ti)	MS-B	MS-B	MS-B	MS-B	MS-B			70-130
Uranium (U)	106	MS-B	112	113	115	**112**	**± 4.2**	70-130
Vanadium (V)	MS-B	MS-B	MS-B	MS-B	MS-B			70-130
Zinc (Zn)	MS-B	MS-B	MS-B	MS-B	MS-B			70-130

MS-B = Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

Table C-137: Inorganic Element Results for 2014 Soil Sample Method Blanks (MB)

Analyte	MB	MB	MB	MB	MB
	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
Method Blank (MB)					
Aluminum (Al)	<50	<50	<50	<50	<50
Antimony (Sb)	<1.0	<1.0	<1.0	<1.0	<1.0
Arsenic (As)	<0.20	<0.20	<0.20	<0.20	<0.20
Barium (Ba)	<1.0	<1.0	<1.0	<1.0	<1.0
Beryllium (Be)	<0.50	<0.50	<0.50	<0.50	<0.50
Bismuth (Bi)	<1.0	<1.0	<1.0	<1.0	<1.0
Boron (B)	<5.0	<5.0	<5.0	<5.0	<5.0
Cadmium (Cd)	<0.50	<0.50	<0.50	<0.50	<0.50
Calcium (Ca)	<100	<100	<100	<100	<100
Chromium (Cr)	<1.0	<1.0	<1.0	<1.0	<1.0
Cobalt (Co)	<1.0	<1.0	<1.0	<1.0	<1.0
Copper (Cu)	<1.0	<1.0	<1.0	<1.0	<1.0
Iron (Fe)	<50	<50	<50	<50	<50
Lead (Pb)	<1.0	<1.0	<1.0	<1.0	<1.0
Lithium (Li)	<1.0	<1.0	<1.0	<1.0	<1.0
Magnesium (Mg)	<20	<20	<20	<20	<20
Manganese (Mn)	<1.0	<1.0	<1.0	<1.0	<1.0
Molybdenum (Mo)	<1.0	<1.0	<1.0	<1.0	<1.0
Nickel (Ni)	<1.0	<1.0	<1.0	<1.0	<1.0
Phosphorus (P)	<50	<50	<50	<50	<50
Potassium (K)	<100	<100	<100	<100	<100
Selenium (Se)	<1.0	<1.0	<1.0	<1.0	<1.0
Silver (Ag)	<0.20	<0.20	<0.20	<0.20	<0.20
Sodium (Na)	<100	<100	<100	<100	<100
Strontium (Sr)	<1.0	<1.0	<1.0	<1.0	<1.0
Thallium (Tl)	<0.50	<0.50	<0.50	<0.50	<0.50
Tin (Sn)	<5.0	<5.0	<5.0	<5.0	<5.0
Titanium (Ti)	<5.0	<5.0	<5.0	<5.0	<5.0
Uranium (U)	<1.0	<1.0	<1.0	<1.0	<1.0
Vanadium (V)	<1.0	<1.0	<1.0	<1.0	<1.0
Zinc (Zn)	<5.0	<5.0	<5.0	<5.0	<5.0

Table C-138: Inorganic Element Results for 2014 Soil Analytical Duplicate, ALS

Analyte	14-08309	Duplicate	Average	RPD
	[ppm]	[ppm]	[ppm]	(%)
Analytical Duplicate				
Aluminum (Al)	21400	19900	20660	7.3
Antimony (Sb)	<1.0	<1.0		
Arsenic (As)	4.5	4.1	4.3	8.1
Barium (Ba)	118	110	114	7.0
Beryllium (Be)	<0.50	<0.50		
Bismuth (Bi)	<1.0	<1.0		
Boron (B)	<5.0	<5.0		
Cadmium (Cd)	<0.50	<0.50		
Calcium (Ca)	6200	5500	5840	12
Chromium (Cr)	87	81	84	6.5
Cobalt (Co)	19	17.0	18.0	8.9
Copper (Cu)	64	60	62	6.0
Iron (Fe)	36900	34900	35900	5.6
Lead (Pb)	18.1	15.8	17	14
Lithium (Li)	35	32	34	8.3
Magnesium (Mg)	15600	14300	14960	8.7
Manganese (Mn)	455	453	454	0.4
Molybdenum (Mo)	2.5	2.4	2.5	4.1
Nickel (Ni)	90	83	86	8.2
Phosphorus (P)	497	424	461	16
Potassium (K)	6940	6220	6580	11
Selenium (Se)	<1.0	<1.0		
Silver (Ag)	<0.20	<0.20		
Sodium (Na)	350	350	350	0
Strontium (Sr)	28	26	27	6.0
Thallium (Tl)	0.59	0.56	0.6	5.2
Tin (Sn)	<5.0	<5.0		
Titanium (Ti)	1860	1840	1860	1.1
Uranium (U)	11	10	11	5.6
Vanadium (V)	69	66	68	4.7
Zinc (Zn)	78	74	76	5.9

Table C-139: Dissolved Inorganic Element Results for Water LCS and MS Samples, ALS

Analyte	LCS Spike	LCS Target	LCS Recovery		LCS Spike	LCS Target	LCS Recovery		Average Recovery	Std Dev	Limits	Method Blank	Method Blank	Equipment Blank 14-8189
	mg/L	mg/L	(%)		mg/L	mg/L	(%)		(%)		(%)	mg/L	mg/L	mg/L
Laboratory Control Spike (LCS)														
Aluminum (Al)-Dissolved	0.049	0.05	98		0.049	0.05	99		**98**	**± 0.7**	*80-120*	<0.01	<0.01	0.1
Antimony (Sb)-Dissolved	0.046	0.05	93		0.049	0.05	99		**96**	**± 4.4**	*80-120*	<0.0005	<0.0005	<0.0005
Arsenic (As)-Dissolved	0.047	0.05	93		0.049	0.05	98		**96**	**± 3.7**	*80-120*	<0.001	<0.001	<0.001
Barium (Ba)-Dissolved	0.045	0.05	90		0.049	0.05	99		**94**	**± 6.1**	*80-120*	<0.002	<0.002	0.0163
Beryllium (Be)-Dissolved	0.048	0.05	96		0.049	0.05	99		**97**	**± 2.1**	*80-120*	<0.0004	<0.0004	<0.0004
Bismuth (Bi)-Dissolved	0.046	0.05	92		0.048	0.05	96		**94**	**± 2.8**	*80-120*	<0.001	<0.001	<0.001
Boron (B)-Dissolved	0.11	0.13	91		0.12	0.13	95		**93**	**± 2.8**	*80-120*	<0.01	<0.01	0.024
Cadmium (Cd)-Dissolved	0.046	0.05	93		0.049	0.05	97		**95**	**± 3.4**	*80-120*	<0.000090	<0.000090	<0.000090
Calcium (Ca)-Dissolved	4.6	5.0	93		5.1	5.0	102		**97**	**± 6.6**	*80-120*	<0.5	<0.5	1.22
Chromium (Cr)-Dissolved	0.046	0.05	92		0.048	0.05	95		**94**	**± 1.8**	*80-120*	<0.00050	<0.00050	<0.00050
Cobalt (Co)-Dissolved	0.046	0.05	93		0.048	0.05	96		**94**	**± 2.5**	*80-120*	<0.00030	<0.00030	<0.00030
Copper (Cu)-Dissolved	0.047	0.05	93		0.049	0.05	98		**96**	**± 3.3**	*80-120*	<0.001	<0.001	<0.001
Iron (Fe)-Dissolved	1.2	1.3	93		1.2	1.3	97		**95**	**± 2.8**	*80-120*	<0.05	<0.05	0.062
Lead (Pb)-Dissolved	0.047	0.05	93		0.047	0.05	95		**94**	**± 1.3**	*80-120*	<0.00050	<0.00050	0.0013
Lithium (Li)-Dissolved	1.2	1.3	96		1.1	1.3	90		**93**	**± 4.0**	*80-120*	<0.1	<0.1	<0.1
Magnesium (Mg)-Dissolved	4.6	5.0	91		4.6	5.0	91		**91**	**± 0.1**	*80-120*	<0.5	<0.5	<0.5
Manganese (Mn)-Dissolved	0.047	0.05	93		0.048	0.05	96		**95**	**± 2.1**	*80-120*	<0.001	<0.001	0.0036
Molybdenum (Mo)-Dissolved	0.047	0.05	94		0.049	0.05	98		**96**	**± 3.0**	*80-120*	<0.00050	<0.00050	<0.00050
Nickel (Ni)-Dissolved	0.046	0.05	93		0.048	0.05	96		**94**	**± 2.5**	*80-120*	<0.001	<0.001	<0.001
Phosphorus (P)-Dissolved	1.2	1.3	97		1.2	1.3	99		**98**	**± 1.7**	*80-120*	<0.05	<0.05	<0.05
Potassium (K)-Dissolved	1.1	1.3	89		1.2	1.3	96		**92**	**± 5.1**	*80-120*	<1.0	<1.0	<1.0
Selenium (Se)-Dissolved	0.047	0.05	93		0.049	0.05	97		**95**	**± 3.0**	*80-120*	<0.00040	<0.00040	<0.00040
Silicon (Si)-Dissolved	1.2	1.3	98		1.28	1.26	102		**100**	**± 2.3**	*80-120*	<1.0	<1.0	5.5
Silver (Ag)-Dissolved	0.049	0.05	98		0.05	0.05	101		**99**	**± 2.0**	*80-120*	<0.00010	<0.00010	<0.00010
Sodium (Na)-Dissolved	4.5	5.0	90		4.6	5.0	92		**91**	**± 1.8**	*80-120*	<0.5	<0.5	2.28
Strontium (Sr)-Dissolved	0.048	0.05	95		0.05	0.05	99		**97**	**± 3.0**	*80-120*	<0.001	<0.001	0.0029
Thallium (Tl)-Dissolved	0.048	0.05	95		0.049	0.05	98		**97**	**± 2.1**	*80-120*	<0.00020	<0.00020	<0.00020
Tin (Sn)-Dissolved	0.12	0.13	93		0.12	0.13	98		**96**	**± 4.0**	*80-120*	<0.001	<0.001	<0.001
Titanium (Ti)-Dissolved	0.11	0.13	91		0.12	0.13	98		**94**	**± 4.5**	*80-120*	<0.002	<0.002	0.0082
Tungsten (W)-Dissolved	0.12	0.13	94		0.12	0.13	94		**94**	**± 0.6**	*80-120*	<0.01	<0.01	<0.01
Uranium (U)-Dissolved	0.047	0.05	94		0.05	0.05	99		**97**	**± 3.5**	*80-120*	<0.001	<0.001	<0.001
Vanadium (V)-Dissolved	0.047	0.05	93		0.049	0.05	98		**96**	**± 3.7**	*80-120*	<0.00050	<0.00050	<0.00050
Zinc (Zn)-Dissolved	0.046	0.05	93		0.048	0.05	97		**95**	**± 2.8**	*80-120*	<0.003	<0.003	<0.003
Zirconium (Zr)-Dissolved	0.12	0.13	95		0.126	0.13	101		**98**	**± 4.0**	*80-120*	<0.004	<0.004	<0.004

Table C-139: Dissolved Inorganic Element Results for Water LCS and MS Samples, ALS (cont'd)

Analyte	MS Spike	MS Target	MS Recovery		MS Spike	MS Target	MS Recovery		Average Recovery	Std Dev	Limits (%)
	mg/L	mg/L	(%)		mg/L	mg/L	(%)		(%)		
Matrix Spike (MS)											
Aluminum (Al)-Dissolved	0.467	0.375	MS-B		0.086	0.098	88		**88**		*70-130*
Antimony (Sb)-Dissolved	0.052	0.1	105		0.0	0.05	98		**101**	**± 4.9**	*70-130*
Arsenic (As)-Dissolved	0.052	0.1	105		0.047	0.05	95		**100**	**± 7.1**	*70-130*
Barium (Ba)-Dissolved	0.055	0.1	109		0.062	0.063	98		**103**	**± 8.2**	*70-130*
Beryllium (Be)-Dissolved	0.1	0.1	109		0.0	0.1	98		**103**	**± 7.6**	*70-130*
Bismuth (Bi)-Dissolved	0.049	0.1	97		0.044	0.05	88		**93**	**± 6.1**	*70-130*
Boron (B)-Dissolved	0.124	0.1	99		0.125	0.125	100		**100**	**± 0.6**	*70-130*
Cadmium (Cd)-Dissolved	0.053	0.05	106		0.048	0.05	95		**101**	**± 7.2**	*70-130*
Calcium (Ca)-Dissolved	5.5	5.6	98		14	15	MS-B		**98**		*70-130*
Chromium (Cr)-Dissolved	0.053	0.05	105		0.045	0.05	90		**98**	**± 11**	*70-130*
Cobalt (Co)-Dissolved	0.052	0.1	104		0.045	0.05	91		**98**	**± 9.5**	*70-130*
Copper (Cu)-Dissolved	0.053	0.1	105		0.047	0.05	94		**100**	**± 8.2**	*70-130*
Iron (Fe)-Dissolved	1.46	1.3	109		1.26	1.38	91		**100**	**± 13**	*70-130*
Lead (Pb)-Dissolved	0.053	0.1	106		0.046	0.05	91		**99**	**± 11**	*70-130*
Lithium (Li)-Dissolved	1.38	1.3	110		1.14	1.26	90		**100**	**± 14**	*70-130*
Magnesium (Mg)-Dissolved	5.38	5.0	108		6.4	7.28	88		**98**	**± 14**	*70-130*
Manganese (Mn)-Dissolved	0.054	0.1	104		0.047	0.053	89		**97**	**± 10**	*70-130*
Molybdenum (Mo)-Dissolved	0.053	0.051	104		0.049	0.05	98		**101**	**± 4.0**	*70-130*
Nickel (Ni)-Dissolved	0.052	0.05	104		0.046	0.05	91		**98**	**± 8.6**	*70-130*
Phosphorus (P)-Dissolved	1.32	1.3	105		1.22	1.26	97		**101**	**± 5.7**	*70-130*
Selenium (Se)-Dissolved	0.054	0.1	108		0.049	0.05	98		**103**	**± 7.2**	*70-130*
Silicon (Si)-Dissolved	4.44	3.8	MS-B		2.34	2.56	MS-B				*70-130*
Silver (Ag)-Dissolved	0.051	0.05	103		0.049	0.05	99		**101**	**± 2.8**	*70-130*
Sodium (Na)-Dissolved	15.6	18.2	MS-B		8.06	9.38	86		**86**		*70-130*
Strontium (Sr)-Dissolved	0.06	0.1	107		0.114	0.121	MS-B		**107**		*70-130*
Thallium (Tl)-Dissolved	0.054	0.1	108		0.047	0.05	93		**101**	**± 11**	*70-130*
Tin (Sn)-Dissolved	0.13	0.125	104		0.12	0.125	96		**100**	**± 5.7**	*70-130*
Titanium (Ti)-Dissolved	0.132	0.1	102		0.118	0.125	94		**98**	**± 5.0**	*70-130*
Tungsten (W)-Dissolved	0.1	0.1	112		0.115	0.125	92		**102**	**± 14**	*70-130*
Uranium (U)-Dissolved	0.053	0.05	105		0.048	0.05	95		**100**	**± 7.1**	*70-130*
Vanadium (V)-Dissolved	0.052	0.05	104		0.0	0.051	93		**99**	**± 7.9**	*70-130*
Zinc (Zn)-Dissolved	0.134	0.2	N/A		0.047	0.05	94		**94**		*70-130*
Zirconium (Zr)-Dissolved	0.134	0.1	107		0.122	0.125	98		**102**	**± 6.8**	*70-130*

MS-B = Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

Table C-140: Dissolved Inorganic Element Results for 2014 Water Field and Analytical Duplicates, ALS

Analyte	14-08180	14-08181	Average	Std Dev	RSD		Anonymous	Duplicate	Average	Std Dev	RSD
	mg/L	mg/L	mg/L		(%)		mg/L	mg/L	mg/L		(%)
	Field Duplicate						*Analytical Duplicate*				
Aluminum (Al)-Dissolved	0.27	0.35	0.31	0.05	17		0.33	0.27	0.3	0.04	12
Antimony (Sb)-Dissolved	<0.0005	<0.0005					<0.00050	<0.00050			
Arsenic (As)-Dissolved	<0.001	<0.001					<0.001	<0.001			
Barium (Ba)-Dissolved	<0.002	0					<0.002	<0.002			
Beryllium (Be)-Dissolved	<0.00040	<0.00040					<0.00040	<0.00040			
Bismuth (Bi)-Dissolved	<0.001	<0.001					<0.001	<0.001			
Boron (B)-Dissolved	<0.01	<0.01					<0.01	<0.01			
Cadmium (Cd)-Dissolved	<0.000090	<0.000090					<0.000090	<0.000090			
Calcium (Ca)-Dissolved	0.51	0.84	0.68	0.23	35		0.59	0.51	0.6	0.06	10
Chromium (Cr)-Dissolved	<0.0005	<0.0005					<0.00050	<0.00050			
Cobalt (Co)-Dissolved	<0.00030	<0.00030					<0.00030	<0.00030			
Copper (Cu)-Dissolved	<0.001	<0.001					<0.001	<0.001			
Iron (Fe)-Dissolved	0.081	0	0	0.025	25		0.081	0.07	0.08	0.01	9.3
Lead (Pb)-Dissolved	<0.0005	<0.0005					<0.00050	<0.00050			
Lithium (Li)-Dissolved	<0.1	<0.1					<0.1	<0.1			
Magnesium (Mg)-Dissolved	<0.5	0.51					<0.5	<0.5			
Manganese (Mn)-Dissolved	0.002	0.0033	0.003	0.001	35		0.0019	0.002	0.002	0.0001	3.6
Mercury (Hg)-Dissolved	<0.00010	<0.00010					<0.00010	<0.00010			
Molybdenum (Mo)-Dissolved	0.0011	0.0008	0.0010	0.0002	21		0.00109	0.0011	0.001	0.00001	0.6
Nickel (Ni)-Dissolved	<0.001	<0.001					<0.001	<0.001			
Phosphorus (P)-Dissolved	<.050	<.050					<0.05	<0.05			
Potassium (K)-Dissolved	<1.0	<1.0					<1.0	<1.0			
Selenium (Se)-Dissolved	<0.00040	<0.00040					<0.00040	<0.00040			
Silicon (Si)-Dissolved	2.5	2.9	2.7	0.28	10		2.5	2.4	2.5	0.07	2.9
Silver (Ag)-Dissolved	<0.00010	<0.00010					<0.00010	<0.00010			
Sodium (Na)-Dissolved	13	8.6	11	3.1	29		13.2	13.2	13	0	0
Strontium (Sr)-Dissolved	0.0056	0.0	0.0	0.001	20		0.0059	0.0054	0.01	0.0004	6.3
Thallium (Tl)-Dissolved	<0.0002	<0.0002					<0.002	<0.002			
Tin (Sn)-Dissolved	<0.001	<0.001					<0.001	<0.001			
Titanium (Ti)-Dissolved	0.0067	0.0043	0.006	0.0	31		0.0051	0.0039	0.005	0.001	19
Tungsten (W)-Dissolved	<0.01	<0.01					<0.01	<0.01			
Uranium (U)-Dissolved	<0.001	<0.001					<0.001	<0.001			
Vanadium (V)-Dissolved	<0.00050	<0.00050					<0.00050	<0.00050			
Zinc (Zn)-Dissolved	0.097	0.218	0.16	0.09	54		0.106	0.0959	0.1	0.01	7.1
Zirconium (Zr)-Dissolved	<0.004	<0.004					<0.004	<0.004			

Table C-141: Mercury Analysis of Soil Sample Controls, ALS 2014

Sample ID	Mercury Recovery (%)
Certified Reference Material (ALS PHC2 IRM)	
IRM	111
IRM	88
IRM	109
IRM	109
IRM	90
IRM	113
IRM	89
IRM	98
IRM	97
IRM	96
IRM	94
IRM	96
IRM	90
Average Recovery (%)	**98**
Std Dev	**± 8.8**
Laboratory Control Spike (LCS)	
LCS	111
LCS	106
LCS	102
LCS	102
LCS	104
LCS	102
LCS	103
LCS	99
LCS	93
LCS	92
LCS	97
LCS	108
LCS	96
Average Recovery (%)	**101**
Std Dev	**± 5.5**
Matrix Spike (MS)	
MS	113
MS	102
MS	93
MS	93
MS	98
MS	100
MS	101
MS	94
MS	93
MS	88
MS	84
MS	90
MS	105
Average Recovery (%)	**96**
Std Dev	**± 7.6**

Table C-142: Mercury Analysis of Soil Method Blanks and Field Duplicates, ALS 2014

Sample ID	Mercury ppm
Method Blanks	
MB	<0.010
MB	<0.010
MB	<0.010
MB	<0.010
MB	<0.010
MB	<0.010
MB	<0.010
MB	<0.010
MB	<0.010
MB	<0.010
MB	<0.010
MB	<0.010
MB	<0.010
Field Duplicates	
14-08240	0.013
14-08241	<0.010
14-08250	<0.010
14-08251	<0.010
14-08260	<0.010
14-08261	<0.010
14-08270	<0.010
14-08271	<0.010
14-08280	<0.010
14-08281	<0.010
14-08290	<0.010
14-08291	<0.010
14-08300	<0.010
14-08301	<0.010
14-08310	<0.010
14-08311	<0.010
14-08320	<0.010
14-08321	<0.010
14-08330	<0.010
14-08331	<0.010
14-08340	<0.010
14-08341	<0.010
14-08350	<0.010
14-08351	<0.010

Sample ID	Mercury ppm
Field Duplicates	
14-08360	<0.010
14-08361	<0.010
14-08370	<0.010
14-08371	<0.010
14-08380	<0.010
14-08381	<0.010
14-08390	<0.010
14-08391	<0.010
14-08400	<0.010
14-08401	<0.010
14-08410	<0.010
14-08411	<0.010
14-08420	<0.010
14-08421	<0.010
14-08430	<0.010
14-08431	<0.010
14-08440	<0.010
14-08441	<0.010
14-08450	<0.010
14-08451	<0.010
14-08460	<0.010
14-08461	<0.010
14-08470	<0.010
14-08471	<0.010

Table C-143: Mercury Analysis of Soil Analytical Duplicates, ALS 2014

Sample ID	Mercury ppm
Analytical Duplicates	
Anonymous	0.09
Duplicate	0.08
RSD (%)	7.8
Anonymous	<0.010
Duplicate	<0.010
Anonymous	<0.010
Duplicate	<0.010
Anonymous	<0.010
Duplicate	<0.010
Anonymous	<0.010
Duplicate	<0.010
Anonymous	<0.010
Duplicate	<0.010
Anonymous	<0.010
Duplicate	<0.010
Anonymous	<0.010
Duplicate	<0.010
Anonymous	<0.010
Duplicate	<0.010
Anonymous	<0.010
Duplicate	<0.010
Anonymous	<0.010
Duplicate	<0.010
Anonymous	<0.010
Duplicate	<0.010
Anonymous	<0.010
Duplicate	<0.010
Anonymous	0.41
Duplicate	0.48
RSD (%)	20

Table C-144: Mercury Analysis of Water QA/QC Samples
ALS 2014

Sample ID	Mercury
	mg/L
Laboratory Control Spike (LCS)	0.00195
LCS Target	0.002
Recovery (%)	98
Matrix Spike (MS)	0.00094
MS Target	0.001
Recovery (%)	94
Method Blank	<0.0001
Analytical Duplicate (Anonymous)	<0.0001
Duplicate	<0.0001

Table C-145: Aroclor PCB Analysis of Soil Sample Laboratory Control Spikes (LSC)

Sample ID	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
	[ppm]	[ppm]	[ppm]	[ppm]
Laboratory Control Spikes (LCS)				
LCS	0.17	0.198	0.17	0.14
LCS Target	0.2	0.2	0.2	0.2
Recovery (%)	85	99	87	72
LCS	0.18	0.21	0.19	0.16
LCS Target	0.2	0.2	0.2	0.2
Recovery (%)	88	104	93	78
LCS	0.18	0.21	0.18	0.15
LCS Target	0.2	0.2	0.2	0.2
Recovery (%)	88	105	90	77
LCS	0.19	0.2	0.18	0.15
LCS Target	0.2	0.2	0.2	0.2
Recovery (%)	93	100	92	73
LCS	0.18	0.21	0.18	0.15
LCS Target	0.2	0.2	0.2	0.2
Recovery (%)	88	105	90	77
LCS	0.19	0.22	0.2	0.17
LCS Target	0.2	0.2	0.2	0.2
Recovery (%)	93	111	100	86
LCS	0.17	0.196	0.17	0.15
LCS Target	0.2	0.2	0.2	0.2
Recovery (%)	83	98	87	74
LCS	0.19	0.19	0.21	0.19
LCS Target	0.2	0.2	0.2	0.2
Recovery (%)	97	95	105	96
LCS	0.18	0.21	0.18	0.15
LCS Target	0.2	0.2	0.2	0.2
Recovery (%)	88	105	90	73
LCS	0.17	0.22	0.18	0.14
LCS Target	0.2	0.2	0.2	0.2
Recovery (%)	86	108	89	70
Average Recovery (%)	**89**	**103**	**93**	**78**
Std Dev	**± 4.2**	**± 4.9**	**± 5.8**	**± 7.8**

Table C-146: Aroclor PCB Analysis of Soil Sample Matrix Spikes (MS)

Sample ID	Aroclor 1242	Aroclor 1254	Aroclor 1260
	[ppm]	[ppm]	[ppm]
Matrix Spikes (MS)			
MS	0.2	0.21	0.19
MS Target	0.22	0.23	0.24
Recovery (%)	91	89	79
MS	0.17	0.19	0.18
MS Target	0.22	0.22	0.22
Recovery (%)	78	86	84
MS	0.17	0.18	0.16
MS Target	0.21	0.21	0.21
Recovery (%)	83	87	77
MS	0.19	0.19	0.15
MS Target	0.21	0.21	0.21
Recovery (%)	91	91	73
MS	0.17	0.18	0.16
MS Target	0.21	0.21	0.21
Recovery (%)	83	87	77
MS	0.2	0.22	0.18
MS Target	0.21	0.24	0.21
Recovery (%)	94	93	85
MS	0.18	0.22	0.19
MS Target	0.21	0.23	0.21
Recovery (%)	86	98	90
MS	0.232	0.24	0.22
MS Target	0.225	0.23	0.23
Recovery (%)	103	105	96
MS	0.18	0.2	0.16
MS Target	0.22	0.22	0.22
Recovery (%)	84	91	73
MS	0.17	0.18	0.15
MS Target	0.21	0.21	0.21
Recovery (%)	82	86	69
MS	0.2	0.214	0.18
MS Target	0.21	0.214	0.21
Recovery (%)	94	100	86
MS	0.19	0.18	0.18
MS Target	0.23	0.23	0.23
Recovery (%)	83	79	79
MS	0.16	0.15	0.15
MS Target	0.2	0.2	0.2
Recovery (%)	78	77	77
Average Recovery (%)	**87**	**90**	**80**
Std Dev	**± 7.3**	**± 7.9**	**± 7.5**

Table C-147: Aroclor PCB Analysis of Soil Sample Method Blanks (MB)

Sample ID	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
	[ppm]	[ppm]	[ppm]	[ppm]
Method Blanks (MB)				
MB	<0.010	<0.010	<0.010	<0.010
MB	<0.010	<0.010	<0.010	<0.010
MB	<0.010	<0.010	<0.010	<0.010
MB	<0.010	<0.010	<0.010	<0.010
MB	<0.010	<0.010	<0.010	<0.010
MB	<0.010	<0.010	<0.010	<0.010
MB	<0.010	<0.010	<0.010	<0.010
MB	<0.010	<0.010	<0.010	<0.010
MB	<0.010	<0.010	<0.010	<0.010
MB	<0.010	<0.010	<0.010	<0.010
MB	<0.010	<0.010	<0.010	<0.010
MB	<0.010	<0.010	<0.010	<0.010
MB	<0.010	<0.010	<0.010	<0.010

Table C-148: Aroclor PCB Analysis of Soil Sample Field Duplicates

Sample ID	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
	[ppm]	[ppm]	[ppm]	[ppm]
14-08240	<0.010	<0.010	0.07	0.08
14-08241	<0.010	<0.010	0.3	0.2
Average			0.16	0.14
Std Dev			0.13	0.08
RSD (%)			82	58
14-08250	<0.010	<0.010	<0.010	<0.010
14-08251	<0.010	<0.010	<0.010	<0.010
14-08340	<0.010	<0.010	<0.010	<0.010
14-08341	<0.010	<0.010	<0.010	<0.010
14-08350	<0.010	<0.010	<0.010	<0.010
14-08351	<0.010	<0.010	<0.010	<0.010
14-08400	<0.010	<0.010	<0.010	<0.010
14-08401	<0.010	<0.010	<0.010	<0.010

Table C-149: Aroclor PCB Analysis of Soil Sample Analytical Duplicates

Sample ID	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
	[ppm]	[ppm]	[ppm]	[ppm]
Anonymous	<0.010	<0.010	0.012	0.02
Duplicate	<0.010	<0.010	0.011	0.017
Average			0.012	0.02
Std Dev			0.001	0.002
RSD(%)			6.1	12
Anonymous	<0.010	<0.010	<0.010	<0.010
Duplicate	<0.010	<0.010	<0.010	<0.010
Anonymous	<0.010	<0.010	<0.010	<0.010
Duplicate	<0.010	<0.010	<0.010	<0.010
Anonymous	<0.010	<0.010	<0.010	<0.010
Duplicate	<0.010	<0.010	<0.010	<0.010
Anonymous	<0.010	<0.010	<0.010	<0.010
Duplicate	<0.010	<0.010	<0.010	<0.010
Anonymous	<0.010	<0.010	0.027	<0.010
Duplicate	<0.010	<0.010	0.027	<0.010
Average			0.027	
Std Dev			0	
RSD(%)			0	
Anonymous	<0.010	<0.010	0.014	<0.010
Duplicate	<0.010	<0.010	0.02	<0.010
Average			0.017	
Std Dev			0.004	
RSD(%)			25	
Anonymous	<0.010	<0.010	<0.010	<0.010
Duplicate	<0.010	<0.010	<0.010	<0.010
Anonymous	<0.010	<0.010	<0.010	<0.010
Duplicate	<0.010	<0.010	<0.010	<0.010
Anonymous	<0.010	<0.010	<0.010	<0.010
Duplicate	<0.010	<0.010	<0.010	<0.010
Anonymous	<0.010	<0.010	<0.010	<0.010
Duplicate	<0.010	<0.010	<0.010	<0.010
Anonymous	<0.010	<0.010	<0.010	<0.010
Duplicate	<0.010	<0.010	<0.010	<0.010
Average RSD (%)			**10**	**12**
Std Dev			**± 13**	**-**

Table C-149: Aroclor PCB Analysis of Soil Sample Analytical Duplicates (cont'd)

Sample ID	Aroclor 1242 (% Recovery)	Aroclor 1248 (% Recovery)	Aroclor 1254 (% Recovery)	Aroclor 1260 (% Recovery)
Laboratory Control Spike Duplicates				
WG1933702-2 LCS	85	99	87	71
Duplicate	83	99	86	69
Average	84	99	86	70
Std Dev	1.6	0	0.6	1.6
RSD(%)	1.9	0	0.7	2.2
WG1934141-2 LCS	88	105	90	77
Duplicate	81	105	87	74
Average	84	105	89	75
Std Dev	4.9	0	2.3	2.4
RSD(%)	5.8	0	2.6	3.2
WG1933894-2 LCS	92	100	92	72
Duplicate	100	100	97	78
Average	96	100	95	75
Std Dev	5.4	0	3.7	4.2
RSD(%)	5.6	0	4.0	5.6
WG1934141-2 LCS	88	105	90	77
Duplicate	81	105	87	74
Average	84	105	89	75
Std Dev	4.9	0	2.3	2.4
RSD(%)	5.8	0	2.6	3.2
WG1934157-2 LCS	93	110	100	85
Duplicate	93	110	97	86
Average	93	110	98	86
Std Dev	0.07	0	2.5	0.3
RSD(%)	0.08	0	2.5	0.3
WG1934710-2 LCS	83	98	87	74
Duplicate	92	98	96	90
Average	87	98	92	82
Std Dev	6.5	0	6.3	11
RSD(%)	7.5	0	6.9	13
WG1934926-2 LCS	96	95	105	96
Duplicate	102	95	103	93
Average	99	95	104	94
Std Dev	4.0	0	1.6	1.8
RSD(%)	4.1	0	1.5	2

Table C-149: Aroclor PCB Analysis of Soil Sample Analytical Duplicates (cont'd)

Sample ID	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
	(% Recovery)	(% Recovery)	(% Recovery)	(% Recovery)
WG1935584-2 LCS	87	105	89	72
Duplicate	97	105	100	83
Average	92	105	95	78
Std Dev	6.9	0	7.5	7.5
RSD(%)	7.4	0	8.0	9.7
WG1935797-2 LCS	86	108	89	70
Duplicate	84	108	90	68
Average	85	108	90	69
Std Dev	0.8	0	0.99	1.1
RSD(%)	0.9	0	1.1	1.6
WG1937178-2 LCS	97	86	103.9	85
Duplicate	98	86	103.7	87
Average	98	86	104	86
Std Dev	0.9	0	0.14	1.6
RSD(%)	0.9	0	0.14	1.8
WG1937179-2 LCS	73	66	73	71
Duplicate	83	66	80	79
Average	78	66	77	75
Std Dev	6.9	0	5.2	5.9
RSD(%)	8.8	0	6.8	7.9
WG1938355-2 LCS	80	84	77	76
Duplicate	72	84	74	69
Average	76	84	75	73
Std Dev	5.4	0	2.6	4.7
RSD(%)	7.2	0	3.5	6.4
Average RSD (%)	**4.7**	**0**	**3.4**	**4.7**
Std Dev	**± 3.0**	**0**	**± 2.6**	**± 3.9**

Table C-150: Aroclor PCB Analysis of Water QA/QC Samples

Sample ID	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
	[ppm]	[ppm]	[ppm]	[ppm]
Laboratory Control Spikes (LCS)				
LCS	0.000147	0.000174	0.000167	0.000173
LCS Target	0.0002	0.0002	0.0002	0.0002
Recovery (%)	74	87	84	87
LCS	0.000186	0.000211	0.0002	0.000172
LCS Target	0.0002	0.0002	0.0002	0.0002
Recovery (%)	93	106	100	86
Average Recovery (%)	**83**	**96**	**92**	**86**
Std Dev	**± 14**	**± 13**	**± 12**	**± 0.4**
Analytical Blanks				
Method Blank	<0.000020	<0.000020	<0.000020	<0.000020
Method Blank	<0.000020	<0.000020	<0.000020	<0.000020
Sample ID	**Aroclor 1242**	**Aroclor 1248**	**Aroclor 1254**	**Aroclor 1260**
	(% Recovery)	**(% Recovery)**	**(% Recovery)**	**(% Recovery)**
Laboratory Control Spike Replicate				
WG1934347-2 LCS	93	106	100	86
Duplicate	94	106	101	85
Average	94	106	100	85
Std Dev	0.7	0	0.6	1.2
RSD (%)	0.8	0	0.6	1.4

Table C-151: CCME Hydrocarbon Analysis of Soil Sample Controls, ALS 2014

Sample ID	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
Certified Reference Material (ALS PHC2 IRM)				
CRM		1370	2850	1900
Control Target		1680	3100	1900
Recovery (%)		82	92	100
CRM		1590	3210	2110
Control Target		1680	3100	1900
Recovery (%)		95	104	111
CRM		1540	3340	2200
Control Target		1680	3100	1900
Recovery (%)		92	108	116
CRM		1810	3640	2400
Control Target		1680	3100	1900
Recovery (%)		108	117	126
CRM		1460	2990	1750
Control Target		1680	3100	1900
Recovery (%)		87	96	92
Average Recovery (%)		**93**	**103**	**109**
Std Dev		**± 9.9**	**± 9.9**	**± 13**
Laboratory Control Spike (LCS)				
LCS	12			
Control Target	13			
Recovery (%)	98			
LCS	14			
Control Target	13			
Recovery (%)	113			
LCS		272	738	87
Control Target		269	661	80
Recovery (%)		101	112	109
LCS		260	669	79.9
Control Target		269	661	80
Recovery (%)		97	101	100
LCS		229	657	83
Control Target		269	661	80
Recovery (%)		85	99	104
LCS		265	686	79
Control Target		269	661	80
Recovery (%)		99	104	99

Table C-151: CCME Hydrocarbon Analysis of Soil Sample Controls, ALS 2014 (cont'd)

Sample ID	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
LCS		263	686	83
Control Target		269	661	80
Recovery (%)		98	104	103
Average Recovery (%)	**106**	**96**	**104**	**103**
Std Dev	**± 10**	**± 6.2**	**± 4.7**	**± 3.9**
Matrix Spike (MS)				
MS	10			
Control Target	11			
Recovery (%)	94			
MS	15			
Control Target	12			
Recovery (%)	126			
MS		225	641	78
Control Target		282	692	83
Recovery (%)		80	93	94
MS		276	730	88
Control Target		286	702	85
Recovery (%)		97	104	103
MS		291	816	97.8
Control Target		331	813	98
Recovery (%)		88	100	100
MS		304	836	106
Control Target		281	689	83
Recovery (%)		108	121	128
MS		300	753	89
Control Target		305	749	90
Recovery (%)		98	101	99
Average Recovery (%)	**110**	**94**	**104**	**105**
Std Dev	**± 22**	**± 11**	**± 11**	**± 13**

Table C-152: CCME Hydrocarbon Analysis of Soil Blanks and Analytical Duplicates, ALS 2014

Sample ID	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]
Method Blanks				
Blank	<5.0	<10	<50	<50
Blank	<5.0	<10	<50	<50
Blank		<10	<50	<50
Blank		<10	<50	<50
Analytical Duplicates				
Anonymous		101	112	109
Duplicate		85	96	92
Average		93	104	101
Std Dev		11	11	12
RSD (%)		12	11	12
Anonymous		97	101	100
Duplicate		90	95	103
Average		93	98	102
Std Dev		4.6	4.4	1.8
RSD (%)		4.9	4.5	1.7
Anonymous		85	99	105
Duplicate		90	105	108
Average		87	102	106
Std Dev		3.2	4.2	2.8
RSD (%)		3.6	4.1	2.6
Anonymous		98	104	100
Duplicate		98	103	98
Average		98	103	99
Std Dev		0.4	0.9	1.0
RSD (%)		0.4	0.8	1.0
Anonymous		98	104	104
Duplicate		98	106	106
Average		98	105	105
Std Dev		0.07	1.6	2.0
RSD (%)		0.07	1.5	1.9
Average RSD (%)		**4.2**	**4.3**	**3.9**
Std Dev		**± 4.9**	**± 3.9**	**± 4.8**

Table C-153: CCME Hydrocarbon Analysis of Soil Sample Controls, ALS 2014

Sample ID	F1 (C6-C10)	F2 (C10-C16)	F3 (C16-C34)	F4 (C34-C50)
	[ppm]	[ppm]	[ppm]	[ppm]
Laboratory Control Spike (LCS)				
LCS		6.7	18	2.1
Control Target		6.0	15	1.8
Recovery (%)		112	121	118
LCS		4.3	11	14
Control Target		6.1	15	17
Recovery (%)		70	79	84
Average Recovery (%)		**91**	**100**	**101**
Std Dev		**± 30**	**± 30**	**± 23**
Matrix Spike (MS)				
MS		1.9	1.9	1.9
Control Target		2.0	2.0	2.0
Recovery (%)		97	97	96
Analytical Blanks				
Blank	<0.025	<0.1	<0.25	<0.25
Blank	<0.1			
Blank	<0.1	<0.1	<0.25	<0.25
Travel Blank	<0.1			
Analytical Duplicates				
Anonymous	<0.025			
Duplicate	<0.025			
		(% Recovery)	**(% Recovery)**	**(% Recovery)**
Laboratory Control Spike (LCS)		70	78	84
Duplicate		75	83	90
Average		73	81	87
Std Dev		3.7	3.5	3.9
RSD (%)		5.1	4.4	4.5

Table C-154: Comparison of Inorganic Element Results for 2014 Soil Samples Analyzed at ALS and at ASU

Sample	Laboratory	Depth (cm)	Cu [ppm]	Ni [ppm]	Co [ppm]	Cd [ppm]	Pb [ppm]	Zn [ppm]	Cr [ppm]	As [ppm]	Hg [ppm]
14-8248	ASU	10	34	45	11	<1.0	<10	60	82	2	
14-8249	ALS	10	28	34	8.8	<0.50	7.2	45	64	1.6	
Average			31	40	9.7			53	73	1.8	
Std Dev			4.9	7.2	1.3			10	13	0.3	
RSD (%)			16	18	14			20	18	15	
14-8258	ASU	40	16	125	15	<1.0	<10	94	71	1	<0.1
14-8259	ALS	40	12	140	17	<0.50	8.8	105	71	0.95	<0.010
Average			14	133	16			100	71	0.83	
Std Dev			2.4	10	1.2			7.7	0.7	0.2	
RSD (%)			17	7.7	7.7			7.7	1.0	21.0	
14-8268	ASU	10	16	59	7.8	<1.0	<10	32	30	0.3	<0.1
14-8269	ALS	10	21	72	11	<0.50	5.5	39	32	0.6	<0.010
Average			18	66	9.4			35	31	0.5	
Std Dev			3.6	9.2	2.3			5.3	1.6	0.2	
RSD (%)			20	14	24			15	5.1	51	
14-8278	ASU	40-50	14	17	<5.0	<1.0	<10	36	<20	0.7	<0.1
14-8279	ALS	40-50	19	23	7.6	<0.50	11	57	25	0.9	<0.010
Average			17	20				46		0.82	
Std Dev			3.8	3.7				15		0.2	
RSD (%)			23	19				32		20	
14-8288	ASU	0-10	31	72	13	<1.0	10.4	64	54	1	<0.1
14-8289	ALS	0-10	28	72	14	<0.50	10.5	77	57	1.2	<0.010
Average			30	72	13		10.4	71	56	1.2	
Std Dev			2.3	0.1	0.7		0.1	8.8	2.1	0.04	
RSD (%)			7.6	0.1	5.5		0.8	13	3.8	3.5	
14-8298	ASU	45	35	65	13	<1.0	<10	56	33	0.9	<0.1
14-8299	ALS	45	50	77	18	<0.50	7.9	74	45	0.96	<0.010
Average			42	71	16			65	39	0.93	
Std Dev			11	8.3	3.8			13	8.5	0.04	
RSD (%)			25	12	24			20	22	4.6	
14-8308	ASU	5-10	47	84	15	<1.0	13.8	65	73	3	<0.1
14-8309	ALS	5-10	43	156	20	<0.50	13.5	62	70	1.5	<0.010
Average			45	120	17		13.6	64	71	2.2	
Std Dev			2.8	51	3.7		0.2	1.7	2.4	1.1	
RSD (%)			6.3	42	21		1.4	2.6	3.4	48	
14-8318	ASU	10	44	177	20	<1.0	11	64	76	1.3	<0.1
14-8319	ALS	10	24	30	8.0	<0.50	3.2	38	58	0.9	<0.010
Average			34	103	14		7.1	51	67	1.1	
Std Dev			14	104	8.8		5.5	18	13	0.3	
RSD (%)			41	101	62		78	36	19	25	

Table C-154: Comparison of Inorganic Element Results for 2014 Soil Samples Analyzed at ALS and at ASU (cont'd)

Sample	Laboratory	Depth	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg
		(cm)	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
14-8328	ASU	45	30	43	11	<1.0	<10	49	86	1.3	
14-8329	ALS	45	109	74	15	<0.50	9.9	105	257	2.9	
Average			70	59	13			77	172	2.1	
Std Dev			56	22	3.4			40	121	1.2	
RSD (%)			80	38	26			51	71	54	
14-8338	ASU	5-10	104	79	14	<1.0	24	82	260	3.3	<0.1
14-8339	ALS	5-10	138	182	24	<0.50	17	159	284	9.4	0.015
Average			121	131	19		21	121	272	6.4	
Std Dev			24	73	7.4		4.7	54	17	4.3	
RSD (%)			20	56	39		23	45	6.2	68	
14-8348	ASU	40-45	126	190	24	<1.0	12	134	276	12	<0.1
14-8349	ALS	40-45	79	79	16	<0.50	19	113	167	3.8	0.017
Average			103	135	20		15	124	222	7.8	
Std Dev			33	78	5.7		5	15	77	5.6	
RSD (%)			32	58	29		33	12	35	72	
14-8358	ASU	5-10	70	81	14	<1.0	18	102	146	3.9	<0.1
14-8359	ALS	5-10	103	49	12	<0.50	5.6	173	277	1.7	<0.010
Average			86	65	13		12	137	212	2.8	
Std Dev			23	22	1.3		8.9	50	93	1.5	
RSD (%)			27	35	10		75	37	44	56	
14-8368	ASU	40-45	106	48	11	<1.0	<10	180	299	2.5	<0.1
14-8369	ALS	40-45	40	59	21	<0.50	11	85	51	0.92	<0.010
Average			73	53	16			133	175	1.7	
Std Dev			47	7.6	6.8			67	175	1.1	
RSD (%)			64	14	43			51	100	65	
14-8378	ASU	5-10	30	54	16	<1.0	<10	65	42	1.1	<0.1
14-8379	ALS	5-10	28	107	15	<0.50	10	50	63	0.8	<0.010
Average			29	81	16			57	52	0.9	
Std Dev			1.4	37	0.7			10	14	0.2	
RSD (%)			4.9	46	4.2			18	27	21	
14-8388	ASU	45-50	32	100	15	<1.0	13	58	67	1.1	<0.1
14-8389	ALS	45-50	58	101	23	<0.50	20	115	101	1.3	<0.010
Average			45	101	19		16	86	84	1.2	
Std Dev			18	0.5	5.4		4.8	41	24	0.2	
RSD (%)			40	0.5	28		29	47	28	13	
14-8398	ASU	5-10	42	112	18	<1.0	14	85	75	1.5	<0.1
14-8399	ALS	5-10	46	99	20	<0.50	6.3	79	69	0.8	<0.010
Average			44	105	19		10	82	72	1.1	
Std Dev			2.9	9.3	0.9		5.6	4.3	4.3	0.5	
RSD (%)			6.6	8.8	5.0		54	5.3	6	44	

Table C-154: Comparison of Inorganic Element Results for 2014 Soil Samples Analyzed at ALS and at ASU (cont'd)

Sample	Laboratory	Depth	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg
		(cm)	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
14-8408	ASU	40-45	44	97	18	<1.0	<10	73	63	1.2	<0.1
14-8409	ALS	40-45	35	61	15	<0.50	13	55	86	0.9	<0.010
Average			40	79	16			64	74	1	
Std Dev			6.1	26	2.4			12	17	0.2	
RSD (%)			15	33	15			19	22	17	
14-8418	ASU	5-10	27	47	10	<1.0	<10	40	66	1.4	<0.1
14-8419	ALS	5-10	112	33	10	<0.50	5.7	154	166	1.2	<0.010
Average			70	40	10			97	116	1.3	
Std Dev			60	9.4	0.03			81	70	0.1	
RSD (%)			86	24	0.25			84	61	6.6	
14-8428	ASU	45-50	114	37	11	<1.0	<10	154	171	2	<0.1
14-8429	ALS	45-50	55	155	26	<0.50	7.6	64	63	1.1	<0.010
Average			85	96	18			109	117	1.5	
Std Dev			42	84	11			63	77	0.6	
RSD (%)			49	87	57			58	66	38	
14-8438	ASU	5-10	50	152	23	<1.0	<10	44	53	0.6	<0.1
14-8439	ALS	5-10	26	32	9.6	<0.50	7.5	42	57	0.97	<0.010
Average			38	92	16			43	55	0.8	
Std Dev			17	85	9.6			1.3	3.1	0.3	
RSD (%)			45	93	58			3.1	5.7	33	
14-8448	ASU	30-35	18	31	6.5	<1.0	<10	37	58	0.8	
14-8449	ALS	30-35	34	42	12	<0.50	4.1	54	83	1.4	
Average			26	37	9.3			46	70	1.1	
Std Dev			11	7.8	3.9			12	18	0.4	
RSD (%)			43	21	42			26	26	38	
14-8458	ASU	5-10	25	44	9.8	<1.0	<10	55	91	1.5	
14-8459	ALS	5-10	24	31	8.3	<0.50	5.5	46	59	1.1	
Average			24	38	9.1			50	75	1.3	
Std Dev			0.65	9.7	1.1			6.5	22	0.3	
RSD (%)			2.7	26	12			13	30	26	
14-8468	ASU	40-45	21	39	8.1	<1.0	<10	50	83	1.3	
14-8469	ALS	40-45	64	90	19	<0.50	18	78	87	4.5	
Average			42	64	13			64	85	2.9	
Std Dev			30	36	7.5			20	2.8	2.3	
RSD (%)			71	56	56			31	3.3	80	
Average RSD (%)			**32**	**35**	**27**		**37**	**28**	**27**	**36**	
Std Dev			**± 25**	**± 29**	**± 20**		**± 30**	**± 21**	**± 26**	**± 23**	

Table C-155: Comparison of Aroclor Polychlorinated Biphenyl (PCB) Results for Soil Samples Analyzed at ALS and ASG, 2014

Sample	Laboratory	Aroclor 1254	Aroclor 1260
		[ppm]	[ppm]
14-8248	ALS	0.015	0.025
14-8249	ASG	<0.05	<0.05
14-8258	ALS	<0.010	<0.010
14-8259	ASG	<0.05	<0.05
14-8268	ALS	<0.010	<0.010
14-8269	ASG	<0.05	<0.05
14-8278	ALS	<0.010	<0.010
14-8279	ASG	<0.05	<0.05
14-8288	ALS	<0.010	<0.010
14-8289	ASG	<0.05	<0.05
14-8298	ALS	<0.010	<0.010
14-8299	ASG	<0.05	<0.05
14-8308	ALS	0.013	<0.010
14-8309	ASG	<0.05	<0.05
14-8318	ALS	<0.010	0.014
14-8319	ASG	<0.05	<0.05
14-8328	ALS	<0.010	<0.010
14-8329	ASG	<0.05	<0.05
14-8338	ALS	<0.010	<0.010
14-8339	ASG	<0.05	<0.05
14-8348	ALS	<0.010	<0.010
14-8349	ASG	<0.05	<0.05
14-8358	ALS	<0.010	<0.010
14-8359	ASG	<0.05	<0.05
14-8368	ALS	<0.010	<0.010
14-8369	ASG	<0.05	<0.05
14-8378	ALS	<0.010	<0.010
14-8379	ASG	<0.05	<0.05
14-8388	ALS	<0.010	<0.010
14-8389	ASG	<0.05	<0.05
14-8398	ALS	<0.010	<0.010
14-8399	ASG	<0.05	<0.05
14-8408	ALS	<0.010	<0.010
14-8409	ASG	<0.05	<0.05

Table C-155: Comparison of Aroclor Polychlorinated Biphenyl (PCB) Results for Soil Samples Analyzed at ALS and ASG, 2014 (cont'd)

Sample	Laboratory	Aroclor 1254	Aroclor 1260
		[ppm]	[ppm]
14-8418	ALS	<0.010	<0.010
14-8419	ASG	<0.05	<0.05
14-8428	ALS	<0.010	<0.010
14-8429	ASG	<0.05	<0.05
14-8438	ALS	<0.010	<0.010
14-8439	ASG	<0.05	<0.05
14-8448	ALS	<0.010	<0.010
14-8449	ASG	<0.05	<0.05
14-8458	ALS	<0.010	<0.010
14-8459	ASG	<0.05	<0.05
14-8468	ALS	0.013	<0.010
14-8469	ASG	<0.05	<0.05

Table C-156: Comparison of CCME Hydrocarbon Results for Soil Samples Analyzed at ASG and ALS 2014

Analyte	Laboratory	F1 (C6-C10) [ppm]	F2 (C10-C16) [ppm]	F3 (C16-C34) [ppm]	F4 (C34-C50) [ppm]	Total [ppm]
14-8248	ASG	<10	<10	<10	<10	<40
14-8249	ALS	<5.0	<10	<50	<50	<72
14-8258	ASG	<10	10	<10	<10	<40
14-8259	ALS	<5.0	<10	<50	<50	<72
14-8268	ASG	<10	<10	<10	<10	<40
14-8269	ALS	<5.0	<10	<50	<50	<72
14-8278	ASG	<10	<10	<10	<10	<40
14-8279	ALS	<5.0	<10	<50	<50	<72
14-8288	ASG	<10	<10	<10	<10	<40
14-8289	ALS	<5.0	<10	<50	<50	<72
14-8298	ASG	<10	<10	<10	<10	<40
14-8299	ALS	<5.0	<10	<50	<50	<72
14-8308	ASG	<10	<10	<10	<10	<40
14-8309	ALS	<5.0	<10	<50	<50	<72
14-8318	ASG	<10	<10	<10	<10	<40
14-8319	ALS	<5.0	<10	<50	<50	<72
14-8328	ASG	<10	<10	<10	<10	<40
14-8329	ALS	<5.0	41	<50	<50	<72
14-8338	ASG	<10	<10	<10	<10	<40
14-8339	ALS	<5.0	<10	<50	<50	<72
14-8348	ASG	<10	<10	<10	<10	<40
14-8349	ALS	<5.0	<10	81	<50	81
14-8358	ASG	<10	<10	13	<10	<40
14-8359	ALS	<5.0	<10	<50	<50	<72
14-8368	ASG	<10	<10	<10	<10	<40
14-8369	ALS	<5.0	<10	<50	<50	<72
14-8378	ASG	<10	<10	<10	<10	<40
14-8379	ALS	<5.0	<10	<50	<50	<72
14-8388	ASG	<10	<10	<10	<10	<40
14-8389	ALS	<5.0	<10	<50	<50	<72
14-8398	ASG	<10	<10	<10	<10	<40
14-8399	ALS	<5.0	<10	<50	<50	<72

Table C-156: Comparison of CCME Hydrocarbon Results for Soil Samples Analyzed at ASG and ALS 2014 (cont'd)

Analyte	Laboratory	F1 (C6-C10)	F2 (C10-C16)	F3 (C16-C34)	F4 (C34-C50)	Total
		[ppm]	[ppm]	[ppm]	[ppm]	[ppm]
14-8408	ASG	<10	<10	<10	<10	<40
14-8409	ALS	<5.0	<10	<50	<50	<72
14-8418	ASG	<10	<10	<10	<10	<40
14-8419	ALS	<5.0	<10	<50	<50	<72
14-8428	ASG	<10	<10	<10	<10	<40
14-8429	ALS	<5.0	<10	<50	<50	<72
14-8438	ASG	<10	<10	<10	<10	<40
14-8439	ALS	<5.0	<10	<50	<50	<72
14-8448	ASG	<10	<10	<10	<10	<40
14-8449	ALS	<5.0	<10	<50	<50	<72
14-8458	ASG	<10	<10	<10	<10	<40
14-8459	ALS	<5.0	<10	<50	<50	<72
14-8468	ASG	<10	<10	<10	<10	<40
14-8469	ALS	<5.0	<10	<50	<50	<72

Table C-157: Comparison of Mercury, Aroclor PCBs and CCME Hydrocarbon Results for Water Samples Analyzed at ASG and ALS 2014

Sample	Laboratory	Hg	Aroclor 1254	Aroclor 1260	F1 (C6-C10)	F2 (C10-C16)	F3 (C16-C34)	F4 (C34-C50)
		[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]
14-8186	ALS	<0.00010	<0.00002	<0.00002	<025	<0.1	<0.25	<0.25
14-8187	ASG	<0.0004	<0.003	<0.003	<0.05	<0.5	<1.0	<1.0

Appendix D: Field Notes

DYE-M 2014
Monitoring



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Cut or Fill	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	Cut or Fill
	Distance out from Side or Shoulder Stake										
0	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	0
1	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	1
2	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	2
3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	3
4	6.0	6.2	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.4	4
5	7.5	7.7	7.8	8.0	8.1	8.3	8.4	8.6	8.7	8.9	5
6	9.0	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	6
7	10.5	10.7	10.8	11.0	11.1	11.3	11.4	11.6	11.7	11.9	7
8	12.0	12.2	12.3	12.5	12.6	12.8	12.9	13.1	13.2	13.4	8
9	13.5	13.7	13.8	14.0	14.1	14.3	14.4	14.6	14.7	14.9	9
10	15.0	15.2	15.3	15.5	15.6	15.8	15.9	16.1	16.2	16.4	10
11	16.5	16.7	16.8	17.0	17.1	17.3	17.4	17.6	17.7	17.9	11
12	18.0	18.2	18.3	18.5	18.6	18.8	18.9	19.1	19.2	19.4	12
13	19.5	19.7	19.8	20.0	20.1	20.3	20.4	20.6	20.7	20.9	13
14	21.0	21.2	21.3	21.5	21.6	21.8	21.9	22.1	22.2	22.4	14
15	22.5	22.7	22.8	23.0	23.1	23.3	23.4	23.6	23.7	23.9	15
16	24.0	24.2	24.3	24.5	24.6	24.8	24.9	25.1	25.2	25.4	16
17	25.5	25.7	25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.9	17
18	27.0	27.2	27.3	27.5	27.6	27.8	27.9	28.1	28.2	28.4	18
19	28.5	28.7	28.8	29.0	29.1	29.3	29.4	29.6	29.7	29.9	19
20	30.0	30.2	30.3	30.5	30.6	30.8	30.9	31.1	31.2	31.4	20
21	31.5	31.7	31.8	32.0	32.1	32.3	32.4	32.6	32.7	32.9	21
22	33.0	33.2	33.3	33.5	33.6	38.8	33.9	34.1	34.2	34.4	22
23	34.5	34.7	34.8	35.0	35.1	35.3	35.4	35.6	35.7	35.9	23
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40	60.0	60.2	60.3	60.5	60.6	60.8	60.9	61.1	61.2	61.4	40

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12. US. NWS LF. RA-9
13. US. S. LF. West RA-10
14. US. W. LF. West RA-11+12
15. US. W. LF. Center RA-14
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21.
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23.

LEVEL

LS Tier II

Aug 12

Team: Shari & Mark

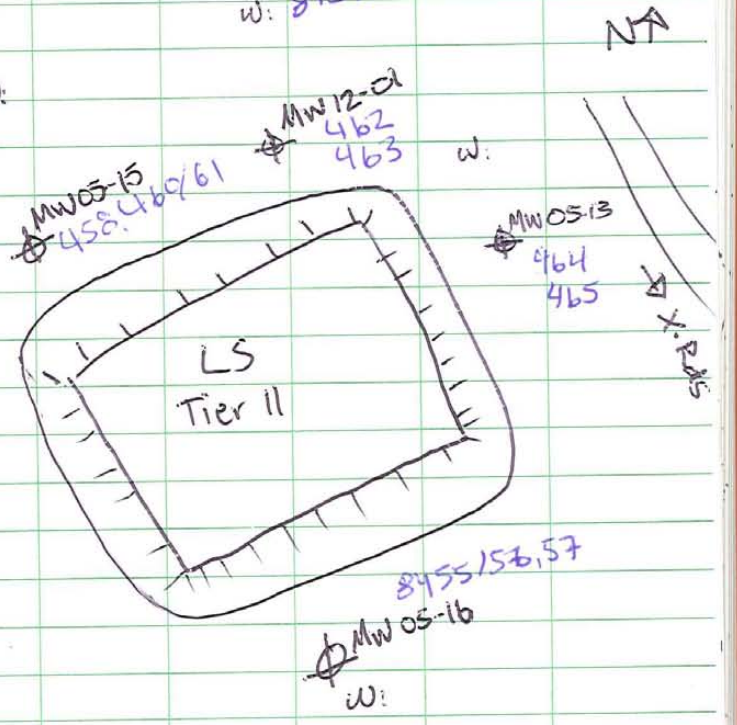
Weather:

*See 2nd Field book pg 54-57

& Water pg. ~~45~~ 45

W: 8185.

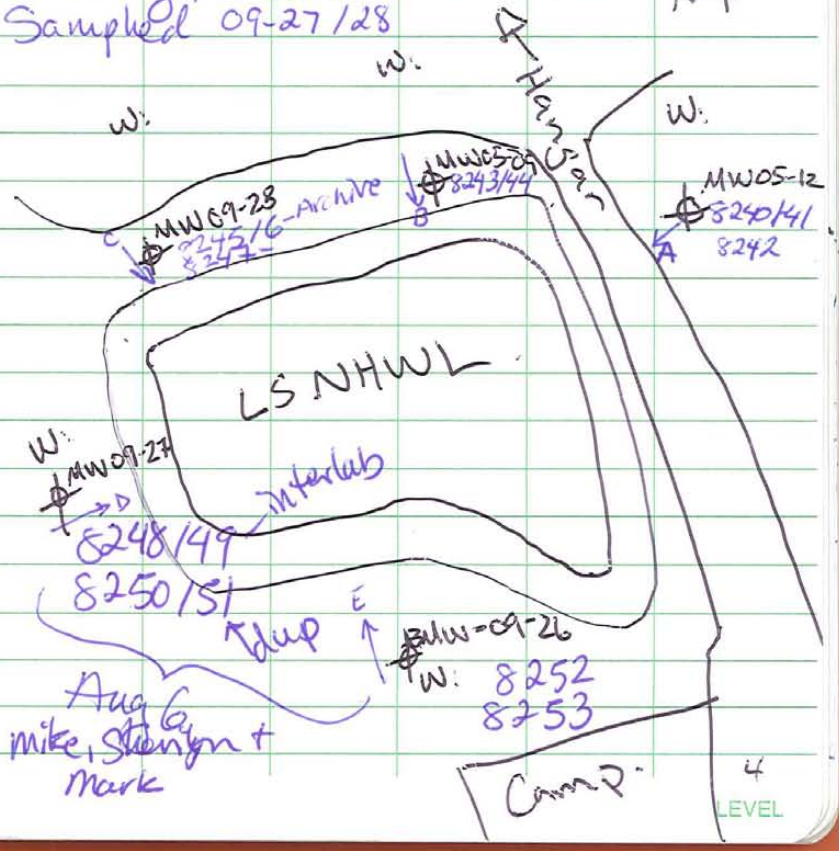
W:



LS NHWL

Aug 5

Team: Shari, Mike, Mark, Sharilyn
Weather: Cloudy, 5°C
5:15 pm -6.40
Water Pages: 46-47.
Aug 6 1500 - Mike, Mark + Sharilyn
Sunny 10°C
Sampled 09-27/28



Aug 6
mike, Sharilyn + Mark

Photo log

MW-05-12: A → 1. close up open hole facing SW TP8240
2. facility in background
3. closed hole

MW-05-9: B → 1. Close up of open hole + Jars facing S 8243
2. facility in background facing S
3. closed hole (WA)

MW-09-28: C → 1. Close up of open hole facing SSE
2 facility in background facing SSE
3 closed hole

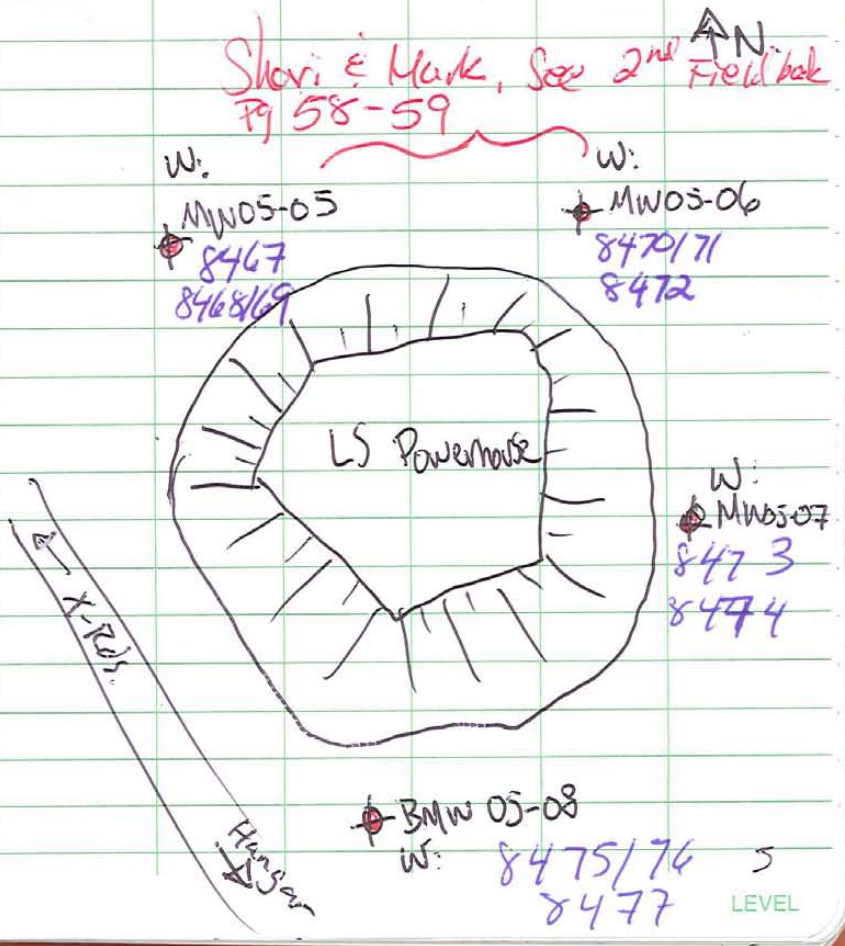
MW09-27: D → 1) CU of TP 8248 + Samples
2) WA of TP looking NE @ facility
3) CU of backfilled TP

Aug 2

LS Powerhouse L.F.

Team: All 4 ppl
Weather: ~~Foggy~~, 5°C Sunny, Low wind

Shari & Mark, See 2nd Field bak Pg 58-59



14:30

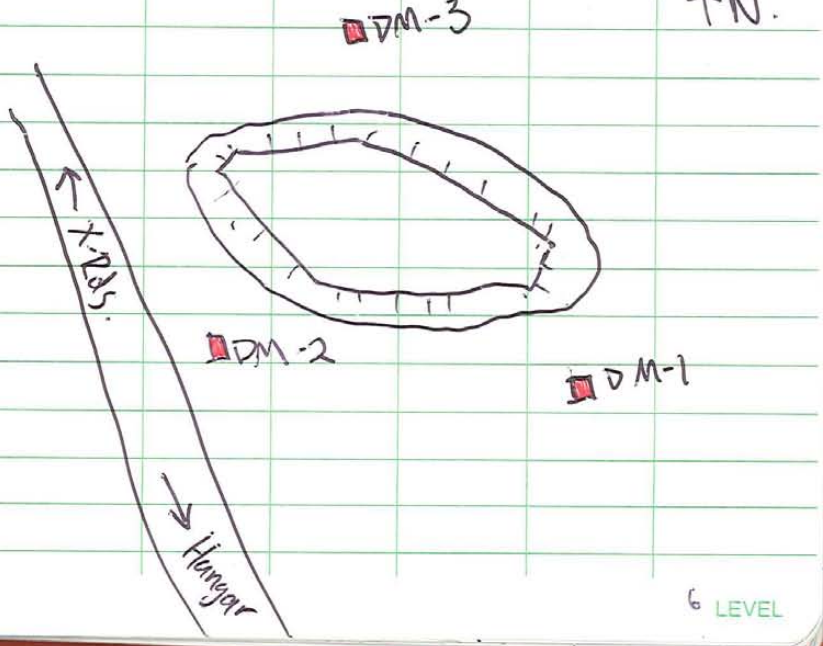
LS Crossroads LF RA-4

Aug 7

Team: Shari & Mark

Weather:

Please See 2nd Field book
Pg 16 - 18



6 LEVEL

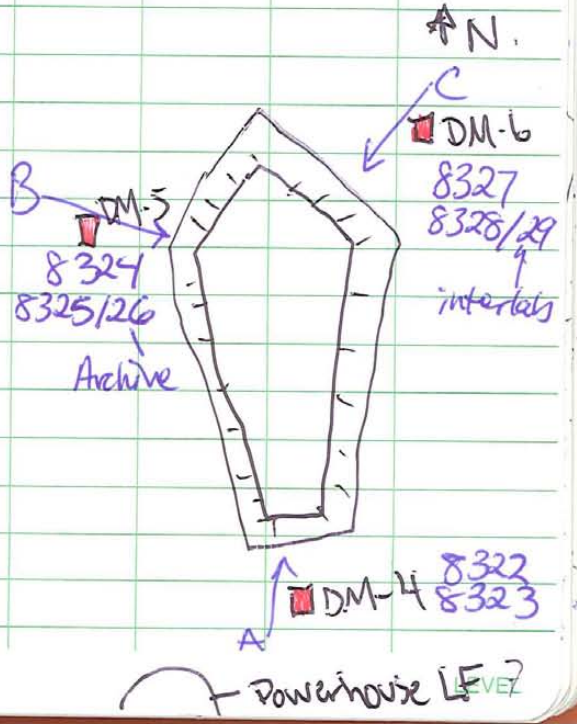
LS Foundation LF RA-5

Team: Mike & Sharilyn

Weather: Sunny, windy 3°C

2:30 – 4pm

Aug 8 7



A. rods, plunger

Photo log

DM-4: 1) Cu TP 8322
2) WA TP & facing N
3) Cu backfilled TP

DM-5: 1) Cu TP 8324
2) WA TP + LF facing SE
3) backfilled TP

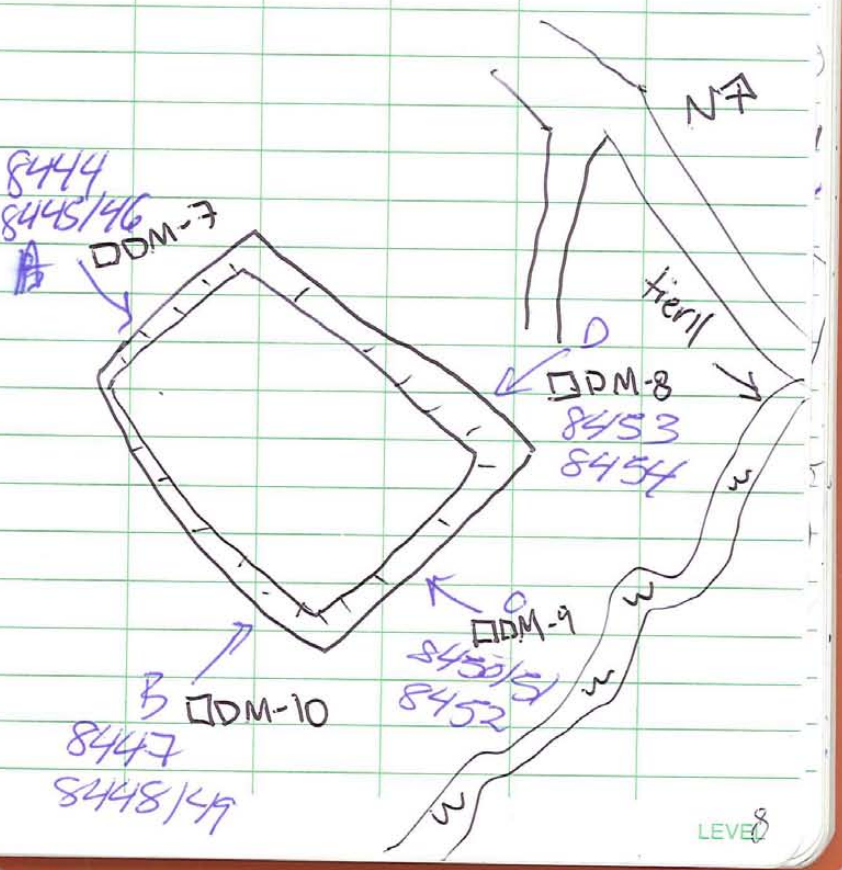
DM-6: 1) Cu TP 8327
2) WA TP + LF facing SW
3) backfilled TP

Aug 12

LS NWS Landfill RA-7

Team: Mike + Sharifa

Weather: Foggy, 5°C, 9:15 - 10:30



US Tier II

Aug 9

Team: Mike & Sharilyn

Weather: ~~Sunny~~ to Rainy, windy 2°C

1020am – 1200

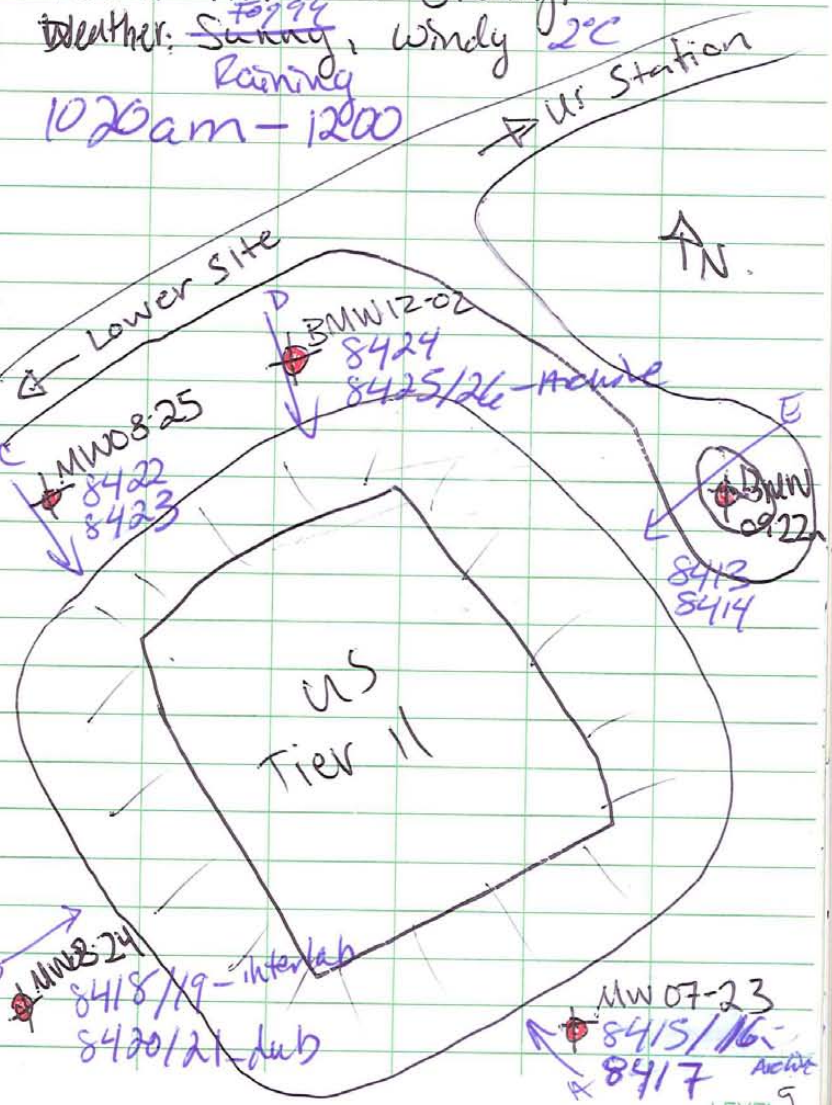


Photo log for US Tier II

MW-07-23: 1) CU TP 8415 w Samples
2) WA TP looking NW @ LF
3) CU backfilled TP

MW 08-24: 1) CU TP 8418
2) WA looking NE @ LF
3) CU backfilled TP

MW 08-25: 1) CU TP 8422
2) WA to LF. on back looking SE

MW 02-02 1) CU TP 8424 w Samples
2) WA looking SE @ LF
3) backfilled TP

BMW 07-22 1) TP 8413 Close up
2) WA looking SW @ LF
3) CU Backfilled TP

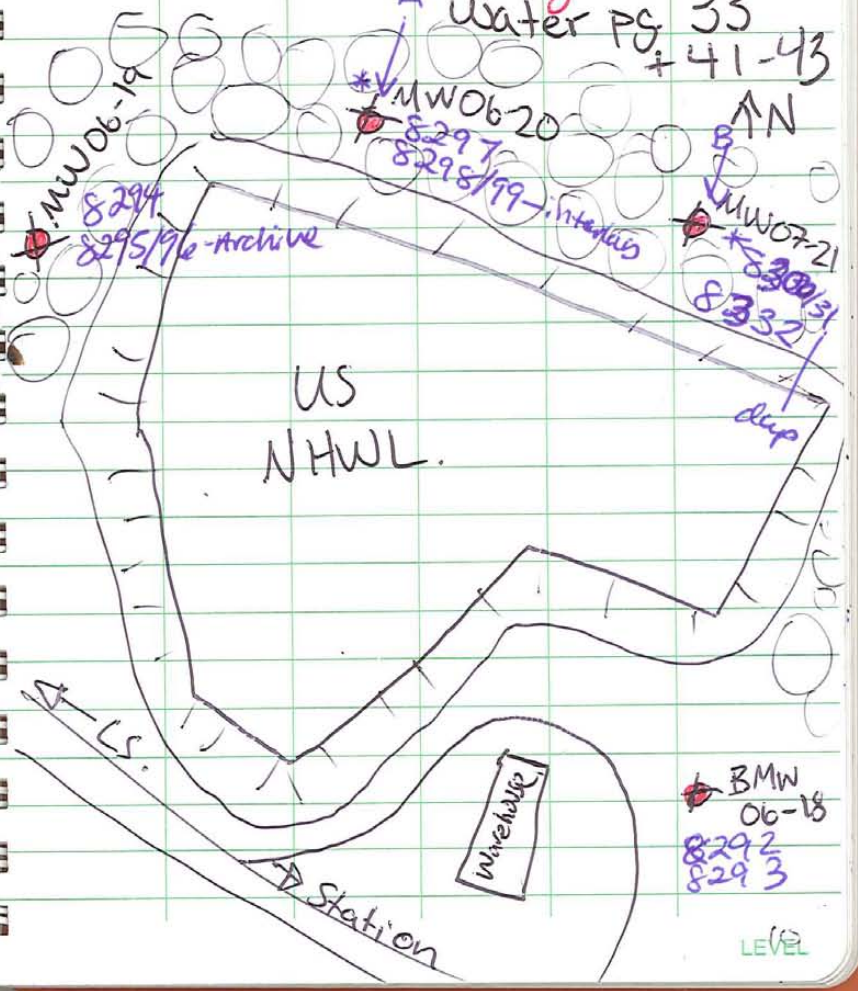
Sample tags weren't left @ MW 07-23, MW 08-24 or BMW 07-22 because I couldn't find them.

US NHWL Aug 6

Team: Mike + Shaylyn @ -20 & -21 Shari & Mark @ -18 & 19

Weather: 0°C Sunny 5pm - 6:30pm

Please see 2nd Field book pg 8-9



US Helipad RA-8 Aug 7

Team: Mike + Shanjn

Weather: windy (45+ nots), OC Sunny/Cloudy 10am -- 12:10

DM-11 is in middle/on top of facility

DM-17 was collected ~7m E road

US Station

Collected Aug 11 16:10

See 2nd book pg 52

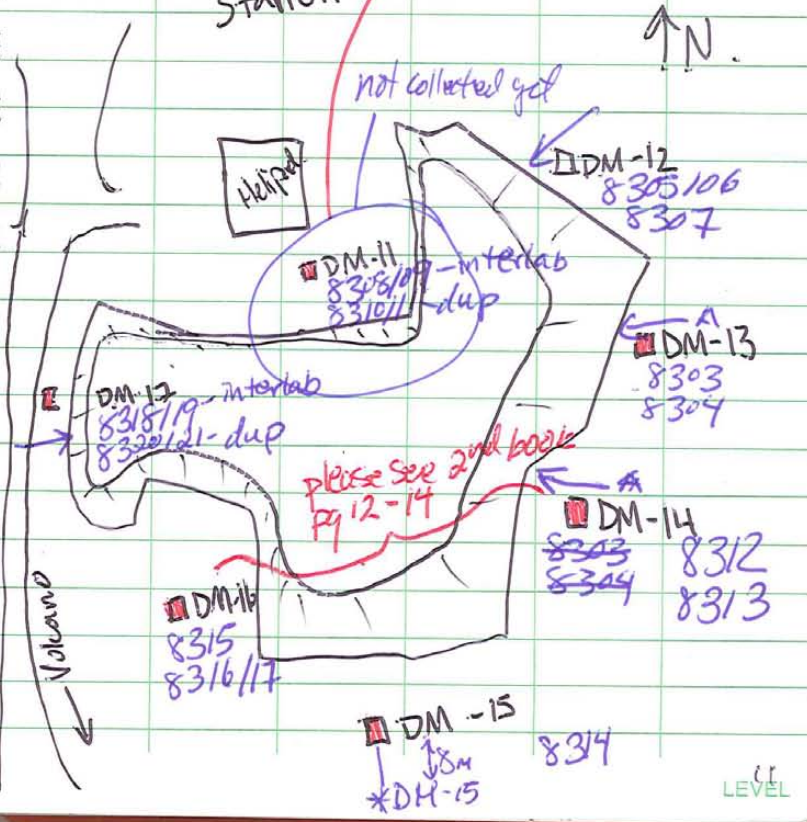


Photo log

DM-13 1) Close up of TP 8303
2) WA w facility in background
3) backfilled test pit

DM-12 1) CU of TP 8305
2) WA w facility in back.
helicopter visible on facility
3) backfilled TP

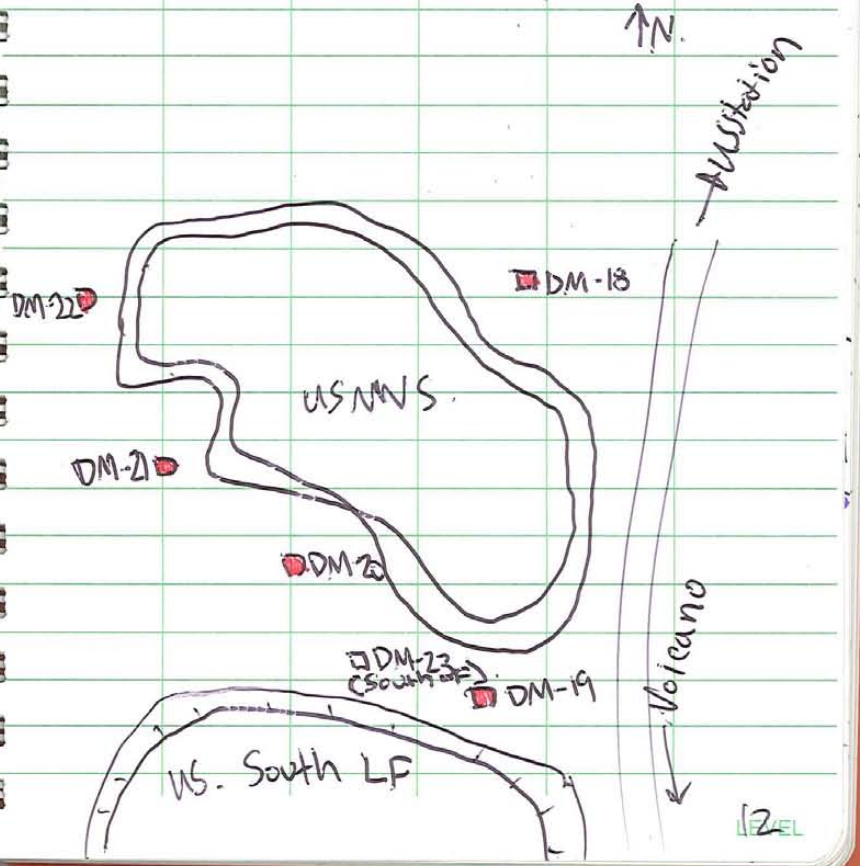
DM-17 1) CU of TP 8318
2) WA w facility in back
3) backfilled TP

US. NWS Landfill RA-9

team: Mark & Shari

Weather:

Aug 6 Please see 2nd book Pg 2-6



U.S. South Landfill (west) RA-10

Team: Mike + Sharilyn
Weather: 0°C Foggy 9-12 pm
Returned @ 4 pm to complete DM-30
Aug 6

Photo
G: DM-30: 1) Cu of TP5272 + Samples
2) Wa of TP in LF in back facing SE
3) backfilled TP

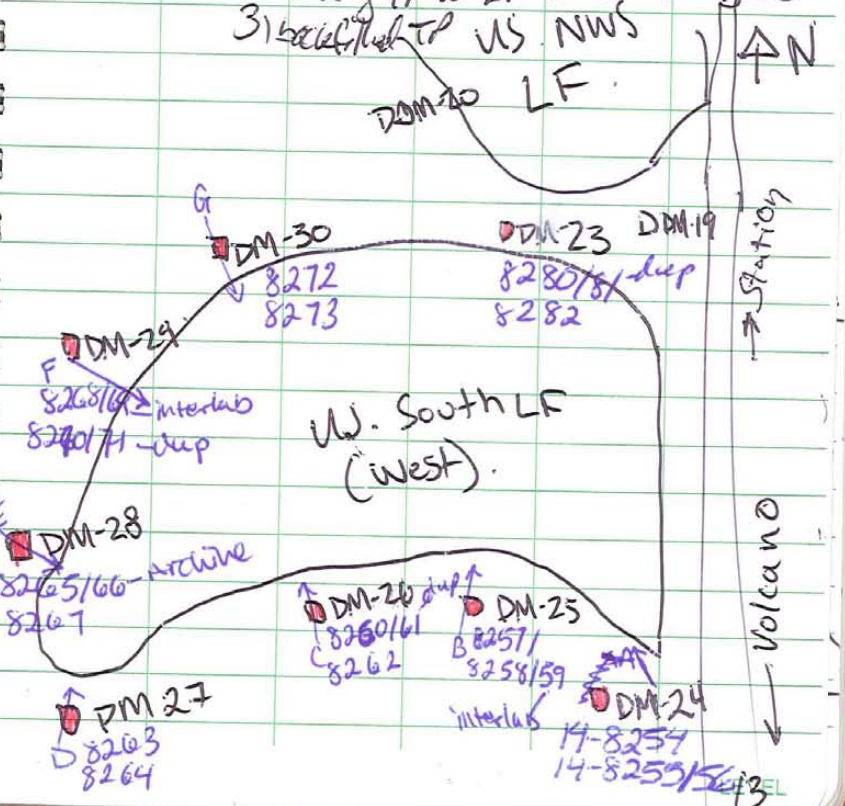


Photo Log

A: (1) P1010019.JPG - DM-24; Closeup of hole & Samples Facing NW

(2) .20 JPG - DM-24 w facility in background Facing NW

(3); 21 JPG - Backfilled test pit facing NW

BA: 22 JPG -

B: DM-25: (1) Cu of TP 8257 + Samples
2) WA of TP w facility in bg. facing N
3) Backfilled TP

C: DM-26: 1) Cu of TP 8260
2) WA TP w LF in bg. facing N
3) Backfilled TP

D: DM-27: 1) Cu of TP 8263 + Samples
2) wa of TP w LF in back facing NE
3) backfilled TP

E: DM-28: 1) Cu of TP 8265
2) WA of TP w LF in back facing SE
3) backfilled TP

F: DM-29 1) Cu of TP 8268
2) wa of TP w LF in back facing SE
3) backfilled TP

Aug 10

US West LF West Lobe RA11+12

Team: Mike + Sherijn

Weather: Sunny, low wind, 7°C

Aug 11 - Sunny, windy 4°C

DM-35, DM-36, -37

-3 + 32. Mark + Shari

DM-31, 32, 37 by Mark + Sheri, Please see 2nd book pg 48-50

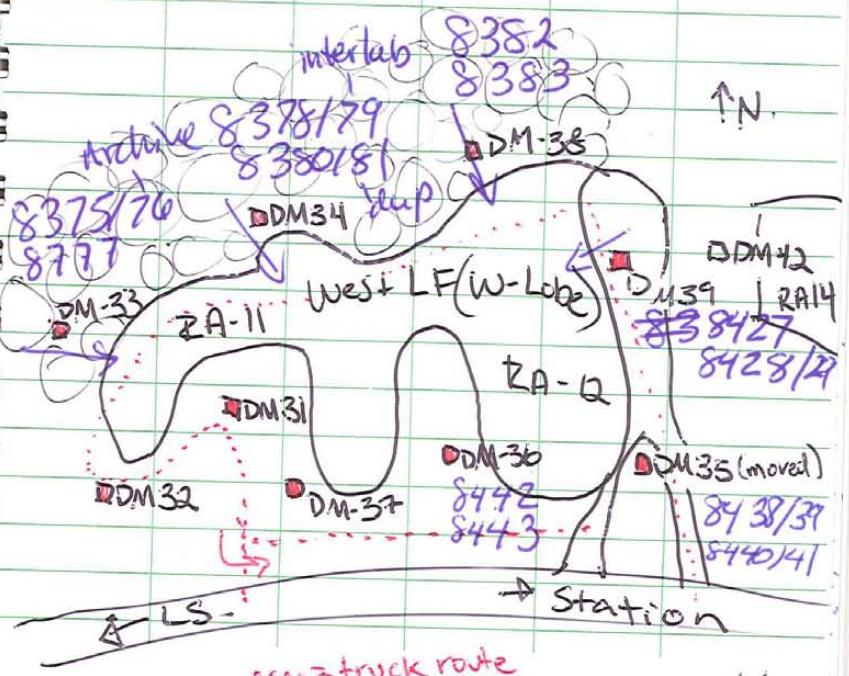


Photo log RA 11 & 12

DM-33: 1) CU TP 8375
2) WA looking E @ RA11
3) backfilled TP (CU)

DM-34: 1) CU TP 8378
2) WA looking SE @ RA11
3) WA of backfilled TP

DM-35: 1) CU TP 8938
2) WA looking W @ RA12
3) CU backfilled TP

DM-36: 1) CU TP 8472
2) WA looking E @ RA12
3) WA TP backfilled

DM-38: 1) CU TP 8382
2) WA TP looking S @ RA12
3) CU backfilled TP

DM-39: 1) CU TP 8427
2) WA looking W @ RA12
3) WA of backfilled TP

Aug 10

West LF (center Lobe) RA 14

Team: Mike & Sharilyn
Weather: Sunny ~~cool~~ wind 10K

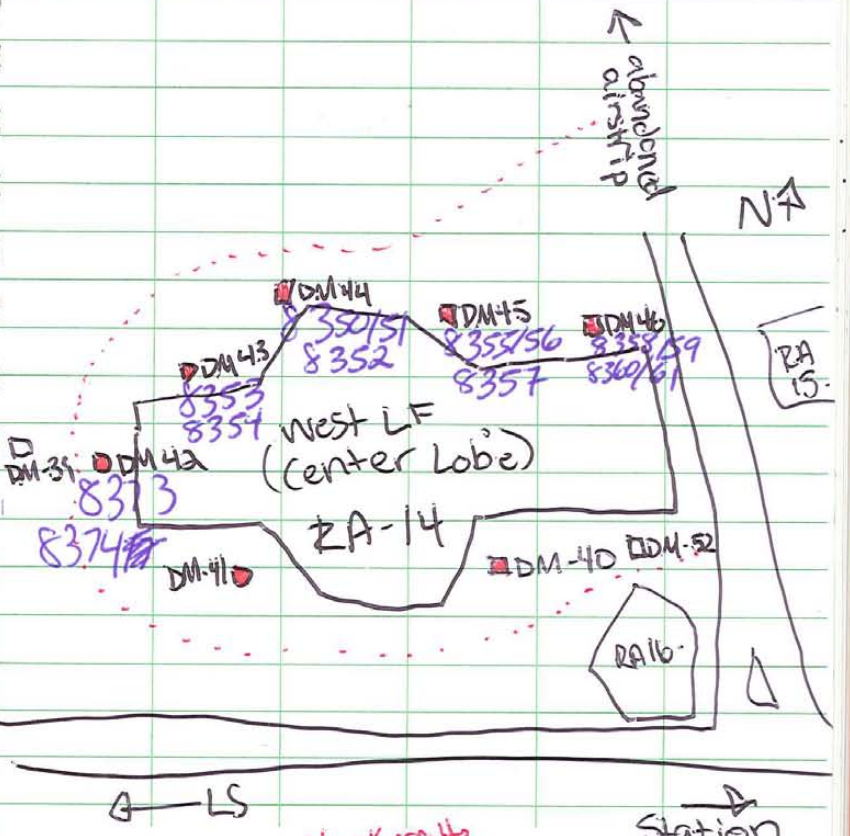


Photo log RA 14

DM-42 1) CU TP 8313
2) WA looking E @ RA 14
3) CU backfilled TP

DM-43 1) CU TP 8350
2) WA TP looking SE @ RA 14
3) CU backfilled TP

DM-44 1) CU TP 8353
2) WA looking SE @ RA 14
3) CU backfilled TP

DM-45 1) Small washout 1m E of TP 8355
2) CU TP 8355
3) WA TP looking SE @ RA 14

DM-46 1) CU TP 8358
2) WA looking S @ RA 14
3) WA backfilled TP

DM45 4) WA backfilled TP

Aug 10

West Landfill East Lobe RA-15.

Team: Mike & Sharilyn
Weather: Sunny, low wind, 7°C

See Soil Sampling logs for details

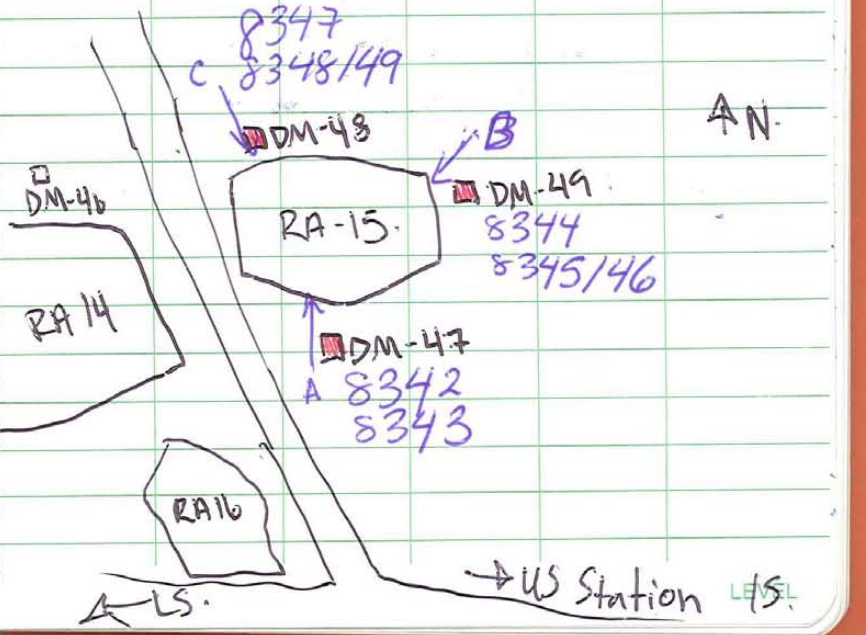


Photo Log RA15

DM-47: 1) CU of TP 8342
2) WA looking N @ LF RA15
3) CU backfilled TP

DM-49: 1) CU of TP 8344
2) WA looking SW @ RA 15
3) WA backfilled TP

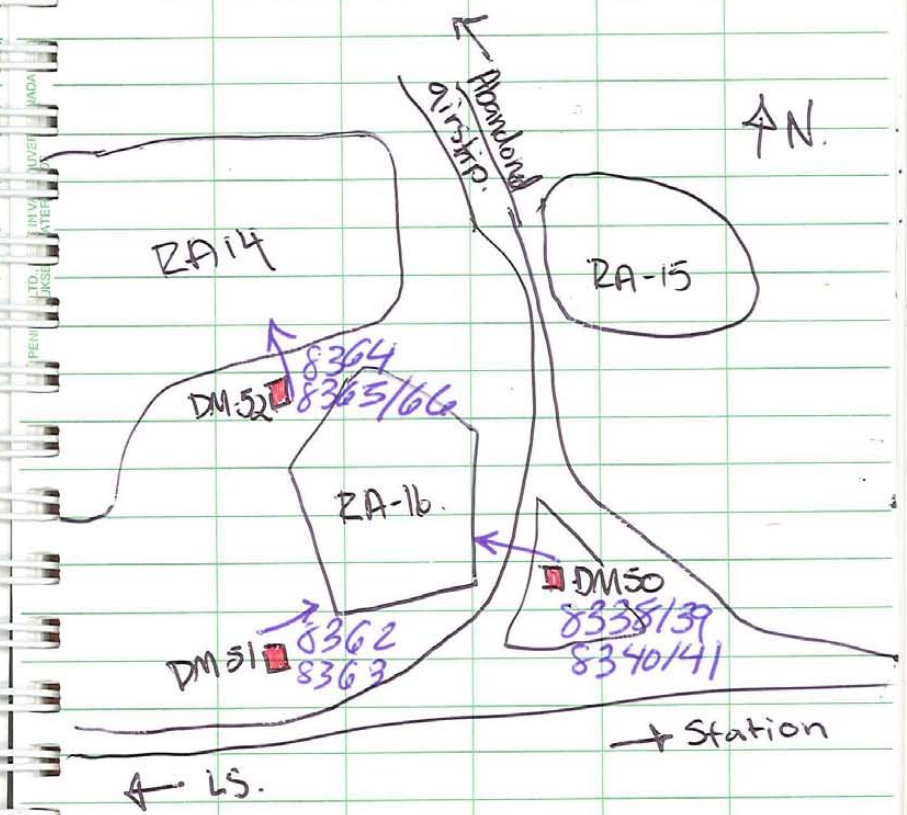
DM-48: 1) CU TP 8347
2) WA looking S @ RA 15
3) ~~CU~~ Backfilled TP
WA

Aug 10

West Landfill RA-16

Team: Mike + Sharilyn
Weather: Sunny, low wind ~7°C
2:30 pm

See Soil Sampling logs for details



HEL

Photo Log

DM-50: 1) CU TP 8338 (tag 8340 left)
2) WA TP looking W @ LF RA16
3) CU backfilled TP

DM-51: 1) CU TP 8362 (tag 8363 left)
2) WA TP looking E @ RA 16
3) CU backfilled TP

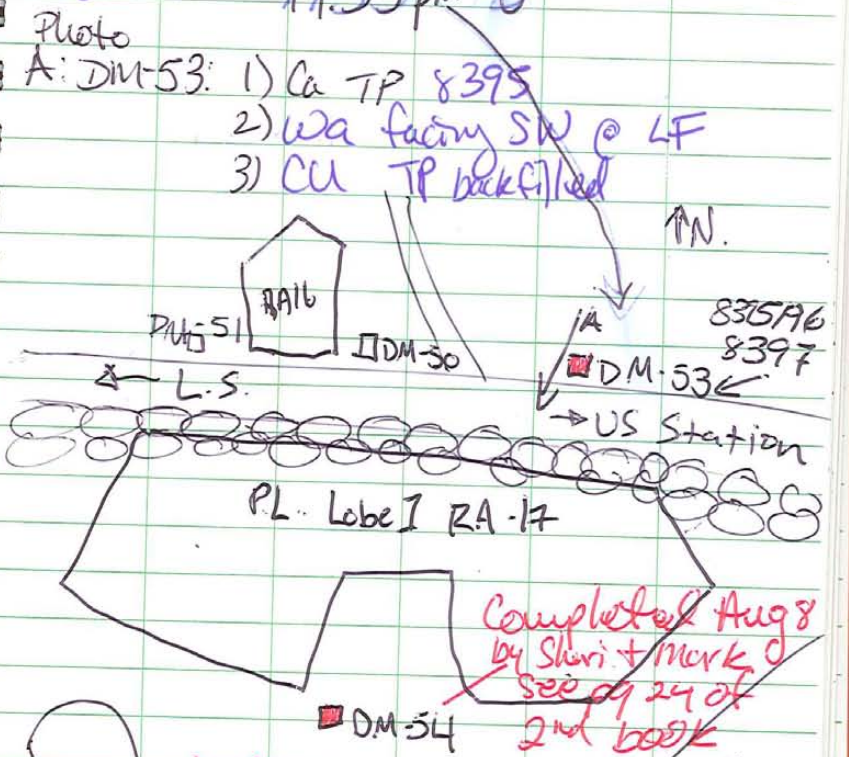
DM-52: 1) CU of rock type 1m W of TP
2) WA of rock type looking N
3) CU TP 8364 (tag 8365 left)
4) WA TP looking N @ RA 14
5) CU backfilled TP

Aug 8

US. Pallet Line RA17

Team: Mike & Shailyn
Weather: windy, raining 0°C Cloudy
Warm 14:35 pm

Photo
A: DM-53: 1) Ca TP 8395
2) Wa facing SW @ LF
3) CU TP backfilled



17

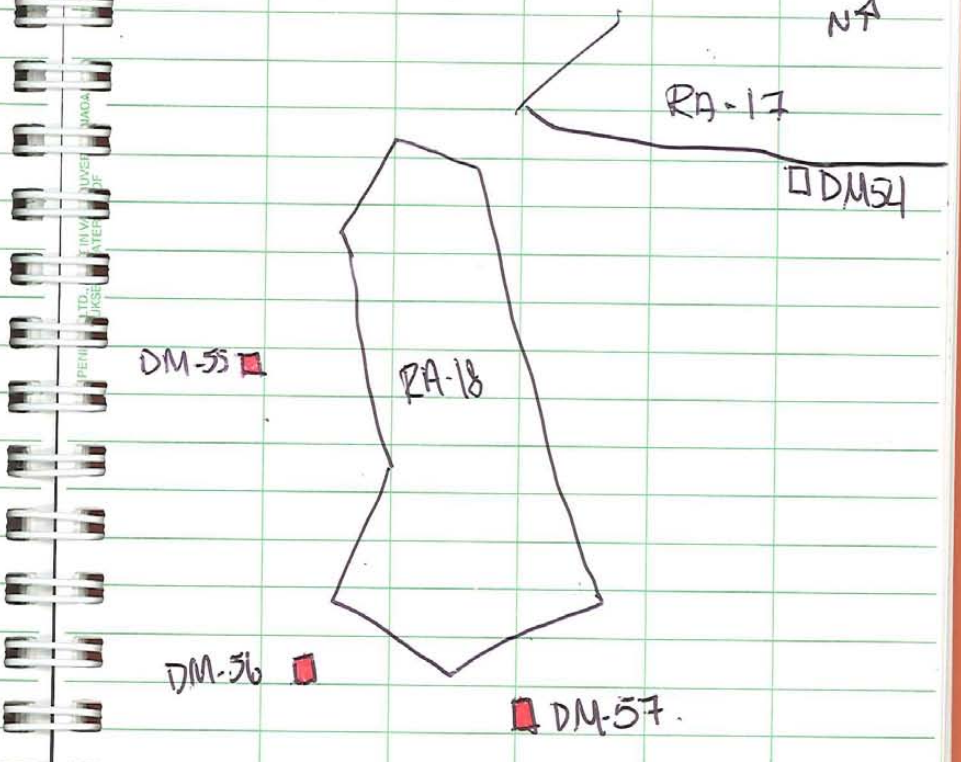
Photo log

DM-53 1) CU TP 8395
2) WA looking S @ RA17
3) CU backfilled

US Pallet Line RA-18 Aug 8

Team: Mark & Shari
Weather: rainy, 2°C foggy, very windy

See pg. 20-23 of 2nd field book



Aug 8

Pallet Line RA19 & RA20

Team: Mike & Sharon
Weather: windy, raining, 0°C
10am - 11:30

1455 pm

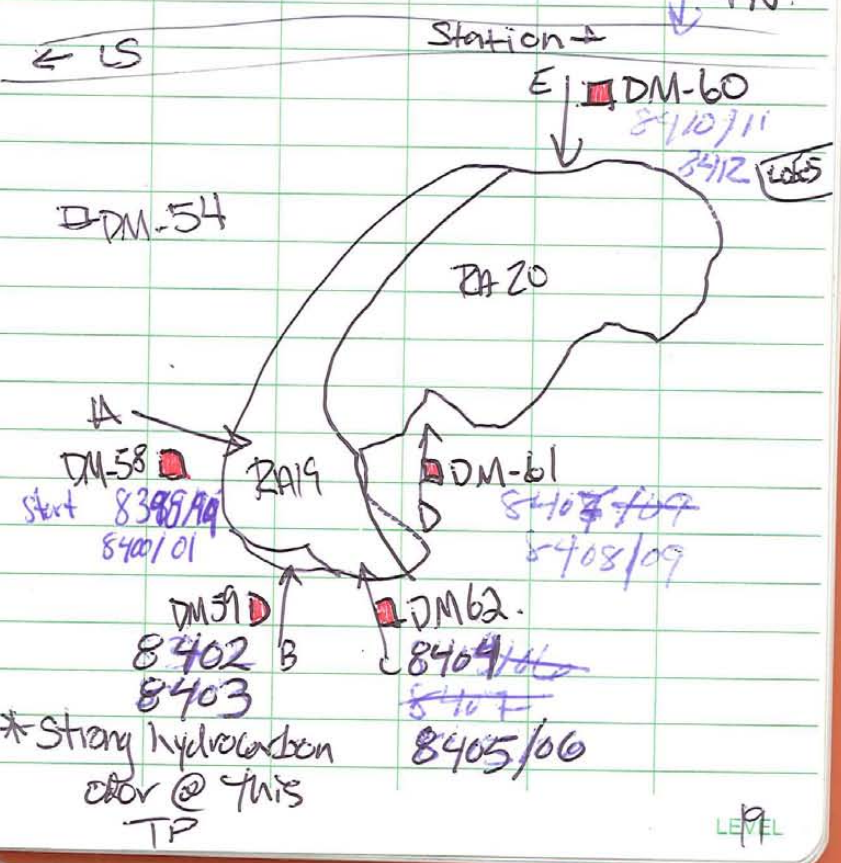


Photo Log

A: DM-58: 1) Cu of TP 8398
2) Wa of TP w LF in back facing E
3) Backfilled TP

B: DM-59 1) Cu of TP 8402
2) Wa of TP w LF in back facing N
3) Backfilled TP

C) DM-62: 1) TP 8404
2) Wa TP w LF in back facing N
3) backfilled TP

D) DM-61: 1) Cu TP 8407
2) Wa TP w LF in back facing N
3) backfilled TP

E) DM-60: 1) Cu of TP 8410
2) Wa TP + LF Facing S
3) backfilled TP

DYE-M 2014

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WL7
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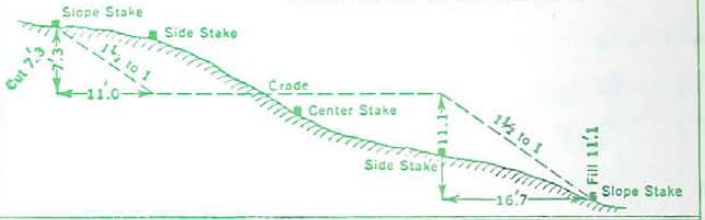
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In the figure below: opposite 7 under "Cut or Fill" and under .3 read 11.0, the distance out from the side stake at left. Also, opposite 11 under "Cut or Fill" and under .1 read 16.7, the distance out from the side stake at right.



Cut or Fill	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	Cut or Fill
	Distance out from Side or Shoulder Stake										
0	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	0
1	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	1
2	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	2
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28	42.0	42.2	42.3	42.5	42.6	42.8	42.9	43.1	43.2	43.4	28
29	43.5	43.7	43.8	44.0	44.1	44.3	44.4	44.6	44.7	44.9	29
30	45.0	45.2	45.3	45.5	45.6	45.8	45.9	46.1	46.2	46.4	30
31	46.5	46.7	46.8	47.0	47.1	47.3	47.4	47.6	47.7	47.9	31
32	48.0	48.2	48.3	48.5	48.6	48.8	48.9	49.1	49.2	49.4	32
33	49.5	49.7	49.8	50.0	50.1	50.3	50.4	50.6	50.7	50.9	33
34	51.0	51.2	51.3	51.5	51.6	51.8	51.9	52.1	52.2	52.4	34
35	52.5	52.7	52.8	53.0	53.1	53.3	53.4	53.6	53.7	53.9	35
36	54.0	54.2	54.3	54.5	54.6	54.8	54.9	55.1	55.2	55.4	36
37	55.5	55.7	55.8	56.0	56.1	56.3	56.4	56.6	56.7	56.9	37
38	57.0	57.2	57.3	57.5	57.6	57.8	57.9	58.1	58.2	58.4	38
39	58.5	58.7	58.8	59.0	59.1	59.3	59.4	59.6	59.7	59.9	39
40	60.0	60.2	60.3	60.5	60.6	60.8	60.9	61.1	61.2	61.4	40

PENN. STATE HIGHWAY DEPT. BUREAU OF HIGHWAY BEAUTIFICATION

DYE-M YR 1 MONITORING AUG 6/14

CU = CLOSE UP
WA = WIDE ANGLE
TP = TEST PIT
WP = WHIRL PAK
AG = AMBER GLASS 120mL
CG = CLEAR GLASS 120mL

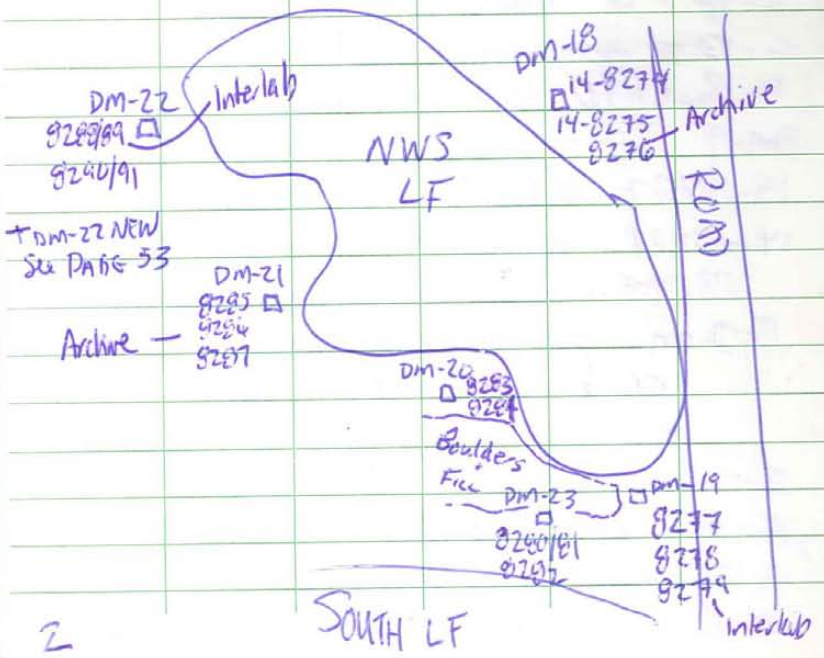
LEVEL

NWS LF - Soil

AUG 6/14

TEAM: SHARI - MARK
WEATHER: FOGGY, WINDY, ~0°C
Plastic scoops used
Decon of shovel - pickax by soil rinse
Samples: 1 WP, 1 AMBER JAR, 1 CLEAR JAR
Dups - 0/1
Archive - ###6 - 1 WP/1 AG only
Interlab - ###9 - 2 CLEAR GLASS, 1 AG, 1 WP

N
4



2

NWS LF

AUG 6/14

DM-18 Surface 14-08274 0-10 cm
Depth 14-08275 40-50 cm
08276 - archive - 1WP, 1AG

Soil: Surface - moss/lichen covered
~<5cm roots + organic
Subsurface - 50 cm Brown sand to silt
Gravel - 30% throughout
- Piece of painted metal beside test pit

Photo
A - Test pit
B - TP + LF looking SW
C - TP to metal beside - galvanized
D - Backfilled looking SW

DM-19
14-08277 0-10 cm
14-08278 40-50 cm
08279 - Interlab 2x Clear Glass, 1AG, 1WP
0-50 cm - light + dark brown sand to pea gravel
gravel + cobble - 30%
moist

E - TP close up
F - TP looking N @ NWS LF
G - TP looking S @ South LF
H - Backfilled looking N

3 LEVEL

Aug 6/14

DM-23 - moved close to upgrad loc of SLF
- large Boulders, fill between 2 LFs
- modified loc^N in native ground

08280/81 - Dup - 2x WP, 2x AG, 2x Clear
0-10cm

08282 - 1x WP, 1x AG, 1x CG - 30-50 cm

Brown sand w grey lenses
moist throughout
large cobbles in hole

Photos
H - Cu of TP
I - WA of TP looking N @ Rip/Rip/Nat. Native material
J - WA of TP looking S @ Upgrad loc South LF
K - Backfilled

Upgrad of South LF, downgrad NW SLF

Aug 6/14

DM-20
GPS logged as 8283A
- delete - ignore 8283 on unit

8283 - 0-10 cm
8284 - 30-40 cm
large rock @ 45 cm
Brown + gray sand w some silt 0-35 cm
35 cm gravel w some sand - light brown
- moist throughout

Photos
L - Cu of TP
M - WA of TP looking N @ LF
N - WA of Backfilled TP looking S @ Fill material
O - WA of Backfilled TP
P - 2x Cu of SI MW not properly decom. near loc^ DM-21
- tags were removed after photo

AUG 6/14

DM-21
8285/86 - 0-10 cm
8287 - 45-55 cm
8286 - archive - 1 WP + 1 AG jar collected.

Brown + Gray sand w some silt + cobbles
- moist, uniform throughout

Photos
Q - CU of TP
R - WA TP facing N towards NW
S - WA TP Backfilled

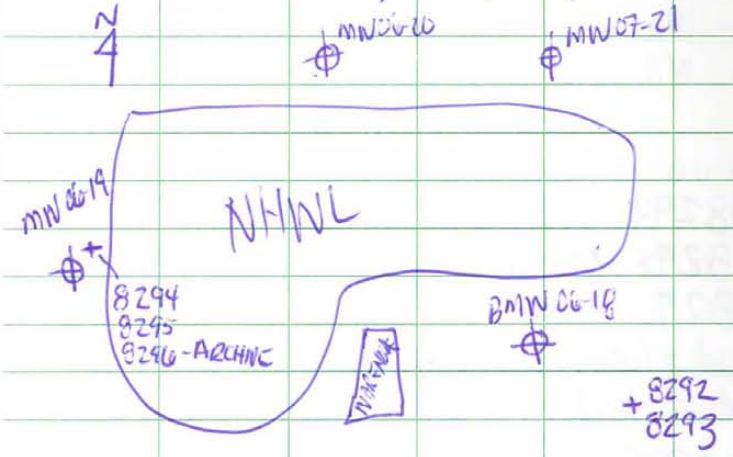
DM-22
8288/89 - 0-10 cm
89 - Interlab
8290/91 - 25-30 cm - large rock @ base

BROWN SAND w gravel - cobbles >50%
ROOTS TOP 5 cm.
~~MOIST~~ SLIGHTLY DAMP
T - CU of TP
U - WA of TP looking N
V - WA Backfilled looking N

6

UPPER SITE NHWL — AUG 6/14

TEAM: SHARI + MARK FOR MW 6-18 + 6-19
SHARILYN + MIKE FOR MW 6-20 + 7-21
WEATHER - SUN, WINDY 15 KM
NEW PLASTIC SCOOPS USED FOR EACH SAMPLE
SHOVEL + PICKAX FOR DIGGING TEST PIT
DECON BY SOIL RINSE
SAMPLES: 1WD, 1AG, 1CG
DUPS: 0/1
ARCHIVE: ###6 - 1WD, 1AG
INTERIM: ###9 - 1WD, 1AG, 2CG



8

1730 US NHWL Cont'd — AUG 6/14

BMW 06-18 - MW IN POOR CONDITION - SEE WELL LOG
08292 - 5-10 cm - Headspace in AG
08293 - 40-50 cm - Headspace in AG b/c WET

SAND + SILT MIX - BROWN - 0-50 cm
MOIST TO WET
WATER ENTERING TP @ 45 cm
30 % GRAVEL - COBBLE THROUGHOUT
2 photos of well in poor condition
AA - CU of TP
AB - CU of TP
AC - WA of TP looking NW towards NHWL
AD - WA Backfilled

BMW 06-19
08294 - 5-10 cm
08295 25-35 cm
08296 - Archive - 25-35 cm
BROWN + GRAY SAND W SILT - MOIST
LARGE COBBLES + BOULDERS
BOULDER @ BASE OF TP @ 35 cm
AE - CU OF TP
AF - WA OF TP LOOKING E @ NHWL
AG - WA BACKFILLED LOOKING E @ NHWL

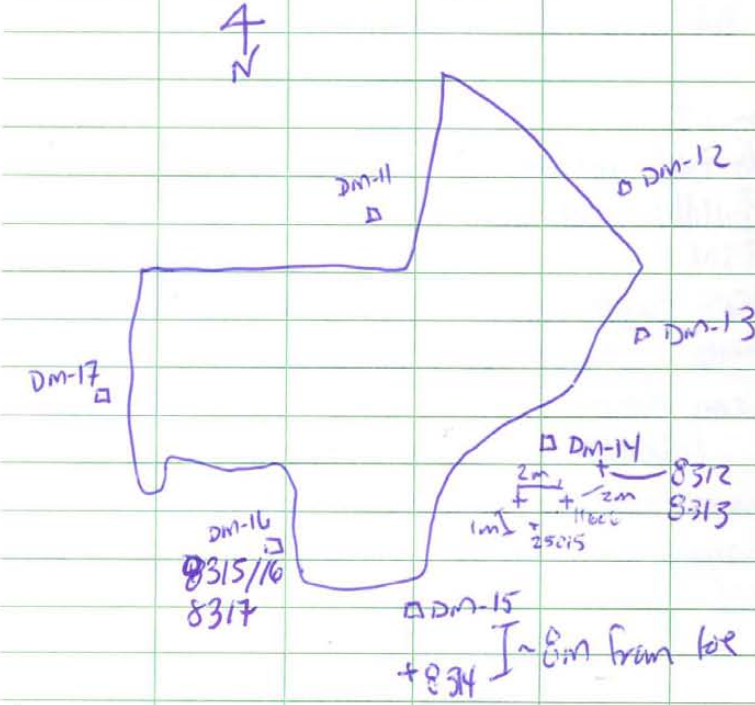
9

U.S HELIPAD LANDFILL AUG 7/14

TEAM: SHANEL - MARIC DM-14 → DM-16
SHARILYN - MIKE DM-11 → DM-13 + DM-17

WEATHER: SUN - CLOUDY, VERY WINDY 30°KM
NEW PLASTIC DISPOSABLE SCOOP FOR EACH SAMPLE
SHOVEL + PICKAX - SOIL RINSE B/W T.P.S.

SAMPLES: 1WP, 1AG, 1CG
DUPS: ###C/1
ARCHIVE: ###6 - 1WP, 1AG
INTERLAB: ###9 - 1WP, 1AG, 2CG



12

AUG 7/14

DM-14
8312 - 10cm
8313 - 40-50 cm DRY
BROWN SAND - COARSE W GRAVEL, COBBLES 0-50
LARGE BOULDERS AROUND AREA.

PHOTOS
CU OF TP
WA OF TP LOOKING N @ LF - Helicopter behind LF
WA Backfilled LOOKING N

DM-15
No tags from old loc^ns visible
Boulder field - limited sample loc^ns
8314
~~8315~~ Depth sample not possible due to
~~8316~~ shale @ depth
GRAY BROWN SAND W >50% shale COBBLES + GRAVEL 0-20cm - DRY
SHALE COBBLES 20cm-30cm - END OF T.P
~~BROKEN~~ LIGHT BULBS FILAMENT BESIDE TP
PHOTOS
CU OF TP
CU OF TP W pen beside broken light bulb
WA OF TP LOOKING N @ LF
WA BACKFILLED

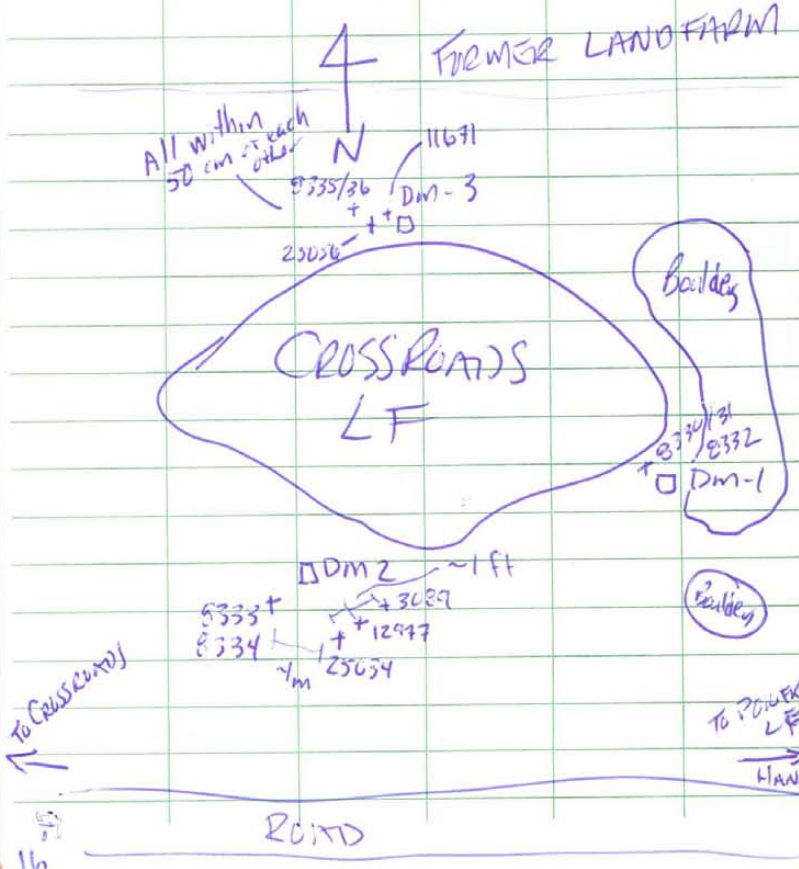
13

DM-16 – HC-like ODOUR DETECTED
8315 - 0-10 cm
8316 - ARCHIVE 0-10cm
8317 - 40-50cm
0-10 - GRAY BROWN SAND & SILT & FINE GRAVEL, MOIST
10-30 SILT & SAND, MOIST
30-50 - GRAY BROWN SAND & SILT, MOIST
ODOUR IN TEST PIT
PHOTOS
CL OF TP
WA OF TP LOOKING N @ LF
WA BACKFILLED
WA OF TP LOOKING S FROM LF

1430
AUG 7/14

CROSSROADS LF SOIL

TEAM: SHARI + MARK
WEATHER: OVERCAST, WINDY ~30 KM
NEW PLASTIC SCOOP USED FOR EACH SAMPLE
SHOVEL + PICK AX - SOIL RINSE FOR DECON
SAMPLES - DUPS (0/1): 1WP, 1AG, 1CG
ARCHIVE: ##6: 1WP, 1AG
INTERLAB: ##9: 1WP, 1AG, 2CG



16

Crossroads LF Contin'd

DM-1 - Loc^N by GPS is 10m into a boulder area.
Loc^N of sample moved to w/in 5m of LF toe @ edge of boulder field

8330/31 - 0-10 cm
8332 - 40-50 cm

Gray brown sand w silt
slightly moist @ 10-50cm

PHOTOS
CU of TP
WA of TP facing N toward LF
WA of TP facing E from LF to boulder area
WA of TP backfilled

17

Crossroads LF Cont'd

AUG 7/14

DM-2

8333 - 0-10 cm

8334 - 40-50 cm

GRAY BROWN SAND TO SILT
<10% COBBLES, GRAVEL.
MOIST

PHOTOS
OL OF TP
WA OF TP LOOKING N TOWARDS LF
WA OF BACKFILL

DM-3

8335 - 10 cm

8336 - ARCHIVE 0-10 cm

GRAY BROWN SAND TO SILT, MOIST
<10% GRAVEL

8337 - 40-50 cm

OL OF TP

WA OF TP LOOKING SW TOWARDS LF

WA OF BACKFILLED TP

PALLET LINE LF

AUG 8/14

TEAM: SHANEL, MARK, FELIX

WEATHER: RAIN, WINDS ~15-20, TEMP ~ 0-5°C

SCOOPS - DECON SAME AS PREV.

SAMPLE CONTAINERS SAME AS PREV

29429 25080

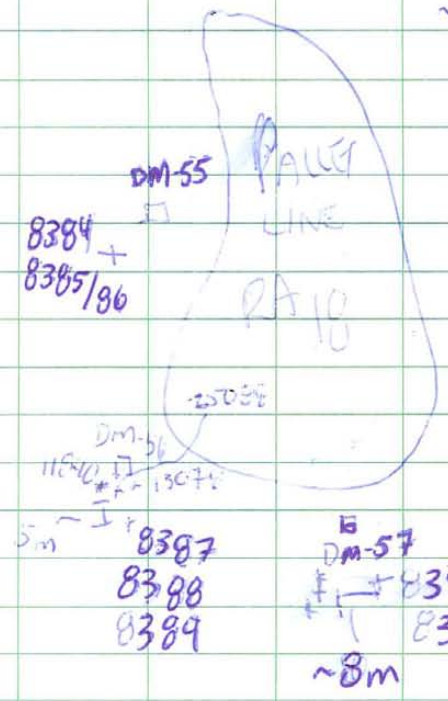
RA 17

DM-54

~2mI

8393

8394



20

8384-~~8389~~ 8397

RA 18 Cont'd

AUG 8/14

DM-55 1000 AM

8384 - 5-10 cm

8385 - 45-50 cm

8386 - ARCHIVE - IWP, IAG 45-50 cm

SAND + SILT DARK BROWN W COBBLES.

ORGANICS ON SURFACE < 5CM

LARGE BOULDERS AROUND AREA

PHOTOS

CU AT TP

WA LOOKING E

WA BACKFILLED

21

LEVEL

RA 18 Cont'd

DM-56 1030

C8387 5-16 cm

C8388 45-50 cm

C8389 - Interface 45-50 cm

DARK BROWN SAND N SILT
SOME GRAVEL & COBBLES

ORGANICS @ SURFACE 5 cm - MOSS/lichen

MOIST

PHOTOS
CAL LF TP
WA LOOKING E @ LF
WA OF BACKFILLED

22

RA 18 Cont'd

DM-57 1115 AM AMBIENT

C8390/91 5-16 cm

C8392 40-45 cm

DARK BROWN SAND N SILT
N SOME COBBLES - GRAVEL

MOIST

ORGANICS @ SURFACE N ROOTS 10-20 cm

GRAVEL CONTENT ↑ N depth
30-45 cm - GRAVEL > 50%

LARGE ROCKS AROUND SURFACE

PHOTOS
CAL LF TP
WA LOOKING N @ LF
WA BACKFILLED

23

RA 17

DM-54 1140 AM AUG 8/14

@ 393-5-10 cm

@ 394-35-40 cm

DARK BROWN SAND TO SILT

GRAVEL THROUGHOUT → 30%

SPARSE ORGANICS @ SURFACE.

MOIST

PHOTOS:

WA OF DEBRIS STICKING OUT OF LF

WA FROM DEBRIS 5 TO SAMPLE LOC'N

OL OF TP

WA OF TP LOOKING N @ LF

WA BACKFILLED

ALL CASING MEASUREMENTS TO TOP OF LID @ LOCK.

WATER LEVEL MEASUREMENTS AUG 8/14

CONDITION OF MW
WELL HEIGHT ABOVE GROUND + CASING HEIGHT
DEPTH TO WATER
DEPTH TO BOTTOM

LS TIER II
MW 05-13

CONDITION: CASING DAMAGED BY ROCK
- DENTED ON BACKSIDE
- WELL PIPE IN GOOD CONDITION
- ROCK RESTING AGAINST CASING
- CRACKING ~~or~~ SLOUGHING IN BENTONITE SEAL AROUND WELL CASING
- CASING HAS GAPS AROUND LID

CASING HEIGHT: 35 cm AGL
WELL HEIGHT: 19 cm AGL
DEPTH TO H_2O: DRY
DEPTH TO BOTTOM: 83 cm T.O.W.

LS TIER II

MW 12-01

AUG 8/14

CASING: GOOD CONDITION, WELL GOOD
CRACKING IN SURFACE SOILS AROUND WELL

CASING: 72 cm
WELL: 62 cm
TO H_2O: 2.15 m
TO BOTTOM 2.44 m

MW 05-15

Casing: Good condition, well good
cracking and drying of bentonite
both inside and out

Casing: 74 cm
well: 48 ~~cm~~ cm
TO H_2O: 1.98 m
TO bottom: 2.15 m

LS TIER II

BMW05-16

AUG 8/14

CASING PRESSING AGAINST WELL CAP
NEED TO PUSH AGAINST CASING TO
REMOVE CAP
CONDITION GOOD OTHERWISE

CASING: 0.79m
WELL: 0.52 m
TO H_2O: NONE
TO BOTTOM: 2.29m

PHOTO: LOOKING NW TOWARDS FACILITY
P8080080

POWERHOUSE LF WELLS

AUG 8/14

MW 05-07
CASING & WELL GOOD
WATER INSIDE CASING ~ 20cm below T.O.P

CASING: 0.70 m
WELL: 0.33 m
TO H_2O: NONE
TO BOTTOM: 2.04m

PHOTO: MW LOOKING W S TOWARDS LF
(81)

MW 05-06
CASING & WELL GOOD
BENTONITE INSIDE CASING HAS SHRUNK

CASING: 0.60 m
WELL: 0.30 m
TO H_2O: NONE
TO BOTTOM: 2.16m

PHOTO: MW LOOKING S TOWARDS LF
(82)

POWERHOUSE LF — AUG 8/14

MW 05-05

CASING + WELL PIPE GOOD
BENTONITE INSIDE WELL IS CRACKED

CASING: 0.73 m
WELL: 0.33 m
TO H_2O: NONE
TO BOTTOM: 1.95 m

PHOTO: MW LOOKING S TOWARDS FACILITY (83)

BMW 05-08

CASING + WELL GOOD
STANDING WATER INSIDE CASING ~15cm BELOW T.O. PIPE

CASING: 0.69 m
WELL: 0.40 m
TO H_2O: NONE
TO BOTTOM: 2.24 m

PHOTO: MW LOOKING N TOWARDS L.F. (85)

LS NHWL - WATER LEVELS — AUG 8/14

MW 05-09

CASING + WELL GOOD
BENTONITE INSIDE CRACKED + SHRUNK

CASING: 0.68 m
WELL: 0.31 m
TO H_2O: 1.95 m
TO BOTTOM: 1.99 m

PHOTO: MW LOOKING S. @ NHWL (87)

MW 09-28 - DIFFERENT LOCK - "GOLD" MASTER (NO photo)

MW 09-27 - GOLD "MASTER" LOCK (88)

PHOTO: MW LOOKING E @ NHWL

BMW 09-26 - GOLD "MASTER" LOCK

PHOTO OF MW LOOKING N @ NHWL (89)

LS NHWL AUG 9/14

MW 05-12

CASING & WELL GOOD
SURFACE SEAL @ CASING PULLED AWAY FROM CASING
BENTONITE CRACKED & SHRUNK INSIDE CASING

CASING: 0.67 m
WELL: 0.31 m 36 cm
TO H_2O: NONE
TO BOTTOM: 2.02 m

PHOTO: MW LOOKING SW TOWARDS NHWL

32

US NHWL AUG 9/14

BMW 06-18

CASING: 0.69 m
WELL: 0.79 m
TO H_2O: 1.0 m
TO BOTTOM: 1.03 m

CASING & WELL ON AN ANGLE
WATER INSIDE CASING TO CONFIRM SEAL OUTSIDE OF CASING IS NOT TIGHT, PULLED AWAY FROM WELL

PHOTOS TAKEN ON AUG 7.

MW 07-21

CASING: 0.65 m
WELL: 0.58 m 7 cm
TO H_2O: 1.36 m
TO BOTTOM: 1.49 m
CONDITION: GOOD. WATER INSIDE CASING
OUTER SEAL GOOD 0.31 m BELOW T.O.P
DENT IN OUTER CASING

PHOTO: MW LOOKING S @ NHWL
(91)

33

US NHWL — Aug 9/14

MW 06-20
CASING: 0.92 m
WELL: 0.62 m
TO H_2O: 1.01 m
TO BOTTOM: 1.33 m

CASING + WELL GOOD
BENTONITE EXPOSED OUTSIDE CASING
WATER IN CASING TO 0.35 m below TOP of well PIPE

PHOTO:
MW looking S @ NHWL (92)

MW 06-19
CASING: 0.55
WELL: 0.63
TO H_2O: 1.74 m
TO BOTTOM: 2.0 m
CONDITION CASING + WELL PIPE GOOD
WATER IN CASING TO 0.31 m BELOW TOC WELL PIPE
BENTONITE EXPOSED @ SURFACE
PHOTO: MW ~~LOOKING~~ INSIDE C.U (93)
MW LOOKING E TOWARDS FACILITY
34 (94)

US TIER II FACILITY — Aug 9/14

MW 07-22
CONDITION: GOOD, CAP NOT ON WELL
PVC CAP ONLY, FOUND INSIDE CASING
WATER INSIDE WELL TO 0.17 m BELOW PIPE

TO BOTTOM: 2.44 m
TO H_2O: NONE
WELL: 0.61 m
CASING: 0.61 m

PHOTO: MW LOOKING SW @ TIER II (95)

MW 12-02
CONDITION GOOD. NO WATER IN CASING

CASING: 0.57 m
WELL: 0.49 m 0.08
TO H_2O: NONE
TO BOTTOM: 1.73 m

PHOTO: MW LOOKING E TOWARDS T II (96)

35
LEVEL

US TIER II — AUG. 9/17

MW 08-25
CASING: 0.38
WELL: 0.31
TO H_2O: NONE
TO BOTTOM: 1.78 m

CONDITION: GOOD
WATER IN CASING ~ 15 cm

PHOTO: MW LOOKING E @ TIER II
(97)

MW 08-24
CASING: 0.65 m
WELL: 0.60 m
TO H_2O: 1.45 m
TO BOTTOM: 1.90 m

GOOD CONDITION
WATER IN CASING TO 0.15 m BELOW TOP OF WELL PIPE

PHOTO: LOOKING N @ TIER II
(98)

US
TIER II — AUG. 9/17

MW 07-23
CASING: 0.68 m
WELL: 0.59 m
TO H_2O: 1.35 m
TO BOTTOM: 1.63 m

CONDITION - GOOD. WATER INSIDE CASING TO 0.09 m BELOW TOP OF WELL PIPE

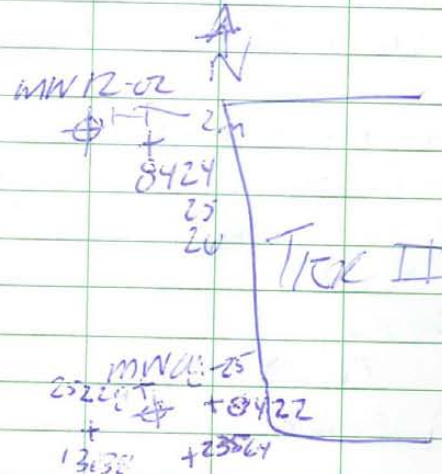
PHOTO: MW LOOKING W @ TIER II
(99)

U.S TIER II SOIL SAMPLING AUG 9/14

TEAM: [illegible]

WEATHER: RAIN, FOG, WINDS ~15-20

~~MW 08-25~~



MW08-25 1130

08422 - 5-10 cm

08425 - 40-45 cm

BROWN SAND W SILT + GRAVEL

MINIMAL ORGANICS @ SURFACE

PHOTOS CL OF TP

WA OF TP LOOKING E @ TIER II

~~WA BACK FILLED~~

AUG 9/14

MW 12-02 1145

08424 - 5-10 cm

8425 - 45-50 cm

8426 - ARCHIVE 45-50 cm

LIGHT BROWN SAND W GRAVEL

SOME SPOTS OF RUST COLORED CLAY INTERSPERSED THROUGHOUT

PHOTOS

CL OF TP

WA OF TP looking S @ Tier II

WA OF BACKFILLED

LS NHWL

Aug 9

Aug 9 Mark . Mike

MW-09-26 Good condition/gravel fill inside casing: good seal

Casing 43cm

Well 37cm

To H2o 1m 41cm

To Bottom 2m 30cm

Photo #~~108~~ #109 facing N. Hazard

↑ N

MW-09-27 Good condition gravel inside

Casing 38cm

Well 30cm

To H_2O 1m 49cm

To Bottom 2m 45cm

Photo #110 facing East

water in casing 0.12m below well top

MW-09-28 Good condition

Casing 27cm

Well 33cm

To H2O ~~0~~ H2O

To Bottom 1.99m

gravel in casing

Photo #111

facing site South

8180

US.NHWL GW MON. AUG 10/14

MW 06-19 8:30 AM

INTEGRATE METER

To H_2O 1.71

To BOTTOM 2.01

PURGED ~0.5L in 45 min.

INSUFFICIENT WATER TO COLLECT A SAMPLE.

pH 7.05

Con 162.6 µS

T 6.5 °C

LEVEL

AUG 10/14

MW 06-20 9:20 AM

TO H_2O: 1.02 m
TO BOTTOM: 1.34 m

START pH 6.9

pH : 7.7
CON : 114.1 µS
T : 5.5°C
1L PURGED @ 9:37 AM

SAMPLE 8180/8181 COLLECTED

3x 40mL VOA	x2
2x 500mL AG F2-F4	x2
1x 125mL HDPE IE	x2
1x 125mL C.G Hg	x2
1x 1L AB BCB	x2

~~CLEAR~~, COLOURLESS, CLOUDY

DECON
METHANOL RINSE
DISTILLED H_2O RINSE
WIPED OUTSIDE OF TUBING

Aug/10/14

MW 07-21

TO H_2O: ~~1.50 cm~~ 1.35 m
TO BOTTOM: 150 cm (1.5 m)

START 1110 AM 1.3L Purge

pH 6.3	7.5
CON 85	109.6
T 6.8	6.2

SAMPLE 8182
ALL BOTTLES

COLOURLESS, CLOUDY, TRANSLUC.

US.

TIER II FACILITY — AUG 10/14

MW 07-23
TO H_2O: 1.37 m
TO BOTTOM: 1.64 m

START 2:20 pm
pH 6.3
COND 67 µS
T 5.3°C

CLOUDY, TRANSLUCENT
COLOURLESS

2:30 Purge 1L
6.42
573 µS
5.4°C
TURB 68.0 NTU

SAMPLE 8183 FINISH 3:01 pm
ALL BOTTLES COLLECTED

MW 08-24
TO H_2O: 1.45 m
TO BOTTOM: 1.92 m

START ~~3~~:20
pH 7.9
COND 144 µS
T 10.6°C
SAMPLES 8184
COLLECTED
3x 40 mL
2x 125 mL

1L
8.55
140
6.0

CLOUDY, COLOURLESS
TRANSLUCENT

1.5L 3:39 pm
~~8.85~~ 7.3
159
6.5
TURB: 150 NTU

Part of 1x 500 mL
NO MORE WATER - NEED TO
WAIT FOR RECHARGE

END 4:05 pm

44

L.S. TIER II FACILITY - GW — AUG 10/14

MW 12-01
TO H_2O: 2.02 m
TO BOTTOM: 2.43 m

START 5:00 pm
pH : 5.8
COND : 1320
T : 5.5°C

1L
6.2
1237
4.4

5:15 pm
6.6
1124
4.4
TURB 231 NTU

SAMPLE 8185
3x 40 mL VOA, 2x 125 mL 1:1 HCl, 2x 500 mL AG FILT
NOT ENOUGH WATER FOR PUB BOTTLE END 5:45 pm

MW 05-15
TO H_2O: 1.90 m
TO BOTTOM: 2.20 m
START 5:30 pm
pH / INSUFFICIENT WATER TO PURGE
COND OR COLLECT SAMPLE
T : END 6:00 pm
PHOTOS: MW 05-15 LOOKING SE @ TIER II
CU MW 05-15 x 2
MW 12-01 LOOKING S @ TIER II
~~MW~~ MW 05-~~13~~15 LOOKING SW @ TIER II
CU MW 05-13 SHOWING DENT, NOT TIGHT

45

US.

TIER II FACILITY — AUG 10/14

MW 07-23
TO H_2O: 1.37 m
TO BOTTOM: 1.64 m

START 2:20 pm
pH 6.3
COND 67 µS
T 5.3°C

CLOUDY, TRANSLUCENT
COLOURLESS

2:30 Purge 1L
6.42
573 µS
5.4°C
TURB 68.0 NTU

SAMPLE 8183 FINISH 3:01 pm
ALL BOTTLES COLLECTED

MW 08-24
TO H_2O: 1.45 m
TO BOTTOM: 1.92 m

START ~~3~~:20
pH 7.9
COND 144 µS
T 10.6°C
SAMPLES 8184
COLLECTED
3x 40 mL
2x 125 mL

1L
8.55
140
6.0

CLOUDY, COLOURLESS
TRANSLUCENT

1.5L 3:39 pm
~~8.85~~ 7.3
159
6.5
TURB: 150 NTU

Part of 1x 500 mL
NO MORE WATER - NEED TO
WAIT FOR RECHARGE

END 4:05 pm

44

L.S. TIER II FACILITY - GW — AUG 10/14

MW 12-01
TO H_2O: 2.02 m
TO BOTTOM: 2.43 m

START 5:00 pm
pH : 5.8
COND : 1320
T : 5.5°C

1L
6.2
1237
4.4

5:15 pm
6.6
1124
4.4
TURB 231 NTU

SAMPLE 8185
3x 40 mL VOA, 2x 125 mL 1:1 HCl, 2x 500 mL AG FILT
NOT ENOUGH WATER FOR PUB BOTTLE END 5:45 pm

MW 05-15
TO H_2O: 1.90 m
TO BOTTOM: 2.20 m
START 5:30 pm
pH / INSUFFICIENT WATER TO PURGE
COND OR COLLECT SAMPLE
T : END 6:00 pm
PHOTOS: MW 05-15 LOOKING SE @ TIER II
CU MW 05-15 x 2
MW 12-01 LOOKING S @ TIER II
~~MW~~ MW 05-~~13~~15 LOOKING SW @ TIER II
CU MW 05-13 SHOWING DENT, NOT TIGHT

45

L.S. NHWL GW SAMPLING AUG 11/14

MW09-27
TO H_2O: 1.45m
TO BOTTOM: 2.46m

START: 8AM	8:08	8:12	8:16	
pH: 4.9	6.4	6.9	7.0	
COND: 737 µS	728 µS	710 µS	697 µS	TURB
T: 3.9	3.3	4.0	4.0	477NTU
1L	2L	3L	3.7L	

SAMPLE 8186 @ 820mm
3x40mL, 2x125mL, 2x500mL, 1x1L
END 8:40 mm

SAMPLE 8187 - INTERLABS CLOUDY, YELLOW
1L HDPE
1L TEFLON
250mL AG
END 8:55 mm

PHOTOS
- CL OF WELL (P8110122)
- WA OF WELL LOOKING N. @ NHWL (P8110123)

46

LS NHWL GW SAMPLING AUG 11/14
MW09-26
TO H_2O: 1.46m
TO BOTTOM: 2.35m

* NOTE: COND IN mS not µS!

START: 9:05 AM	9:13	9:18		END 9:30	
pH	5.9	6.57	6.73	6.8	
COND	2.21mS	1.81mS	2.33mS	2.74mS	
T	4.5	4.6	4.9	5.4°C	TURB
	1L	2L	3L	3.5L	158NTU

CLOUDY, ~~CLEAR~~, TRANSLUCENT, COLOURLESS
SAMPLE 8188

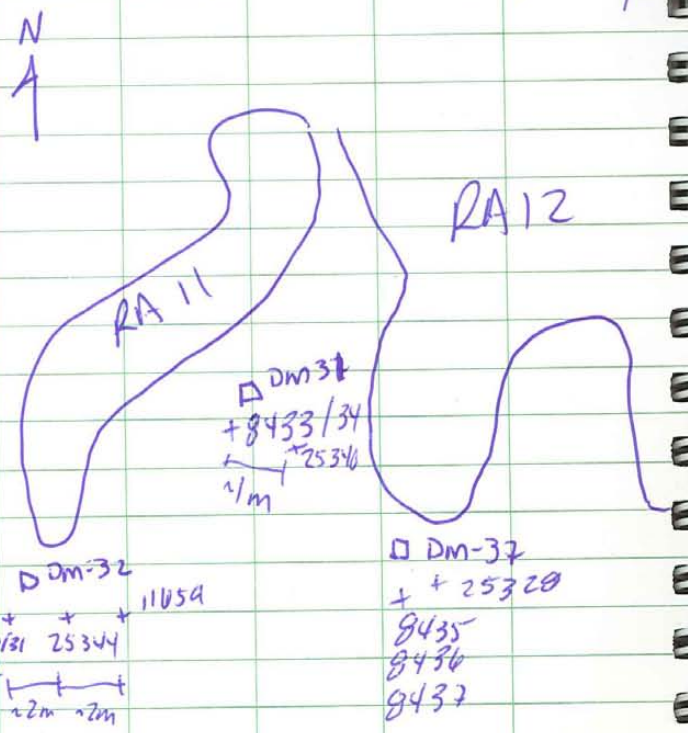
PHOTOS:
CL MW (P8110124)
WA MW LOOKING W@ NHWL (no photo)

AUG 12/14

EQUIP BLANK
8189 - 730 AM
3x40mL, 2x125mL, 2x500mL, 1x1L

47

WEST LF RA11+12 AUG 11/14



TEAM: SHARI + MARK
WEATHER: SUN + CLOUDY, WINDY, ~0°C
PLASTIC DISPOSABLE SLEEVES FOR SAMPLING
SOIL RINSE SHOVEL + PICK AX
DUP 0/1
ARCHIVE - ###6

WEST LF RA11+12 SOIL AUG 11/14

DM-32 1120AM
WITHIN DRAINAGE CHANNEL
8430/31 -5-10 cm
8432 - 45-50 cm
BROWN SILT TO SAND
COBBLES + GRAVEL ~ 30-40%
SLIGHTLY DAMP
WITHIN AN EROSION/DRAINAGE CHANNEL
PHOTO
CN OF TP
WA OF TP LOOKING E @ LF RA11
WA BACKFILLED 2013 TP VISIBLE TO E

DM-31 1150 AM
8433 5-10 cm
8434 40-45 cm
SILT TO SAND, COBBLES + GRAVEL
~40% 50%, SLIGHTLY DAMP

PHOTOS
CN OF TP
WA OF TP FACING N @ RA11
WA BACKFILLED

WEST LF RA 11x12 AUG11/14
DM-37 1210 pm
8435 5-10cm
8436-ARCHIVE - 1 WP, 1 AG 5-10cm
8437- 45-50 cm

SILT w SAND, GRAVEL + COBBLES
~40-50%
SLIGHTLY DAMP
COBBLE COVERED SURFACE, NO ORGANICS
Depth - 50 cm

PHOTOS
CU OF TP
WA OF TP LOOKING E @ RA12
WA BACKFILLED

8233/34

HELIPAD LF ✓
NWS LOC ✓
TIGER # UPGRAD PHOTO ✓
TIGER # GW SAMPLE ✓

AUG 11/14

U.S TIGER # MW OB-24
REVISIT 3 30pm
TO H_2O 1.46 m
TO BOTTOM: 1.87 m ~~SAMP~~
2 x 500 ML COLLECTED FOR SAMPLE
8184 - ~~S~~
1 x 1L PCB 43 COLLECTED
DRY.

HELIPAD LF AUG 11/14

UPGRAD SAMPLE

DM-11 1610

8308 - 5-10cm

8309 - 5-10cm INTERLAB

8310/11 - 40-45cm

HARD PACKED GRAVEL PAD

SILT W SOME SAND - MOIST

LARGE COBBLES + GRAVELS ~50%

DEPTH HARD TO OBTAIN B/C OF LARGE COBBLES

DEPTH 45 cm

NO ORGANICS

PHOTO

CU OF TP

WA OF TP LOOKING S @ LF

WA OF TP FROM LF LOOKING N @ HELIPAD + NWSO STATION

WA BACKFILLED LOOKING S

DM-22 NEW AUG 11/14

NEW LOCN ~10m SW OF ORIGINAL

SHOULD BE ABLE TO COLLECT 7-8 MORE SAMPLES B/W NEW LOCN + ORIGINAL LOCN

GPS COORD MARKED AS DM-22 NEW

WP ONLY COLLECTED

SILT W SAND + GRAVEL 0-50cm

SOUTH SIDE OF TP HAS BLACK SAND - NO ODOUR L25cm → 50cm

8233 - 5-10cm

8234 - 45-50cm

PHOTO

CU OF TP (40)

CU OF BLACK SOIL (41)

WA LOOKING N @ LF (42)

WA LOOKING N @ LF W MARK @ OLD LOCN (43)

WA BACKFILLED LOOKING N (44)

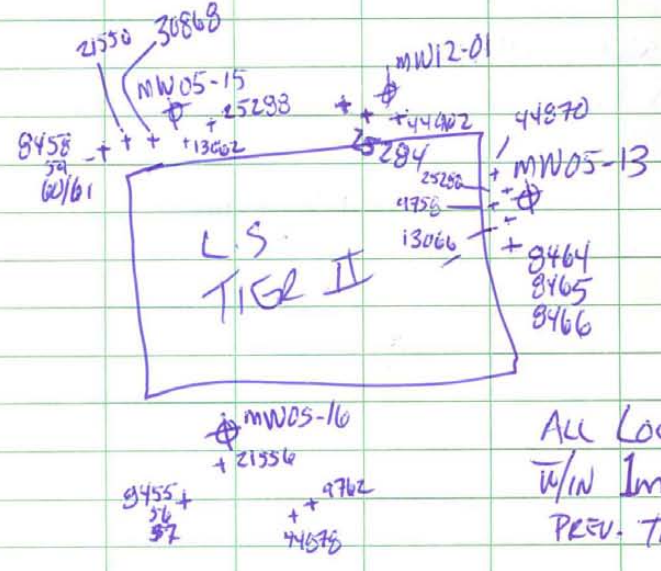
WA LOOKING S.

LEVEL

PH 05-06

L.S. TIER II FACILITY - SOIL AUG 12/14

MW 05-16 930AM
8455 - 5-10cm
8456 - ARCHIVE - WP ONLY 5-10cm
8457 - 45-50cm
BROWN SILT TO SOME GRAVEL, WET @ 30cm-50
ORGANICS @ SURFACE - MOSS ~80-90%, ROOTS TOP 5cm
PHOTO: CU
WA LOOKING N @ TII
WA BACKFILLED N



ALL LOC'S W/IN 1m OF PREV. TAGS.

LS TIER II AUG 12/14

TEAM: SHARI + MARK
WEATHER: FOG, 5C, OVERCAST
PLASTIC SCOOPS USED
SHOVEL + PICKAX - SOIL RINSE
1 WP, 2x 120mL GLASS COL
ARCHIVE: ###6 - 1 WP ONLY
INTERLAB: ###9 - 1 WP, 3x 120mL GLASS
DUP : 0/1

MW 05-15 945AM
8458 - 5-10cm
8459 - INTERLAB 5-10cm
8460/61 45-50cm
SOIL - SILT W SOME SAND + GRAVEL, DAMP
BROWN
ORGANICS @ SURFACE MOSS ~70%,
WILLOW, SOREL, GRASSES @ SURFACE
ROOTS 0-5 cm

PHOTOS: CU OF TP
WA OF TP FACING SE @ TIER II
WA BACKFILLED FACING S @ TIER II

L.S. TIER II FACILITY AUG 12/14

MW12-01 1015 AM

8462 - 5-10cm

8463 - 40-45cm

BROWN SILT & SOME SAND & GRAVEL, DAMP

COBBLES PRESENT

DEPTH STOPPED @ 45cm DUE TO LARGE COBBLE

MOSS @ SURFACE ~ 40%, SOREL, WILLOW, GRASSES PRESENT ~20%, ROOTS 0-10/15cm.

PHOTOS

LS. NWS LF LOOKING S FROM TIER II x3 @ DIFFERENT ZOOM

CU OF TP

WA OF TP LOOKING ~~N~~ S @ TIER II

WA BACKFILLED LOOKING S @ TIER II

LS TIER II AUG 12/14

MW05-13 1035 AM

~~0846~~ 08464 - 5-10

8465 45-50

8466 - ARCHIVE - 1WP ONLY 45-50

BROWN SILT & SOME SAND & GRAVEL & COBBLES, DAMP

MINIMAL ORGANICS, GRASS

PHOTOS

CU OF TP

WA OF TP LOOKING W @ TIER II

WA OF BACKFILLED LOOKING W @ TIER II

L.S. POWERHOUSE LF. AUG 12/14

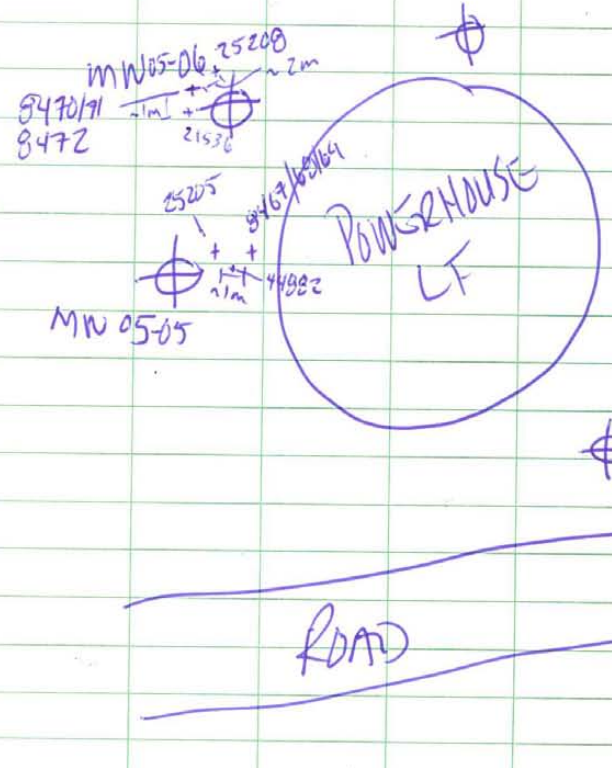
TEAM: SHARI + MACK FOR MW 05-06
SHARILYN - MIKE FOR MW

WEATHER: OVERCAST, WINDY ~10K, SOME SUN

DUP: 0/1

INTERLAB: ###9: 1WP, 1AG, 2CG

N ←



ROAD

L.S POWERHOUSE LF AUG 12/14

MW05-05 1115AM
8467 5-10cm
8468 40-45 cm
8469 - INTERLAB, 1WP, 1AG, 2CG 40-45cm

SOIL - BROWN SILT TO SAND + GRAVEL ~20%
COBBLES, DAMP
SOME ORGANICS AROUND TP - GRASS
<10%

PHOTOS: CU OF TP
WA OF TP LOOKING S @ PH LF
WA OF BACKFILL LOOKING S @ PH LF
CU OF TP + OLD TP LOCNS LOOKING S.

MW05-06 ~~10~~ 1140 AM
8470/71 - 5-10cm
8472 - 35-40cm
END TP @ 40cm, BIG BOULDER
SOIL: SILT TO SAND + GRAVEL, DAMP
ODOUR - HC-LIKE
ORGANICS ON SURFACE - MOSS ~80%
WILLOW, GRASS + SORREL ~40%, ROOTS 0-20cm
PHOTOS: CU OF TP
WA OF TP LOOKING S @ PH
WA OF BACKFILLED LOOKING S @ PH

Appendix E: 2014 Analytical Laboratory Reports

Analytical Laboratory Reports

The signed PDF copies of the laboratory reports are included in the following section for the laboratory results from 2014.

Laboratory reports for the monitoring in 2007 to 2013 are not included in the current draft. The results for the baseline monitoring samples will be provided electronically with the final report. The long-standing relationship with ASU and ASG at the time of analysis had established that email transmittal of excel spreadsheets constituted the equivalent of a report signed by the Senior Analyst. As a result, signed copies of the laboratory reports are not available for the baseline data. The provision of the excel spreadsheets facilitated the data entry during the timeframe of generation of significant amounts of analytical data.

Department of National Defence - Royal Military College
ATTN: JASMINE KING
Environmental Sciences Group
Kingston ON K7K7B4

Date Received: 19-AUG-14
Report Date: 26-AUG-14 11:56 (MT)
Version: FINAL

Client Phone: 613-541-6000

Certificate of Analysis

Lab Work Order #: L1504008

Project P.O. #: W0114-4501192649
Job Reference: DYE-M 14-006
C of C Numbers: 00001, 00002, 00003, 00004, 00005, 00006, 00007, 00008
Legal Site Desc:

Gayle Braun
Senior Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504008-1 2014-08240 Sampled By: SHARI REED on 05-AUG-14 @ 16:40 Matrix: SOIL							
Physical Tests							
% Moisture	5.44		0.10	%	19-AUG-14	20-AUG-14	R2923611
Metals							
Mercury (Hg)	0.013		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924174
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Aroclor 1254	0.067		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Aroclor 1260	0.081		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Total PCBs	0.148		0.020	mg/kg	20-AUG-14	21-AUG-14	R2924953
Surrogate: d14-Terphenyl	104.9		50-150	%	20-AUG-14	21-AUG-14	R2924953
L1504008-2 2014-08241 Sampled By: SHARI REED on 05-AUG-14 @ 16:40 Matrix: SOIL							
Physical Tests							
% Moisture	5.01		0.10	%	19-AUG-14	20-AUG-14	R2923611
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924174
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Aroclor 1254	0.250		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Aroclor 1260	0.195		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Total PCBs	0.445		0.020	mg/kg	20-AUG-14	21-AUG-14	R2924953
Surrogate: d14-Terphenyl	115.2		50-150	%	20-AUG-14	21-AUG-14	R2924953
L1504008-3 2014-08242 Sampled By: SHARI REED on 05-AUG-14 @ 16:50 Matrix: SOIL							
Physical Tests							
% Moisture	5.81		0.10	%	19-AUG-14	20-AUG-14	R2923611
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924174
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Aroclor 1254	0.059		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Aroclor 1260	0.064		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Total PCBs	0.123		0.020	mg/kg	20-AUG-14	21-AUG-14	R2924953
Surrogate: d14-Terphenyl	112.9		50-150	%	20-AUG-14	21-AUG-14	R2924953
L1504008-4 2014-08243 Sampled By: SHARI REED on 05-AUG-14 @ 18:00 Matrix: SOIL							
Physical Tests							
% Moisture	4.21		0.10	%	19-AUG-14	20-AUG-14	R2923611
Metals							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504008-4 2014-08243 Sampled By: SHARI REED on 05-AUG-14 @ 18:00 Matrix: SOIL							
Metals							
Mercury (Hg)	0.012		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924174
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Aroclor 1254	0.018		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2924953
Surrogate: d14-Terphenyl	103.8		50-150	%	20-AUG-14	21-AUG-14	R2924953
L1504008-5 2014-08244 Sampled By: SHARI REED on 05-AUG-14 @ 18:00 Matrix: SOIL							
Physical Tests							
% Moisture	8.18		0.10	%	19-AUG-14	20-AUG-14	R2923611
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924174
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Aroclor 1254	0.018		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2924953
Surrogate: d14-Terphenyl	107.3		50-150	%	20-AUG-14	21-AUG-14	R2924953
L1504008-6 2014-08245 Sampled By: SHARI REED on 05-AUG-14 @ 18:10 Matrix: SOIL							
Physical Tests							
% Moisture	7.43		0.10	%	19-AUG-14	20-AUG-14	R2923611
Metals							
Mercury (Hg)	0.015		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924174
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Aroclor 1254	0.117		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Aroclor 1260	0.045		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Total PCBs	0.163		0.020	mg/kg	20-AUG-14	21-AUG-14	R2924953
Surrogate: d14-Terphenyl	106.7		50-150	%	20-AUG-14	21-AUG-14	R2924953
L1504008-7 2014-08247 Sampled By: SHARI REED on 06-AUG-14 @ 16:10 Matrix: SOIL							
Physical Tests							
% Moisture	8.63		0.10	%	19-AUG-14	20-AUG-14	R2923611
Metals							
Mercury (Hg)	0.013		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924174
Polychlorinated Biphenyls							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504008-7 2014-08247 Sampled By: SHARI REED on 06-AUG-14 @ 16:10 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Aroclor 1254	0.014		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Aroclor 1260	0.018		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Total PCBs	0.032		0.020	mg/kg	20-AUG-14	21-AUG-14	R2924953
Surrogate: d14-Terphenyl	109.6		50-150	%	20-AUG-14	21-AUG-14	R2924953
L1504008-8 2014-08248 Sampled By: SHARI REED on 06-AUG-14 @ 15:00 Matrix: SOIL							
Physical Tests							
% Moisture	9.18		0.10	%	19-AUG-14	20-AUG-14	R2923611
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924174
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Aroclor 1254	0.015		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Aroclor 1260	0.025		0.010	mg/kg	20-AUG-14	21-AUG-14	R2924953
Total PCBs	0.040		0.020	mg/kg	20-AUG-14	21-AUG-14	R2924953
Surrogate: d14-Terphenyl	110.9		50-150	%	20-AUG-14	21-AUG-14	R2924953
L1504008-9 2014-08250 Sampled By: SHARI REED on 06-AUG-14 @ 15:00 Matrix: SOIL							
Physical Tests							
% Moisture	4.91		0.10	%	19-AUG-14	20-AUG-14	R2923611
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924174
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925065
Surrogate: d14-Terphenyl	90.9		50-150	%	20-AUG-14	21-AUG-14	R2925065
L1504008-10 2014-08251 Sampled By: SHARI REED on 06-AUG-14 @ 15:00 Matrix: SOIL							
Physical Tests							
% Moisture	18.1		0.10	%	19-AUG-14	20-AUG-14	R2923611
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924174
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504008-10 2014-08251 Sampled By: SHARI REED on 06-AUG-14 @ 15:00 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925065
Surrogate: d14-Terphenyl	89.9		50-150	%	20-AUG-14	21-AUG-14	R2925065
L1504008-11 2014-08252 Sampled By: SHARI REED on 06-AUG-14 @ 15:30 Matrix: SOIL							
Physical Tests							
% Moisture	10.0		0.10	%	19-AUG-14	20-AUG-14	R2923611
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924175
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925065
Surrogate: d14-Terphenyl	96.5		50-150	%	20-AUG-14	21-AUG-14	R2925065
L1504008-12 2014-08253 Sampled By: SHARI REED on 06-AUG-14 @ 15:30 Matrix: SOIL							
Physical Tests							
% Moisture	9.21		0.10	%	19-AUG-14	20-AUG-14	R2923611
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924175
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925065
Surrogate: d14-Terphenyl	86.4		50-150	%	20-AUG-14	21-AUG-14	R2925065
L1504008-13 2014-08394 Sampled By: SHARI REED on 08-AUG-14 @ 10:00 Matrix: SOIL							
Physical Tests							
% Moisture	9.94		0.10	%	19-AUG-14	20-AUG-14	R2923611
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924175
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504008-13 2014-08394 Sampled By: SHARI REED on 08-AUG-14 @ 10:00 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925065
Surrogate: d14-Terphenyl	93.1		50-150	%	20-AUG-14	21-AUG-14	R2925065
L1504008-14 2014-08395 Sampled By: SHARI REED on 08-AUG-14 @ 10:00 Matrix: SOIL							
Physical Tests							
% Moisture	9.62		0.10	%	19-AUG-14	20-AUG-14	R2923611
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924175
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1260	0.013		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925065
Surrogate: d14-Terphenyl	90.5		50-150	%	20-AUG-14	21-AUG-14	R2925065
L1504008-15 2014-08397 Sampled By: SHARI REED on 08-AUG-14 @ 10:40 Matrix: SOIL							
Physical Tests							
% Moisture	8.05		0.10	%	19-AUG-14	20-AUG-14	R2923611
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924175
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925065
Surrogate: d14-Terphenyl	90.9		50-150	%	20-AUG-14	21-AUG-14	R2925065
L1504008-16 2014-08398 Sampled By: SHARI REED on 08-AUG-14 @ 10:40 Matrix: SOIL							
Physical Tests							
% Moisture	8.03		0.10	%	20-AUG-14	21-AUG-14	R2924216
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924175
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504008-16 2014-08398 Sampled By: SHARI REED on 08-AUG-14 @ 10:40 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925065
Surrogate: d14-Terphenyl	87.4		50-150	%	20-AUG-14	21-AUG-14	R2925065
L1504008-17 2014-08400 Sampled By: SHARI REED on 08-AUG-14 @ 11:00 Matrix: SOIL							
Physical Tests							
% Moisture	8.10		0.10	%	20-AUG-14	21-AUG-14	R2924216
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924175
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925065
Surrogate: d14-Terphenyl	91.3		50-150	%	20-AUG-14	21-AUG-14	R2925065
L1504008-18 2014-08401 Sampled By: SHARI REED on 08-AUG-14 @ 11:00 Matrix: SOIL							
Physical Tests							
% Moisture	8.52		0.10	%	20-AUG-14	21-AUG-14	R2924216
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924175
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925065
Surrogate: d14-Terphenyl	88.5		50-150	%	20-AUG-14	21-AUG-14	R2925065
L1504008-19 2014-08402 Sampled By: SHARI REED on 08-AUG-14 @ 11:15 Matrix: SOIL							
Physical Tests							
% Moisture	7.59		0.10	%	20-AUG-14	21-AUG-14	R2924216
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924175
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504008-19 2014-08402 Sampled By: SHARI REED on 08-AUG-14 @ 11:15 Matrix: SOIL							
Polychlorinated Biphenyls							
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925065
Surrogate: d14-Terphenyl	93.0		50-150	%	20-AUG-14	21-AUG-14	R2925065
L1504008-20 2014-08403 Sampled By: SHARI REED on 08-AUG-14 @ 11:15 Matrix: SOIL							
Physical Tests							
% Moisture	7.10		0.10	%	20-AUG-14	21-AUG-14	R2924216
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924175
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925065
Surrogate: d14-Terphenyl	87.4		50-150	%	20-AUG-14	21-AUG-14	R2925065
L1504008-21 2014-08404 Sampled By: SHARI REED on 08-AUG-14 @ 15:00 Matrix: SOIL							
Physical Tests							
% Moisture	3.21		0.10	%	20-AUG-14	21-AUG-14	R2924216
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924175
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925065
Surrogate: d14-Terphenyl	86.5		50-150	%	20-AUG-14	21-AUG-14	R2925065
L1504008-22 2014-08405 Sampled By: SHARI REED on 08-AUG-14 @ 15:00 Matrix: SOIL							
Physical Tests							
% Moisture	5.14		0.10	%	20-AUG-14	21-AUG-14	R2924216
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924175
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925065

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504008-22 2014-08405 Sampled By: SHARI REED on 08-AUG-14 @ 15:00 Matrix: SOIL							
Polychlorinated Biphenyls							
Surrogate: d14-Terphenyl	89.8		50-150	%	20-AUG-14	21-AUG-14	R2925065
L1504008-23 2014-08407 Sampled By: SHARI REED on 08-AUG-14 @ 15:00 Matrix: SOIL							
Physical Tests							
% Moisture	11.7		0.10	%	20-AUG-14	21-AUG-14	R2924216
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924175
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925065
Surrogate: d14-Terphenyl	91.8		50-150	%	20-AUG-14	21-AUG-14	R2925065
L1504008-24 2014-08408 Sampled By: SHARI REED on 08-AUG-14 Matrix: SOIL							
Physical Tests							
% Moisture	12.9		0.10	%	20-AUG-14	21-AUG-14	R2924216
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924175
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925065
Surrogate: d14-Terphenyl	87.1		50-150	%	20-AUG-14	21-AUG-14	R2925065
L1504008-25 2014-08338 Sampled By: SHARI REED on 10-AUG-14 @ 08:00 Matrix: SOIL							
Physical Tests							
% Moisture	9.19		0.10	%	20-AUG-14	21-AUG-14	R2924542
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924175
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925065
Surrogate: d14-Terphenyl	87.2		50-150	%	20-AUG-14	21-AUG-14	R2925065

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504008-26 2014-08340 Sampled By: SHARI REED on 10-AUG-14 @ 08:00 Matrix: SOIL							
Physical Tests							
% Moisture	8.44		0.10	%	20-AUG-14	21-AUG-14	R2924542
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924175
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925065
Surrogate: d14-Terphenyl	88.8		50-150	%	20-AUG-14	21-AUG-14	R2925065
L1504008-27 2014-08341 Sampled By: SHARI REED on 10-AUG-14 @ 08:00 Matrix: SOIL							
Physical Tests							
% Moisture	8.92		0.10	%	20-AUG-14	21-AUG-14	R2924542
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924175
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925065
Surrogate: d14-Terphenyl	89.0		50-150	%	20-AUG-14	21-AUG-14	R2925065
L1504008-28 2014-08342 Sampled By: SHARI REED on 10-AUG-14 @ 08:20 Matrix: SOIL							
Physical Tests							
% Moisture	9.58		0.10	%	20-AUG-14	21-AUG-14	R2924545
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924175
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925065
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925065
Surrogate: d14-Terphenyl	88.6		50-150	%	20-AUG-14	21-AUG-14	R2925065
L1504008-29 2014-08343 Sampled By: SHARI REED on 10-AUG-14 @ 08:20 Matrix: SOIL							
Physical Tests							
% Moisture	11.8		0.10	%	20-AUG-14	21-AUG-14	R2924545
Metals							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504008-29 2014-08343 Sampled By: SHARI REED on 10-AUG-14 @ 08:20 Matrix: SOIL							
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924175
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1260	0.059		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Total PCBs	0.059		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925218
Surrogate: d14-Terphenyl	95.7		50-150	%	20-AUG-14	21-AUG-14	R2925218
L1504008-30 2014-08344 Sampled By: SHARI REED on 10-AUG-14 @ 08:40 Matrix: SOIL							
Physical Tests							
% Moisture	16.5		0.10	%	20-AUG-14	21-AUG-14	R2924545
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924175
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925218
Surrogate: d14-Terphenyl	85.6		50-150	%	20-AUG-14	21-AUG-14	R2925218
L1504008-31 2014-08345 Sampled By: SHARI REED on 10-AUG-14 @ 08:40 Matrix: SOIL							
Physical Tests							
% Moisture	11.7		0.10	%	20-AUG-14	21-AUG-14	R2924545
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924177
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925218
Surrogate: d14-Terphenyl	69.2		50-150	%	20-AUG-14	21-AUG-14	R2925218
L1504008-32 2014-08347 Sampled By: SHARI REED on 10-AUG-14 @ 09:10 Matrix: SOIL							
Physical Tests							
% Moisture	10.2		0.10	%	20-AUG-14	21-AUG-14	R2924545
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924177
Polychlorinated Biphenyls							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504008-32 2014-08347 Sampled By: SHARI REED on 10-AUG-14 @ 09:10 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925218
Surrogate: d14-Terphenyl	82.1		50-150	%	20-AUG-14	21-AUG-14	R2925218
L1504008-33 2014-08348 Sampled By: SHARI REED on 10-AUG-14 @ 09:10 Matrix: SOIL							
Physical Tests							
% Moisture	9.50		0.10	%	20-AUG-14	21-AUG-14	R2924545
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924177
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925218
Surrogate: d14-Terphenyl	95.1		50-150	%	20-AUG-14	21-AUG-14	R2925218
L1504008-34 2014-08350 Sampled By: SHARI REED on 10-AUG-14 @ 09:30 Matrix: SOIL							
Physical Tests							
% Moisture	6.04		0.10	%	20-AUG-14	21-AUG-14	R2924545
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924177
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925218
Surrogate: d14-Terphenyl	94.5		50-150	%	20-AUG-14	21-AUG-14	R2925218
L1504008-35 2014-08351 Sampled By: SHARI REED on 10-AUG-14 @ 09:30 Matrix: SOIL							
Physical Tests							
% Moisture	5.91		0.10	%	20-AUG-14	21-AUG-14	R2924545
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924177
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504008-35 2014-08351 Sampled By: SHARI REED on 10-AUG-14 @ 09:30 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925218
Surrogate: d14-Terphenyl	92.2		50-150	%	20-AUG-14	21-AUG-14	R2925218
L1504008-36 2014-08352 Sampled By: SHARI REED on 10-AUG-14 @ 09:30 Matrix: SOIL							
Physical Tests							
% Moisture	3.13		0.10	%	20-AUG-14	21-AUG-14	R2924545
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924177
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925218
Surrogate: d14-Terphenyl	93.5		50-150	%	20-AUG-14	21-AUG-14	R2925218
L1504008-37 2014-08180 Sampled By: SHARI REED on 10-AUG-14 @ 09:40 Matrix: WATER							
Physical Tests							
pH	7.61	PEHR	0.10	pH units		19-AUG-14	R2923603
Dissolved Metals							
Dissolved Mercury Filtration Location	LAB					20-AUG-14	R2923659
Dissolved Metals Filtration Location	LAB					19-AUG-14	R2923561
Aluminum (Al)-Dissolved	273		10	ug/L	19-AUG-14	20-AUG-14	R2924690
Antimony (Sb)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Arsenic (As)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Barium (Ba)-Dissolved	<2.0		2.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Beryllium (Be)-Dissolved	<0.40		0.40	ug/L	19-AUG-14	20-AUG-14	R2924690
Bismuth (Bi)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Boron (B)-Dissolved	<10		10	ug/L	19-AUG-14	20-AUG-14	R2924690
Cadmium (Cd)-Dissolved	<0.090		0.090	ug/L	19-AUG-14	20-AUG-14	R2924690
Calcium (Ca)-Dissolved	510		500	ug/L	19-AUG-14	20-AUG-14	R2924690
Chromium (Cr)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Cobalt (Co)-Dissolved	<0.30		0.30	ug/L	19-AUG-14	20-AUG-14	R2924690
Copper (Cu)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Iron (Fe)-Dissolved	81		50	ug/L	19-AUG-14	20-AUG-14	R2924690
Lead (Pb)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Lithium (Li)-Dissolved	<100		100	ug/L	19-AUG-14	20-AUG-14	R2924690

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504008-37 2014-08180 Sampled By: SHARI REED on 10-AUG-14 @ 09:40 Matrix: WATER							
Dissolved Metals							
Magnesium (Mg)-Dissolved	<500		500	ug/L	19-AUG-14	20-AUG-14	R2924690
Manganese (Mn)-Dissolved	2.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Mercury (Hg)-Dissolved	<0.00010		0.00010	mg/L	20-AUG-14	20-AUG-14	R2924130
Molybdenum (Mo)-Dissolved	1.10		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Nickel (Ni)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Phosphorus (P)-Dissolved	<50		50	ug/L	19-AUG-14	20-AUG-14	R2924690
Potassium (K)-Dissolved	<1000		1000	ug/L	19-AUG-14	20-AUG-14	R2924690
Selenium (Se)-Dissolved	<0.40		0.40	ug/L	19-AUG-14	20-AUG-14	R2924690
Silicon (Si)-Dissolved	2500		1000	ug/L	19-AUG-14	20-AUG-14	R2924690
Silver (Ag)-Dissolved	<0.10		0.10	ug/L	19-AUG-14	20-AUG-14	R2924690
Sodium (Na)-Dissolved	12900		500	ug/L	19-AUG-14	20-AUG-14	R2924690
Strontium (Sr)-Dissolved	5.6		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Thallium (Tl)-Dissolved	<0.20		0.20	ug/L	19-AUG-14	20-AUG-14	R2924690
Tin (Sn)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Titanium (Ti)-Dissolved	6.7		2.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Tungsten (W)-Dissolved	<10		10	ug/L	19-AUG-14	20-AUG-14	R2924690
Uranium (U)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Vanadium (V)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Zinc (Zn)-Dissolved	97.0		3.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Zirconium (Zr)-Dissolved	<4.0		4.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Hydrocarbons							
F1 (C6-C10)	<25		25	ug/L		20-AUG-14	R2924031
F2 (C10-C16)	<100		100	ug/L	20-AUG-14	20-AUG-14	R2924217
F3 (C16-C34)	<250		250	ug/L	20-AUG-14	20-AUG-14	R2924217
F4 (C34-C50)	<250		250	ug/L	20-AUG-14	20-AUG-14	R2924217
Total Hydrocarbons (C6-C50)	<370		370	ug/L		20-AUG-14	
Chrom. to baseline at nC50	YES				20-AUG-14	20-AUG-14	R2924217
Surrogate: 2-Bromobenzotrifluoride	88.7		60-140	%	20-AUG-14	20-AUG-14	R2924217
Surrogate: 3,4-Dichlorotoluene	133.2		60-140	%		20-AUG-14	R2924031
Polychlorinated Biphenyls							
Aroclor 1242	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Aroclor 1248	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Aroclor 1254	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Aroclor 1260	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Total PCBs	<0.040		0.040	ug/L	25-AUG-14	26-AUG-14	R2928110
Surrogate: d14-Terphenyl	108.1		50-150	%	25-AUG-14	26-AUG-14	R2928110
L1504008-38 2014-08181 Sampled By: SHARI REED on 10-AUG-14 @ 11:00 Matrix: WATER							
Physical Tests							
pH	7.23	PEHR	0.10	pH units		19-AUG-14	R2923603
Dissolved Metals							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504008-38 2014-08181 Sampled By: SHARI REED on 10-AUG-14 @ 11:00 Matrix: WATER							
Dissolved Metals							
Dissolved Mercury Filtration Location	LAB					20-AUG-14	R2923659
Dissolved Metals Filtration Location	LAB					19-AUG-14	R2923561
Aluminum (Al)-Dissolved	347		10	ug/L	19-AUG-14	21-AUG-14	R2924690
Antimony (Sb)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	21-AUG-14	R2924690
Arsenic (As)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	21-AUG-14	R2924690
Barium (Ba)-Dissolved	2.1		2.0	ug/L	19-AUG-14	21-AUG-14	R2924690
Beryllium (Be)-Dissolved	<0.40		0.40	ug/L	19-AUG-14	21-AUG-14	R2924690
Bismuth (Bi)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	21-AUG-14	R2924690
Boron (B)-Dissolved	<10		10	ug/L	19-AUG-14	21-AUG-14	R2924690
Cadmium (Cd)-Dissolved	<0.090		0.090	ug/L	19-AUG-14	21-AUG-14	R2924690
Calcium (Ca)-Dissolved	840		500	ug/L	19-AUG-14	21-AUG-14	R2924690
Chromium (Cr)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	21-AUG-14	R2924690
Cobalt (Co)-Dissolved	<0.30		0.30	ug/L	19-AUG-14	21-AUG-14	R2924690
Copper (Cu)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	21-AUG-14	R2924690
Iron (Fe)-Dissolved	116		50	ug/L	19-AUG-14	21-AUG-14	R2924690
Lead (Pb)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	21-AUG-14	R2924690
Lithium (Li)-Dissolved	<100		100	ug/L	19-AUG-14	21-AUG-14	R2924690
Magnesium (Mg)-Dissolved	510		500	ug/L	19-AUG-14	21-AUG-14	R2924690
Manganese (Mn)-Dissolved	3.3		1.0	ug/L	19-AUG-14	21-AUG-14	R2924690
Mercury (Hg)-Dissolved	<0.00010		0.00010	mg/L	20-AUG-14	20-AUG-14	R2924130
Molybdenum (Mo)-Dissolved	0.82		0.50	ug/L	19-AUG-14	21-AUG-14	R2924690
Nickel (Ni)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	21-AUG-14	R2924690
Phosphorus (P)-Dissolved	<50		50	ug/L	19-AUG-14	21-AUG-14	R2924690
Potassium (K)-Dissolved	<1000		1000	ug/L	19-AUG-14	21-AUG-14	R2924690
Selenium (Se)-Dissolved	<0.40		0.40	ug/L	19-AUG-14	21-AUG-14	R2924690
Silicon (Si)-Dissolved	2900		1000	ug/L	19-AUG-14	21-AUG-14	R2924690
Silver (Ag)-Dissolved	<0.10		0.10	ug/L	19-AUG-14	21-AUG-14	R2924690
Sodium (Na)-Dissolved	8560		500	ug/L	19-AUG-14	21-AUG-14	R2924690
Strontium (Sr)-Dissolved	7.4		1.0	ug/L	19-AUG-14	21-AUG-14	R2924690
Thallium (Tl)-Dissolved	<0.20		0.20	ug/L	19-AUG-14	21-AUG-14	R2924690
Tin (Sn)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	21-AUG-14	R2924690
Titanium (Ti)-Dissolved	4.3		2.0	ug/L	19-AUG-14	21-AUG-14	R2924690
Tungsten (W)-Dissolved	<10		10	ug/L	19-AUG-14	21-AUG-14	R2924690
Uranium (U)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	21-AUG-14	R2924690
Vanadium (V)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	21-AUG-14	R2924690
Zinc (Zn)-Dissolved	218		3.0	ug/L	19-AUG-14	21-AUG-14	R2924690
Zirconium (Zr)-Dissolved	<4.0		4.0	ug/L	19-AUG-14	21-AUG-14	R2924690
Hydrocarbons							
F1 (C6-C10)	<25		25	ug/L		20-AUG-14	R2924031
F2 (C10-C16)	<100		100	ug/L	20-AUG-14	20-AUG-14	R2924217
F3 (C16-C34)	<250		250	ug/L	20-AUG-14	20-AUG-14	R2924217

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504008-38 2014-08181 Sampled By: SHARI REED on 10-AUG-14 @ 11:00 Matrix: WATER							
Hydrocarbons							
F4 (C34-C50)	<250		250	ug/L	20-AUG-14	20-AUG-14	R2924217
Total Hydrocarbons (C6-C50)	<370		370	ug/L		20-AUG-14	
Chrom. to baseline at nC50	YES				20-AUG-14	20-AUG-14	R2924217
Surrogate: 2-Bromobenzotrifluoride	88.8		60-140	%	20-AUG-14	20-AUG-14	R2924217
Surrogate: 3,4-Dichlorotoluene	137.0		60-140	%		20-AUG-14	R2924031
Polychlorinated Biphenyls							
Aroclor 1242	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Aroclor 1248	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Aroclor 1254	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Aroclor 1260	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Total PCBs	<0.040		0.040	ug/L	25-AUG-14	26-AUG-14	R2928110
Surrogate: d14-Terphenyl	103.4		50-150	%	25-AUG-14	26-AUG-14	R2928110
L1504008-39 2014-08182 Sampled By: SHARI REED on 10-AUG-14 @ 11:30 Matrix: WATER							
Physical Tests							
pH	7.62	PEHR	0.10	pH units		19-AUG-14	R2923603
Dissolved Metals							
Dissolved Mercury Filtration Location	LAB					20-AUG-14	R2923659
Dissolved Metals Filtration Location	LAB					19-AUG-14	R2923561
Aluminum (Al)-Dissolved	88		10	ug/L	19-AUG-14	20-AUG-14	R2924690
Antimony (Sb)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Arsenic (As)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Barium (Ba)-Dissolved	<2.0		2.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Beryllium (Be)-Dissolved	<0.40		0.40	ug/L	19-AUG-14	20-AUG-14	R2924690
Bismuth (Bi)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Boron (B)-Dissolved	<10		10	ug/L	19-AUG-14	20-AUG-14	R2924690
Cadmium (Cd)-Dissolved	<0.090		0.090	ug/L	19-AUG-14	20-AUG-14	R2924690
Calcium (Ca)-Dissolved	<500		500	ug/L	19-AUG-14	20-AUG-14	R2924690
Chromium (Cr)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Cobalt (Co)-Dissolved	<0.30		0.30	ug/L	19-AUG-14	20-AUG-14	R2924690
Copper (Cu)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Iron (Fe)-Dissolved	56		50	ug/L	19-AUG-14	20-AUG-14	R2924690
Lead (Pb)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Lithium (Li)-Dissolved	<100		100	ug/L	19-AUG-14	20-AUG-14	R2924690
Magnesium (Mg)-Dissolved	520		500	ug/L	19-AUG-14	20-AUG-14	R2924690
Manganese (Mn)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Mercury (Hg)-Dissolved	<0.00010		0.00010	mg/L	20-AUG-14	20-AUG-14	R2924130
Molybdenum (Mo)-Dissolved	0.60		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Nickel (Ni)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Phosphorus (P)-Dissolved	<50		50	ug/L	19-AUG-14	20-AUG-14	R2924690
Potassium (K)-Dissolved	<1000		1000	ug/L	19-AUG-14	20-AUG-14	R2924690

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504008-39 2014-08182 Sampled By: SHARI REED on 10-AUG-14 @ 11:30 Matrix: WATER							
Dissolved Metals							
Selenium (Se)-Dissolved	<0.40		0.40	ug/L	19-AUG-14	20-AUG-14	R2924690
Silicon (Si)-Dissolved	2200		1000	ug/L	19-AUG-14	20-AUG-14	R2924690
Silver (Ag)-Dissolved	<0.10		0.10	ug/L	19-AUG-14	20-AUG-14	R2924690
Sodium (Na)-Dissolved	18500		500	ug/L	19-AUG-14	20-AUG-14	R2924690
Strontium (Sr)-Dissolved	4.2		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Thallium (Tl)-Dissolved	<0.20		0.20	ug/L	19-AUG-14	20-AUG-14	R2924690
Tin (Sn)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Titanium (Ti)-Dissolved	3.8		2.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Tungsten (W)-Dissolved	<10		10	ug/L	19-AUG-14	20-AUG-14	R2924690
Uranium (U)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Vanadium (V)-Dissolved	0.90		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Zinc (Zn)-Dissolved	<3.0		3.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Zirconium (Zr)-Dissolved	<4.0		4.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Hydrocarbons							
F1 (C6-C10)	<25		25	ug/L		20-AUG-14	R2924031
F2 (C10-C16)	<100		100	ug/L	20-AUG-14	20-AUG-14	R2924217
F3 (C16-C34)	<250		250	ug/L	20-AUG-14	20-AUG-14	R2924217
F4 (C34-C50)	<250		250	ug/L	20-AUG-14	20-AUG-14	R2924217
Total Hydrocarbons (C6-C50)	<370		370	ug/L		20-AUG-14	
Chrom. to baseline at nC50	YES				20-AUG-14	20-AUG-14	R2924217
Surrogate: 2-Bromobenzotrifluoride	85.3		60-140	%	20-AUG-14	20-AUG-14	R2924217
Surrogate: 3,4-Dichlorotoluene	129.3		60-140	%		20-AUG-14	R2924031
Polychlorinated Biphenyls							
Aroclor 1242	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Aroclor 1248	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Aroclor 1254	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Aroclor 1260	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Total PCBs	<0.040		0.040	ug/L	25-AUG-14	26-AUG-14	R2928110
Surrogate: d14-Terphenyl	105.7		50-150	%	25-AUG-14	26-AUG-14	R2928110
L1504008-40 2014-08183 Sampled By: SHARI REED on 10-AUG-14 @ 14:30 Matrix: WATER							
Physical Tests							
pH	7.01	PEHR	0.10	pH units		19-AUG-14	R2923603
Dissolved Metals							
Dissolved Mercury Filtration Location	LAB					20-AUG-14	R2923659
Dissolved Metals Filtration Location	LAB					19-AUG-14	R2923561
Aluminum (Al)-Dissolved	<10		10	ug/L	19-AUG-14	20-AUG-14	R2924690
Antimony (Sb)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Arsenic (As)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Barium (Ba)-Dissolved	34.4		2.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Beryllium (Be)-Dissolved	<0.40		0.40	ug/L	19-AUG-14	20-AUG-14	R2924690

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504008-40 2014-08183 Sampled By: SHARI REED on 10-AUG-14 @ 14:30 Matrix: WATER							
Dissolved Metals							
Bismuth (Bi)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Boron (B)-Dissolved	<10		10	ug/L	19-AUG-14	20-AUG-14	R2924690
Cadmium (Cd)-Dissolved	<0.090		0.090	ug/L	19-AUG-14	20-AUG-14	R2924690
Calcium (Ca)-Dissolved	12900		500	ug/L	19-AUG-14	20-AUG-14	R2924690
Chromium (Cr)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Cobalt (Co)-Dissolved	<0.30		0.30	ug/L	19-AUG-14	20-AUG-14	R2924690
Copper (Cu)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Iron (Fe)-Dissolved	<50		50	ug/L	19-AUG-14	20-AUG-14	R2924690
Lead (Pb)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Lithium (Li)-Dissolved	<100		100	ug/L	19-AUG-14	20-AUG-14	R2924690
Magnesium (Mg)-Dissolved	11000		500	ug/L	19-AUG-14	20-AUG-14	R2924690
Manganese (Mn)-Dissolved	186		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Mercury (Hg)-Dissolved	<0.00010		0.00010	mg/L	20-AUG-14	20-AUG-14	R2924130
Molybdenum (Mo)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Nickel (Ni)-Dissolved	2.5		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Phosphorus (P)-Dissolved	<50		50	ug/L	19-AUG-14	20-AUG-14	R2924690
Potassium (K)-Dissolved	2300		1000	ug/L	19-AUG-14	20-AUG-14	R2924690
Selenium (Se)-Dissolved	<0.40		0.40	ug/L	19-AUG-14	20-AUG-14	R2924690
Silicon (Si)-Dissolved	2200		1000	ug/L	19-AUG-14	20-AUG-14	R2924690
Silver (Ag)-Dissolved	<0.10		0.10	ug/L	19-AUG-14	20-AUG-14	R2924690
Sodium (Na)-Dissolved	51800		500	ug/L	19-AUG-14	20-AUG-14	R2924690
Strontium (Sr)-Dissolved	82.1		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Thallium (Tl)-Dissolved	<0.20		0.20	ug/L	19-AUG-14	20-AUG-14	R2924690
Tin (Sn)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Titanium (Ti)-Dissolved	<2.0		2.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Tungsten (W)-Dissolved	<10		10	ug/L	19-AUG-14	20-AUG-14	R2924690
Uranium (U)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Vanadium (V)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Zinc (Zn)-Dissolved	22.6		3.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Zirconium (Zr)-Dissolved	<4.0		4.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Hydrocarbons							
F1 (C6-C10)	<25		25	ug/L		20-AUG-14	R2924031
F2 (C10-C16)	<100		100	ug/L	20-AUG-14	20-AUG-14	R2924217
F3 (C16-C34)	<250		250	ug/L	20-AUG-14	20-AUG-14	R2924217
F4 (C34-C50)	<250		250	ug/L	20-AUG-14	20-AUG-14	R2924217
Total Hydrocarbons (C6-C50)	<370		370	ug/L		20-AUG-14	
Chrom. to baseline at nC50	YES				20-AUG-14	20-AUG-14	R2924217
Surrogate: 2-Bromobenzotrifluoride	102.1		60-140	%	20-AUG-14	20-AUG-14	R2924217
Surrogate: 3,4-Dichlorotoluene	126.8		60-140	%		20-AUG-14	R2924031
Polychlorinated Biphenyls							
Aroclor 1242	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504008-40 2014-08183 Sampled By: SHARI REED on 10-AUG-14 @ 14:30 Matrix: WATER							
Polychlorinated Biphenyls							
Aroclor 1248	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Aroclor 1254	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Aroclor 1260	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Total PCBs	<0.040		0.040	ug/L	25-AUG-14	26-AUG-14	R2928110
Surrogate: d14-Terphenyl	110.1		50-150	%	25-AUG-14	26-AUG-14	R2928110
L1504008-41 2014-08184 Sampled By: SHARI REED on 11-AUG-14 @ 09:40 Matrix: WATER							
Physical Tests							
pH	8.15	PEHR	0.10	pH units		19-AUG-14	R2923603
Dissolved Metals							
Dissolved Mercury Filtration Location	LAB					20-AUG-14	R2923659
Dissolved Metals Filtration Location	LAB					19-AUG-14	R2923561
Aluminum (Al)-Dissolved	102		10	ug/L	19-AUG-14	20-AUG-14	R2924690
Antimony (Sb)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Arsenic (As)-Dissolved	2.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Barium (Ba)-Dissolved	7.2		2.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Beryllium (Be)-Dissolved	<0.40		0.40	ug/L	19-AUG-14	20-AUG-14	R2924690
Bismuth (Bi)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Boron (B)-Dissolved	<10		10	ug/L	19-AUG-14	20-AUG-14	R2924690
Cadmium (Cd)-Dissolved	<0.090		0.090	ug/L	19-AUG-14	20-AUG-14	R2924690
Calcium (Ca)-Dissolved	6730		500	ug/L	19-AUG-14	20-AUG-14	R2924690
Chromium (Cr)-Dissolved	0.91		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Cobalt (Co)-Dissolved	<0.30		0.30	ug/L	19-AUG-14	20-AUG-14	R2924690
Copper (Cu)-Dissolved	3.6		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Iron (Fe)-Dissolved	<50		50	ug/L	19-AUG-14	20-AUG-14	R2924690
Lead (Pb)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Lithium (Li)-Dissolved	<100		100	ug/L	19-AUG-14	20-AUG-14	R2924690
Magnesium (Mg)-Dissolved	3980		500	ug/L	19-AUG-14	20-AUG-14	R2924690
Manganese (Mn)-Dissolved	7.5		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Mercury (Hg)-Dissolved	<0.00010		0.00010	mg/L	20-AUG-14	20-AUG-14	R2924130
Molybdenum (Mo)-Dissolved	2.88		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Nickel (Ni)-Dissolved	4.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Phosphorus (P)-Dissolved	<50		50	ug/L	19-AUG-14	20-AUG-14	R2924690
Potassium (K)-Dissolved	5300		1000	ug/L	19-AUG-14	20-AUG-14	R2924690
Selenium (Se)-Dissolved	<0.40		0.40	ug/L	19-AUG-14	20-AUG-14	R2924690
Silicon (Si)-Dissolved	2600		1000	ug/L	19-AUG-14	20-AUG-14	R2924690
Silver (Ag)-Dissolved	<0.10		0.10	ug/L	19-AUG-14	20-AUG-14	R2924690
Sodium (Na)-Dissolved	15700		500	ug/L	19-AUG-14	20-AUG-14	R2924690
Strontium (Sr)-Dissolved	37.8		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Thallium (Tl)-Dissolved	<0.20		0.20	ug/L	19-AUG-14	20-AUG-14	R2924690
Tin (Sn)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504008-41 2014-08184 Sampled By: SHARI REED on 11-AUG-14 @ 09:40 Matrix: WATER							
Dissolved Metals							
Titanium (Ti)-Dissolved	<2.0		2.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Tungsten (W)-Dissolved	<10		10	ug/L	19-AUG-14	20-AUG-14	R2924690
Uranium (U)-Dissolved	3.8		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Vanadium (V)-Dissolved	1.13		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Zinc (Zn)-Dissolved	<3.0		3.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Zirconium (Zr)-Dissolved	<4.0		4.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Hydrocarbons							
F1 (C6-C10)	<25		25	ug/L		20-AUG-14	R2924031
F2 (C10-C16)	<100		100	ug/L	20-AUG-14	20-AUG-14	R2924217
F3 (C16-C34)	<250		250	ug/L	20-AUG-14	20-AUG-14	R2924217
F4 (C34-C50)	<250		250	ug/L	20-AUG-14	20-AUG-14	R2924217
Total Hydrocarbons (C6-C50)	<370		370	ug/L		20-AUG-14	
Chrom. to baseline at nC50	YES				20-AUG-14	20-AUG-14	R2924217
Surrogate: 2-Bromobenzotrifluoride	101.8		60-140	%	20-AUG-14	20-AUG-14	R2924217
Surrogate: 3,4-Dichlorotoluene	121.2		60-140	%		20-AUG-14	R2924031
Polychlorinated Biphenyls							
Aroclor 1242	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Aroclor 1248	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Aroclor 1254	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Aroclor 1260	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Total PCBs	<0.040		0.040	ug/L	25-AUG-14	26-AUG-14	R2928110
Surrogate: d14-Terphenyl	107.7		50-150	%	25-AUG-14	26-AUG-14	R2928110
L1504008-42 2014-08185 Sampled By: SHARI REED on 11-AUG-14 @ 11:00 Matrix: WATER							
Physical Tests							
pH	7.55	PEHR	0.10	pH units		19-AUG-14	R2923603
Dissolved Metals							
Dissolved Mercury Filtration Location	LAB					20-AUG-14	R2923659
Dissolved Metals Filtration Location	LAB					19-AUG-14	R2923561
Aluminum (Al)-Dissolved	<10		10	ug/L	19-AUG-14	20-AUG-14	R2924690
Antimony (Sb)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Arsenic (As)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Barium (Ba)-Dissolved	77.5		2.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Beryllium (Be)-Dissolved	<0.40		0.40	ug/L	19-AUG-14	20-AUG-14	R2924690
Bismuth (Bi)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Boron (B)-Dissolved	<10		10	ug/L	19-AUG-14	20-AUG-14	R2924690
Cadmium (Cd)-Dissolved	<0.090		0.090	ug/L	19-AUG-14	20-AUG-14	R2924690
Calcium (Ca)-Dissolved	68300		500	ug/L	19-AUG-14	20-AUG-14	R2924690
Chromium (Cr)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Cobalt (Co)-Dissolved	0.37		0.30	ug/L	19-AUG-14	20-AUG-14	R2924690
Copper (Cu)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504008-42 2014-08185 Sampled By: SHARI REED on 11-AUG-14 @ 11:00 Matrix: WATER							
Dissolved Metals							
Iron (Fe)-Dissolved	<50		50	ug/L	19-AUG-14	20-AUG-14	R2924690
Lead (Pb)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Lithium (Li)-Dissolved	<100		100	ug/L	19-AUG-14	20-AUG-14	R2924690
Magnesium (Mg)-Dissolved	45800		500	ug/L	19-AUG-14	20-AUG-14	R2924690
Manganese (Mn)-Dissolved	408		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Mercury (Hg)-Dissolved	<0.00010		0.00010	mg/L	20-AUG-14	20-AUG-14	R2924130
Molybdenum (Mo)-Dissolved	2.60		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Nickel (Ni)-Dissolved	12.9		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Phosphorus (P)-Dissolved	<50		50	ug/L	19-AUG-14	20-AUG-14	R2924690
Potassium (K)-Dissolved	12500		1000	ug/L	19-AUG-14	20-AUG-14	R2924690
Selenium (Se)-Dissolved	0.75		0.40	ug/L	19-AUG-14	20-AUG-14	R2924690
Silicon (Si)-Dissolved	3100		1000	ug/L	19-AUG-14	20-AUG-14	R2924690
Silver (Ag)-Dissolved	<0.10		0.10	ug/L	19-AUG-14	20-AUG-14	R2924690
Sodium (Na)-Dissolved	63800		500	ug/L	19-AUG-14	20-AUG-14	R2924690
Strontium (Sr)-Dissolved	337		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Thallium (Tl)-Dissolved	<0.20		0.20	ug/L	19-AUG-14	20-AUG-14	R2924690
Tin (Sn)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Titanium (Ti)-Dissolved	<2.0		2.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Tungsten (W)-Dissolved	<10		10	ug/L	19-AUG-14	20-AUG-14	R2924690
Uranium (U)-Dissolved	1.2		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Vanadium (V)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Zinc (Zn)-Dissolved	<3.0		3.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Zirconium (Zr)-Dissolved	<4.0		4.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Hydrocarbons							
F1 (C6-C10)	<25		25	ug/L		20-AUG-14	R2924031
F2 (C10-C16)	<100		100	ug/L	20-AUG-14	20-AUG-14	R2924217
F3 (C16-C34)	<250		250	ug/L	20-AUG-14	20-AUG-14	R2924217
F4 (C34-C50)	<250		250	ug/L	20-AUG-14	20-AUG-14	R2924217
Total Hydrocarbons (C6-C50)	<370		370	ug/L		20-AUG-14	
Chrom. to baseline at nC50	YES				20-AUG-14	20-AUG-14	R2924217
Surrogate: 2-Bromobenzotrifluoride	98.3		60-140	%	20-AUG-14	20-AUG-14	R2924217
Surrogate: 3,4-Dichlorotoluene	129.5		60-140	%		20-AUG-14	R2924031
L1504008-43 2014-08186 Sampled By: SHARI REED on 11-AUG-14 @ 11:30 Matrix: WATER							
Physical Tests							
pH	7.89	PEHR	0.10	pH units		19-AUG-14	R2923603
Dissolved Metals							
Dissolved Mercury Filtration Location	LAB					20-AUG-14	R2923659
Dissolved Metals Filtration Location	LAB					19-AUG-14	R2923561
Aluminum (Al)-Dissolved	17		10	ug/L	19-AUG-14	20-AUG-14	R2924690
Antimony (Sb)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504008-43 2014-08186 Sampled By: SHARI REED on 11-AUG-14 @ 11:30 Matrix: WATER							
Dissolved Metals							
Arsenic (As)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Barium (Ba)-Dissolved	58.3		2.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Beryllium (Be)-Dissolved	<0.40		0.40	ug/L	19-AUG-14	20-AUG-14	R2924690
Bismuth (Bi)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Boron (B)-Dissolved	<10		10	ug/L	19-AUG-14	20-AUG-14	R2924690
Cadmium (Cd)-Dissolved	<0.090		0.090	ug/L	19-AUG-14	20-AUG-14	R2924690
Calcium (Ca)-Dissolved	29600		500	ug/L	19-AUG-14	20-AUG-14	R2924690
Chromium (Cr)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Cobalt (Co)-Dissolved	0.34		0.30	ug/L	19-AUG-14	20-AUG-14	R2924690
Copper (Cu)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Iron (Fe)-Dissolved	<50		50	ug/L	19-AUG-14	20-AUG-14	R2924690
Lead (Pb)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Lithium (Li)-Dissolved	<100		100	ug/L	19-AUG-14	20-AUG-14	R2924690
Magnesium (Mg)-Dissolved	19300		500	ug/L	19-AUG-14	20-AUG-14	R2924690
Manganese (Mn)-Dissolved	22.9		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Mercury (Hg)-Dissolved	<0.00010		0.00010	mg/L	20-AUG-14	20-AUG-14	R2924130
Molybdenum (Mo)-Dissolved	3.30		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Nickel (Ni)-Dissolved	22.8		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Phosphorus (P)-Dissolved	<50		50	ug/L	19-AUG-14	20-AUG-14	R2924690
Potassium (K)-Dissolved	4900		1000	ug/L	19-AUG-14	20-AUG-14	R2924690
Selenium (Se)-Dissolved	0.73		0.40	ug/L	19-AUG-14	20-AUG-14	R2924690
Silicon (Si)-Dissolved	4200		1000	ug/L	19-AUG-14	20-AUG-14	R2924690
Silver (Ag)-Dissolved	<0.10		0.10	ug/L	19-AUG-14	20-AUG-14	R2924690
Sodium (Na)-Dissolved	74400		500	ug/L	19-AUG-14	20-AUG-14	R2924690
Strontium (Sr)-Dissolved	174		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Thallium (Tl)-Dissolved	<0.20		0.20	ug/L	19-AUG-14	20-AUG-14	R2924690
Tin (Sn)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Titanium (Ti)-Dissolved	<2.0		2.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Tungsten (W)-Dissolved	<10		10	ug/L	19-AUG-14	20-AUG-14	R2924690
Uranium (U)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Vanadium (V)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Zinc (Zn)-Dissolved	4.5		3.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Zirconium (Zr)-Dissolved	<4.0		4.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Hydrocarbons							
F1 (C6-C10)	<25		25	ug/L		20-AUG-14	R2924031
F2 (C10-C16)	<100		100	ug/L	20-AUG-14	20-AUG-14	R2924217
F3 (C16-C34)	<250		250	ug/L	20-AUG-14	20-AUG-14	R2924217
F4 (C34-C50)	<250		250	ug/L	20-AUG-14	20-AUG-14	R2924217
Total Hydrocarbons (C6-C50)	<370		370	ug/L		20-AUG-14	
Chrom. to baseline at nC50	YES				20-AUG-14	20-AUG-14	R2924217
Surrogate: 2-Bromobenzotrifluoride	96.1		60-140	%	20-AUG-14	20-AUG-14	R2924217

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504008-43 2014-08186 Sampled By: SHARI REED on 11-AUG-14 @ 11:30 Matrix: WATER							
Hydrocarbons							
Surrogate: 3,4-Dichlorotoluene	130.8		60-140	%		20-AUG-14	R2924031
Polychlorinated Biphenyls							
Aroclor 1242	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Aroclor 1248	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Aroclor 1254	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Aroclor 1260	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Total PCBs	<0.040		0.040	ug/L	25-AUG-14	26-AUG-14	R2928110
Surrogate: d14-Terphenyl	108.4		50-150	%	25-AUG-14	26-AUG-14	R2928110
L1504008-44 2014-08188 Sampled By: SHARI REED on 11-AUG-14 @ 14:30 Matrix: WATER							
Physical Tests							
pH	7.43	PEHR	0.10	pH units		19-AUG-14	R2923603
Dissolved Metals							
Dissolved Mercury Filtration Location	LAB					20-AUG-14	R2923659
Dissolved Metals Filtration Location	LAB					19-AUG-14	R2923561
Aluminum (Al)-Dissolved	<10		10	ug/L	19-AUG-14	20-AUG-14	R2924690
Antimony (Sb)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Arsenic (As)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Barium (Ba)-Dissolved	80.6		2.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Beryllium (Be)-Dissolved	<0.40		0.40	ug/L	19-AUG-14	20-AUG-14	R2924690
Bismuth (Bi)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Boron (B)-Dissolved	<10		10	ug/L	19-AUG-14	20-AUG-14	R2924690
Cadmium (Cd)-Dissolved	0.244		0.090	ug/L	19-AUG-14	20-AUG-14	R2924690
Calcium (Ca)-Dissolved	192000		500	ug/L	19-AUG-14	20-AUG-14	R2924690
Chromium (Cr)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Cobalt (Co)-Dissolved	1.35		0.30	ug/L	19-AUG-14	20-AUG-14	R2924690
Copper (Cu)-Dissolved	2.9		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Iron (Fe)-Dissolved	<50		50	ug/L	19-AUG-14	20-AUG-14	R2924690
Lead (Pb)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Lithium (Li)-Dissolved	<100		100	ug/L	19-AUG-14	20-AUG-14	R2924690
Magnesium (Mg)-Dissolved	161000	DLM	5000	ug/L	19-AUG-14	20-AUG-14	R2924690
Manganese (Mn)-Dissolved	32.8		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Mercury (Hg)-Dissolved	<0.00010		0.00010	mg/L	20-AUG-14	20-AUG-14	R2924130
Molybdenum (Mo)-Dissolved	9.01		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Nickel (Ni)-Dissolved	95.9		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Phosphorus (P)-Dissolved	<50		50	ug/L	19-AUG-14	20-AUG-14	R2924690
Potassium (K)-Dissolved	10600		1000	ug/L	19-AUG-14	20-AUG-14	R2924690
Selenium (Se)-Dissolved	1.04		0.40	ug/L	19-AUG-14	20-AUG-14	R2924690
Silicon (Si)-Dissolved	5100		1000	ug/L	19-AUG-14	20-AUG-14	R2924690
Silver (Ag)-Dissolved	<0.10		0.10	ug/L	19-AUG-14	20-AUG-14	R2924690
Sodium (Na)-Dissolved	222000	DLM	5000	ug/L	19-AUG-14	20-AUG-14	R2924690

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504008-44 2014-08188 Sampled By: SHARI REED on 11-AUG-14 @ 14:30 Matrix: WATER							
Dissolved Metals							
Strontium (Sr)-Dissolved	781		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Thallium (Tl)-Dissolved	<0.20		0.20	ug/L	19-AUG-14	20-AUG-14	R2924690
Tin (Sn)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Titanium (Ti)-Dissolved	<2.0		2.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Tungsten (W)-Dissolved	<10		10	ug/L	19-AUG-14	20-AUG-14	R2924690
Uranium (U)-Dissolved	<1.0		1.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Vanadium (V)-Dissolved	<0.50		0.50	ug/L	19-AUG-14	20-AUG-14	R2924690
Zinc (Zn)-Dissolved	549		3.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Zirconium (Zr)-Dissolved	<4.0		4.0	ug/L	19-AUG-14	20-AUG-14	R2924690
Hydrocarbons							
F1 (C6-C10)	<25		25	ug/L		20-AUG-14	R2924031
F2 (C10-C16)	<100		100	ug/L	20-AUG-14	20-AUG-14	R2924217
F3 (C16-C34)	<250		250	ug/L	20-AUG-14	20-AUG-14	R2924217
F4 (C34-C50)	<250		250	ug/L	20-AUG-14	20-AUG-14	R2924217
Total Hydrocarbons (C6-C50)	<370		370	ug/L		20-AUG-14	
Chrom. to baseline at nC50	YES				20-AUG-14	20-AUG-14	R2924217
Surrogate: 2-Bromobenzotrifluoride	90.5		60-140	%	20-AUG-14	20-AUG-14	R2924217
Surrogate: 3,4-Dichlorotoluene	129.7		60-140	%		20-AUG-14	R2924031
Polychlorinated Biphenyls							
Aroclor 1242	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Aroclor 1248	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Aroclor 1254	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Aroclor 1260	<0.020		0.020	ug/L	25-AUG-14	26-AUG-14	R2928110
Total PCBs	<0.040		0.040	ug/L	25-AUG-14	26-AUG-14	R2928110
Surrogate: d14-Terphenyl	114.1		50-150	%	25-AUG-14	26-AUG-14	R2928110
L1504008-63 TRIP BLANK Sampled By: SHARI REED on 12-AUG-14 Matrix: WATER							
Hydrocarbons							
F1 (C6-C10)	<25		25	ug/L		20-AUG-14	R2924031
Surrogate: 3,4-Dichlorotoluene	133.5		60-140	%		20-AUG-14	R2924031

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Aluminum (Al)-Dissolved	MS-B	L1504008-37, -38, -39, -40, -41, -42, -43, -44
Matrix Spike	Silicon (Si)-Dissolved	MS-B	L1504008-37, -38, -39, -40, -41, -42, -43, -44
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1504008-37, -38, -39, -40, -41, -42, -43, -44
Matrix Spike	Zinc (Zn)-Dissolved	MS-B	L1504008-37, -38, -39, -40, -41, -42, -43, -44

Sample Parameter Qualifier key listed:

Qualifier	Description
DLM	Detection Limit Adjusted due to sample matrix effects.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
PEHR	Parameter Exceeded Recommended Holding Time On Receipt: Proceed With Analysis As Requested.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
F1-F4-511-CALC-WT	Water	F1-F4 Hydrocarbon Calculated Parameters	CCME CWS-PHC DEC-2000 - PUB# 1310-L

Analytical methods used for analysis of CCME Petroleum Hydrocarbons have been validated and comply with the Reference Method for the CWS PHC.

In cases where results for both F4 and F4G are reported, the greater of the two results must be used in any application of the CWS PHC guidelines and the gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
In samples where BTEX and F1 were analyzed , F1-BTEX represents a value where the sum of Benzene, Toluene, Ethylbenzene and total Xylenes has been subtracted from F1.

In samples where PAHs, F2 and F3 were analyzed, F2-Naphth represents the result where Naphthalene has been subtracted from F2. F3-PAH represents a result where the sum of Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene has been subtracted from F3.

Unless otherwise qualified, the following quality control criteria have been met for the F1 hydrocarbon range:
1. All extraction and analysis holding times were met.
2. Instrument performance showing response factors for C6 and C10 within 30% of the response factor for toluene.
3. Linearity of gasoline response within 15% throughout the calibration range.

Unless otherwise qualified, the following quality control criteria have been met for the F2-F4 hydrocarbon ranges:
1. All extraction and analysis holding times were met.
2. Instrument performance showing C10, C16 and C34 response factors within 10% of their average.
3. Instrument performance showing the C50 response factor within 30% of the average of the C10, C16 and C34 response factors.
4. Linearity of diesel or motor oil response within 15% throughout the calibration range.

F1-HS-511-WT	Water	F1-O.Reg 153/04 (July 2011)	E3398/CCME TIER 1-HS

Fraction F1 is determined by analyzing by headspace-GC/FID.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

F2-F4-511-WT	Water	F2-F4-O.Reg 153/04 (July 2011)	MOE DECPH-E3398/CCME TIER 1

Fractions F2, F3 and F4 are determined by liquid/liquid extraction with a solvent. The solvent recovered from the extracted sample is dried and treated to remove polar material. The extract is then analyzed by GC/FID.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

HG-D-CVAA-WT	Water	Dissolved Mercury in Water by CVAAS	EPA SW846 7470A

Liquid sample is filtered, then digested with a heated, strong, mixed acid solution to convert all forms of mercury to divalent mercury. The divalent mercury is then reduced to elemental mercury, sparged from solution and analyzed by CVAAS.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

HG-WT	Soil	Mercury by CVAA	EPA 7471
MET-D-UG/L-MS-WT	Water	Diss. Metals in Water by ICPMS (ug/L)	EPA 200.8

The metal constituents of a non-acidified sample that pass through a membrane filter prior to ICP/MS analysis.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

		% Moisture	Gravimetric: Oven Dried

Reference Information

MOISTURE-WT	Soil		
PCB-WT	Soil	Polychlorinated Biphenyls	EPA 8082

A representative sub-sample of a soil sample is mixed with methanol and extracted with toluene using a shaker technique. An aliquot of the separated toluene is analyzed by GC/MSD.

PCB-WT	Water	Polychlorinated Biphenyls	EPA 8082

PCBs are extracted from an aqueous sample at neutral pH with aliquots of dichloromethane using a modified separatory funnel technique. The extracts are analyzed by GC/MSD.

PH-WT	Water	pH	APHA 4500 H-Electrode

Water samples are analyzed directly by a calibrated pH meter.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Chain of Custody Numbers:

00001	00002	00003	00004	00005
00006	00007	00008		

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid weight of sample
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Workorder: L1504008 Report Date: 26-AUG-14

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F1-HS-511-WT	**Water**							
Batch R2924031								
WG1932779-1 CVS								
F1 (C6-C10)			101.8		%		80-120	20-AUG-14
WG1932779-4 DUP		**WG1932779-3**						
F1 (C6-C10)		<25	<25	RPD-NA	ug/L	N/A	30	20-AUG-14
WG1932779-2 MB								
F1 (C6-C10)			<25		ug/L		25	20-AUG-14
Surrogate: 3,4-Dichlorotoluene			133.9		%		60-140	20-AUG-14
WG1932779-5 MS		**WG1932779-3**						
F1 (C6-C10)			96.0		%		60-140	20-AUG-14
F2-F4-511-WT	**Water**							
Batch R2924217								
WG1934952-1 CVS								
F2 (C10-C16)			101.6		%		80-120	20-AUG-14
F3 (C16-C34)			99.4		%		80-120	20-AUG-14
F4 (C34-C50)			101.0		%		80-120	20-AUG-14
WG1934119-2 LCS								
F2 (C10-C16)			70.1		%		65-135	20-AUG-14
F3 (C16-C34)			78.4		%		65-135	20-AUG-14
F4 (C34-C50)			84.1		%		65-135	20-AUG-14
WG1934119-3 LCSD		**WG1934119-2**						
F2 (C10-C16)		70.1	75.3		%	7.2	50	20-AUG-14
F3 (C16-C34)		78.4	83.4		%	6.2	50	20-AUG-14
F4 (C34-C50)		84.1	89.6		%	6.3	50	20-AUG-14
WG1934119-1 MB								
F2 (C10-C16)			<100		ug/L		100	20-AUG-14
F3 (C16-C34)			<250		ug/L		250	20-AUG-14
F4 (C34-C50)			<250		ug/L		250	20-AUG-14
Surrogate: 2-Bromobenzotrifluoride			78.6		%		60-140	20-AUG-14
HG-D-CVAA-WT	**Water**							
Batch R2924130								
WG1934462-4 DUP		**WG1934462-3**						
Mercury (Hg)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	20-AUG-14
WG1934462-2 LCS								
Mercury (Hg)-Dissolved			98.5		%		80-120	20-AUG-14
WG1934462-1 MB								
Mercury (Hg)-Dissolved			<0.00010		mg/L		0.0001	20-AUG-14
WG1934462-6 MS		**WG1934462-5**						

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-D-CVAA-WT	**Water**							
Batch R2924130								
WG1934462-6 MS		**WG1934462-5**						
Mercury (Hg)-Dissolved			97.3		%		70-130	20-AUG-14
MET-D-UG/L-MS-WT	**Water**							
Batch R2924690								
WG1934443-1 CVS								
Aluminum (Al)-Dissolved			97.1		%		80-120	20-AUG-14
Antimony (Sb)-Dissolved			96.3		%		80-120	20-AUG-14
Arsenic (As)-Dissolved			95.4		%		80-120	20-AUG-14
Barium (Ba)-Dissolved			92.7		%		80-120	20-AUG-14
Beryllium (Be)-Dissolved			97.9		%		80-120	20-AUG-14
Bismuth (Bi)-Dissolved			93.7		%		80-120	20-AUG-14
Boron (B)-Dissolved			97.6		%		80-120	20-AUG-14
Cadmium (Cd)-Dissolved			98.2		%		80-120	20-AUG-14
Calcium (Ca)-Dissolved			90.8		%		80-120	20-AUG-14
Chromium (Cr)-Dissolved			96.2		%		80-120	20-AUG-14
Cobalt (Co)-Dissolved			96.8		%		80-120	20-AUG-14
Copper (Cu)-Dissolved			97.8		%		80-120	20-AUG-14
Iron (Fe)-Dissolved			96.4		%		80-120	20-AUG-14
Lead (Pb)-Dissolved			95.8		%		80-120	20-AUG-14
Lithium (Li)-Dissolved			100.1		%		80-120	20-AUG-14
Magnesium (Mg)-Dissolved			94.6		%		80-120	20-AUG-14
Manganese (Mn)-Dissolved			96.2		%		80-120	20-AUG-14
Molybdenum (Mo)-Dissolved			96.2		%		80-120	20-AUG-14
Nickel (Ni)-Dissolved			96.8		%		80-120	20-AUG-14
Phosphorus (P)-Dissolved			94.8		%		80-120	20-AUG-14
Potassium (K)-Dissolved			94.3		%		80-120	20-AUG-14
Selenium (Se)-Dissolved			97.1		%		80-120	20-AUG-14
Silicon (Si)-Dissolved			101.4		%		80-120	20-AUG-14
Silver (Ag)-Dissolved			101.0		%		80-120	20-AUG-14
Sodium (Na)-Dissolved			94.4		%		80-120	20-AUG-14
Strontium (Sr)-Dissolved			98.1		%		80-120	20-AUG-14
Thallium (Tl)-Dissolved			101.2		%		80-120	20-AUG-14
Tin (Sn)-Dissolved			97.2		%		80-120	20-AUG-14
Titanium (Ti)-Dissolved			95.1		%		80-120	20-AUG-14

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-UG/L-MS-WT	**Water**							
Batch R2924690								
WG1934443-1 CVS								
Tungsten (W)-Dissolved			97.7		%		80-120	20-AUG-14
Uranium (U)-Dissolved			94.7		%		80-120	20-AUG-14
Vanadium (V)-Dissolved			95.9		%		80-120	20-AUG-14
Zinc (Zn)-Dissolved			91.1		%		80-120	20-AUG-14
Zirconium (Zr)-Dissolved			101.9		%		80-120	20-AUG-14
WG1934443-3 CVS								
Aluminum (Al)-Dissolved			99.6		%		80-120	21-AUG-14
Antimony (Sb)-Dissolved			103.6		%		80-120	21-AUG-14
Arsenic (As)-Dissolved			95.6		%		80-120	21-AUG-14
Barium (Ba)-Dissolved			95.1		%		80-120	21-AUG-14
Beryllium (Be)-Dissolved			103.0		%		80-120	21-AUG-14
Bismuth (Bi)-Dissolved			105.5		%		80-120	21-AUG-14
Boron (B)-Dissolved			102.0		%		80-120	21-AUG-14
Cadmium (Cd)-Dissolved			97.3		%		80-120	21-AUG-14
Calcium (Ca)-Dissolved			98.3		%		80-120	21-AUG-14
Chromium (Cr)-Dissolved			96.8		%		80-120	21-AUG-14
Cobalt (Co)-Dissolved			101.2		%		80-120	21-AUG-14
Copper (Cu)-Dissolved			95.6		%		80-120	21-AUG-14
Iron (Fe)-Dissolved			95.2		%		80-120	21-AUG-14
Lead (Pb)-Dissolved			105.6		%		80-120	21-AUG-14
Lithium (Li)-Dissolved			108.7		%		80-120	21-AUG-14
Magnesium (Mg)-Dissolved			103.5		%		80-120	21-AUG-14
Manganese (Mn)-Dissolved			97.0		%		80-120	21-AUG-14
Molybdenum (Mo)-Dissolved			93.6		%		80-120	21-AUG-14
Nickel (Ni)-Dissolved			95.5		%		80-120	21-AUG-14
Phosphorus (P)-Dissolved			95.9		%		80-120	21-AUG-14
Potassium (K)-Dissolved			91.9		%		80-120	21-AUG-14
Selenium (Se)-Dissolved			93.7		%		80-120	21-AUG-14
Silicon (Si)-Dissolved			95.3		%		80-120	21-AUG-14
Silver (Ag)-Dissolved			100.9		%		80-120	21-AUG-14
Sodium (Na)-Dissolved			96.0		%		80-120	21-AUG-14
Strontium (Sr)-Dissolved			91.8		%		80-120	21-AUG-14
Thallium (Tl)-Dissolved			105.9		%		80-120	21-AUG-14
Tin (Sn)-Dissolved			98.4		%		80-120	21-AUG-14

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-UG/L-MS-WT	**Water**							
Batch R2924690								
WG1934443-3 CVS								
Titanium (Ti)-Dissolved			98.9		%		80-120	21-AUG-14
Tungsten (W)-Dissolved			102.6		%		80-120	21-AUG-14
Uranium (U)-Dissolved			107.2		%		80-120	21-AUG-14
Vanadium (V)-Dissolved			97.3		%		80-120	21-AUG-14
Zinc (Zn)-Dissolved			90.5		%		80-120	21-AUG-14
Zirconium (Zr)-Dissolved			98.6		%		80-120	21-AUG-14
WG1934443-4 CVS								
Aluminum (Al)-Dissolved			97.3		%		80-120	21-AUG-14
Antimony (Sb)-Dissolved			101.1		%		80-120	21-AUG-14
Arsenic (As)-Dissolved			95.8		%		80-120	21-AUG-14
Barium (Ba)-Dissolved			98.4		%		80-120	21-AUG-14
Beryllium (Be)-Dissolved			94.4		%		80-120	21-AUG-14
Bismuth (Bi)-Dissolved			100.4		%		80-120	21-AUG-14
Boron (B)-Dissolved			95.0		%		80-120	21-AUG-14
Cadmium (Cd)-Dissolved			98.4		%		80-120	21-AUG-14
Calcium (Ca)-Dissolved			96.9		%		80-120	21-AUG-14
Chromium (Cr)-Dissolved			95.7		%		80-120	21-AUG-14
Cobalt (Co)-Dissolved			96.4		%		80-120	21-AUG-14
Copper (Cu)-Dissolved			97.4		%		80-120	21-AUG-14
Iron (Fe)-Dissolved			97.1		%		80-120	21-AUG-14
Lead (Pb)-Dissolved			96.6		%		80-120	21-AUG-14
Lithium (Li)-Dissolved			93.2		%		80-120	21-AUG-14
Magnesium (Mg)-Dissolved			96.6		%		80-120	21-AUG-14
Manganese (Mn)-Dissolved			96.4		%		80-120	21-AUG-14
Molybdenum (Mo)-Dissolved			92.8		%		80-120	21-AUG-14
Nickel (Ni)-Dissolved			96.0		%		80-120	21-AUG-14
Phosphorus (P)-Dissolved			96.1		%		80-120	21-AUG-14
Potassium (K)-Dissolved			95.0		%		80-120	21-AUG-14
Selenium (Se)-Dissolved			98.4		%		80-120	21-AUG-14
Silicon (Si)-Dissolved			95.4		%		80-120	21-AUG-14
Silver (Ag)-Dissolved			101.8		%		80-120	21-AUG-14
Sodium (Na)-Dissolved			96.3		%		80-120	21-AUG-14
Strontium (Sr)-Dissolved			94.6		%		80-120	21-AUG-14
Thallium (Tl)-Dissolved			102.6		%		80-120	21-AUG-14

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-UG/L-MS-WT	**Water**							
Batch R2924690								
WG1934443-4 CVS								
Tin (Sn)-Dissolved			98.9		%		80-120	21-AUG-14
Titanium (Ti)-Dissolved			96.6		%		80-120	21-AUG-14
Tungsten (W)-Dissolved			97.1		%		80-120	21-AUG-14
Uranium (U)-Dissolved			99.4		%		80-120	21-AUG-14
Vanadium (V)-Dissolved			95.3		%		80-120	21-AUG-14
Zinc (Zn)-Dissolved			90.0		%		80-120	21-AUG-14
Zirconium (Zr)-Dissolved			92.9		%		80-120	21-AUG-14
WG1934352-4 DUP		**WG1934352-3**						
Aluminum (Al)-Dissolved		325	273		ug/L	17	20	20-AUG-14
Antimony (Sb)-Dissolved		<0.50	<0.50	RPD-NA	ug/L	N/A	20	20-AUG-14
Arsenic (As)-Dissolved		<1.0	<1.0	RPD-NA	ug/L	N/A	20	20-AUG-14
Barium (Ba)-Dissolved		<2.0	<2.0	RPD-NA	ug/L	N/A	20	20-AUG-14
Beryllium (Be)-Dissolved		<0.40	<0.40	RPD-NA	ug/L	N/A	20	20-AUG-14
Bismuth (Bi)-Dissolved		<1.0	<1.0	RPD-NA	ug/L	N/A	20	20-AUG-14
Boron (B)-Dissolved		<10	<10	RPD-NA	ug/L	N/A	20	20-AUG-14
Cadmium (Cd)-Dissolved		<0.090	<0.090	RPD-NA	ug/L	N/A	20	20-AUG-14
Calcium (Ca)-Dissolved		590	510		ug/L	15	20	20-AUG-14
Chromium (Cr)-Dissolved		<0.50	<0.50	RPD-NA	ug/L	N/A	20	20-AUG-14
Cobalt (Co)-Dissolved		<0.30	<0.30	RPD-NA	ug/L	N/A	20	20-AUG-14
Copper (Cu)-Dissolved		<1.0	<1.0	RPD-NA	ug/L	N/A	20	20-AUG-14
Iron (Fe)-Dissolved		81	71		ug/L	14	20	20-AUG-14
Lead (Pb)-Dissolved		<0.50	<0.50	RPD-NA	ug/L	N/A	20	20-AUG-14
Lithium (Li)-Dissolved		<100	<100	RPD-NA	ug/L	N/A	20	20-AUG-14
Magnesium (Mg)-Dissolved		<500	<500	RPD-NA	ug/L	N/A	20	20-AUG-14
Manganese (Mn)-Dissolved		1.9	2.0		ug/L	3.8	20	20-AUG-14
Molybdenum (Mo)-Dissolved		1.09	1.10		ug/L	0.4	20	20-AUG-14
Nickel (Ni)-Dissolved		<1.0	<1.0	RPD-NA	ug/L	N/A	20	20-AUG-14
Phosphorus (P)-Dissolved		<50	<50	RPD-NA	ug/L	N/A	20	20-AUG-14
Potassium (K)-Dissolved		<1000	<1000	RPD-NA	ug/L	N/A	20	20-AUG-14
Selenium (Se)-Dissolved		<0.40	<0.40	RPD-NA	ug/L	N/A	20	20-AUG-14
Silicon (Si)-Dissolved		2500	2400		ug/L	5.2	20	20-AUG-14
Silver (Ag)-Dissolved		<0.10	<0.10	RPD-NA	ug/L	N/A	20	20-AUG-14
Sodium (Na)-Dissolved		13200	13200		ug/L	0.1	20	20-AUG-14

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-UG/L-MS-WT	**Water**							
Batch R2924690								
WG1934352-4 DUP		**WG1934352-3**						
Strontium (Sr)-Dissolved		5.9	5.4		ug/L	9.4	20	20-AUG-14
Thallium (Tl)-Dissolved		<0.20	<0.20	RPD-NA	ug/L	N/A	20	20-AUG-14
Tin (Sn)-Dissolved		<1.0	<1.0	RPD-NA	ug/L	N/A	20	20-AUG-14
Titanium (Ti)-Dissolved		5.1	3.9	J	ug/L	1.2	4	20-AUG-14
Tungsten (W)-Dissolved		<10	<10	RPD-NA	ug/L	N/A	20	20-AUG-14
Uranium (U)-Dissolved		<1.0	<1.0	RPD-NA	ug/L	N/A	20	20-AUG-14
Vanadium (V)-Dissolved		<0.50	<0.50	RPD-NA	ug/L	N/A	20	20-AUG-14
Zinc (Zn)-Dissolved		106	95.9		ug/L	10	20	20-AUG-14
Zirconium (Zr)-Dissolved		<4.0	<4.0	RPD-NA	ug/L	N/A	20	20-AUG-14
WG1934352-2 LCS								
Aluminum (Al)-Dissolved			97.7		%		80-120	20-AUG-14
Antimony (Sb)-Dissolved			92.6		%		80-120	20-AUG-14
Arsenic (As)-Dissolved			93.2		%		80-120	20-AUG-14
Barium (Ba)-Dissolved			90.0		%		80-120	20-AUG-14
Beryllium (Be)-Dissolved			95.7		%		80-120	20-AUG-14
Bismuth (Bi)-Dissolved			92.0		%		80-120	20-AUG-14
Boron (B)-Dissolved			91.5		%		80-120	20-AUG-14
Cadmium (Cd)-Dissolved			92.5		%		80-120	20-AUG-14
Calcium (Ca)-Dissolved			92.5		%		80-120	20-AUG-14
Chromium (Cr)-Dissolved			92.4		%		80-120	20-AUG-14
Cobalt (Co)-Dissolved			92.6		%		80-120	20-AUG-14
Copper (Cu)-Dissolved			93.4		%		80-120	20-AUG-14
Iron (Fe)-Dissolved			92.5		%		80-120	20-AUG-14
Lead (Pb)-Dissolved			93.0		%		80-120	20-AUG-14
Lithium (Li)-Dissolved			95.9		%		80-120	20-AUG-14
Magnesium (Mg)-Dissolved			91.1		%		80-120	20-AUG-14
Manganese (Mn)-Dissolved			93.0		%		80-120	20-AUG-14
Molybdenum (Mo)-Dissolved			94.0		%		80-120	20-AUG-14
Nickel (Ni)-Dissolved			92.6		%		80-120	20-AUG-14
Phosphorus (P)-Dissolved			96.5		%		80-120	20-AUG-14
Potassium (K)-Dissolved			88.7		%		80-120	20-AUG-14
Selenium (Se)-Dissolved			93.3		%		80-120	20-AUG-14
Silicon (Si)-Dissolved			98.7		%		80-120	20-AUG-14

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-UG/L-MS-WT	**Water**							
Batch R2924690								
WG1934352-2 LCS								
Silver (Ag)-Dissolved			97.7		%		80-120	20-AUG-14
Sodium (Na)-Dissolved			89.7		%		80-120	20-AUG-14
Strontium (Sr)-Dissolved			95.1		%		80-120	20-AUG-14
Thallium (Tl)-Dissolved			95.2		%		80-120	20-AUG-14
Tin (Sn)-Dissolved			92.5		%		80-120	20-AUG-14
Titanium (Ti)-Dissolved			91.0		%		80-120	20-AUG-14
Tungsten (W)-Dissolved			93.6		%		80-120	20-AUG-14
Uranium (U)-Dissolved			94.2		%		80-120	20-AUG-14
Vanadium (V)-Dissolved			93.2		%		80-120	20-AUG-14
Zinc (Zn)-Dissolved			92.9		%		80-120	20-AUG-14
Zirconium (Zr)-Dissolved			95.3		%		80-120	20-AUG-14
WG1934352-1 MB								
Aluminum (Al)-Dissolved			<10		ug/L		10	20-AUG-14
Antimony (Sb)-Dissolved			<0.50		ug/L		0.5	20-AUG-14
Arsenic (As)-Dissolved			<1.0		ug/L		1	20-AUG-14
Barium (Ba)-Dissolved			<2.0		ug/L		2	20-AUG-14
Beryllium (Be)-Dissolved			<0.40		ug/L		0.4	20-AUG-14
Bismuth (Bi)-Dissolved			<1.0		ug/L		1	20-AUG-14
Boron (B)-Dissolved			<10		ug/L		10	20-AUG-14
Cadmium (Cd)-Dissolved			<0.090		ug/L		0.09	20-AUG-14
Calcium (Ca)-Dissolved			<500		ug/L		500	20-AUG-14
Chromium (Cr)-Dissolved			<0.50		ug/L		0.5	20-AUG-14
Cobalt (Co)-Dissolved			<0.30		ug/L		0.3	20-AUG-14
Copper (Cu)-Dissolved			<1.0		ug/L		1	20-AUG-14
Iron (Fe)-Dissolved			<50		ug/L		50	20-AUG-14
Lead (Pb)-Dissolved			<0.50		ug/L		0.5	20-AUG-14
Lithium (Li)-Dissolved			<100		ug/L		100	20-AUG-14
Magnesium (Mg)-Dissolved			<500		ug/L		500	20-AUG-14
Manganese (Mn)-Dissolved			<1.0		ug/L		1	20-AUG-14
Molybdenum (Mo)-Dissolved			<0.50		ug/L		0.5	20-AUG-14
Nickel (Ni)-Dissolved			<1.0		ug/L		1	20-AUG-14
Phosphorus (P)-Dissolved			<50		ug/L		50	20-AUG-14
Potassium (K)-Dissolved			<1000		ug/L		1000	20-AUG-14
Selenium (Se)-Dissolved			<0.40		ug/L		0.4	20-AUG-14

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-UG/L-MS-WT	**Water**							
Batch R2924690								
WG1934352-1 MB								
Silicon (Si)-Dissolved			<1000		ug/L		1000	20-AUG-14
Silver (Ag)-Dissolved			<0.10		ug/L		0.1	20-AUG-14
Sodium (Na)-Dissolved			<500		ug/L		500	20-AUG-14
Strontium (Sr)-Dissolved			<1.0		ug/L		1	20-AUG-14
Thallium (Tl)-Dissolved			<0.20		ug/L		0.2	20-AUG-14
Tin (Sn)-Dissolved			<1.0		ug/L		1	20-AUG-14
Titanium (Ti)-Dissolved			<2.0		ug/L		2	20-AUG-14
Tungsten (W)-Dissolved			<10		ug/L		10	20-AUG-14
Uranium (U)-Dissolved			<1.0		ug/L		1	20-AUG-14
Vanadium (V)-Dissolved			<0.50		ug/L		0.5	20-AUG-14
Zinc (Zn)-Dissolved			<3.0		ug/L		3	20-AUG-14
Zirconium (Zr)-Dissolved			<4.0		ug/L		4	20-AUG-14
WG1934352-5 MS		**WG1934352-3**						
Aluminum (Al)-Dissolved			N/A	MS-B	%		-	20-AUG-14
Antimony (Sb)-Dissolved			104.6		%		70-130	20-AUG-14
Arsenic (As)-Dissolved			104.9		%		70-130	20-AUG-14
Barium (Ba)-Dissolved			109.1		%		70-130	20-AUG-14
Beryllium (Be)-Dissolved			108.7		%		70-130	20-AUG-14
Bismuth (Bi)-Dissolved			97.0		%		70-130	20-AUG-14
Boron (B)-Dissolved			98.9		%		70-130	20-AUG-14
Cadmium (Cd)-Dissolved			105.6		%		70-130	20-AUG-14
Calcium (Ca)-Dissolved			98.1		%		70-130	20-AUG-14
Chromium (Cr)-Dissolved			105.0		%		70-130	20-AUG-14
Cobalt (Co)-Dissolved			104.2		%		70-130	20-AUG-14
Copper (Cu)-Dissolved			105.4		%		70-130	20-AUG-14
Iron (Fe)-Dissolved			109.4		%		70-130	20-AUG-14
Lead (Pb)-Dissolved			106.2		%		70-130	20-AUG-14
Lithium (Li)-Dissolved			110.1		%		70-130	20-AUG-14
Magnesium (Mg)-Dissolved			107.6		%		70-130	20-AUG-14
Manganese (Mn)-Dissolved			104.3		%		70-130	20-AUG-14
Molybdenum (Mo)-Dissolved			103.5		%		70-130	20-AUG-14
Nickel (Ni)-Dissolved			103.6		%		70-130	20-AUG-14
Phosphorus (P)-Dissolved			104.8		%		70-130	20-AUG-14
Selenium (Se)-Dissolved			108.5		%		70-130	20-AUG-14

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-UG/L-MS-WT	**Water**							
Batch R2924690								
WG1934352-5 MS		**WG1934352-3**						
Silicon (Si)-Dissolved			N/A	MS-B	%		-	20-AUG-14
Silver (Ag)-Dissolved			102.5		%		70-130	20-AUG-14
Sodium (Na)-Dissolved			N/A	MS-B	%		-	20-AUG-14
Strontium (Sr)-Dissolved			107.3		%		70-130	20-AUG-14
Thallium (Tl)-Dissolved			108.0		%		70-130	20-AUG-14
Tin (Sn)-Dissolved			103.6		%		70-130	20-AUG-14
Titanium (Ti)-Dissolved			101.3		%		70-130	20-AUG-14
Tungsten (W)-Dissolved			112.3		%		70-130	20-AUG-14
Uranium (U)-Dissolved			105.1		%		70-130	20-AUG-14
Vanadium (V)-Dissolved			104.2		%		70-130	20-AUG-14
Zinc (Zn)-Dissolved			N/A	MS-B	%		-	20-AUG-14
Zirconium (Zr)-Dissolved			107.2		%		70-130	20-AUG-14
PCB-WT	**Water**							
Batch R2928110								
WG1937433-1 CVS								
Aroclor 1242			97.5		%		70-130	26-AUG-14
Aroclor 1248			97.7		%		70-130	26-AUG-14
Aroclor 1254			98.6		%		70-130	26-AUG-14
Aroclor 1260			87.5		%		70-130	26-AUG-14
WG1934347-2 LCS								
Aroclor 1242			93.2		%		65-130	26-AUG-14
Aroclor 1248			105.7		%		65-130	26-AUG-14
Aroclor 1254			100.0		%		65-130	26-AUG-14
Aroclor 1260			86.2		%		65-130	26-AUG-14
WG1934347-3 LCSD		**WG1934347-2**						
Aroclor 1242		93.2	94.2		%	1.0	50	26-AUG-14
Aroclor 1248		105.7	105.7		%	0.0	50	26-AUG-14
Aroclor 1254		100.0	100.9		%	0.9	50	26-AUG-14
Aroclor 1260		86.2	84.5		%	2.0	50	26-AUG-14
WG1934347-1 MB								
Aroclor 1242			<0.020		ug/L		0.02	26-AUG-14
Aroclor 1248			<0.020		ug/L		0.02	26-AUG-14
Aroclor 1254			<0.020		ug/L		0.02	26-AUG-14
Aroclor 1260			<0.020		ug/L		0.02	26-AUG-14

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-WT	**Water**							
Batch R2928110								
WG1934347-1 MB								
Surrogate: d14-Terphenyl			104.7		%		50-150	26-AUG-14
PH-WT	**Water**							
Batch R2923603								
WG1933619-3 DUP		**WG1933619-2**						
pH		8.27	8.28	J	pH units	0.02	0.2	19-AUG-14
WG1933619-1 LCS								
pH			6.98		pH units		6.9-7.1	19-AUG-14
HG-WT	**Soil**							
Batch R2924174								
WG1934341-6 DUP		**WG1934341-5**						
Mercury (Hg)		0.086	0.077		mg/kg	11	20	20-AUG-14
WG1934341-2 IRM		**ALS MET IRM1**						
Mercury (Hg)			110.2		%		70-130	20-AUG-14
WG1934341-4 LCS								
Mercury (Hg)			110.5		%		70-130	20-AUG-14
WG1934341-1 MB								
Mercury (Hg)			<0.010		mg/kg		0.01	20-AUG-14
WG1934341-7 MS		**WG1934341-5**						
Mercury (Hg)			124.1		%		70-130	20-AUG-14
Batch R2924175								
WG1934344-6 DUP		**L1504008-11**						
Mercury (Hg)		<0.010	<0.010	RPD-NA	mg/kg	N/A	20	20-AUG-14
WG1934344-2 IRM		**ALS MET IRM1**						
Mercury (Hg)			87.9		%		70-130	20-AUG-14
WG1934344-4 LCS								
Mercury (Hg)			105.5		%		70-130	20-AUG-14
WG1934344-1 MB								
Mercury (Hg)			<0.010		mg/kg		0.01	20-AUG-14
WG1934344-7 MS		**L1504008-11**						
Mercury (Hg)			102.0		%		70-130	20-AUG-14
Batch R2924177								
WG1934346-6 DUP		**L1504008-31**						
Mercury (Hg)		<0.010	<0.010	RPD-NA	mg/kg	N/A	20	20-AUG-14
WG1934346-2 IRM		**ALS MET IRM1**						
Mercury (Hg)			108.3		%		70-130	20-AUG-14
WG1934346-4 LCS								

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-WT	**Soil**							
Batch R2924177								
WG1934346-4 LCS								
Mercury (Hg)			101.5		%		70-130	20-AUG-14
WG1934346-1 MB								
Mercury (Hg)			<0.010		mg/kg		0.01	20-AUG-14
WG1934346-7 MS		**L1504008-31**						
Mercury (Hg)			93.0		%		70-130	20-AUG-14
MOISTURE-WT	**Soil**							
Batch R2923611								
WG1933599-3 DUP		**L1504008-15**						
% Moisture		8.05	7.14		%	12	30	20-AUG-14
WG1933599-2 LCS								
% Moisture			98.7		%		70-130	20-AUG-14
WG1933599-1 MB								
% Moisture			<0.10		%		0.1	20-AUG-14
Batch R2924216								
WG1934441-3 DUP		**L1504206-144**						
% Moisture		9.75	8.47		%	14	30	21-AUG-14
WG1934441-2 LCS								
% Moisture			98.2		%		70-130	21-AUG-14
WG1934441-1 MB								
% Moisture			<0.10		%		0.1	21-AUG-14
Batch R2924542								
WG1934786-3 DUP		**L1503904-5**						
% Moisture		18.5	17.2		%	7.1	30	21-AUG-14
WG1934786-2 LCS								
% Moisture			100.1		%		70-130	21-AUG-14
WG1934786-1 MB								
% Moisture			<0.10		%		0.1	21-AUG-14
Batch R2924545								
WG1935154-3 DUP		**L1504008-28**						
% Moisture		9.58	10.1		%	5.0	30	21-AUG-14
WG1935154-2 LCS								
% Moisture			100.4		%		70-130	21-AUG-14
WG1935154-1 MB								
% Moisture			<0.10		%		0.1	21-AUG-14
PCB-WT	**Soil**							

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-WT	**Soil**							
Batch R2924953								
WG1934485-1 CVS								
Aroclor 1242			96.7		%		70-130	21-AUG-14
Aroclor 1248			98.7		%		70-130	21-AUG-14
Aroclor 1254			98.8		%		70-130	21-AUG-14
Aroclor 1260			86.3		%		70-130	21-AUG-14
WG1933702-5 DUP		**L1504008-8**						
Aroclor 1242		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Aroclor 1248		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Aroclor 1254		0.015	0.011		mg/kg	12	50	21-AUG-14
Aroclor 1260		0.025	0.017		mg/kg	12	50	21-AUG-14
WG1933702-2 LCS								
Aroclor 1242			84.9		%		65-130	21-AUG-14
Aroclor 1248			99.1		%		65-130	21-AUG-14
Aroclor 1254			86.5		%		65-130	21-AUG-14
Aroclor 1260			71.3		%		65-130	21-AUG-14
WG1933702-3 LCSD		**WG1933702-2**						
Aroclor 1242		84.9	82.7		%	2.6	50	21-AUG-14
Aroclor 1248		99.1	99.1		%	0.0	50	21-AUG-14
Aroclor 1254		86.5	85.6		%	1.1	50	21-AUG-14
Aroclor 1260		71.3	69.1		%	3.2	50	21-AUG-14
WG1933702-1 MB								
Aroclor 1242			<0.010		mg/kg		0.01	21-AUG-14
Aroclor 1248			<0.010		mg/kg		0.01	21-AUG-14
Aroclor 1254			<0.010		mg/kg		0.01	21-AUG-14
Aroclor 1260			<0.010		mg/kg		0.01	21-AUG-14
Surrogate: d14-Terphenyl			89.2		%		50-150	21-AUG-14
WG1933702-6 MS		**L1504008-8**						
Aroclor 1242			90.9		%		50-150	21-AUG-14
Aroclor 1254			88.3		%		50-150	21-AUG-14
Aroclor 1260			77.4		%		50-150	21-AUG-14
Batch R2925065								
WG1934908-1 CVS								
Aroclor 1242			95.8		%		70-130	21-AUG-14
Aroclor 1248			99.0		%		70-130	21-AUG-14
Aroclor 1254			97.3		%		70-130	21-AUG-14

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-WT	**Soil**							
Batch R2925065								
WG1934908-1 CVS								
Aroclor 1260			82.5		%		70-130	21-AUG-14
WG1933987-5 DUP		**L1504008-28**						
Aroclor 1242		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Aroclor 1248		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Aroclor 1254		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Aroclor 1260		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
WG1933987-2 LCS								
Aroclor 1242			87.7		%		65-130	21-AUG-14
Aroclor 1248			103.6		%		65-130	21-AUG-14
Aroclor 1254			92.4		%		65-130	21-AUG-14
Aroclor 1260			78.0		%		65-130	21-AUG-14
WG1933987-1 MB								
Aroclor 1242			<0.010		mg/kg		0.01	21-AUG-14
Aroclor 1248			<0.010		mg/kg		0.01	21-AUG-14
Aroclor 1254			<0.010		mg/kg		0.01	21-AUG-14
Aroclor 1260			<0.010		mg/kg		0.01	21-AUG-14
Surrogate: d14-Terphenyl			89.6		%		50-150	21-AUG-14
WG1933987-6 MS		**L1504008-28**						
Aroclor 1242			77.7		%		50-150	21-AUG-14
Aroclor 1254			85.5		%		50-150	21-AUG-14
Aroclor 1260			83.6		%		50-150	21-AUG-14
Batch R2925218								
WG1934921-1 CVS								
Aroclor 1242			95.5		%		70-130	21-AUG-14
Aroclor 1248			98.7		%		70-130	21-AUG-14
Aroclor 1254			96.7		%		70-130	21-AUG-14
Aroclor 1260			84.8		%		70-130	21-AUG-14
WG1934141-5 DUP		**WG1934141-4**						
Aroclor 1242		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Aroclor 1248		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Aroclor 1254		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Aroclor 1260		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
WG1934141-2 LCS								
Aroclor 1242			87.6		%		65-130	21-AUG-14
Aroclor 1248			104.9		%		65-130	21-AUG-14

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-WT	**Soil**							
Batch R2925218								
WG1934141-2 LCS								
Aroclor 1254			90.2		%		65-130	21-AUG-14
Aroclor 1260			77.0		%		65-130	21-AUG-14
WG1934141-3 LCSD		**WG1934141-2**						
Aroclor 1242		87.6	80.7		%	8.1	50	21-AUG-14
Aroclor 1248		104.9	104.9		%	0.0	50	21-AUG-14
Aroclor 1254		90.2	86.9		%	3.7	50	21-AUG-14
Aroclor 1260		77.0	73.6		%	4.4	50	21-AUG-14
WG1934141-1 MB								
Aroclor 1242			<0.010		mg/kg		0.01	21-AUG-14
Aroclor 1248			<0.010		mg/kg		0.01	21-AUG-14
Aroclor 1254			<0.010		mg/kg		0.01	21-AUG-14
Aroclor 1260			<0.010		mg/kg		0.01	21-AUG-14
Surrogate: d14-Terphenyl			87.7		%		50-150	21-AUG-14
WG1934141-6 MS		**WG1934141-4**						
Aroclor 1242			82.7		%		50-150	21-AUG-14
Aroclor 1254			87.6		%		50-150	21-AUG-14
Aroclor 1260			77.3		%		50-150	21-AUG-14

Quality Control Report

Workorder: L1504008 Report Date: 26-AUG-14

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Quality Control Report

Workorder: L1504008 Report Date: 26-AUG-14

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Physical Tests							
pH							
	37	10-AUG-14 09:40	19-AUG-14 10:30	4	9	days	EHTR
	38	10-AUG-14 11:00	19-AUG-14 10:30	4	9	days	EHTR
	39	10-AUG-14 11:30	19-AUG-14 10:30	4	9	days	EHTR
	40	10-AUG-14 14:30	19-AUG-14 10:30	4	9	days	EHTR
	41	11-AUG-14 09:40	19-AUG-14 10:30	4	8	days	EHTR
	42	11-AUG-14 11:00	19-AUG-14 10:30	4	8	days	EHTR
	43	11-AUG-14 11:30	19-AUG-14 10:30	4	8	days	EHTR
	44	11-AUG-14 14:30	19-AUG-14 10:30	4	8	days	EHTR

Legend & Qualifier Definitions:

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR: Exceeded ALS recommended hold time prior to sample receipt.
EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT: Exceeded ALS recommended hold time prior to analysis.
Rec. HT: ALS recommended hold time (see units).

Notes*:
Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L1504008 were received on 19-AUG-14 09:00.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



C of C # 00001

309 Exeter Road, Unit 29
LONDON, ON N6L 1C1
Phone: (519) 652-6044
Fax: (519) 652-0671
Toll Free: 1-800-668-9878

CHAIN OF ... REQUEST FORM

Note: all TAT Quoted material is in business days which exclude statutory holidays and weekends. TAT samples received past 3:00 pm or Saturday/Sunday begin the next day.

Specify date required	Service requested			
	5 day (regular)	X	Next day TAT (100%)	
	3-4 day (25%)		Same day TAT(200%)	
			2 day TAT (50%)	

COMPANY NAME	ESG
PROJECT MANAGER	Jasmine King
PROJECT	Dye-M 14-006
ACCOUNT #	
PHONE/FAX	613-541-6000x6386
QUOTE#Q45842	P.O. W0114-4501192649

CRITERIA — Criteria on report YES___ NO___

Table 1 2 3

TCLP _____ PWQO _____ ODWS _____ OTHER _____

REPORT FORMAT/DISTRIBUTION

EMAIL _X_____ FAX _____ BOTH _____
SELECT: PDF __X__ DIGITAL _____ BOTH _____ EMAIL
1 jasmine.king@rmc.ca
EMAIL 2 _____

ANALYSIS REQUEST

PLEASE INDICATE FILTERED, PRESERVED OR BOTH
<----- (F, P, F/P) B38)

SUBMISSION #: L1504008
ENTERED BY: RH
DATE/TIME: 19-Aug-14

SAMPLING INFORMATION

Sample Date/Time		TYPE		MATRIX			SAMPLE DESCRIPTION TO APPEAR ON REPORT	NUMBER OF CONTAINERS	F1-F4(soil)	Hg (Soil)	Metal Scan (soil)	PCB (soil)	F1-F4(water)	Hg (water)	Metal Scan (water)	PCB (water)	pH(water)	COMMENTS	LAB ID
Date (dd-mm-yy)	Time (24hr) (hh:mm)	COMP	GRAB	WATER	SOIL	OTHER													
8/5/2014	16:40		x				2014-08240	1		x		x							1
8/5/2014	16:40		x				2014-08241	1		x		x							2
8/5/2014	16:50		x				2014-08242	1		x		x							3
8/5/2014	18:00		x				2014-08243	1		x		x							4
8/5/2014	18:00		x				2014-08244	1		x		x							5
8/5/2014	18:10		x				2014-08245	1		x		x							6
8/6/2014	16:10		x				2014-08247	1		x		x							7
8/6/2014	15:00		x				2014-08248	1		x		x							8
8/6/2014	15:00		x				2014-08250	1		x		x							9
8/6/2014	15:00		x				2014-08251	1		x		x							10
8/6/2014	15:30		x				2014-08252	1		x		x							11
8/6/2014	15:30		x				2014-08253	1		x		x							12

SPECIAL INSTRUCTIONS/COMMENTS

Please refer to quote for detection limits.

Are any samples taken from a regulated DW System? Yes ___ No _X_
If yes, an authorized drinking water COC MUST be used for this submission.
Is the water sampled intended to be potable for human consumption? Yes ___ No _X__

SAMPLE CONDITION

___ COLD
___ COOLING INITIATED
___ AMBIENT

MEAN TEMP: 15.0

OBSERVATIONS Yes___ No ___ If yes add SIF

INIT: RH

SAMPLED BY: Shari Reed/ Mike Musclow/ Sharilyn Hoobin/ Mark Butto	DATE & TIME	RECEIVED BY:	DATE & TIME
RELINQUISHED BY:	DATE & TIME	RECEIVED AT LAB BY: RH	DATE & TIME 19-Aug-14 0900

1. Quote number must be provided to ensure proper pricing

2. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs.

309 Exeter Road, Unit 29
LONDON, ON N6L 1C1
Phone: (519) 652-6044
Fax: (519) 652-0671
Toll Free: 1-800-668-9878

L1504008-COFC

C of C # 00002

CH… S REQUEST FORM Page _1__ of _4__

Note: all TAT Quoted material is in business days which exclude statutory holidays and weekends. TAT samples received past 3:00 pm or Saturday/Sunday begin the next day.

Specify date required	Service requested		2 day TAT (50%)	
	5 day (regular)	X	Next day TAT (100%)	
	3-4 day (25%)		Same day TAT(200%)	

COMPANY NAME	ESG
PROJECT MANAGER	Jasmine King
PROJECT	Dye-M 14-006
ACCOUNT #	
PHONE/FAX	613-541-6000x6386
QUOTE#Q45842	P.O. W0114-4501192649

CRITERIA Criteria on report YES___ NO___

Table 1 2 3

TCLP _____ PWQO _____ ODWS _____ OTHER _____

REPORT FORMAT/DISTRIBUTION

EMAIL _X_____ FAX _____ BOTH _____
SELECT: PDF __X__ DIGITAL _____ BOTH _____
1 jasmine.king@rmc.ca EMAIL
EMAIL 2 _____

SAMPLING INFORMATION

Sample Date/Time		TYPE		MATRIX			SAMPLE DESCRIPTION TO APPEAR ON REPORT	NUMBER OF CONTAINERS	F1-F4(soil)	Hg (Soil)	Metal Scan (soil)	PCB (soil)	F1-F4(water)	Hg (water)	Metal Scan (water)	PCB (water)	pH(water)	COMMENTS	LAB ID
Date (dd-mm-yy)	Time (24hr) (hh:mm)	COMP	GRAB	WATER	SOIL	OTHER													
8/8/2014	10:00		x		x		2014-08394	1		x		x							13
8/8/2014	10:00		x		x		2014-08395	1		x		x							14
8/8/2014	10:40		x		x		2014-08397	1		x		x							15
8/8/2014	10:40		x		x		2014-08398	1		x		x							16
8/8/2014	11:00		x		x		2014-08400	1		x		x							17
8/8/2014	11:00		x		x		2014-08401	1		x		x							18
8/8/2014	11:15		x		x		2014-08402	1		x		x							19
8/8/2014	11:15		x		x		2014-08403	1		x		x							20
8/8/2014	15:00		x		x		2014-08404	1		x		x							21
8/8/2014	15:00		x		x		2014-08405	1		x		x							22
8/8/2014	15:00		x		x		2014-08407	1		x		x							23
							2014-08408	1		x		x							24

ANALYSIS REQUEST

PLEASE INDICATE FILTERED, PRESERVED OR BOTH
<----- (F, P, F/P) B38 I

SUBMISSION #: L1504008
ENTERED BY: RH
DATE/TIME: 19-Aug-14

SPECIAL INSTRUCTIONS/COMMENTS

Please refer to quote for detection limits.

Are any samples taken from a regulated DW System? Yes ___ No _X_
If yes, an authorized drinking water COC MUST be used for this submission.
Is the water sampled intended to be potable for human consumption? Yes ___ No _X__

SAMPLE CONDITION

__ COLD
__ COOLING INITIATED
__ AMBIENT

MEAN TEMP: 15.0

OBSERVATIONS Yes___ No ___ If yes add SIF

INIT: RH

SAMPLED BY: Shari Reed/ Mike Musclow/ Sharilyn Hoobin/ Mark Butto	DATE & TIME	RECEIVED BY:	DATE & TIME
RELINQUISHED BY:	DATE & TIME	RECEIVED AT LAB BY: RH	DATE & TIME 19-Aug-14

1. Quote number must be provided to ensure proper pricing

2. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs.

89a

C of C # 00003

309 Exeter Road, Unit 29
LONDON, ON N6L 1C1
Phone: (519) 652-6044
Fax: (519) 652-0671
Toll Free: 1-800-668-9878

CHAI

L1504008-COFC

REQUEST FORM Page _1__ of _5__

Note: all TAT Quoted mat
and weekends. TAT sampl
next day.

Service requested		
5 day (regular)	X	2 day TAT (50%)
3-4 day (25%)		Next day TAT (100%)
		Same day TAT(200%)

COMPANY NAME	ESG
PROJECT MANAGER	Jasmine King
PROJECT	Dye-M 14-006
ACCOUNT #	
PHONE/FAX	613-541-6000x6386
QUOTE#Q45842	P.O. W0114-4501192649

CRITERIA Criteria on report YES___ NO___

Table 1 2 3

TCLP _____ PWQO _____ ODWS _____ OTHER _____

REPORT FORMAT/DISTRIBUTION

EMAIL _X_____ FAX _____ BOTH _____
SELECT: PDF __X__ DIGITAL _____ BOTH _____ EMAIL
1 jasmine.king@rmc.ca
EMAIL 2 _____

ANALYSIS REQUEST

PLEASE INDICATE FILTERED, PRESERVED OR BOTH
<----- (F, P, F/P)

SUBMISSION #: L1504008
ENTERED BY: RH
DATE/TIME: 19-Aug-14

SAMPLING INFORMATION

Sample Date/Time		TYPE		MATRIX			SAMPLE DESCRIPTION TO APPEAR ON REPORT	NUMBER OF CONTAINERS	F1-F4(soil)	Hg (Soil)	Metal Scan (soil)	PCB (soil)	F1-F4(water)	Hg (water)	Metal Scan (water)	PCB (water)	pH(water)	COMMENTS	LAB ID
Date (dd-mm-yy)	Time (24hr) (hh:mm)	COMP	GRAB	WATER	SOIL	OTHER													
8/10/2014	8:00		x		x		2014-08338	1		x		x							25
8/10/2014	8:00		x		x		2014-08340	1		x		x							26
8/10/2014	8:00		x		x		2014-08341	1		x		x							27
8/10/2014	8:20		x		x		2014-08342	1		x		x							28
8/10/2014	8:20		x		x		2014-08343	1		x		x							29
8/10/2014	8:40		x		x		2014-08344	1		x		x							30
8/10/2014	8:40		x		x		2014-08345	1		x		x							31
8/10/2014	9:10		x		x		2014-08347	1		x		x							32
8/10/2014	9:10		x		x		2014-08348	1		x		x							33
8/10/2014	9:30		x		x		2014-08350	1		x		x							34
8/10/2014	9:30		x		x		2014-08351	1		x		x							35
8/10/2014	9:30		x		x		2014-08352	1		x		x							36

SPECIAL INSTRUCTIONS/COMMENTS

Please refer to quote for detection limits.

Are any samples taken from a regulated DW System? Yes ___ No _X_
If yes, an authorized drinking water COC MUST be used for this submission.
Is the water sampled intended to be potable for human consumption? Yes ___ No _X__

SAMPLE CONDITION

___ COLD
___ COOLING INITIATED
___ AMBIENT

MEAN TEMP: 15.0

OBSERVATIONS Yes___ No ___ If yes add SIF

INIT: RH

SAMPLED BY: Shari Reed/ Mike Musclow/ Sharilyn Hoobin/ Mark Butto	DATE & TIME	RECEIVED BY:	DATE & TIME
RELINQUISHED BY:	DATE & TIME	RECEIVED AT LAB BY: RH	DATE & TIME 19-Aug-14 0900

1. Quote number must be provided to ensure proper pricing

2. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs.

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L1504008-COFC

C of C # 00004

:VICES REQUEST FORM

Note: all TAT C... days and weekends. TAT samples received past 3:00 pm or Saturday/Sunday begin the next day.

Specify date required	Service requested			
	5 day (regular)	X	2 day TAT (50%)	
	3-4 day (25%)		Next day TAT (100%)	
			Same day TAT(200%)	

COMPANY NAME	ESG
PROJECT MANAGER	Jasmine King
PROJECT	Dye-M 14-006
ACCOUNT #	
PHONE/FAX	613-541-6000x6386
QUOTE#Q45842	P.O. W0114-4501192649

CRITERIA — Criteria on report YES___ NO___

Table 1 2 3

TCLP _____ PWQO _____ ODWS _____ OTHER _____

REPORT FORMAT/DISTRIBUTION

EMAIL _X_____ FAX _____ BOTH _____
SELECT: PDF __X__ DIGITAL _____ BOTH _____
1 jasmine.king@rmc.ca EMAIL
EMAIL 2 _____

ANALYSIS REQUEST

PLEASE INDICATE FILTERED, PRESERVED OR BOTH
<------ (F, P, F/P) B3M

SUBMISSION #: L1504008
ENTERED BY: RH
DATE/TIME: 19-Aug-14

SAMPLING INFORMATION

Sample Date/Time		TYPE		MATRIX			SAMPLE DESCRIPTION TO APPEAR ON REPORT	NUMBER OF CONTAINERS	F1-F4(soil)	Hg (Soil)	Metal Scan (soil)	PCB (soil)	F1-F4(water)	Hg (water)	Metal Scan (water)	PCB (water)	pH(water)	COMMENTS	LAB ID
Date (dd-mm-yy)	Time (24hr) (hh:mm)	COMP	GRAB	WATER	SOIL	OTHER													
8/10/2014	9:40		x	x			2014-08180	8					x	x	x	x	x		37
8/10/2014	11:00		x	x			2014-08181	8					x	x	x	x	x		38
8/10/2014	11:30		x	x			2014-08182	8					x	x	x	x	x		39
8/10/2014	14:30		x	x			2014-08183	8					x	x	x	x	x		40
							trip blank	2											41

SPECIAL INSTRUCTIONS/COMMENTS

Please refer to quote for detection limits.

Are any samples taken from a regulated DW System? Yes ___ No _X_
If yes, an authorized drinking water COC MUST be used for this submission.
Is the water sampled intended to be potable for human consumption? Yes ___ No _X__

SAMPLE CONDITION

___ COLD
___ COOLING INITIATED
___ AMBIENT

MEAN TEMP: 15.0

OBSERVATIONS Yes___ No ___ If yes add SIF

INIT: RH

SAMPLED BY: Shari Reed/ Mike Musclow/ Sharilyn Hoobin/ Mark Butto	DATE & TIME	RECEIVED BY:	DATE & TIME
RELINQUISHED BY:	DATE & TIME	RECEIVED AT LAB BY: RH	DATE & TIME 19-Aug-14 0900

1. Quote number must be provided to ensure proper pricing

2. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TAT.

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C of C # 0005

L1504008-COFC

CH[illegible] ES REQUEST FORM Page _1__ of _1__

Note: all TAT Quoted and weekends. TAT s next day.

Specify date required	Service requested		2 day TAT (50%)	
	5 day (regular)	X	Next day TAT (100%)	
	3-4 day (25%)		Same day TAT(200%)	

COMPANY NAME	ESG
PROJECT MANAGER	Jasmine King
PROJECT	Dye-M 14-006
ACCOUNT #	
PHONE/FAX	613-541-6000x6386
QUOTE#Q45842	P.O. W0114-4501192649

CRITERIA Criteria on report YES___ NO___

Table 1 2 3

TCLP _____ PWQO _____ ODWS _____ OTHER _____

REPORT FORMAT/DISTRIBUTION

EMAIL _X_____ FAX _____ BOTH _____
SELECT: PDF __X__ DIGITAL _____ BOTH _____ EMAIL
1 jasmine.king@rmc.ca
EMAIL 2 _____

SAMPLING INFORMATION

Sample Date/Time		TYPE		MATRIX			SAMPLE DESCRIPTION TO APPEAR ON REPORT	NUMBER OF CONTAINERS	ANALYSIS REQUEST									COMMENTS	LAB ID
Date (dd-mm-yy)	Time (24hr) (hh:mm)	COMP	GRAB	WATER	SOIL	OTHER			F1-F4(soil)	Hg (Soil)	Metal Scan (soil)	PCB (soil)	F1-F4(water)	Hg (water)	Metal Scan (water)	PCB (water)	pH(water)		
8/11/2014	9:40		x	x			2014-08184	8					x	x	x	x	x		41
8/11/2014	11:00		x	x			2014-08185	7					x	x	x		x		42
8/11/2014	11:30		x	x			2014-08186	8					x	x	x	x	x		43
8/11/2014	14:30		x	x			2014-08188	8					x	x	x	x	x		44

PLEASE INDICATE FILTERED, PRESERVED OR BOTH
<----- (F, P, F/P)

SUBMISSION #: L1504008
ENTERED BY: RH
DATE/TIME 19-Aug-14

SPECIAL INSTRUCTIONS/COMMENTS

Please refer to quote for detection limits.

Are any samples taken from a regulated DW System? Yes ___ No _X_
If yes, an authorized drinking water COC MUST be used for this submission.
Is the water sampled intended to be potable for human consumption? Yes ___ No _X__

SAMPLE CONDITION

___ COLD
___ COOLING INITIATED
___ AMBIENT

MEAN TEMP 15.0

OBSERVATIONS Yes___ No ___ If yes add SIF

INIT RH

SAMPLED BY: Shari Reed/ Mike Musclow/ Sharilyn Hoobin/ Mark Butto	DATE & TIME	RECEIVED BY:	DATE & TIME
RELINQUISHED BY:	DATE & TIME	RECEIVED AT LAB BY: RH	DATE & TIME 19-Aug-14 8:30

1. Quote number must be provided to ensure proper pricing

2. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs.

C of C # 00006

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Toll Free: 1-800-668-9878

CHAIN OF CUSTODY / ANALYTICAL SERVICES REQUEST FORM Page _4__ of _4__

Note: all TAT Quoted material is in business days which exclude statutory holidays and weekends. TAT samples received past 3:00 pm or Saturday/Sunday begin the next day.

Specify date required

Service requested			
5 day (regular)	X	2 day TAT (50%)	
3-4 day (25%)		Next day TAT (100%)	
		Same day TAT(200%)	

COMPANY NAME	ESG
PROJECT MANAGER	Jasmine King
PROJECT	Dye-M 14-006
ACCOUNT #	
PHONE/FAX	613-541-6000x6386
QUOTE#Q45842	P.O. W0114-4501192649

CRITERIA Criteria on report YES___ NO___

Table 1 2 3

TCLP _____ PWQO _____ ODWS _____ OTHER _____

REPORT FORMAT/DISTRIBUTION

EMAIL _X____ FAX _____ BOTH _____
SELECT: PDF __X__ DIGITAL _____ BOTH _____
EMAIL 1 jasmine.king@rmc.ca
EMAIL 2 _____

SAMPLING INFORMATION

Sample Date/Time		TYPE		MATRIX			NUMBER OF CONTAINERS	ANALYSIS REQUEST									SAMPLE DESCRIPTION TO APPEAR ON REPORT	COMMENTS	LAB ID
Date (dd-mm-yy)	Time (24hr) (hh:mm)	COMP	GRAB	WATER	SOIL	OTHER		F1-F4(soil)	Hg (Soil)	Metal Scan (soil)	PCB (soil)	F1-F4(water)	Hg (water)	Metal Scan (water)	PCB (water)	pH(water)			
8/12/2014	10:55		x		x		1		x		x						2014-08473		45
8/12/2014	11:15		x		x		1		x		x						2014-08474		46
8/12/2014	11:15		x		x		1		x		x						2014-08475		47
8/11/2014	16:10		x		x		1		x		x						2014-08308		48
8/11/2014	16:10		x		x		1		x		x						2014-08310		49
8/11/2014	16:10		x		x		1		x		x						2014-08311		50

PLEASE INDICATE FILTERED, PRESERVED OR BOTH <----- (F, P, F/P)

SUBMISSION # L1504008

ENTERED BY: RH

DATE/TIME 19-Aug-14

SPECIAL INSTRUCTIONS/COMMENTS

Please refer to quote for detection limits.

THE QUESTIONS BELOW MUST BE ANSWERED FOR WATER SAMPLES (CHECK Yes OR No)

Are any samples taken from a regulated DW System? Yes ___ No _X_
If yes, an authorized drinking water COC MUST be used for this submission.
Is the water sampled intended to be potable for human consumption? Yes ___ No _X__

SAMPLE CONDITION

__ COLD
__ COOLING INITIATED
__ AMBIENT

MEAN TEMP 15.0

OBSERVATIONS Yes___ No ___ If yes add SIF

INIT RH

SAMPLED BY: Shari Reed/ Mike Musclow/ Sharilyn Hoobin/ Mark Button

DATE & TIME	RECEIVED BY:	DATE & TIME

RELINQUISHED BY:

DATE & TIME	RECEIVED AT LAB BY:	DATE & TIME
	RH	19-Aug-14 0900

1. Quote number must be provided to ensure proper pricing

2. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs.

L1504008-COFC

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C of C # 00007

CHAIN OF CUSTODY / ANALYTICAL SERVICES REQUEST FORM Page _2__ of _2__

Note: all TAT Quoted material is in business days which exclude statutory holidays and weekends. TAT samples received past 3:00 pm or Saturday/Sunday begin the next day.

Specify date required	Service requested		2 day TAT (50%)	
	5 day (regular)	X	Next day TAT (100%)	
	3-4 day (25%)		Same day TAT(200%)	

COMPANY NAME	ESG
PROJECT MANAGER	Jasmine King
PROJECT	Dye-M 14-006
ACCOUNT #	
PHONE/FAX	613-541-6000x6386
QUOTE#Q45842	P.O. W0114-4501192649

SAMPLING INFORMATION

Sample Date/Time		TYPE		MATRIX		
Date (dd-mm-yy)	Time (24hr) (hh:mm)	COMP	GRAB	WATER	SOIL	OTHER
8/10/2014	16:00		x		x	
8/8/2014	11:30		x		x	
8/8/2014	10:00		x		x	
8/8/2014	11:15		x		x	
8/9/2014	10:50		x		x	
8/10/2014	16:40		x		x	
8/11/2014	11:30		x		x	
8/12/2014	9:40		x		x	
8/12/2014	9:45		x		x	
8/12/2014	11:15		x		x	
8/11/2014	16:10		x		x	

CRITERIA Criteria on report YES___ NO___

Table 1 2 3

TCLP _____ PWQO _____ ODWS _____ OTHER _____

REPORT FORMAT/DISTRIBUTION

EMAIL _X____ FAX _____ BOTH _____
SELECT: PDF __X__ DIGITAL ____ BOTH ____
EMAIL 1 jasmine.king@rmc.ca
EMAIL 2 _____

ANALYSIS REQUEST

PLEASE INDICATE FILTERED, PRESERVED OR BOTH <----- (F, P, F/P)

SAMPLE DESCRIPTION TO APPEAR ON REPORT	NUMBER OF CONTAINERS	F1-F4(soil)	Hg (Soil)	Metal Scan (soil)	PCB (soil)	F1-F4(water)	Hg (water)	Metal Scan (water)	PCB (water)	pH(water)	COMMENTS	LAB ID
2014-08379	2	x		x								51
2014-08389	2	x		x								52
2014-08399	2	x		x								53
2014-08409	2	x		x								54
2014-08419	2	x		x								55
2014-08429	2	x		x								56
2014-08439	2	x		x								57
2014-08449	2	x		x								58
2014-08459	2	x		x								59
2014-08469	2	x		x								60
2014-08309	2	x		x								61

SUBMISSION #: L1504008
ENTERED BY: RH
DATE/TIME 19-Aug-14

SPECIAL INSTRUCTIONS/COMMENTS

Please refer to quote for detection limits.

THE QUESTIONS BELOW MUST BE ANSWERED FOR WATER SAMPLES (CHECK Yes OR No)

Are any samples taken from a regulated DW System? Yes ___ No _X_
If yes, an authorized drinking water COC MUST be used for this submission.
Is the water sampled intended to be potable for human consumption? Yes ___ No _X__

SAMPLE CONDITION

__ COLD
__ COOLING INITIATED
__ AMBIENT

MEAN TEMP 15.0

OBSERVATIONS Yes___ No ___ If yes add SIF

INIT RH

SAMPLED BY: Shari Reed/ Mike Musclow/ Sharilyn Hoobin/ Mark Button	DATE & TIME	RECEIVED BY:	DATE & TIME
RELINQUISHED BY:	DATE & TIME	RECEIVED AT LAB BY: RK	DATE & TIME 19-Aug-14

1. Quote number must be provided to ensure proper pricing

2. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs

9900

L1504008-COFC

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C of C # 00008

CHAIN OF CUSTODY / ANALYTICAL SERVICES REQUEST FORM Page _1__ of _1__

Note: all TAT Quoted material is in business days which exclude statutory holidays and weekends. TAT samples received past 3:00 pm or Saturday/Sunday begin the next day.

Specify date required

Service requested			
5 day (regular)	X	2 day TAT (50%)	
3-4 day (25%)		Next day TAT (100%)	
		Same day TAT(200%)	

COMPANY NAME	ESG
PROJECT MANAGER	Jasmine King
PROJECT	Dye-M 14-006
ACCOUNT #	
PHONE/FAX	613-541-6000x6386
QUOTE#Q45842	P.O. W0114-4501192649

CRITERIA Criteria on report YES___ NO___

Table 1 2 3

TCLP _____ PWQO _____ ODWS _____ OTHER _____

REPORT FORMAT/DISTRIBUTION

EMAIL _X_____ FAX _____ BOTH _____
SELECT: PDF __X__ DIGITAL _____ BOTH _____
1 jasmine.king@rmc.ca EMAIL
EMAIL 2 _____

SAMPLING INFORMATION

Sample Date/Time		TYPE		MATRIX			SAMPLE DESCRIPTION TO APPEAR ON REPORT	NUMBER OF CONTAINERS	F1-F4(soil)	Hg (Soil)	Metal Scan (soil)	PCB (soil)	F1-F4(water)	Hg (water)	Metal Scan (water)	PCB (water)	pH(water)	COMMENTS	LAB ID
Date (dd-mm-yy)	Time (24hr) (hh:mm)	COMP	GRAB	WATER	SOIL	OTHER													
8/12/2014	7:30		x	x			2014-08189	8					x	x	x	x	x		62
							trip blank	2					x						63



ANALYSIS REQUEST

PLEASE INDICATE FILTERED, PRESERVED OR BOTH
<------ (F, P, F/P)

SUBMISSION # L1504008

ENTERED BY: RH

DATE/TIME 19-Aug-14

SPECIAL INSTRUCTIONS/COMMENTS

Please refer to quote for detection limits.

x

Are any samples taken from a regulated DW System? Yes ___ No _X_
If yes, an authorized drinking water COC MUST be used for this submission.
Is the water sampled intended to be potable for human consumption? Yes ___ No _X__

SAMPLE CONDITION

___ COLD
___ COOLING INITIATED
___ AMBIENT

MEAN TEMP 1.5°C

OBSERVATIONS Yes___ No ___ If yes add SIF

INIT RH

SAMPLED BY: Shari Reed/ Mike Musclow/ Sharilyn Hoobin/ Mark Butto	DATE & TIME	RECEIVED BY:	DATE & TIME
RELINQUISHED BY:	DATE & TIME	RECEIVED AT LAB BY:	DATE & TIME 19-Aug-14 0900

1. Quote number must be provided to ensure proper pricing

2. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs.

Department of National Defence - Royal Military College
ATTN: JASMINE KING
Environmental Sciences Group
Kingston ON K7K7B4

Date Received: 19-AUG-14
Report Date: 29-AUG-14 09:26 (MT)
Version: FINAL

Client Phone: 613-541-6000

Certificate of Analysis

Lab Work Order #: L1504206

Project P.O. #: W0114-4501192649
Job Reference: DYE-M 14-006
C of C Numbers:
Legal Site Desc:

Gayle Braun
Senior Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-13 2014-08254 Sampled By: SHARI REED on 06-AUG-14 @ 16:00 Matrix: SOIL							
Physical Tests							
% Moisture	11.1		0.10	%	19-AUG-14	20-AUG-14	R2923601
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924179
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925218
Surrogate: d14-Terphenyl	92.3		50-150	%	20-AUG-14	21-AUG-14	R2925218
L1504206-14 2014-08255 Sampled By: SHARI REED on 06-AUG-14 @ 16:00 Matrix: SOIL							
Physical Tests							
% Moisture	10.2		0.10	%	19-AUG-14	20-AUG-14	R2923601
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924179
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925218
Surrogate: d14-Terphenyl	86.8		50-150	%	20-AUG-14	21-AUG-14	R2925218
L1504206-15 2014-08257 Sampled By: SHARI REED on 06-AUG-14 @ 09:30 Matrix: SOIL							
Physical Tests							
% Moisture	7.86		0.10	%	19-AUG-14	20-AUG-14	R2923606
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924179
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925150
Surrogate: d14-Terphenyl	95.5		50-150	%	20-AUG-14	21-AUG-14	R2925150
L1504206-16 2014-08258 Sampled By: SHARI REED on 06-AUG-14 @ 09:30 Matrix: SOIL							
Physical Tests							
% Moisture	5.76		0.10	%	19-AUG-14	20-AUG-14	R2923606
Metals							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-16 2014-08258 Sampled By: SHARI REED on 06-AUG-14 @ 09:30 Matrix: SOIL							
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924179
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925150
Surrogate: d14-Terphenyl	92.7		50-150	%	20-AUG-14	21-AUG-14	R2925150
L1504206-17 2014-08260 Sampled By: SHARI REED on 06-AUG-14 @ 10:10 Matrix: SOIL							
Physical Tests							
% Moisture	8.80		0.10	%	19-AUG-14	20-AUG-14	R2923606
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924179
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925150
Surrogate: d14-Terphenyl	103.5		50-150	%	20-AUG-14	21-AUG-14	R2925150
L1504206-18 2014-08261 Sampled By: SHARI REED on 06-AUG-14 @ 10:10 Matrix: SOIL							
Physical Tests							
% Moisture	7.37		0.10	%	19-AUG-14	20-AUG-14	R2923606
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924179
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925150
Surrogate: d14-Terphenyl	97.5		50-150	%	20-AUG-14	21-AUG-14	R2925150
L1504206-19 2014-08262 Sampled By: SHARI REED on 06-AUG-14 @ 10:10 Matrix: SOIL							
Physical Tests							
% Moisture	5.14		0.10	%	19-AUG-14	20-AUG-14	R2923606
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924179
Polychlorinated Biphenyls							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-19 2014-08262 Sampled By: SHARI REED on 06-AUG-14 @ 10:10 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925150
Surrogate: d14-Terphenyl	99.4		50-150	%	20-AUG-14	21-AUG-14	R2925150
L1504206-20 2014-08263 Sampled By: SHARI REED on 06-AUG-14 @ 10:50 Matrix: SOIL							
Physical Tests							
% Moisture	7.36		0.10	%	19-AUG-14	20-AUG-14	R2923606
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924177
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925150
Surrogate: d14-Terphenyl	88.1		50-150	%	20-AUG-14	21-AUG-14	R2925150
L1504206-21 2014-08264 Sampled By: SHARI REED on 06-AUG-14 @ 10:50 Matrix: SOIL							
Physical Tests							
% Moisture	7.06		0.10	%	19-AUG-14	20-AUG-14	R2923606
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924179
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925150
Surrogate: d14-Terphenyl	92.9		50-150	%	20-AUG-14	21-AUG-14	R2925150
L1504206-22 2014-08265 Sampled By: SHARI REED on 06-AUG-14 @ 11:10 Matrix: SOIL							
Physical Tests							
% Moisture	2.31		0.10	%	19-AUG-14	20-AUG-14	R2923606
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924177
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-22 2014-08265 Sampled By: SHARI REED on 06-AUG-14 @ 11:10 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925150
Surrogate: d14-Terphenyl	82.5		50-150	%	20-AUG-14	21-AUG-14	R2925150
L1504206-23 2014-08267 Sampled By: SHARI REED on 06-AUG-14 @ 11:10 Matrix: SOIL							
Physical Tests							
% Moisture	2.06		0.10	%	19-AUG-14	20-AUG-14	R2923606
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924179
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925150
Surrogate: d14-Terphenyl	74.5		50-150	%	20-AUG-14	21-AUG-14	R2925150
L1504206-24 2014-08268 Sampled By: SHARI REED on 06-AUG-14 @ 11:50 Matrix: SOIL							
Physical Tests							
% Moisture	3.67		0.10	%	19-AUG-14	20-AUG-14	R2923601
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924179
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925218
Surrogate: d14-Terphenyl	84.7		50-150	%	20-AUG-14	21-AUG-14	R2925218
L1504206-25 2014-08270 Sampled By: SHARI REED on 06-AUG-14 @ 11:50 Matrix: SOIL							
Physical Tests							
% Moisture	3.40		0.10	%	19-AUG-14	20-AUG-14	R2923601
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924179
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-25 2014-08270 Sampled By: SHARI REED on 06-AUG-14 @ 11:50 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925218
Surrogate: d14-Terphenyl	89.9		50-150	%	20-AUG-14	21-AUG-14	R2925218
L1504206-26 2014-08271 Sampled By: SHARI REED on 06-AUG-14 @ 11:50 Matrix: SOIL							
Physical Tests							
% Moisture	4.27		0.10	%	19-AUG-14	20-AUG-14	R2923601
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924179
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925218
Surrogate: d14-Terphenyl	96.1		50-150	%	20-AUG-14	21-AUG-14	R2925218
L1504206-27 2014-08272 Sampled By: SHARI REED on 06-AUG-14 @ 16:40 Matrix: SOIL							
Physical Tests							
% Moisture	5.46		0.10	%	19-AUG-14	20-AUG-14	R2923601
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924179
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925218
Surrogate: d14-Terphenyl	80.2		50-150	%	20-AUG-14	21-AUG-14	R2925218
L1504206-28 2014-08273 Sampled By: SHARI REED on 06-AUG-14 @ 16:40 Matrix: SOIL							
Physical Tests							
% Moisture	3.50		0.10	%	19-AUG-14	20-AUG-14	R2923601
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924179
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-28 2014-08273 Sampled By: SHARI REED on 06-AUG-14 @ 16:40 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925218
Surrogate: d14-Terphenyl	93.4		50-150	%	20-AUG-14	21-AUG-14	R2925218
L1504206-29 2014-08274 Sampled By: SHARI REED on 06-AUG-14 @ 08:50 Matrix: SOIL							
Physical Tests							
% Moisture	12.1		0.10	%	19-AUG-14	20-AUG-14	R2923606
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924179
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925150
Surrogate: d14-Terphenyl	63.1		50-150	%	20-AUG-14	21-AUG-14	R2925150
L1504206-30 2014-08275 Sampled By: SHARI REED on 06-AUG-14 @ 08:50 Matrix: SOIL							
Physical Tests							
% Moisture	11.1		0.10	%	19-AUG-14	20-AUG-14	R2923606
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924179
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925150
Surrogate: d14-Terphenyl	86.4		50-150	%	20-AUG-14	21-AUG-14	R2925150
L1504206-31 2014-08277 Sampled By: SHARI REED on 06-AUG-14 @ 09:30 Matrix: SOIL							
Physical Tests							
% Moisture	6.01		0.10	%	19-AUG-14	20-AUG-14	R2923606
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924179
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-31 2014-08277 Sampled By: SHARI REED on 06-AUG-14 @ 09:30 Matrix: SOIL							
Polychlorinated Biphenyls							
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925150
Surrogate: d14-Terphenyl	62.4		50-150	%	20-AUG-14	21-AUG-14	R2925150
L1504206-32 2014-08278 Sampled By: SHARI REED on 06-AUG-14 @ 09:30 Matrix: SOIL							
Physical Tests							
% Moisture	4.75		0.10	%	19-AUG-14	20-AUG-14	R2923606
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924179
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925150
Surrogate: d14-Terphenyl	90.6		50-150	%	20-AUG-14	21-AUG-14	R2925150
L1504206-33 2014-08280 Sampled By: SHARI REED on 06-AUG-14 @ 10:12 Matrix: SOIL							
Physical Tests							
% Moisture	11.2		0.10	%	19-AUG-14	20-AUG-14	R2923606
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924179
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925150
Surrogate: d14-Terphenyl	101.6		50-150	%	20-AUG-14	21-AUG-14	R2925150
L1504206-34 2014-08281 Sampled By: SHARI REED on 06-AUG-14 @ 10:12 Matrix: SOIL							
Physical Tests							
% Moisture	10.3		0.10	%	19-AUG-14	20-AUG-14	R2923606
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924179
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925150

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-34 2014-08281 Sampled By: SHARI REED on 06-AUG-14 @ 10:12 Matrix: SOIL							
Polychlorinated Biphenyls							
Surrogate: d14-Terphenyl	89.0		50-150	%	20-AUG-14	21-AUG-14	R2925150
L1504206-35 2014-08282 Sampled By: SHARI REED on 06-AUG-14 @ 10:12 Matrix: SOIL							
Physical Tests							
% Moisture	13.6		0.10	%	19-AUG-14	20-AUG-14	R2923606
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924182
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925150
Surrogate: d14-Terphenyl	85.4		50-150	%	20-AUG-14	21-AUG-14	R2925150
L1504206-36 2014-08283 Sampled By: SHARI REED on 06-AUG-14 @ 10:40 Matrix: SOIL							
Physical Tests							
% Moisture	7.48		0.10	%	19-AUG-14	20-AUG-14	R2923606
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924182
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925150
Surrogate: d14-Terphenyl	79.4		50-150	%	20-AUG-14	21-AUG-14	R2925150
L1504206-37 2014-08284 Sampled By: SHARI REED on 06-AUG-14 @ 10:40 Matrix: SOIL							
Physical Tests							
% Moisture	6.27		0.10	%	19-AUG-14	20-AUG-14	R2923606
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924182
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925150
Surrogate: d14-Terphenyl	81.6		50-150	%	20-AUG-14	21-AUG-14	R2925150

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-38 2014-08285 Sampled By: SHARI REED on 06-AUG-14 @ 10:40 Matrix: SOIL							
Physical Tests							
% Moisture	7.08		0.10	%	19-AUG-14	20-AUG-14	R2923606
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924182
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925150
Surrogate: d14-Terphenyl	74.2		50-150	%	20-AUG-14	21-AUG-14	R2925150
L1504206-39 2014-08287 Sampled By: SHARI REED on 06-AUG-14 @ 10:40 Matrix: SOIL							
Physical Tests							
% Moisture	9.57		0.10	%	19-AUG-14	20-AUG-14	R2923606
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924182
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925150
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925150
Surrogate: d14-Terphenyl	86.5		50-150	%	20-AUG-14	21-AUG-14	R2925150
L1504206-40 2014-08288 Sampled By: SHARI REED on 06-AUG-14 @ 14:30 Matrix: SOIL							
Physical Tests							
% Moisture	5.52		0.10	%	19-AUG-14	20-AUG-14	R2923601
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924182
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925218
Surrogate: d14-Terphenyl	80.4		50-150	%	20-AUG-14	21-AUG-14	R2925218
L1504206-41 2014-08290 Sampled By: SHARI REED on 06-AUG-14 @ 14:30 Matrix: SOIL							
Physical Tests							
% Moisture	2.06		0.10	%	19-AUG-14	20-AUG-14	R2923601
Metals							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-41 2014-08290 Sampled By: SHARI REED on 06-AUG-14 @ 14:30 Matrix: SOIL							
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924182
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925218
Surrogate: d14-Terphenyl	110.7		50-150	%	20-AUG-14	21-AUG-14	R2925218
L1504206-42 2014-08291 Sampled By: SHARI REED on 06-AUG-14 @ 14:30 Matrix: SOIL							
Physical Tests							
% Moisture	2.06		0.10	%	19-AUG-14	20-AUG-14	R2923601
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924182
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925218
Surrogate: d14-Terphenyl	91.6		50-150	%	20-AUG-14	21-AUG-14	R2925218
L1504206-43 2014-08292 Sampled By: SHARI REED on 06-AUG-14 @ 15:30 Matrix: SOIL							
Physical Tests							
% Moisture	9.79		0.10	%	19-AUG-14	20-AUG-14	R2923601
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924182
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1254	0.016		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1260	0.018		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Total PCBs	0.034		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925218
Surrogate: d14-Terphenyl	98.5		50-150	%	20-AUG-14	21-AUG-14	R2925218
L1504206-44 2014-08293 Sampled By: SHARI REED on 06-AUG-14 @ 15:30 Matrix: SOIL							
Physical Tests							
% Moisture	7.44		0.10	%	19-AUG-14	20-AUG-14	R2923601
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924182
Polychlorinated Biphenyls							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-44 2014-08293 Sampled By: SHARI REED on 06-AUG-14 @ 15:30 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925218
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925218
Surrogate: d14-Terphenyl	109.7		50-150	%	20-AUG-14	21-AUG-14	R2925218
L1504206-45 2014-08294 Sampled By: SHARI REED on 06-AUG-14 @ 15:30 Matrix: SOIL							
Physical Tests							
% Moisture	5.00		0.10	%	19-AUG-14	20-AUG-14	R2923601
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924182
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1248	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1254	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1260	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Total PCBs	<0.020		0.020	mg/kg	21-AUG-14	27-AUG-14	R2926558
Surrogate: d14-Terphenyl	98.7		50-150	%	21-AUG-14	27-AUG-14	R2926558
L1504206-46 2014-08295 Sampled By: SHARI REED on 06-AUG-14 @ 15:30 Matrix: SOIL							
Physical Tests							
% Moisture	3.26		0.10	%	19-AUG-14	20-AUG-14	R2923601
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924182
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1248	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1254	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1260	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Total PCBs	<0.020		0.020	mg/kg	21-AUG-14	27-AUG-14	R2926558
Surrogate: d14-Terphenyl	93.0		50-150	%	21-AUG-14	27-AUG-14	R2926558
L1504206-47 2014-08297 Sampled By: SHARI REED on 06-AUG-14 @ 15:30 Matrix: SOIL							
Physical Tests							
% Moisture	10.3		0.10	%	19-AUG-14	20-AUG-14	R2923601
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924182
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-47 2014-08297 Sampled By: SHARI REED on 06-AUG-14 @ 15:30 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1248	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1254	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1260	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Total PCBs	<0.020		0.020	mg/kg	21-AUG-14	27-AUG-14	R2926558
Surrogate: d14-Terphenyl	98.5		50-150	%	21-AUG-14	27-AUG-14	R2926558
L1504206-48 2014-08298 Sampled By: SHARI REED on 06-AUG-14 @ 15:30 Matrix: SOIL							
Physical Tests							
% Moisture	9.63		0.10	%	19-AUG-14	20-AUG-14	R2923601
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924182
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1248	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1254	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1260	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Total PCBs	<0.020		0.020	mg/kg	21-AUG-14	27-AUG-14	R2926558
Surrogate: d14-Terphenyl	89.5		50-150	%	21-AUG-14	27-AUG-14	R2926558
L1504206-49 2014-08300 Sampled By: SHARI REED on 06-AUG-14 @ 18:00 Matrix: SOIL							
Physical Tests							
% Moisture	6.94		0.10	%	19-AUG-14	20-AUG-14	R2923601
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924182
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1248	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1254	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1260	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Total PCBs	<0.020		0.020	mg/kg	21-AUG-14	27-AUG-14	R2926558
Surrogate: d14-Terphenyl	90.8		50-150	%	21-AUG-14	27-AUG-14	R2926558
L1504206-50 2014-08301 Sampled By: SHARI REED on 06-AUG-14 @ 18:00 Matrix: SOIL							
Physical Tests							
% Moisture	7.53		0.10	%	19-AUG-14	20-AUG-14	R2923601
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924182
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1248	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-50 2014-08301 Sampled By: SHARI REED on 06-AUG-14 @ 18:00 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1254	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1260	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Total PCBs	<0.020		0.020	mg/kg	21-AUG-14	27-AUG-14	R2926558
Surrogate: d14-Terphenyl	94.8		50-150	%	21-AUG-14	27-AUG-14	R2926558
L1504206-51 2014-08302 Sampled By: SHARI REED on 06-AUG-14 @ 18:00 Matrix: SOIL							
Physical Tests							
% Moisture	9.24		0.10	%	19-AUG-14	20-AUG-14	R2923601
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924182
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1248	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1254	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1260	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Total PCBs	<0.020		0.020	mg/kg	21-AUG-14	27-AUG-14	R2926558
Surrogate: d14-Terphenyl	89.5		50-150	%	21-AUG-14	27-AUG-14	R2926558
L1504206-52 2014-08303 Sampled By: SHARI REED on 07-AUG-14 @ 10:35 Matrix: SOIL							
Physical Tests							
% Moisture	7.81		0.10	%	19-AUG-14	20-AUG-14	R2923605
Metals							
Mercury (Hg)	0.013		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924182
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1248	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1254	0.104		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1260	0.235		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Total PCBs	0.339		0.020	mg/kg	21-AUG-14	27-AUG-14	R2926558
Surrogate: d14-Terphenyl	94.6		50-150	%	21-AUG-14	27-AUG-14	R2926558
L1504206-53 2014-08304 Sampled By: SHARI REED on 07-AUG-14 @ 10:35 Matrix: SOIL							
Physical Tests							
% Moisture	6.04		0.10	%	19-AUG-14	20-AUG-14	R2923605
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924177
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1248	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1254	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-53 2014-08304 Sampled By: SHARI REED on 07-AUG-14 @ 10:35 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1260	0.012		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Total PCBs	<0.020		0.020	mg/kg	21-AUG-14	27-AUG-14	R2926558
Surrogate: d14-Terphenyl	92.8		50-150	%	21-AUG-14	27-AUG-14	R2926558
L1504206-54 2014-08305 Sampled By: SHARI REED on 07-AUG-14 @ 11:00 Matrix: SOIL							
Physical Tests							
% Moisture	4.61		0.10	%	19-AUG-14	20-AUG-14	R2923605
Metals							
Mercury (Hg)	0.034		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924177
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1248	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1254	0.534		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1260	1.19		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Total PCBs	1.73		0.020	mg/kg	21-AUG-14	27-AUG-14	R2926558
Surrogate: d14-Terphenyl	98.8		50-150	%	21-AUG-14	27-AUG-14	R2926558
L1504206-55 2014-08307 Sampled By: SHARI REED on 07-AUG-14 @ 11:00 Matrix: SOIL							
Physical Tests							
% Moisture	3.67		0.10	%	19-AUG-14	20-AUG-14	R2923605
Metals							
Mercury (Hg)	0.016		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924177
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1248	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1254	0.197		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1260	0.560		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Total PCBs	0.757		0.020	mg/kg	21-AUG-14	27-AUG-14	R2926558
Surrogate: d14-Terphenyl	94.3		50-150	%	21-AUG-14	27-AUG-14	R2926558
L1504206-56 2014-08312 Sampled By: SHARI REED on 07-AUG-14 @ 10:20 Matrix: SOIL							
Physical Tests							
% Moisture	1.88		0.10	%	19-AUG-14	20-AUG-14	R2923601
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924177
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1248	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1254	0.061		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1260	0.061		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-56 2014-08312 Sampled By: SHARI REED on 07-AUG-14 @ 10:20 Matrix: SOIL							
Polychlorinated Biphenyls							
Total PCBs	0.122		0.020	mg/kg	21-AUG-14	27-AUG-14	R2926558
Surrogate: d14-Terphenyl	97.0		50-150	%	21-AUG-14	27-AUG-14	R2926558
L1504206-57 2014-08313 Sampled By: SHARI REED on 07-AUG-14 @ 10:20 Matrix: SOIL							
Physical Tests							
% Moisture	2.96		0.10	%	19-AUG-14	20-AUG-14	R2923605
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924177
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1248	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1254	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1260	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Total PCBs	<0.020		0.020	mg/kg	21-AUG-14	27-AUG-14	R2926558
Surrogate: d14-Terphenyl	90.3		50-150	%	21-AUG-14	27-AUG-14	R2926558
L1504206-58 2014-08314 Sampled By: SHARI REED on 07-AUG-14 @ 10:50 Matrix: SOIL							
Physical Tests							
% Moisture	0.66		0.10	%	19-AUG-14	20-AUG-14	R2923605
Metals							
Mercury (Hg)	0.011		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924177
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1248	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1254	0.070		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1260	0.027		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Total PCBs	0.097		0.020	mg/kg	21-AUG-14	27-AUG-14	R2926558
Surrogate: d14-Terphenyl	90.4		50-150	%	21-AUG-14	27-AUG-14	R2926558
L1504206-59 2014-08315 Sampled By: SHARI REED on 07-AUG-14 @ 11:20 Matrix: SOIL							
Physical Tests							
% Moisture	9.95		0.10	%	19-AUG-14	20-AUG-14	R2923605
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924177
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1248	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1254	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1260	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Total PCBs	<0.020		0.020	mg/kg	21-AUG-14	27-AUG-14	R2926558

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-59 2014-08315 Sampled By: SHARI REED on 07-AUG-14 @ 11:20 Matrix: SOIL							
Polychlorinated Biphenyls							
Surrogate: d14-Terphenyl	88.9		50-150	%	21-AUG-14	27-AUG-14	R2926558
L1504206-60 2014-08317 Sampled By: SHARI REED on 07-AUG-14 @ 11:20 Matrix: SOIL							
Physical Tests							
% Moisture	7.43		0.10	%	19-AUG-14	20-AUG-14	R2923605
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924177
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1248	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1254	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1260	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Total PCBs	<0.020		0.020	mg/kg	21-AUG-14	27-AUG-14	R2926558
Surrogate: d14-Terphenyl	97.2		50-150	%	21-AUG-14	27-AUG-14	R2926558
L1504206-61 2014-08318 Sampled By: SHARI REED on 07-AUG-14 @ 11:30 Matrix: SOIL							
Physical Tests							
% Moisture	2.28		0.10	%	19-AUG-14	20-AUG-14	R2923605
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924177
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1248	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1254	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1260	0.014		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Total PCBs	<0.020		0.020	mg/kg	21-AUG-14	27-AUG-14	R2926558
Surrogate: d14-Terphenyl	83.3		50-150	%	21-AUG-14	27-AUG-14	R2926558
L1504206-62 2014-08320 Sampled By: SHARI REED on 07-AUG-14 @ 11:30 Matrix: SOIL							
Physical Tests							
% Moisture	2.76		0.10	%	19-AUG-14	20-AUG-14	R2923605
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924177
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1248	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1254	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1260	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Total PCBs	<0.020		0.020	mg/kg	21-AUG-14	27-AUG-14	R2926558
Surrogate: d14-Terphenyl	97.4		50-150	%	21-AUG-14	27-AUG-14	R2926558

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-63 2014-08321 Sampled By: SHARI REED on 07-AUG-14 @ 11:30 Matrix: SOIL							
Physical Tests							
% Moisture	2.92		0.10	%	19-AUG-14	20-AUG-14	R2923605
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924177
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1248	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1254	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Aroclor 1260	<0.010		0.010	mg/kg	21-AUG-14	27-AUG-14	R2926558
Total PCBs	<0.020		0.020	mg/kg	21-AUG-14	27-AUG-14	R2926558
Surrogate: d14-Terphenyl	84.5		50-150	%	21-AUG-14	27-AUG-14	R2926558
L1504206-64 2014-08322 Sampled By: SHARI REED on 07-AUG-14 @ 14:30 Matrix: SOIL							
Physical Tests							
% Moisture	6.10		0.10	%	19-AUG-14	20-AUG-14	R2923605
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924177
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	21-AUG-14	22-AUG-14	R2926558
Aroclor 1248	<0.010		0.010	mg/kg	21-AUG-14	22-AUG-14	R2926558
Aroclor 1254	0.027		0.010	mg/kg	21-AUG-14	22-AUG-14	R2926558
Aroclor 1260	<0.010		0.010	mg/kg	21-AUG-14	22-AUG-14	R2926558
Total PCBs	0.027		0.020	mg/kg	21-AUG-14	22-AUG-14	R2926558
Surrogate: d14-Terphenyl	96.1		50-150	%	21-AUG-14	22-AUG-14	R2926558
L1504206-65 2014-08323 Sampled By: SHARI REED on 07-AUG-14 @ 14:30 Matrix: SOIL							
Physical Tests							
% Moisture	7.10		0.10	%	19-AUG-14	20-AUG-14	R2923605
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924184
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1254	0.014		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925497
Surrogate: d14-Terphenyl	103.5		50-150	%	20-AUG-14	21-AUG-14	R2925497
L1504206-66 2014-08324 Sampled By: SHARI REED on 07-AUG-14 @ 14:50 Matrix: SOIL							
Physical Tests							
% Moisture	9.14		0.10	%	19-AUG-14	20-AUG-14	R2923605
Metals							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-66 2014-08324 Sampled By: SHARI REED on 07-AUG-14 @ 14:50 Matrix: SOIL							
Metals							
Mercury (Hg)	0.013		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924184
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1260	0.052		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Total PCBs	0.052		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925497
Surrogate: d14-Terphenyl	104.0		50-150	%	20-AUG-14	21-AUG-14	R2925497
L1504206-67 2014-08325 Sampled By: SHARI REED on 07-AUG-14 @ 14:50 Matrix: SOIL							
Physical Tests							
% Moisture	9.26		0.10	%	19-AUG-14	20-AUG-14	R2923605
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924184
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925497
Surrogate: d14-Terphenyl	97.3		50-150	%	20-AUG-14	21-AUG-14	R2925497
L1504206-68 2014-08327 Sampled By: SHARI REED on 07-AUG-14 @ 15:03 Matrix: SOIL							
Physical Tests							
% Moisture	7.94		0.10	%	19-AUG-14	20-AUG-14	R2923605
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924184
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925497
Surrogate: d14-Terphenyl	89.4		50-150	%	20-AUG-14	21-AUG-14	R2925497
L1504206-69 2014-08328 Sampled By: SHARI REED on 07-AUG-14 @ 15:03 Matrix: SOIL							
Physical Tests							
% Moisture	6.74		0.10	%	19-AUG-14	20-AUG-14	R2923602
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924184
Polychlorinated Biphenyls							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-69 2014-08328 Sampled By: SHARI REED on 07-AUG-14 @ 15:03 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925497
Surrogate: d14-Terphenyl	90.6		50-150	%	20-AUG-14	21-AUG-14	R2925497
L1504206-70 2014-08330 Sampled By: SHARI REED on 07-AUG-14 @ 14:50 Matrix: SOIL							
Physical Tests							
% Moisture	8.44		0.10	%	19-AUG-14	20-AUG-14	R2923602
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924184
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925497
Surrogate: d14-Terphenyl	87.9		50-150	%	20-AUG-14	21-AUG-14	R2925497
L1504206-71 2014-08331 Sampled By: SHARI REED on 07-AUG-14 @ 14:30 Matrix: SOIL							
Physical Tests							
% Moisture	7.68		0.10	%	19-AUG-14	20-AUG-14	R2923602
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924184
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925497
Surrogate: d14-Terphenyl	93.3		50-150	%	20-AUG-14	21-AUG-14	R2925497
L1504206-72 2014-08332 Sampled By: SHARI REED on 07-AUG-14 @ 14:30 Matrix: SOIL							
Physical Tests							
% Moisture	6.02		0.10	%	19-AUG-14	20-AUG-14	R2923602
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924184
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-72 2014-08332 Sampled By: SHARI REED on 07-AUG-14 @ 14:30 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925497
Surrogate: d14-Terphenyl	89.8		50-150	%	20-AUG-14	21-AUG-14	R2925497
L1504206-73 2014-08333 Sampled By: SHARI REED on 08-AUG-14 @ 10:00 Matrix: SOIL							
Physical Tests							
% Moisture	6.44		0.10	%	19-AUG-14	20-AUG-14	R2923602
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924184
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925497
Surrogate: d14-Terphenyl	91.9		50-150	%	20-AUG-14	21-AUG-14	R2925497
L1504206-74 2014-08334 Sampled By: SHARI REED on 08-AUG-14 @ 10:00 Matrix: SOIL							
Physical Tests							
% Moisture	7.70		0.10	%	19-AUG-14	20-AUG-14	R2923602
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924184
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925497
Surrogate: d14-Terphenyl	91.5		50-150	%	20-AUG-14	21-AUG-14	R2925497
L1504206-75 2014-08335 Sampled By: SHARI REED on 08-AUG-14 @ 10:30 Matrix: SOIL							
Physical Tests							
% Moisture	7.38		0.10	%	19-AUG-14	20-AUG-14	R2923602
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924184
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-75 2014-08335 Sampled By: SHARI REED on 08-AUG-14 @ 10:30 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925497
Surrogate: d14-Terphenyl	90.4		50-150	%	20-AUG-14	21-AUG-14	R2925497
L1504206-76 2014-08336 Sampled By: SHARI REED on 08-AUG-14 @ 10:30 Matrix: SOIL							
Physical Tests							
% Moisture	6.12		0.10	%	19-AUG-14	20-AUG-14	R2923602
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924184
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925497
Surrogate: d14-Terphenyl	80.7		50-150	%	20-AUG-14	21-AUG-14	R2925497
L1504206-77 2014-08384 Sampled By: SHARI REED on 08-AUG-14 @ 10:30 Matrix: SOIL							
Physical Tests							
% Moisture	11.8		0.10	%	19-AUG-14	20-AUG-14	R2923602
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924184
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925497
Surrogate: d14-Terphenyl	89.4		50-150	%	20-AUG-14	21-AUG-14	R2925497
L1504206-78 2014-08385 Sampled By: SHARI REED on 08-AUG-14 @ 10:30 Matrix: SOIL							
Physical Tests							
% Moisture	9.57		0.10	%	19-AUG-14	20-AUG-14	R2923602
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924184
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-78 2014-08385 Sampled By: SHARI REED on 08-AUG-14 @ 10:30 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925497
Surrogate: d14-Terphenyl	92.1		50-150	%	20-AUG-14	21-AUG-14	R2925497
L1504206-79 2014-08387 Sampled By: SHARI REED on 08-AUG-14 @ 11:15 Matrix: SOIL							
Physical Tests							
% Moisture	4.70		0.10	%	19-AUG-14	20-AUG-14	R2923602
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924184
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925497
Surrogate: d14-Terphenyl	89.4		50-150	%	20-AUG-14	21-AUG-14	R2925497
L1504206-80 2014-08388 Sampled By: SHARI REED on 08-AUG-14 @ 11:40 Matrix: SOIL							
Physical Tests							
% Moisture	4.68		0.10	%	19-AUG-14	20-AUG-14	R2923602
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924182
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925497
Surrogate: d14-Terphenyl	89.6		50-150	%	20-AUG-14	21-AUG-14	R2925497
L1504206-81 2014-08390 Sampled By: SHARI REED on 08-AUG-14 @ 11:40 Matrix: SOIL							
Physical Tests							
% Moisture	4.55		0.10	%	19-AUG-14	20-AUG-14	R2923602
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924182
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-81 2014-08390 Sampled By: SHARI REED on 08-AUG-14 @ 11:40 Matrix: SOIL							
Polychlorinated Biphenyls							
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925497
Surrogate: d14-Terphenyl	93.4		50-150	%	20-AUG-14	21-AUG-14	R2925497
L1504206-82 2014-08391 Sampled By: SHARI REED on 08-AUG-14 @ 14:35 Matrix: SOIL							
Physical Tests							
% Moisture	4.54		0.10	%	19-AUG-14	20-AUG-14	R2923602
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925162
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925497
Surrogate: d14-Terphenyl	82.7		50-150	%	20-AUG-14	21-AUG-14	R2925497
L1504206-83 2014-08392 Sampled By: SHARI REED on 08-AUG-14 @ 14:35 Matrix: SOIL							
Physical Tests							
% Moisture	4.13		0.10	%	19-AUG-14	20-AUG-14	R2923602
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925162
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925497
Surrogate: d14-Terphenyl	77.0		50-150	%	20-AUG-14	21-AUG-14	R2925497
L1504206-84 2014-08393 Sampled By: SHARI REED on 08-AUG-14 @ 10:00 Matrix: SOIL							
Physical Tests							
% Moisture	14.2		0.10	%	19-AUG-14	20-AUG-14	R2923602
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924184
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1248	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1254	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Aroclor 1260	<0.010		0.010	mg/kg	20-AUG-14	21-AUG-14	R2925497
Total PCBs	<0.020		0.020	mg/kg	20-AUG-14	21-AUG-14	R2925497

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-84 2014-08393 Sampled By: SHARI REED on 08-AUG-14 @ 10:00 Matrix: SOIL							
Polychlorinated Biphenyls							
Surrogate: d14-Terphenyl	87.4		50-150	%	20-AUG-14	21-AUG-14	R2925497
L1504206-97 2014-08353 Sampled By: SHARI REED on 10-AUG-14 @ 09:50 Matrix: SOIL							
Physical Tests							
% Moisture	9.20		0.10	%	19-AUG-14	20-AUG-14	R2923602
Metals							
Mercury (Hg)	0.015		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925162
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1248	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1254	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1260	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Total PCBs	<0.020		0.020	mg/kg	26-AUG-14	27-AUG-14	R2930649
Surrogate: d14-Terphenyl	96.7		50-150	%	26-AUG-14	27-AUG-14	R2930649
L1504206-98 2014-08354 Sampled By: SHARI REED on 10-AUG-14 @ 09:50 Matrix: SOIL							
Physical Tests							
% Moisture	12.3		0.10	%	19-AUG-14	20-AUG-14	R2923602
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925162
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1248	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1254	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1260	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Total PCBs	<0.020		0.020	mg/kg	26-AUG-14	27-AUG-14	R2930649
Surrogate: d14-Terphenyl	92.3		50-150	%	26-AUG-14	27-AUG-14	R2930649
L1504206-99 2014-08355 Sampled By: SHARI REED on 10-AUG-14 @ 10:30 Matrix: SOIL							
Physical Tests							
% Moisture	12.3		0.10	%	19-AUG-14	20-AUG-14	R2923602
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925162
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1248	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1254	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1260	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Total PCBs	<0.020		0.020	mg/kg	26-AUG-14	27-AUG-14	R2930649
Surrogate: d14-Terphenyl	93.6		50-150	%	26-AUG-14	27-AUG-14	R2930649

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-100 2014-08357 Sampled By: SHARI REED on 10-AUG-14 @ 11:30 Matrix: SOIL							
Physical Tests							
% Moisture	9.08		0.10	%	19-AUG-14	20-AUG-14	R2923602
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925162
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1248	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1254	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1260	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Total PCBs	<0.020		0.020	mg/kg	26-AUG-14	27-AUG-14	R2930649
Surrogate: d14-Terphenyl	95.9		50-150	%	26-AUG-14	27-AUG-14	R2930649
L1504206-101 2014-08358 Sampled By: SHARI REED on 10-AUG-14 @ 11:55 Matrix: SOIL							
Physical Tests							
% Moisture	9.48		0.10	%	20-AUG-14	21-AUG-14	R2924545
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924184
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1248	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1254	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1260	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Total PCBs	<0.020		0.020	mg/kg	26-AUG-14	27-AUG-14	R2930649
Surrogate: d14-Terphenyl	95.6		50-150	%	26-AUG-14	27-AUG-14	R2930649
L1504206-102 2014-08360 Sampled By: SHARI REED on 10-AUG-14 @ 11:55 Matrix: SOIL							
Physical Tests							
% Moisture	14.2		0.10	%	20-AUG-14	21-AUG-14	R2924545
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924184
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1248	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1254	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1260	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Total PCBs	<0.020		0.020	mg/kg	26-AUG-14	27-AUG-14	R2930649
Surrogate: d14-Terphenyl	91.5		50-150	%	26-AUG-14	27-AUG-14	R2930649
L1504206-103 2014-08361 Sampled By: SHARI REED on 10-AUG-14 @ 11:55 Matrix: SOIL							
Physical Tests							
% Moisture	14.6		0.10	%	20-AUG-14	21-AUG-14	R2924545
Metals							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-103 2014-08361 Sampled By: SHARI REED on 10-AUG-14 @ 11:55 Matrix: SOIL							
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924184
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1248	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1254	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1260	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Total PCBs	<0.020		0.020	mg/kg	26-AUG-14	27-AUG-14	R2930649
Surrogate: d14-Terphenyl	80.4		50-150	%	26-AUG-14	27-AUG-14	R2930649
L1504206-104 2014-08362 Sampled By: SHARI REED on 10-AUG-14 @ 14:30 Matrix: SOIL							
Physical Tests							
% Moisture	6.24		0.10	%	20-AUG-14	21-AUG-14	R2924545
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	20-AUG-14	20-AUG-14	R2924184
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1248	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1254	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1260	0.018		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Total PCBs	<0.020		0.020	mg/kg	26-AUG-14	27-AUG-14	R2930649
Surrogate: d14-Terphenyl	100.4		50-150	%	26-AUG-14	27-AUG-14	R2930649
L1504206-105 2014-08363 Sampled By: SHARI REED on 10-AUG-14 @ 14:30 Matrix: SOIL							
Physical Tests							
% Moisture	6.56		0.10	%	20-AUG-14	21-AUG-14	R2924545
Metals							
Mercury (Hg)	0.017		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925162
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1248	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1254	0.040		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1260	0.026		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Total PCBs	0.067		0.020	mg/kg	26-AUG-14	27-AUG-14	R2930649
Surrogate: d14-Terphenyl	101.7		50-150	%	26-AUG-14	27-AUG-14	R2930649
L1504206-106 2014-08364 Sampled By: SHARI REED on 10-AUG-14 @ 15:00 Matrix: SOIL							
Physical Tests							
% Moisture	8.09		0.10	%	20-AUG-14	21-AUG-14	R2924545
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925162
Polychlorinated Biphenyls							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-106 2014-08364 Sampled By: SHARI REED on 10-AUG-14 @ 15:00 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1248	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1254	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1260	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Total PCBs	<0.020		0.020	mg/kg	26-AUG-14	27-AUG-14	R2930649
Surrogate: d14-Terphenyl	97.1		50-150	%	26-AUG-14	27-AUG-14	R2930649
L1504206-107 2014-08365 Sampled By: SHARI REED on 10-AUG-14 @ 15:00 Matrix: SOIL							
Physical Tests							
% Moisture	8.83		0.10	%	20-AUG-14	21-AUG-14	R2924545
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925162
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1248	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1254	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1260	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Total PCBs	<0.020		0.020	mg/kg	26-AUG-14	27-AUG-14	R2930649
Surrogate: d14-Terphenyl	100.8		50-150	%	26-AUG-14	27-AUG-14	R2930649
L1504206-108 2014-08367 Sampled By: SHARI REED on 10-AUG-14 @ 15:30 Matrix: SOIL							
Physical Tests							
% Moisture	9.55		0.10	%	20-AUG-14	21-AUG-14	R2924545
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925162
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1248	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1254	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1260	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Total PCBs	<0.020		0.020	mg/kg	26-AUG-14	27-AUG-14	R2930649
Surrogate: d14-Terphenyl	101.9		50-150	%	26-AUG-14	27-AUG-14	R2930649
L1504206-109 2014-08368 Sampled By: SHARI REED on 10-AUG-14 @ 15:30 Matrix: SOIL							
Physical Tests							
% Moisture	9.38		0.10	%	20-AUG-14	21-AUG-14	R2924549
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925162
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-109 2014-08368 Sampled By: SHARI REED on 10-AUG-14 @ 15:30 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1248	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1254	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1260	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Total PCBs	<0.020		0.020	mg/kg	26-AUG-14	27-AUG-14	R2930649
Surrogate: d14-Terphenyl	102.4		50-150	%	26-AUG-14	27-AUG-14	R2930649
L1504206-110 2014-08370 Sampled By: SHARI REED on 10-AUG-14 @ 03:50 Matrix: SOIL							
Physical Tests							
% Moisture	7.58		0.10	%	20-AUG-14	21-AUG-14	R2924549
Metals							
Mercury (Hg)	0.023		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925162
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1248	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1254	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1260	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Total PCBs	<0.020		0.020	mg/kg	26-AUG-14	27-AUG-14	R2930649
Surrogate: d14-Terphenyl	103.6		50-150	%	26-AUG-14	27-AUG-14	R2930649
L1504206-111 2014-08371 Sampled By: SHARI REED on 10-AUG-14 @ 03:50 Matrix: SOIL							
Physical Tests							
% Moisture	8.87		0.10	%	20-AUG-14	21-AUG-14	R2924549
Metals							
Mercury (Hg)	0.030		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925162
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1248	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1254	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1260	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Total PCBs	<0.020		0.020	mg/kg	26-AUG-14	27-AUG-14	R2930649
Surrogate: d14-Terphenyl	96.6		50-150	%	26-AUG-14	27-AUG-14	R2930649
L1504206-112 2014-08372 Sampled By: SHARI REED on 10-AUG-14 @ 03:50 Matrix: SOIL							
Physical Tests							
% Moisture	5.20		0.10	%	20-AUG-14	21-AUG-14	R2924549
Metals							
Mercury (Hg)	0.024		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925162
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1248	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-112 2014-08372 Sampled By: SHARI REED on 10-AUG-14 @ 03:50 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1254	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1260	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Total PCBs	<0.020		0.020	mg/kg	26-AUG-14	27-AUG-14	R2930649
Surrogate: d14-Terphenyl	96.1		50-150	%	26-AUG-14	27-AUG-14	R2930649
L1504206-113 2014-08373 Sampled By: SHARI REED on 10-AUG-14 @ 16:00 Matrix: SOIL							
Physical Tests							
% Moisture	10.8		0.10	%	20-AUG-14	21-AUG-14	R2924549
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925162
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1248	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1254	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1260	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Total PCBs	<0.020		0.020	mg/kg	26-AUG-14	27-AUG-14	R2930649
Surrogate: d14-Terphenyl	91.6		50-150	%	26-AUG-14	27-AUG-14	R2930649
L1504206-114 2014-08374 Sampled By: SHARI REED on 10-AUG-14 @ 16:00 Matrix: SOIL							
Physical Tests							
% Moisture	13.8		0.10	%	20-AUG-14	21-AUG-14	R2924549
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925162
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1248	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1254	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1260	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Total PCBs	<0.020		0.020	mg/kg	26-AUG-14	27-AUG-14	R2930649
Surrogate: d14-Terphenyl	98.2		50-150	%	26-AUG-14	27-AUG-14	R2930649
L1504206-115 2014-08375 Sampled By: SHARI REED on 10-AUG-14 @ 16:35 Matrix: SOIL							
Physical Tests							
% Moisture	4.86		0.10	%	20-AUG-14	21-AUG-14	R2924549
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925162
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1248	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1254	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-115 2014-08375 Sampled By: SHARI REED on 10-AUG-14 @ 16:35 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1260	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Total PCBs	<0.020		0.020	mg/kg	26-AUG-14	27-AUG-14	R2930649
Surrogate: d14-Terphenyl	102.1		50-150	%	26-AUG-14	27-AUG-14	R2930649
L1504206-116 2014-08377 Sampled By: SHARI REED on 10-AUG-14 @ 16:35 Matrix: SOIL							
Physical Tests							
% Moisture	3.19		0.10	%	20-AUG-14	21-AUG-14	R2924549
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925162
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1248	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1254	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Aroclor 1260	<0.010		0.010	mg/kg	26-AUG-14	27-AUG-14	R2930649
Total PCBs	<0.020		0.020	mg/kg	26-AUG-14	27-AUG-14	R2930649
Surrogate: d14-Terphenyl	100.5		50-150	%	26-AUG-14	27-AUG-14	R2930649
L1504206-117 2014-08378 Sampled By: SHARI REED on 10-AUG-14 @ 17:00 Matrix: SOIL							
Physical Tests							
% Moisture	12.3		0.10	%	20-AUG-14	21-AUG-14	R2924549
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925162
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1248	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1254	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1260	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Total PCBs	<0.020		0.020	mg/kg	25-AUG-14	27-AUG-14	R2930507
Surrogate: d14-Terphenyl	85.3		50-150	%	25-AUG-14	27-AUG-14	R2930507
L1504206-118 2014-08380 Sampled By: SHARI REED on 10-AUG-14 @ 17:00 Matrix: SOIL							
Physical Tests							
% Moisture	10.4		0.10	%	20-AUG-14	21-AUG-14	R2924549
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925162
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1248	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1254	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1260	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-118 2014-08380 Sampled By: SHARI REED on 10-AUG-14 @ 17:00 Matrix: SOIL							
Polychlorinated Biphenyls							
Total PCBs	<0.020		0.020	mg/kg	25-AUG-14	27-AUG-14	R2930507
Surrogate: d14-Terphenyl	89.4		50-150	%	25-AUG-14	27-AUG-14	R2930507
L1504206-119 2014-08381 Sampled By: SHARI REED on 10-AUG-14 @ 17:00 Matrix: SOIL							
Physical Tests							
% Moisture	10.4		0.10	%	20-AUG-14	21-AUG-14	R2924549
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925170
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1248	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1254	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1260	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Total PCBs	<0.020		0.020	mg/kg	25-AUG-14	27-AUG-14	R2930507
Surrogate: d14-Terphenyl	80.2		50-150	%	25-AUG-14	27-AUG-14	R2930507
L1504206-120 2014-08382 Sampled By: SHARI REED on 10-AUG-14 @ 17:15 Matrix: SOIL							
Physical Tests							
% Moisture	8.47		0.10	%	20-AUG-14	21-AUG-14	R2924549
Metals							
Mercury (Hg)	0.020		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925170
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1248	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1254	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1260	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Total PCBs	<0.020		0.020	mg/kg	25-AUG-14	27-AUG-14	R2930507
Surrogate: d14-Terphenyl	83.1		50-150	%	25-AUG-14	27-AUG-14	R2930507
L1504206-133 2014-08383 Sampled By: SHARI REED on 10-AUG-14 @ 17:15 Matrix: SOIL							
Physical Tests							
% Moisture	7.19		0.10	%	20-AUG-14	21-AUG-14	R2924549
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925170
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1248	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1254	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1260	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Total PCBs	<0.020		0.020	mg/kg	25-AUG-14	27-AUG-14	R2930507

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-133 2014-08383 Sampled By: SHARI REED on 10-AUG-14 @ 17:15 Matrix: SOIL							
Polychlorinated Biphenyls							
Surrogate: d14-Terphenyl	70.4		50-150	%	25-AUG-14	27-AUG-14	R2930507
L1504206-134 2014-08410 Sampled By: SHARI REED on 10-AUG-14 @ 17:55 Matrix: SOIL							
Physical Tests							
% Moisture	5.50		0.10	%	20-AUG-14	21-AUG-14	R2924549
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925170
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1248	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1254	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1260	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Total PCBs	<0.020		0.020	mg/kg	25-AUG-14	27-AUG-14	R2930507
Surrogate: d14-Terphenyl	78.4		50-150	%	25-AUG-14	27-AUG-14	R2930507
L1504206-135 2014-08411 Sampled By: SHARI REED on 11-AUG-14 @ 11:20 Matrix: SOIL							
Physical Tests							
% Moisture	6.22		0.10	%	20-AUG-14	21-AUG-14	R2924549
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925170
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1248	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1254	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1260	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Total PCBs	<0.020		0.020	mg/kg	25-AUG-14	27-AUG-14	R2930507
Surrogate: d14-Terphenyl	79.8		50-150	%	25-AUG-14	27-AUG-14	R2930507
L1504206-136 2014-08412 Sampled By: SHARI REED on 11-AUG-14 @ 11:40 Matrix: SOIL							
Physical Tests							
% Moisture	8.58		0.10	%	20-AUG-14	21-AUG-14	R2924549
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925170
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1248	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1254	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1260	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Total PCBs	<0.020		0.020	mg/kg	25-AUG-14	27-AUG-14	R2930507
Surrogate: d14-Terphenyl	85.9		50-150	%	25-AUG-14	27-AUG-14	R2930507

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-137 2014-08413 Sampled By: SHARI REED on 11-AUG-14 @ 12:10 Matrix: SOIL							
Physical Tests							
% Moisture	9.45		0.10	%	20-AUG-14	21-AUG-14	R2924549
Metals							
Mercury (Hg)	0.019		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925170
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1248	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1254	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1260	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Total PCBs	<0.020		0.020	mg/kg	25-AUG-14	27-AUG-14	R2930507
Surrogate: d14-Terphenyl	72.7		50-150	%	25-AUG-14	27-AUG-14	R2930507
L1504206-138 2014-08414 Sampled By: SHARI REED on 09-AUG-14 @ 11:10 Matrix: SOIL							
Physical Tests							
% Moisture	7.48		0.10	%	20-AUG-14	21-AUG-14	R2924216
Metals							
Mercury (Hg)	0.012		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925170
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1248	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1254	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1260	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Total PCBs	<0.020		0.020	mg/kg	25-AUG-14	27-AUG-14	R2930507
Surrogate: d14-Terphenyl	79.9		50-150	%	25-AUG-14	27-AUG-14	R2930507
L1504206-139 2014-08415 Sampled By: SHARI REED on 09-AUG-14 @ 10:30 Matrix: SOIL							
Physical Tests							
% Moisture	12.3		0.10	%	20-AUG-14	21-AUG-14	R2924216
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925170
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1248	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1254	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1260	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Total PCBs	<0.020		0.020	mg/kg	25-AUG-14	27-AUG-14	R2930507
Surrogate: d14-Terphenyl	84.8		50-150	%	25-AUG-14	27-AUG-14	R2930507
L1504206-140 2014-08417 Sampled By: SHARI REED on 09-AUG-14 @ 10:30 Matrix: SOIL							
Physical Tests							
% Moisture	9.64		0.10	%	20-AUG-14	21-AUG-14	R2924216
Metals							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-140 2014-08417 Sampled By: SHARI REED on 09-AUG-14 @ 10:30 Matrix: SOIL							
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925170
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1248	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1254	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1260	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Total PCBs	<0.020		0.020	mg/kg	25-AUG-14	27-AUG-14	R2930507
Surrogate: d14-Terphenyl	83.6		50-150	%	25-AUG-14	27-AUG-14	R2930507
L1504206-141 2014-08418 Sampled By: SHARI REED on 09-AUG-14 @ 10:50 Matrix: SOIL							
Physical Tests							
% Moisture	11.2		0.10	%	20-AUG-14	21-AUG-14	R2924216
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925170
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1248	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1254	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1260	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Total PCBs	<0.020		0.020	mg/kg	25-AUG-14	27-AUG-14	R2930507
Surrogate: d14-Terphenyl	85.6		50-150	%	25-AUG-14	27-AUG-14	R2930507
L1504206-142 2014-08420 Sampled By: SHARI REED on 09-AUG-14 @ 10:50 Matrix: SOIL							
Physical Tests							
% Moisture	10.2		0.10	%	20-AUG-14	21-AUG-14	R2924216
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925170
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1248	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1254	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1260	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Total PCBs	<0.020		0.020	mg/kg	25-AUG-14	27-AUG-14	R2930507
Surrogate: d14-Terphenyl	77.8		50-150	%	25-AUG-14	27-AUG-14	R2930507
L1504206-143 2014-08421 Sampled By: SHARI REED on 09-AUG-14 @ 10:50 Matrix: SOIL							
Physical Tests							
% Moisture	8.19		0.10	%	20-AUG-14	21-AUG-14	R2924216
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925170
Polychlorinated Biphenyls							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-143 2014-08421 Sampled By: SHARI REED on 09-AUG-14 @ 10:50 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1248	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1254	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1260	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Total PCBs	<0.020		0.020	mg/kg	25-AUG-14	27-AUG-14	R2930507
Surrogate: d14-Terphenyl	77.2		50-150	%	25-AUG-14	27-AUG-14	R2930507
L1504206-144 2014-08422 Sampled By: SHARI REED on 09-AUG-14 @ 11:30 Matrix: SOIL							
Physical Tests							
% Moisture	9.75		0.10	%	20-AUG-14	21-AUG-14	R2924216
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925170
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1248	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1254	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1260	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Total PCBs	<0.020		0.020	mg/kg	25-AUG-14	27-AUG-14	R2930507
Surrogate: d14-Terphenyl	80.5		50-150	%	25-AUG-14	27-AUG-14	R2930507
L1504206-145 2014-08423 Sampled By: SHARI REED on 10-AUG-14 @ 17:15 Matrix: SOIL							
Physical Tests							
% Moisture	16.5		0.10	%	20-AUG-14	21-AUG-14	R2924549
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925170
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1248	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1254	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1260	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Total PCBs	<0.020		0.020	mg/kg	25-AUG-14	27-AUG-14	R2930507
Surrogate: d14-Terphenyl	83.3		50-150	%	25-AUG-14	27-AUG-14	R2930507
L1504206-146 2014-08424 Sampled By: SHARI REED on 10-AUG-14 @ 17:55 Matrix: SOIL							
Physical Tests							
% Moisture	6.25		0.10	%	21-AUG-14	22-AUG-14	R2925631
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925170
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-146 2014-08424 Sampled By: SHARI REED on 10-AUG-14 @ 17:55 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1248	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1254	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1260	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Total PCBs	<0.020		0.020	mg/kg	25-AUG-14	27-AUG-14	R2930507
Surrogate: d14-Terphenyl	73.8		50-150	%	25-AUG-14	27-AUG-14	R2930507
L1504206-147 2014-08425 Sampled By: SHARI REED on 11-AUG-14 @ 11:20 Matrix: SOIL							
Physical Tests							
% Moisture	9.04		0.10	%	21-AUG-14	22-AUG-14	R2925631
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925170
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1248	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1254	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1260	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Total PCBs	<0.020		0.020	mg/kg	25-AUG-14	27-AUG-14	R2930507
Surrogate: d14-Terphenyl	78.0		50-150	%	25-AUG-14	27-AUG-14	R2930507
L1504206-149 2014-08427 Sampled By: SHARI REED on 11-AUG-14 @ 17:55 Matrix: SOIL							
Physical Tests							
% Moisture	8.37		0.10	%	21-AUG-14	22-AUG-14	R2925631
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925170
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1248	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1254	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Aroclor 1260	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2930507
Total PCBs	<0.020		0.020	mg/kg	25-AUG-14	27-AUG-14	R2930507
Surrogate: d14-Terphenyl	81.9		50-150	%	25-AUG-14	27-AUG-14	R2930507
L1504206-150 2014-08428 Sampled By: SHARI REED on 10-AUG-14 @ 11:20 Matrix: SOIL							
Physical Tests							
% Moisture	12.5		0.10	%	21-AUG-14	22-AUG-14	R2925631
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925170
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2929664
Aroclor 1248	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2929664

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1504206-150 2014-08428 Sampled By: SHARI REED on 10-AUG-14 @ 11:20 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1254	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2929664
Aroclor 1260	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2929664
Total PCBs	<0.020		0.020	mg/kg	25-AUG-14	27-AUG-14	R2929664
Surrogate: d14-Terphenyl	88.1		50-150	%	25-AUG-14	27-AUG-14	R2929664
L1504206-152 2014-08430 Sampled By: SHARI REED on 10-AUG-14 @ 12:10 Matrix: SOIL							
Physical Tests							
% Moisture	12.0		0.10	%	21-AUG-14	22-AUG-14	R2925631
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	21-AUG-14	21-AUG-14	R2925170
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2929664
Aroclor 1248	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2929664
Aroclor 1254	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2929664
Aroclor 1260	<0.010		0.010	mg/kg	25-AUG-14	27-AUG-14	R2929664
Total PCBs	<0.020		0.020	mg/kg	25-AUG-14	27-AUG-14	R2929664
Surrogate: d14-Terphenyl	101.5		50-150	%	25-AUG-14	27-AUG-14	R2929664

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HG-WT	Soil	Mercury by CVAA	EPA 7471
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried
PCB-WT	Soil	Polychlorinated Biphenyls	EPA 8082

A representative sub-sample of a soil sample is mixed with methanol and extracted with toluene using a shaker technique. An aliquot of the separated toluene is analyzed by GC/MSD.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid weight of sample
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Workorder: L1504206 Report Date: 29-AUG-14

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-WT	**Soil**							
Batch R2924177								
WG1934346-6 DUP		**WG1934346-5**						
Mercury (Hg)		<0.010	<0.010	RPD-NA	mg/kg	N/A	20	20-AUG-14
WG1934346-2 IRM		**ALS MET IRM1**						
Mercury (Hg)			108.3		%		70-130	20-AUG-14
WG1934346-4 LCS								
Mercury (Hg)			101.5		%		70-130	20-AUG-14
WG1934346-1 MB								
Mercury (Hg)			<0.010		mg/kg		0.01	20-AUG-14
WG1934346-7 MS		**WG1934346-5**						
Mercury (Hg)			93.0		%		70-130	20-AUG-14
Batch R2924179								
WG1934369-6 DUP		**L1504206-13**						
Mercury (Hg)		<0.010	<0.010	RPD-NA	mg/kg	N/A	20	20-AUG-14
WG1934369-2 IRM		**ALS MET IRM1**						
Mercury (Hg)			112.2		%		70-130	20-AUG-14
WG1934369-4 LCS								
Mercury (Hg)			102.0		%		70-130	20-AUG-14
WG1934369-1 MB								
Mercury (Hg)			<0.010		mg/kg		0.01	20-AUG-14
WG1934369-7 MS		**L1504206-13**						
Mercury (Hg)			100.0		%		70-130	20-AUG-14
Batch R2924182								
WG1934370-6 DUP		**L1504206-35**						
Mercury (Hg)		<0.010	<0.010	RPD-NA	mg/kg	N/A	20	20-AUG-14
WG1934370-2 IRM		**ALS MET IRM1**						
Mercury (Hg)			89.1		%		70-130	20-AUG-14
WG1934370-4 LCS								
Mercury (Hg)			102.5		%		70-130	20-AUG-14
WG1934370-1 MB								
Mercury (Hg)			<0.010		mg/kg		0.01	20-AUG-14
WG1934370-7 MS		**L1504206-35**						
Mercury (Hg)			101.0		%		70-130	20-AUG-14
Batch R2924184								
WG1934348-6 DUP		**L1504206-65**						
Mercury (Hg)		<0.010	<0.010	RPD-NA	mg/kg	N/A	20	20-AUG-14
WG1934348-2 IRM		**ALS MET IRM1**						
Mercury (Hg)			89.6		%		70-130	20-AUG-14
WG1934348-4 LCS								

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-WT	**Soil**							
Batch R2924184								
WG1934348-4 LCS								
Mercury (Hg)			104.0		%		70-130	20-AUG-14
WG1934348-1 MB								
Mercury (Hg)			<0.010		mg/kg		0.01	20-AUG-14
WG1934348-7 MS		**L1504206-65**						
Mercury (Hg)			97.5		%		70-130	20-AUG-14
Batch R2925162								
WG1934371-6 DUP		**L1504206-82**						
Mercury (Hg)		<0.010	<0.010	RPD-NA	mg/kg	N/A	20	21-AUG-14
WG1934371-2 IRM		**ALS MET IRM1**						
Mercury (Hg)			97.9		%		70-130	21-AUG-14
WG1934371-4 LCS								
Mercury (Hg)			99.0		%		70-130	21-AUG-14
WG1934371-1 MB								
Mercury (Hg)			<0.010		mg/kg		0.01	21-AUG-14
WG1934371-7 MS		**L1504206-82**						
Mercury (Hg)			93.5		%		70-130	21-AUG-14
Batch R2925170								
WG1934374-6 DUP		**L1504206-119**						
Mercury (Hg)		<0.010	<0.010	RPD-NA	mg/kg	N/A	20	21-AUG-14
WG1934374-2 IRM		**ALS MET IRM1**						
Mercury (Hg)			97.1		%		70-130	21-AUG-14
WG1934374-4 LCS								
Mercury (Hg)			93.0		%		70-130	21-AUG-14
WG1934374-1 MB								
Mercury (Hg)			<0.010		mg/kg		0.01	21-AUG-14
WG1934374-7 MS		**L1504206-119**						
Mercury (Hg)			93.0		%		70-130	21-AUG-14
MOISTURE-WT	**Soil**							
Batch R2923601								
WG1934139-3 DUP		**L1504206-13**						
% Moisture		11.1	10.4		%	6.8	30	20-AUG-14
WG1934139-2 LCS								
% Moisture			98.9		%		70-130	20-AUG-14
WG1934139-1 MB								
% Moisture			<0.10		%		0.1	20-AUG-14

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT	**Soil**							
Batch R2923602								
WG1934331-3 DUP		**L1504206-100**						
% Moisture		9.08	9.24		%	1.7	30	20-AUG-14
WG1934331-2 LCS								
% Moisture			99.8		%		70-130	20-AUG-14
WG1934331-1 MB								
% Moisture			<0.10		%		0.1	20-AUG-14
Batch R2923605								
WG1934308-3 DUP		**L1504206-61**						
% Moisture		2.28	2.56		%	12	30	20-AUG-14
WG1934308-2 LCS								
% Moisture			100.5		%		70-130	20-AUG-14
WG1934308-1 MB								
% Moisture			<0.10		%		0.1	20-AUG-14
Batch R2923606								
WG1934016-3 DUP		**L1504206-39**						
% Moisture		9.57	9.96		%	4.0	30	20-AUG-14
WG1934016-2 LCS								
% Moisture			101.6		%		70-130	20-AUG-14
WG1934016-1 MB								
% Moisture			<0.10		%		0.1	20-AUG-14
Batch R2924216								
WG1934441-3 DUP		**L1504206-144**						
% Moisture		9.75	8.47		%	14	30	21-AUG-14
WG1934441-2 LCS								
% Moisture			98.2		%		70-130	21-AUG-14
WG1934441-1 MB								
% Moisture			<0.10		%		0.1	21-AUG-14
Batch R2924545								
WG1935154-3 DUP		**L1504008-28**						
% Moisture		9.58	10.1		%	5.0	30	21-AUG-14
WG1935154-2 LCS								
% Moisture			100.4		%		70-130	21-AUG-14
WG1935154-1 MB								
% Moisture			<0.10		%		0.1	21-AUG-14
Batch R2924549								
WG1935183-3 DUP		**L1504206-112**						
% Moisture		5.20	5.24		%	0.9	30	21-AUG-14
WG1935183-2 LCS								

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT	**Soil**							
Batch R2924549								
WG1935183-2 LCS								
% Moisture			99.7		%		70-130	21-AUG-14
WG1935183-1 MB								
% Moisture			<0.10		%		0.1	21-AUG-14
Batch R2925631								
WG1935799-3 DUP		**L1504710-1**						
% Moisture		15.7	15.9		%	1.3	30	22-AUG-14
WG1935799-2 LCS								
% Moisture			100.4		%		70-130	22-AUG-14
WG1935799-1 MB								
% Moisture			<0.10		%		0.1	22-AUG-14
PCB-WT	**Soil**							
Batch R2925150								
WG1934834-1 CVS								
Aroclor 1242			92.7		%		70-130	21-AUG-14
Aroclor 1248			93.6		%		70-130	21-AUG-14
Aroclor 1254			95.1		%		70-130	21-AUG-14
Aroclor 1260			74.6		%		70-130	21-AUG-14
WG1934834-2 CVS								
Aroclor 1242			98.6		%		70-130	21-AUG-14
Aroclor 1248			95.8		%		70-130	21-AUG-14
Aroclor 1254			98.0		%		70-130	21-AUG-14
Aroclor 1260			80.9		%		70-130	21-AUG-14
WG1933894-5 DUP		**L1504206-16**						
Aroclor 1242		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Aroclor 1248		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Aroclor 1254		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Aroclor 1260		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
WG1933894-2 LCS								
Aroclor 1242			92.3		%		65-130	21-AUG-14
Aroclor 1248			99.7		%		65-130	21-AUG-14
Aroclor 1254			92.0		%		65-130	21-AUG-14
Aroclor 1260			72.3		%		65-130	21-AUG-14
WG1933894-3 LCSD		**WG1933894-2**						
Aroclor 1242		92.3	99.98		%	8.0	50	21-AUG-14
Aroclor 1248		99.7	99.7		%	0.0	50	21-AUG-14

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-WT	**Soil**							
Batch R2925150								
WG1933894-3 LCSD		**WG1933894-2**						
Aroclor 1254		92.0	97.3		%	5.6	50	21-AUG-14
Aroclor 1260		72.3	78.3		%	7.9	50	21-AUG-14
WG1933894-1 MB								
Aroclor 1242			<0.010		mg/kg		0.01	21-AUG-14
Aroclor 1248			<0.010		mg/kg		0.01	21-AUG-14
Aroclor 1254			<0.010		mg/kg		0.01	21-AUG-14
Aroclor 1260			<0.010		mg/kg		0.01	21-AUG-14
Surrogate: d14-Terphenyl			87.3		%		50-150	21-AUG-14
WG1933894-6 MS		**L1504206-16**						
Aroclor 1242			90.5		%		50-150	21-AUG-14
Aroclor 1254			91.2		%		50-150	21-AUG-14
Aroclor 1260			72.6		%		50-150	21-AUG-14
Batch R2925218								
WG1934921-1 CVS								
Aroclor 1242			95.5		%		70-130	21-AUG-14
Aroclor 1248			98.7		%		70-130	21-AUG-14
Aroclor 1254			96.7		%		70-130	21-AUG-14
Aroclor 1260			84.8		%		70-130	21-AUG-14
WG1934141-5 DUP		**L1504206-25**						
Aroclor 1242		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Aroclor 1248		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Aroclor 1254		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Aroclor 1260		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
WG1934141-2 LCS								
Aroclor 1242			87.6		%		65-130	21-AUG-14
Aroclor 1248			104.9		%		65-130	21-AUG-14
Aroclor 1254			90.2		%		65-130	21-AUG-14
Aroclor 1260			77.0		%		65-130	21-AUG-14
WG1934141-3 LCSD		**WG1934141-2**						
Aroclor 1242		87.6	80.7		%	8.1	50	21-AUG-14
Aroclor 1248		104.9	104.9		%	0.0	50	21-AUG-14
Aroclor 1254		90.2	86.9		%	3.7	50	21-AUG-14
Aroclor 1260		77.0	73.6		%	4.4	50	21-AUG-14
WG1934141-1 MB								
Aroclor 1242			<0.010		mg/kg		0.01	21-AUG-14

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-WT	**Soil**							
Batch R2925218								
WG1934141-1 MB								
Aroclor 1248			<0.010		mg/kg		0.01	21-AUG-14
Aroclor 1254			<0.010		mg/kg		0.01	21-AUG-14
Aroclor 1260			<0.010		mg/kg		0.01	21-AUG-14
Surrogate: d14-Terphenyl			87.7		%		50-150	21-AUG-14
WG1934141-6 MS		**L1504206-25**						
Aroclor 1242			82.7		%		50-150	21-AUG-14
Aroclor 1254			87.6		%		50-150	21-AUG-14
Aroclor 1260			77.3		%		50-150	21-AUG-14
Batch R2925497								
WG1935331-1 CVS								
Aroclor 1242			96.7		%		70-130	21-AUG-14
Aroclor 1248			95.7		%		70-130	21-AUG-14
Aroclor 1254			102.0		%		70-130	21-AUG-14
Aroclor 1260			86.3		%		70-130	21-AUG-14
WG1934710-5 DUP		**L1504206-65**						
Aroclor 1242		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Aroclor 1248		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Aroclor 1254		0.014	0.020		mg/kg	35	50	21-AUG-14
Aroclor 1260		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
WG1934710-2 LCS								
Aroclor 1242			82.6		%		65-130	21-AUG-14
Aroclor 1248			98.2		%		65-130	21-AUG-14
Aroclor 1254			87.1		%		65-130	21-AUG-14
Aroclor 1260			74.1		%		65-130	21-AUG-14
WG1934710-3 LCSD		**WG1934710-2**						
Aroclor 1242		82.6	91.8		%	11	50	21-AUG-14
Aroclor 1248		98.2	98.2		%	0.0	50	21-AUG-14
Aroclor 1254		87.1	96.0		%	9.6	50	21-AUG-14
Aroclor 1260		74.1	89.6		%	19	50	21-AUG-14
WG1934710-1 MB								
Aroclor 1242			<0.010		mg/kg		0.01	21-AUG-14
Aroclor 1248			<0.010		mg/kg		0.01	21-AUG-14
Aroclor 1254			<0.010		mg/kg		0.01	21-AUG-14
Aroclor 1260			<0.010		mg/kg		0.01	21-AUG-14
							50-150	

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-WT	**Soil**							
Batch R2925497								
WG1934710-1 MB								
Surrogate: d14-Terphenyl			99.7		%		50-150	21-AUG-14
WG1934710-6 MS		**L1504206-65**						
Aroclor 1242			86.2		%		50-150	21-AUG-14
Aroclor 1254			97.8		%		50-150	21-AUG-14
Aroclor 1260			89.8		%		50-150	21-AUG-14
Batch R2926558								
WG1935334-1 CVS								
Aroclor 1242			102.1		%		70-130	22-AUG-14
Aroclor 1248			102.7		%		70-130	22-AUG-14
Aroclor 1254			108.6		%		70-130	22-AUG-14
Aroclor 1260			94.9		%		70-130	22-AUG-14
WG1934157-5 DUP		**L1504206-64**						
Aroclor 1242		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	22-AUG-14
Aroclor 1248		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	22-AUG-14
Aroclor 1254		0.027	0.027		mg/kg	0.3	50	22-AUG-14
Aroclor 1260		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	22-AUG-14
WG1934157-2 LCS								
Aroclor 1242			92.5		%		65-130	22-AUG-14
Aroclor 1248			110.3		%		65-130	22-AUG-14
Aroclor 1254			100.1		%		65-130	22-AUG-14
Aroclor 1260			85.3		%		65-130	22-AUG-14
WG1934157-3 LCSD		**WG1934157-2**						
Aroclor 1242		92.5	92.6		%	0.1	50	22-AUG-14
Aroclor 1248		110.3	110.3		%	0.0	50	22-AUG-14
Aroclor 1254		100.1	96.6		%	3.6	50	22-AUG-14
Aroclor 1260		85.3	85.7		%	0.5	50	22-AUG-14
WG1934157-1 MB								
Aroclor 1242			<0.010		mg/kg		0.01	22-AUG-14
Aroclor 1248			<0.010		mg/kg		0.01	22-AUG-14
Aroclor 1254			<0.010		mg/kg		0.01	22-AUG-14
Aroclor 1260			<0.010		mg/kg		0.01	22-AUG-14
Surrogate: d14-Terphenyl			108.1		%		50-150	22-AUG-14
WG1934157-6 MS		**L1504206-64**						
Aroclor 1242			93.9		%		50-150	22-AUG-14
Aroclor 1254			92.0		%		50-150	22-AUG-14

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-WT	**Soil**							
Batch R2926558								
WG1934157-6 MS		**L1504206-64**						
Aroclor 1260			85.0		%		50-150	22-AUG-14
Batch R2929664								
WG1937436-1 CVS								
Aroclor 1242			97.9		%		70-130	27-AUG-14
Aroclor 1248			96.3		%		70-130	27-AUG-14
Aroclor 1254			97.8		%		70-130	27-AUG-14
Aroclor 1260			78.6		%		70-130	27-AUG-14
WG1935797-5 DUP		**WG1935797-4**						
Aroclor 1242		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	27-AUG-14
Aroclor 1248		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	27-AUG-14
Aroclor 1254		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	27-AUG-14
Aroclor 1260		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	27-AUG-14
WG1935797-2 LCS								
Aroclor 1242			85.5		%		65-130	27-AUG-14
Aroclor 1248			107.9		%		65-130	27-AUG-14
Aroclor 1254			88.9		%		65-130	27-AUG-14
Aroclor 1260			69.7		%		65-130	27-AUG-14
WG1935797-3 LCSD		**WG1935797-2**						
Aroclor 1242		85.5	84.4		%	1.3	50	27-AUG-14
Aroclor 1248		107.9	107.9		%	0.0	50	27-AUG-14
Aroclor 1254		88.9	90.3		%	1.6	50	27-AUG-14
Aroclor 1260		69.7	68.1		%	2.3	50	27-AUG-14
WG1935797-1 MB								
Aroclor 1242			<0.010		mg/kg		0.01	27-AUG-14
Aroclor 1248			<0.010		mg/kg		0.01	27-AUG-14
Aroclor 1254			<0.010		mg/kg		0.01	27-AUG-14
Aroclor 1260			<0.010		mg/kg		0.01	27-AUG-14
Surrogate: d14-Terphenyl			78.0		%		50-150	27-AUG-14
WG1935797-6 MS		**WG1935797-4**						
Aroclor 1242			81.5		%		50-150	27-AUG-14
Aroclor 1254			86.2		%		50-150	27-AUG-14
Aroclor 1260			68.4		%		50-150	27-AUG-14

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-WT	**Soil**							
Batch R2930507								
WG1937434-1 CVS								
Aroclor 1242			96.6		%		70-130	27-AUG-14
Aroclor 1248			96.3		%		70-130	27-AUG-14
Aroclor 1254			99.0		%		70-130	27-AUG-14
Aroclor 1260			81.7		%		70-130	27-AUG-14
WG1935584-5 DUP		**L1504206-133**						
Aroclor 1242		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	27-AUG-14
Aroclor 1248		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	27-AUG-14
Aroclor 1254		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	27-AUG-14
Aroclor 1260		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	27-AUG-14
WG1935584-2 LCS								
Aroclor 1242			87.3		%		65-130	27-AUG-14
Aroclor 1248			104.6		%		65-130	27-AUG-14
Aroclor 1254			89.3		%		65-130	27-AUG-14
Aroclor 1260			72.3		%		65-130	27-AUG-14
WG1935584-3 LCSD		**WG1935584-2**						
Aroclor 1242		87.3	97.0		%	11	50	27-AUG-14
Aroclor 1248		104.6	104.6		%	0.0	50	27-AUG-14
Aroclor 1254		89.3	99.97		%	11	50	27-AUG-14
Aroclor 1260		72.3	82.9		%	14	50	27-AUG-14
WG1935584-1 MB								
Aroclor 1242			<0.010		mg/kg		0.01	27-AUG-14
Aroclor 1248			<0.010		mg/kg		0.01	27-AUG-14
Aroclor 1254			<0.010		mg/kg		0.01	27-AUG-14
Aroclor 1260			<0.010		mg/kg		0.01	27-AUG-14
Surrogate: d14-Terphenyl			88.9		%		50-150	27-AUG-14
WG1935584-6 MS		**L1504206-133**						
Aroclor 1242			84.1		%		50-150	27-AUG-14
Aroclor 1254			90.9		%		50-150	27-AUG-14
Aroclor 1260			72.9		%		50-150	27-AUG-14
Batch R2930649								
WG1938827-1 CVS								
Aroclor 1242			95.9		%		70-130	27-AUG-14
Aroclor 1248			99.7		%		70-130	27-AUG-14
Aroclor 1254			99.5		%		70-130	27-AUG-14

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-WT	**Soil**							
Batch R2930649								
WG1938827-1 CVS								
Aroclor 1260			81.7		%		70-130	27-AUG-14
WG1934926-5 DUP		**L1504206-98**						
Aroclor 1242		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	27-AUG-14
Aroclor 1248		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	27-AUG-14
Aroclor 1254		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	27-AUG-14
Aroclor 1260		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	27-AUG-14
WG1934926-2 LCS								
Aroclor 1242			96.3		%		65-130	27-AUG-14
Aroclor 1248			94.8		%		65-130	27-AUG-14
Aroclor 1254			105.0		%		65-130	27-AUG-14
Aroclor 1260			95.5		%		65-130	27-AUG-14
WG1934926-3 LCSD		**WG1934926-2**						
Aroclor 1242		96.3	102.0		%	5.8	50	27-AUG-14
Aroclor 1248		94.8	94.8		%	0.0	50	27-AUG-14
Aroclor 1254		105.0	102.8		%	2.1	50	27-AUG-14
Aroclor 1260		95.5	92.9		%	2.7	50	27-AUG-14
WG1934926-1 MB								
Aroclor 1242			<0.010		mg/kg		0.01	27-AUG-14
Aroclor 1248			<0.010		mg/kg		0.01	27-AUG-14
Aroclor 1254			<0.010		mg/kg		0.01	27-AUG-14
Aroclor 1260			<0.010		mg/kg		0.01	27-AUG-14
Surrogate: d14-Terphenyl			106.3		%		50-150	27-AUG-14
WG1934926-6 MS		**L1504206-98**						
Aroclor 1242			103.0		%		50-150	27-AUG-14
Aroclor 1254			104.7		%		50-150	27-AUG-14
Aroclor 1260			96.2		%		50-150	27-AUG-14

Quality Control Report

Workorder: L1504206 Report Date: 29-AUG-14

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

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C of C # 00003

VICES REQUEST FORM

Page _3__ of 5

ays he	Specify date required	Service requested		2 day TAT (50%)	
		5 day (regular)	X	Next day TAT (100%)	
		3-4 day (25%)		Same day TAT(200%)	

COMPANY NAME	ESG
PROJECT MANAGER	Jasmine King
PROJECT	Dye-M 14-006
ACCOUNT #	
PHONE/FAX	613-541-6000x6386
QUOTE#Q45842	P.O. W0114-4501192649

Criteria on report YES___ NO___

Table 1 2 3

TCLP _____ PWQO _____ ODWS _____ OTHER _____

REPORT FORMAT/DISTRIBUTION

EMAIL _X_____ FAX _____ BOTH _____
SELECT: PDF __X__ DIGITAL _____ BOTH _____
EMAIL 1 jasmine.king@rmc.ca
EMAIL 2 _____

SAMPLING INFORMATION

Sample Date/Time		TYPE		MATRIX			SAMPLE DESCRIPTION TO APPEAR ON REPORT	NUMBER OF CONTAINERS	ANALYSIS REQUEST										PLEASE INDICATE FILTERED, PRESERVED OR BOTH <----- (F, P, F/P)	
Date (dd-mm-yy)	Time (24hr) (hh:mm)	COMP	GRAB	WATER	SOIL	OTHER			F1-F4(soil)	Hg (Soil)	Metal Scan (soil)	PCB (soil)	F1-F4(water)	Hg (water)	Metal Scan (water)	PCB (water)	pH(water)		COMMENTS	LAB ID
2014-08-10	15:30		x		x		2014-08368	1		x		x								107
2014-08-10	15:50		x		x		2014-08370	1		x		x								108
2014-08-10	15:50		x		x		2014-08371	1		x		x								109
2014-08-10	15:50		x		x		2014-08372	1		x		x								112
2014-08-10	16:00		x		x		2014-08373	1		x		x								113
2014-08-10	16:00		x		x		2014-08374	1		x		x								114
2014-08-10	16:35		x		x		2014-08375	1		x		x								115
2014-08-10	16:35		x		x		2014-08377	1		x		x								116
2014-08-10	17:00		x		x		2014-08378	1		x		x								117
2014-08-10	17:00		x		x		2014-08380	1		x		x								118
2014-08-10	17:00		x		x		2014-08381	1		x		x								119
2014-08-10	17:15		x		x		2014-08382	1		x		x								120

SPECIAL INSTRUCTIONS

Please refer to quote for detection limits.

Are any samples taken from a regulated DW System? Yes ___ No _X_
If yes, an authorized drinking water COC MUST be used for this submission.
Is the water sampled intended to be potable for human consumption? Yes ___ No _X__

SAMPLED BY Shari Reed/ Mike Musclow/ Sharilyn Hoobin/ Mark Button

RELINQUISHED BY	DATE & TIME	RECEIVED BY	DATE & TIME
S. Hoobin	Aug 11, 2014 6pm		

1. Quote number must be provided to ensure proper pricing

TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs.

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CHAIN

L1504206-COFC

C of C # 00002

:QUEST FORM

Page _1__ of _4__

Note: all TAT Quoted materia... and weekends. TAT samples received past 3:00 pm or Saturday/Sunday begin the next day.

date required	Service requested			
	5 day (regular)	X	2 day TAT (50%)	
	3-4 day (25%)		Next day TAT (100%)	
			Same day TAT(200%)	

COMPANY NAME	ESG
PROJECT MANAGER	Jasmine King
PROJECT	Dye-M 14-006
ACCOUNT #	
PHONE/FAX	613-541-6000x6386
QUOTE#Q45842	P.O. W0114-4501192649

CRITERIA — Criteria on report YES___ NO___

Table 1 2 3

TCLP _____ PWQO _____ ODWS _____ OTHER _____

REPORT FORMAT/DISTRIBUTION

EMAIL _X_____ FAX _____ BOTH _____
SELECT: PDF __X__ DIGITAL _____ BOTH _____
EMAIL 1 jasmine.king@rmc.ca
EMAIL 2 _____

SAMPLING INFORMATION

Sample Date/Time		TYPE		MATRIX			NUMBER OF CONTAINERS	ANALYSIS REQUEST												PLEASE INDICATE FILTERED, PRESERVED OR BOTH <------ (F, P, F/P)	
Date (dd-mm-yy)	Time (24hr) (hh:mm)	COMP	GRAB	WATER	SOIL	OTHER		F1-F4(soil)	Hg (Soil)	Metal Scan (soil)	PCB (soil)	F1-F4(water)	Hg (water)	Metal Scan (water)	PCB (water)	pH(water)	SAMPLE DESCRIPTION TO APPEAR ON REPORT			SUBMISSION #:	
08/08/2014	10:00		x		x		1		x		x						2014-08394			ENTERED BY:	
08/08/2014	10:00		x		x		1		x		x						2014-08395				
08/08/2014	10:40		x		x		1		x		x						2014-08397			DATE/TIME	
08/08/2014	10:40		x		x		1		x		x						2014-08398				
08/08/2014	11:00		x		x		1		x		x						2014-08400			COMMENTS	LAB ID
08/08/2014	11:00		x		x		1		x		x						2014-08401				121
08/08/2014	11:15		x		x		1		x		x						2014-08402				122
08/08/2014	11:15		x		x		1		x		x						2014-08403				123
08/08/2014	15:00		x		x		1		x		x						2014-08404				124
08/08/2014	15:00		x		x		1		x		x						2014-08405				125
08/08/2014	15:00		x		x		1		x		x						2014-08407				126
							1		x		x						2014-08408				127
																					128
																					129
																					130
																					131
																					132

SPECIAL INSTRUCTIONS/COMMENTS

Please refer to quote for detection limits.

Are any samples taken from a regulated DW System? Yes ___ No _X_
If yes, an authorized drinking water COC MUST be used for this submission.
Is the water sampled intended to be potable for human consumption? Yes ___ No _X__

SAMPLE CONDITION

___ COLD
___ COOLING INITIATED
___ AMBIENT

MEAN TEMP

OBSERVATIONS Yes___ No ___
If yes add SIF

INIT

SAMPLED BY: Shari Reed/ Mike Musclow/ Sharilyn Hoobin/ Mark Button	DATE & TIME AUG 9/14	RECEIVED BY:	
RELINQUISHED BY: SHARI REED	DATE & TIME AUG 9/14	RECEIVED AT LAB BY:	DATE & TIME / DATE & TIME

1. Quote number must be provided to ensure proper pricing

2. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs.

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C of C # 000013

uested		2 day TAT (50%)	
	X	Next day TAT (100%)	
		Same day TAT(200%)	

3-4 day (25%)

PLEASE INDICATE FILTERED, PRESERVED OR BOTH
<---- (F, P, F/P)

COMPANY NAME	ESG
PROJECT MANAGER	Jasmine King
PROJECT	Dye-M 14-006
ACCOUNT #	
PHONE/FAX	613-541-6000x6386
QUOTE#Q45842	P.O. W0114-4501192649

Criteria on report YES__ NO__

Table 1 2 3

TCLP _____ PWQO _____ ODWS _____ OTHER _____

REPORT FORMAT/DISTRIBUTION

EMAIL _X_____ FAX _____ BOTH _____
SELECT: PDF __X__ DIGITAL _____ BOTH _____
EMAIL 1 jasmine.king@rmc.ca
EMAIL 2 _____

SAMPLING INFORMATION

Sample Date/Time		TYPE		MATRIX			SAMPLE DESCRIPTION TO APPEAR ON REPORT	NUMBER OF CONTAINERS	ANALYSIS REQUEST										COMMENTS	LAB ID
Date (dd-mm-yy)	Time (24hr) (hh:mm)	COMP	GRAB	WATER	SOIL	OTHER			F1-F4(soil)	Hg (Soil)	Metal Scan (soil)	PCB (soil)	F1-F4(water)	Hg (water)	Metal Scan (water)	PCB (water)	pH(water)			
2014-08-10	17:15		x		x		2014-08383	1		x		x								133
2014-08-10	17:55		x		x		2014-08410													134
2014-08-11	11:20		x		x		2014-08411													135
2014-08-11	11:40		x		x		2014-08412													136
2014-08-11	12:10		x		x		2014-08413													137
2014-08-09	11:10		x		x		2014-08414													138
2014-08-09	10:30		x		x		2014-08415													139
2014-08-09	10:30		x		x		2014-08417													140
2014-08-09	10:50		x		x		2014-08418													141
2014-08-09	10:50		x		x		2014-08420													142
2014-08-09	10:50		x		x		2014-08421													143
2014-08-09	11:30		x		x		2014-08422													144

SPECIAL INSTRUCTIONS

Please refer to quote for detection limits.

Are any samples taken from a regulated DW System? Yes ___ No _X_
If yes, an authorized drinking water COC MUST be used for this submission.
Is the water sampled intended to be potable for human consumption? Yes ___ No _X__

SAMPLED BY: Shari Reed/ Mike Musclow/ Sharilyn Hoobin/ Mark Button	DATE & TIME	RECEIVED BY:	DATE & TIME
RELINQUISHED BY	DATE & TIME		

1. Quote number must be provided to ensure proper pricing

2. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs

May 11, 2014, Six pm



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C of C # 00001-3

M Page _5__ of _5_

uested		2 day TAT (50%)	
	X	Next day TAT (100%)	
		Same day TAT(200%)	

COMPANY NAME	ESG
PROJECT MANAGER	Jasmine King
PROJECT	Dye-M 14-006
ACCOUNT #	
PHONE/FAX	613-541-6000x6386
QUOTE#Q45842	P.O. W0114-4501192649

Criteria on report YES___ NO__

Table 1 2 3

TCLP ____ PWQO _____ ODWS ____ OTHER _____

REPORT FORMAT/DISTRIBUTION

EMAIL _X_____ FAX _____ BOTH _____
SELECT: PDF __X__ DIGITAL _____ BOTH _____
EMAIL 1 jasmine.king@rmc.ca
EMAIL 2 _____

SAMPLING INFORMATION

Sample Date/Time		TYPE		MATRIX			SAMPLE DESCRIPTION TO APPEAR ON REPORT	NUMBER OF CONTAINERS	ANALYSIS REQUEST										COMMENTS	LAB ID
Date (dd-mm-yy)	Time (24hr) (hh:mm)	COMP	GRAB	WATER	SOIL	OTHER			F1-F4(soil)	Hg (Soil)	Metal Scan (soil)	PCB (soil)	F1-F4(water)	Hg (water)	Metal Scan (water)	PCB (water)	pH(water)		
2014-08-10	17:15		x		x		2014-08423	1		x		x							145
2014-08-10	17:55		x		x		2014-08424												146
2014-08-11	11:20		x		x		2014-08425												147
2014-08-11	11:40		x		x		2014-08426												148
2014-08-11	17:55		x		x		2014-08427												149
2014-08-10	11:20		x		x		2014-08428												150
2014-08-10	11:40		x		x		2014-08429												151
2014-08-10	12:10		x		x		2014-08430												152

PLEASE INDICATE FILTERED, PRESERVED OR BOTH
<----- (F, P, F/P)

SPECIAL INSTRUCTIONS / COMMENTS

Please refer to quote for detection limits.

Are any samples taken from a regulated DW System? Yes ___ No _X_
If yes, an authorized drinking water COC MUST be used for this submission.
Is the water sampled intended to be potable for human consumption? Yes ___ No _X__

SAMPLED BY Shari Reed/ Mike Musclow/ Sharilyn Hoobin/ Mark Button	DATE & TIME	RECEIVED BY	DATE & TIME
RELINQUISHED BY S Hoobin	DATE & TIME Aug 11, 2014 6pm		

1 Quote number must be provided to ensure proper pricing

2 TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs



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C of C # 00001

VICES REQUEST FORM

Note: all TAT Qu... ...material is in business days which exclude statutory holidays and weekends. TAT samples received past 3:00 pm or Saturday/Sunday begin the next day.

Specify date required	Service requested		2 day TAT (50%)	
	5 day (regular)	X	Next day TAT (100%)	
	3-4 day (25%)		Same day TAT(200%)	

COMPANY NAME	ESG
PROJECT MANAGER	Jasmine King
PROJECT	Dye-M 14-006
ACCOUNT #	
PHONE/FAX	613-541-6000x6386
QUOTE#Q45842	P.O. W0114-4501192649

CRITERIA — Criteria on report YES___ NO___

Table 1 2 3

TCLP _____ PWQO _____ ODWS _____ OTHER _____

REPORT FORMAT/DISTRIBUTION

EMAIL _X_____ FAX _____ BOTH _____
SELECT: PDF __X__ DIGITAL _____ BOTH _____
EMAIL 1 jasmine.king@rmc.ca
EMAIL 2 _____

SAMPLING INFORMATION

Sample Date/Time		TYPE		MATRIX			NUMBER OF CONTAINERS	ANALYSIS REQUEST									PLEASE INDICATE FILTERED, PRESERVED OR BOTH <----- (F, P, F/P)	
Date (dd-mm-yy)	Time (24hr) (hh:mm)	COMP	GRAB	WATER	SOIL	OTHER		F1-F4(soil)	Hg (Soil)	Metal Scan (soil)	PCB (soil)	F1-F4(water)	Hg (water)	Metal Scan (water)	PCB (water)	pH(water)	COMMENTS	LAB ID
06/08/2014	10:40		x				1		x		x						2014-08284	37
06/08/2014	10:40		x				1		x		x						2014-08285	38
06/08/2014	10:40		x				1		x		x						2014-08287	39
06/08/2014	14:30		x				1		x		x						2014-08288	40
06/08/2014	14:30		x				1		x		x						2014-08290	41
06/08/2014	14:30		x				1		x		x						2014-08291	42
06/08/2014	15:30		x				1		x		x						2014-08292	43
06/08/2014	15:30		x				1		x		x						2014-08293	44
06/08/2014	15:30		x				1		x		x						2014-08294	45
06/08/2014	15:30		x				1		x		x						2014-08295	46
06/08/2014	15:30		x				1		x		x						2014-08297	47
06/08/2014	15:30	x					1		x		x						2014-08298	48

SPECIAL INSTRUCTIONS/COMMENTS

Please refer to quote for detection limits.

THE FOLLOWING MUST BE ANSWERED FOR WATER SAMPLES (CHECK WITH PM IF UNSURE)

Are any samples taken from a regulated DW System? Yes ___ No _X_
If yes, an authorized drinking water COC MUST be used for this submission.
Is the water sampled intended to be potable for human consumption? Yes ___ No _X__

SAMPLED BY: Shari Reed/ Mike Musclow/ Sharilyn Hoobin/ Mark Button	DATE & TIME Aug 9/14	RECEIVED BY:	DATE & TIME
RELINQUISHED BY: SHARI REED	DATE & TIME Aug 9/14	RECEIVED AT LAB BY:	DATE & TIME

1. Quote number must be provided to ensure proper pricing

2. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs.

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C of C # 00002

/ICES REQUEST FORM

Note: all TAT Quc ... business days which exclude statutory holidays and weekends. TAT samples received past 3:00 pm or Saturday/Sunday begin the next day.

Specify date required	Service requested			
	5 day (regular)	X	2 day TAT (50%)	
	3-4 day (25%)		Next day TAT (100%)	
			Same day TAT(200%)	

COMPANY NAME	ESG
PROJECT MANAGER	Jasmine King
PROJECT	Dye-M 14-006
ACCOUNT #	
PHONE/FAX	613-541-6000x6386
QUOTE#Q45842	P.O. W0114-4501192649

CRITERIA Criteria on report YES___ NO___

Table 1 2 3

TCLP _____ PWQO _____ ODWS _____ OTHER _____

REPORT FORMAT/DISTRIBUTION

EMAIL _X_____ FAX _____ BOTH _____
SELECT: PDF __X__ DIGITAL _____ BOTH _____
EMAIL 1 jasmine.king@rmc.ca
EMAIL 2 _____

SAMPLING INFORMATION

Sample Date/Time		TYPE		MATRIX			SAMPLE DESCRIPTION TO APPEAR ON REPORT	NUMBER OF CONTAINERS	F1-F4(soil)	Hg (Soil)	Metal Scan (soil)	PCB (soil)	F1-F4(water)	Hg (water)	Metal Scan (water)	PCB (water)	pH(water)	COMMENTS	LAB ID
Date (dd-mm-yy)	Time (24hr) (hh:mm)	COMP	GRAB	WATER	SOIL	OTHER													
06/08/2014	18:00		x		x		2014-08300	1		x		x							49
06/08/2014	18:00		x		x		2014-08301	1		x		x							50
06/08/2014	18:00		x		x		2014-08302	1		x		x							51
07/08/2014	10:35		x		x		2014-08303	1		x		x							52
07/08/2014	10:35		x		x		2014-08304	1		x		x							53
07/08/2014	11:00		x		x		2014-08305	1		x		x							54
07/08/2014	11:00		x		x		2014-08307	1		x		x							55
07/08/2014	10:20		x		x		2014-08312	1		x		x							56
07/08/2014	10:20		x		x		2014-08313	1		x		x							57
07/08/2014	10:50		x		x		2014-08314	1		x		x							58
07/08/2014	11:20		x		x		2014-08315	1		x		x							59
07/08/2014	11:20		x		x		2014-08317	1		x		x							60

ANALYSIS REQUEST

PLEASE INDICATE FILTERED, PRESERVED OR BOTH <----- (F, P, F/P)

SUBMISSION #:

ENTERED BY:

DATE/TIME

SPECIAL INSTRUCTIONS/COMMENTS

Please refer to quote for detection limits.

Are any samples taken from a regulated DW System? Yes ___ No _X_
If yes, an authorized drinking water COC MUST be used for this submission.
Is the water sampled intended to be potable for human consumption? Yes ___ No _X__

SAMPLE CONDITION

___ COLD
___ COOLING INITIATED
___ AMBIENT

MEAN TEMP

OBSERVATIONS Yes___ No ___ If yes add SIF

INIT

SAMPLED BY: Shari Reed/ Mike Musclow/ Sharilyn Hoobin/ Mark Button

DATE & TIME: AUG 9/14

RECEIVED BY:

DATE & TIME

RELINQUISHED BY: Shari Reed

DATE & TIME: AUG 9/14

RECEIVED AT LAB BY:

DATE & TIME

1. Quote number must be provided to ensure proper pricing

2. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs.

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C of C # 00002

ERVICES REQUEST FORM

Page _1__ of _4__

Note: all TAT Quoted material is in business days which exclude statutory holidays and weekends. TAT samples received past 3:00 pm or Saturday/Sunday begin the next day.

Specify date required	Service requested		2 day TAT (50%)	
	5 day (regular)	X	~~Next day TAT (100%)~~	
	3-4 day (25%)		Same day TAT(200%)	

COMPANY NAME	ESG
PROJECT MANAGER	Jasmine King
PROJECT	Dye-M 14-006
ACCOUNT #	
PHONE/FAX	613-541-6000x6386
QUOTE#Q45842	P.O. W0114-4501192649

CRITERIA — Criteria on report YES___ NO___

Table 1 2 3

TCLP _____ PWQO _____ ODWS _____ OTHER _____

REPORT FORMAT/DISTRIBUTION

EMAIL _X_____ FAX _____ BOTH _____
SELECT: PDF __X__ DIGITAL _____ BOTH _____
EMAIL 1 jasmine.king@rmc.ca
EMAIL 2 _____

ANALYSIS REQUEST

PLEASE INDICATE FILTERED, PRESERVED OR BOTH <----- (F, P, F/P)

SUBMISSION #:

ENTERED BY:

DATE/TIME

SAMPLING INFORMATION

Sample Date/Time		TYPE		MATRIX			SAMPLE DESCRIPTION TO APPEAR ON REPORT	NUMBER OF CONTAINERS	F1-F4(soil)	Hg (Soil)	Metal Scan (soil)	PCB (soil)	F1-F4(water)	Hg (water)	Metal Scan (water)	PCB (water)	pH(water)	COMMENTS	LAB ID
Date (dd-mm-yy)	Time (24hr) (hh:mm)	COMP	GRAB	WATER	SOIL	OTHER													
07/08/2014	11:30		x		x		2014-08318	1		x		x							61
07/08/2014	11:30		x		x		2014-08320	1		x		x							62
07/08/2014	11:30		x		x		2014-08321	1		x		x							63
07/08/2014	14:30		x		x		2014-08322	1		x		x							64
07/08/2014	14:30		x		x		2014-08323	1		x		x							65
07/08/2014	14:50		x		x		2014-08324	1		x		x							66
07/08/2014	14:50		x		x		2014-08325	1		x		x							67
07/08/2014	15:03		x		x		2014-08327	1		x		x							68
07/08/2014	15:03		x		x		2014-08328	1		x		x							69
07/08/2014	14:50		x		x		2014-08330	1		x		x							70
07/08/2014	14:30		x		x		2014-08331	1		x		x							71
07/08/2014	14:30		x		x		2014-08332	1		x		x							72

SPECIAL INSTRUCTIONS/COMMENTS

Please refer to quote for detection limits.

Are any samples taken from a regulated DW System? Yes ___ No _X_
If yes, an authorized drinking water COC MUST be used for this submission.
Is the water sampled intended to be potable for human consumption? Yes ___ No _X__

SAMPLE CONDITION

___ COLD
___ COOLING INITIATED
___ AMBIENT

MEAN TEMP

OBSERVATIONS Yes___ No ___ If yes add SIF

INIT

SAMPLED BY: Shari Reed/ Mike Musclow/ Sharilyn Hoobin/ Mark Button

RELINQUISHED BY: Shari Reed	DATE & TIME Aug 9/14	RECEIVED BY:	DATE & TIME
	DATE & TIME Aug 9/14	RECEIVED AT LAB BY:	DATE & TIME

1. Quote number must be provided to ensure proper pricing

2. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs.

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Toll Free: 1-800-668-9878

L1504206-COFC

C of C # 00002

RVICES REQUEST FORM

Note: all TAT (...ays which exclude statutory holidays and weekends. ... samples received past 3:00 pm or Saturday/Sunday begin the next day.

Specify date required	Service requested		2 day TAT (50%)	
	5 day (regular)	X	Next day TAT (100%)	
	3-4 day (25%)		~~Same day TAT(200%)~~	

COMPANY NAME	ESG
PROJECT MANAGER	Jasmine King
PROJECT	Dye-M 14-006
ACCOUNT #	
PHONE/FAX	613-541-6000x6386
QUOTE#Q45842	P.O. W0114-4501192649

~~CRITERIA~~ Criteria on report YES___ NO___

Table 1 2 3

TCLP _____ PWQO _____ ODWS _____ OTHER _____

REPORT FORMAT/DISTRIBUTION

EMAIL _X_____ FAX _____ BOTH _____
SELECT: PDF __X__ DIGITAL _____ BOTH _____
EMAIL 1 jasmine.king@rmc.ca
EMAIL 2 _____

SAMPLING INFORMATION

Sample Date/Time		TYPE		MATRIX			SAMPLE DESCRIPTION TO APPEAR ON REPORT	NUMBER OF CONTAINERS	ANALYSIS REQUEST										COMMENTS	LAB ID
Date (dd-mm-yy)	Time (24hr) (hh:mm)	COMP	GRAB	WATER	SOIL	OTHER			F1-F4(soil)	Hg (Soil)	Metal Scan (soil)	PCB (soil)	F1-F4(water)	Hg (water)	Metal Scan (water)	PCB (water)	pH(water)		
08/08/2014	10:00		x		x		2014-08333	1		x		x							73
08/08/2014	10:00		x		x		2014-08334	1		x		x							74
08/08/2014	10:30		x		x		2014-08335	1		x		x							75
08/08/2014	10:30		x		x		2014-08336	1		x		x							76
08/08/2014	10:30		x		x		2014-08384	1		x		x							77
08/08/2014	10:30		x		x		2014-08385	1		x		x							78
08/08/2014	11:15		x		x		2014-08387	1		x		x							79
08/08/2014	11:40		x		x		2014-08388	1		x		x							80
08/08/2014	11:40		x		x		2014-08390	1		x		x							81
08/08/2014	14:35		x		x		2014-08391	1		x		x							82
08/08/2014	14:35		x		x		2014-08392	1		x		x							83
08/08/2014	10:00		x		x		2014-08393	1		x		x							84

PLEASE INDICATE FILTERED, PRESERVED OR BOTH
<----- (F, P, F/P)

SUBMISSION #:

ENTERED BY:

DATE/TIME

SPECIAL INSTRUCTIONS/COMMENTS

Please refer to quote for detection limits.

Are any samples taken from a regulated DW System? Yes ___ No _X_
If yes, an authorized drinking water COC MUST be used for this submission.
Is the water sampled intended to be potable for human consumption? Yes ___ No _X__

SAMPLE CONDITION

__ COLD
__ COOLING INITIATED
__ AMBIENT

MEAN TEMP

OBSERVATIONS Yes___ No ___
If yes add SIF

INIT

SAMPLED BY: Shari Reed/ Mike Musclow/ Sharilyn Hoobin/ Mark Button

RELINQUISHED BY: SHARI REED	DATE & TIME AUG 9/14	RECEIVED BY:	DATE & TIME
	DATE & TIME AUG 9/14	RECEIVED AT LAB BY:	DATE & TIME

1. Quote number must be provided to ensure proper pricing

2. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs.

309 Exeter Road, Unit 29
LONDON, ON N6L 1C1
Phone: (519) 652-6044
Fax: (519) 652-0671
Toll Free: 1-800-668-9878

L1504206-COFC

C of C # 000073

EST FORM Page _2__ of _5__

past 3:00 pm or Saturday/Sunday begin the

Service requested	required	
5 day (regular)	X	2 day TAT (50%)
~~3-4 day (25%)~~		Next day TAT (100%)
		Same day TAT(200%)

COMPANY NAME	ESG
PROJECT MANAGER	Jasmine King
PROJECT	Dye-M 14-006
ACCOUNT #	
PHONE/FAX	613-541-6000x6386
QUOTE#Q45842	P.O. W0114-4501192649

SAMPLING INFORMATION

Sample Date/Time		TYPE		MATRIX		
Date (dd-mm-yy)	Time (24hr) (hh:mm)	COMP	GRAB	WATER	SOIL	OTHER
2014-08-10	09:50		x		x	
2014-08-10	09:50		x		x	
2014-08-10	10 30		x		x	
2014-08-10	11:30		x		x	
2014-08-10	11:55		x		x	
2014 08 10	11.55		x		x	
2014-08-10	11:55		x		x	
2014-08-10	14:30		x		x	
2014-08-10	14:30		x		x	
2014-08-10	15:00		x		x	
2014-08-10	15:00		x		x	
2014-08-10	15:30		x		x	

CRITERIA Criteria on report YES___ NO___

Table 1 2 3

TCLP _____ PWQO _____ ODWS _____ OTHER _____

REPORT FORMAT/DISTRIBUTION

EMAIL _X_____ FAX _____ BOTH _____
SELECT: PDF __X__ DIGITAL _____ BOTH _____ EMAIL
1 jasmine.king@rmc.ca
EMAIL 2 _____

ANALYSIS REQUEST

PLEASE INDICATE FILTERED, PRESERVED OR BOTH
<----- (F, P, F/P)

SAMPLE DESCRIPTION TO APPEAR ON REPORT	NUMBER OF CONTAINERS	F1-F4(soil)	Hg (Soil)	Metal Scan (soil)	PCB (soil)	F1-F4(water)	Hg (water)	Metal Scan (water)	PCB (water)	pH(water)	COMMENTS	LAB ID
2014-08353	1		x		x							97
2014-08354	1		x		x							98
2014-08355	1		x		x							99
2014-08357	1		x		x							100
2014-08358	1		x		x							101
2014-08360	1		x		x							102
2014-08361	1		x		x							103
2014-08362	1		x		x							104
2014-08363	1		x		x							105
2014-08364	1		x		x							106
2014-08365	1		x		x							107
2014-08367	1		x		x							108

Please refer to quote for detection limits.

Are any samples taken from a regulated DW System? Yes ___ No _X_
If yes, an authorized drinking water COC MUST be used for this submission.
Is the water sampled intended to be potable for human consumption? Yes ___ No _X__

SAMPLED BY: Shari Reed/ Mike Musclow/ Sharilyn Hoobin/ Mark Butto | DATE & TIME Aug 11, '14 6pm | RECEIVED BY: | DATE & TIME

RELINQUISHED BY: | DATE & TIME Aug 11, '14 6pm

1. Quote number must be provided to ensure proper pricing

2. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs.

Department of National Defence - Royal Military College
ATTN: JASMINE KING
Environmental Sciences Group
Kingston ON K7K7B4

Date Received: 22-AUG-14
Report Date: 29-AUG-14 11:43 (MT)
Version: FINAL

Client Phone: 613-541-6000

Certificate of Analysis

Lab Work Order #: L1506292

Project P.O. #: NOT SUBMITTED
Job Reference: DYE-M 14-006
C of C Numbers:
Legal Site Desc:

Gayle Braun
Senior Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1506292-1 2014-08189 Sampled By: S. REED on 12-AUG-14 @ 07:30 Matrix: WATER							
Physical Tests							
pH	8.08	PEHR	0.10	pH units		25-AUG-14	R2928116
Dissolved Metals							
Dissolved Mercury Filtration Location	LAB					25-AUG-14	R2927167
Dissolved Metals Filtration Location	LAB					24-AUG-14	R2927103
Aluminum (Al)-Dissolved	102		10	ug/L	24-AUG-14	25-AUG-14	R2927554
Antimony (Sb)-Dissolved	<0.50		0.50	ug/L	24-AUG-14	25-AUG-14	R2927554
Arsenic (As)-Dissolved	<1.0		1.0	ug/L	24-AUG-14	25-AUG-14	R2927554
Barium (Ba)-Dissolved	16.3		2.0	ug/L	24-AUG-14	25-AUG-14	R2927554
Beryllium (Be)-Dissolved	<0.40		0.40	ug/L	24-AUG-14	25-AUG-14	R2927554
Bismuth (Bi)-Dissolved	<1.0		1.0	ug/L	24-AUG-14	25-AUG-14	R2927554
Boron (B)-Dissolved	24		10	ug/L	24-AUG-14	25-AUG-14	R2927554
Cadmium (Cd)-Dissolved	<0.090		0.090	ug/L	24-AUG-14	25-AUG-14	R2927554
Calcium (Ca)-Dissolved	1220		500	ug/L	24-AUG-14	25-AUG-14	R2927554
Chromium (Cr)-Dissolved	<0.50		0.50	ug/L	24-AUG-14	25-AUG-14	R2927554
Cobalt (Co)-Dissolved	<0.30		0.30	ug/L	24-AUG-14	25-AUG-14	R2927554
Copper (Cu)-Dissolved	<1.0		1.0	ug/L	24-AUG-14	25-AUG-14	R2927554
Iron (Fe)-Dissolved	62		50	ug/L	24-AUG-14	25-AUG-14	R2927554
Lead (Pb)-Dissolved	1.30		0.50	ug/L	24-AUG-14	25-AUG-14	R2927554
Lithium (Li)-Dissolved	<100		100	ug/L	24-AUG-14	25-AUG-14	R2927554
Magnesium (Mg)-Dissolved	<500		500	ug/L	24-AUG-14	25-AUG-14	R2927554
Manganese (Mn)-Dissolved	3.6		1.0	ug/L	24-AUG-14	25-AUG-14	R2927554
Mercury (Hg)-Dissolved	<0.00010		0.00010	mg/L	25-AUG-14	25-AUG-14	R2927640
Molybdenum (Mo)-Dissolved	<0.50		0.50	ug/L	24-AUG-14	25-AUG-14	R2927554
Nickel (Ni)-Dissolved	<1.0		1.0	ug/L	24-AUG-14	25-AUG-14	R2927554
Phosphorus (P)-Dissolved	<50		50	ug/L	24-AUG-14	25-AUG-14	R2927554
Potassium (K)-Dissolved	<1000		1000	ug/L	24-AUG-14	25-AUG-14	R2927554
Selenium (Se)-Dissolved	<0.40		0.40	ug/L	24-AUG-14	25-AUG-14	R2927554
Silicon (Si)-Dissolved	5500		1000	ug/L	24-AUG-14	25-AUG-14	R2927554
Silver (Ag)-Dissolved	<0.10		0.10	ug/L	24-AUG-14	25-AUG-14	R2927554
Sodium (Na)-Dissolved	2280		500	ug/L	24-AUG-14	25-AUG-14	R2927554
Strontium (Sr)-Dissolved	2.9		1.0	ug/L	24-AUG-14	25-AUG-14	R2927554
Thallium (Tl)-Dissolved	<0.20		0.20	ug/L	24-AUG-14	25-AUG-14	R2927554
Tin (Sn)-Dissolved	<1.0		1.0	ug/L	24-AUG-14	25-AUG-14	R2927554
Titanium (Ti)-Dissolved	8.2		2.0	ug/L	24-AUG-14	25-AUG-14	R2927554
Tungsten (W)-Dissolved	<10		10	ug/L	24-AUG-14	25-AUG-14	R2927554
Uranium (U)-Dissolved	<1.0		1.0	ug/L	24-AUG-14	25-AUG-14	R2927554
Vanadium (V)-Dissolved	<0.50		0.50	ug/L	24-AUG-14	25-AUG-14	R2927554
Zinc (Zn)-Dissolved	<3.0		3.0	ug/L	24-AUG-14	25-AUG-14	R2927554
Zirconium (Zr)-Dissolved	<4.0		4.0	ug/L	24-AUG-14	25-AUG-14	R2927554
Hydrocarbons							
F1 (C6-C10)	<100		100	ug/L		25-AUG-14	R2927450

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1506292-1 2014-08189 Sampled By: S. REED on 12-AUG-14 @ 07:30 Matrix: WATER							
Hydrocarbons							
F2 (C10-C16)	<100		100	ug/L	24-AUG-14	28-AUG-14	R2926980
F3 (C16-C34)	<250		250	ug/L	24-AUG-14	28-AUG-14	R2926980
F4 (C34-C50)	<250		250	ug/L	24-AUG-14	28-AUG-14	R2926980
Total Hydrocarbons (C6-C50)	<380		380	ug/L		28-AUG-14	
Chrom. to baseline at nC50	YES				24-AUG-14	28-AUG-14	R2926980
Surrogate: 2-Bromobenzotrifluoride	78.8		60-140	%	24-AUG-14	28-AUG-14	R2926980
Polychlorinated Biphenyls							
Aroclor 1242	<0.020		0.020	ug/L	29-AUG-14	29-AUG-14	R2932887
Aroclor 1248	<0.020		0.020	ug/L	29-AUG-14	29-AUG-14	R2932887
Aroclor 1254	<0.020		0.020	ug/L	29-AUG-14	29-AUG-14	R2932887
Aroclor 1260	<0.020		0.020	ug/L	29-AUG-14	29-AUG-14	R2932887
Total PCBs	<0.040		0.040	ug/L	29-AUG-14	29-AUG-14	R2932887
Surrogate: d14-Terphenyl	106.0		50-150	%	29-AUG-14	29-AUG-14	R2932887
L1506292-2 TRIP BLANK Sampled By: S. REED on 12-AUG-14 Matrix: WATER							
Hydrocarbons							
F1 (C6-C10)	<100		100	ug/L		25-AUG-14	R2927450
Surrogate: 3,4-Dichlorotoluene	135.9		60-140	%		25-AUG-14	R2927450

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1506292-1
Matrix Spike	Silicon (Si)-Dissolved	MS-B	L1506292-1
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1506292-1

Sample Parameter Qualifier key listed:

Qualifier	Description
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
PEHR	Parameter Exceeded Recommended Holding Time On Receipt: Proceed With Analysis As Requested.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
F1-F4-CALC-WT	Water	CCME Total Hydrocarbons	CCME CWS-PHC DEC-2000 - PUB# 1310-L

Analytical methods used for analysis of CCME Petroleum Hydrocarbons have been validated and comply with the Reference Method for the CWS PHC.

In cases where results for both F4 and F4G are reported, the greater of the two results must be used in any application of the CWS PHC guidelines and the gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
In samples where BTEX and F1 were analyzed , F1-BTEX represents a value where the sum of Benzene, Toluene, Ethylbenzene and total Xylenes has been subtracted from F1.

In samples where PAHs, F2 and F3 were analyzed, F2-Naphth represents the result where Naphthalene has been subtracted from F2. F3-PAH represents a result where the sum of Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene has been subtracted from F3.

Unless otherwise qualified, the following quality control criteria have been met for the F1 hydrocarbon range:
1. All extraction and analysis holding times were met.
2. Instrument performance showing response factors for C6 and C10 within 30% of the response factor for toluene.
3. Linearity of gasoline response within 15% throughout the calibration range.

Unless otherwise qualified, the following quality control criteria have been met for the F2-F4 hydrocarbon ranges:
1. All extraction and analysis holding times were met.
2. Instrument performance showing C10, C16 and C34 response factors within 10% of their average.
3. Instrument performance showing the C50 response factor within 30% of the average of the C10, C16 and C34 response factors.
4. Linearity of diesel or motor oil response within 15% throughout the calibration range.

F1-HS-WT	Water	F1 (O.Reg.153/04)	E3421/CCME (HS)

Fraction F1 is determined by analyzing by headspace-GC/FID.

F1-WT	Water	F1 (O.Reg.153/04)	MOE DECPH-E3421/CCME TIER 1

The F1 fraction, nC6 to nC10 hydrocarbons, is determined by purging a known volume of the original sample. The sample is analyzed by purge and trap, gas chromatography (GC) with a 100% poly(dimethylsiloxane) (DB-1 or equivalent) column and a combination of a flame ionization detector (FID) and a mass selective detector (MSD). All area counts from the FID are integrated from the beginning of the nC6 peak to the apex of the nC10 peak to give F1. Standards containing nC6, nC10 and toluene are run at least once daily. Toluene is used as the calibration standard for the F1 fraction. The nC6 and nC10 response factors must be within 30% of the response factor for toluene.

F2-F4-WT	Water	F2-F4 (O.Reg.153/04)	MOE DECPH-E3421/CCME TIER 1

The petroleum hydrocarbons are extracted from the aqueous samples using solvent partition. The extracts are treated with silica gel to remove polar contaminants. The final concentrated extract is analyzed by gas chromatography (GC) using flame ionization detection (FID) and a 100% polydimethylsiloxane column.

The F2 fraction is determined by integrating the area in the chromatogram from the apex of nC10 to the apex nC16 and quantitating using external calibration using a standard mix containing nC10, nC16 and nC34. Similarly, the F3 fraction extends from the apex of nC16 to the apex nC34 and the F4 fraction covers the area from the apex nC34 to the apex nC50. If the chromatogram does not return to the baseline by the time nC50 elutes, a gravimetric determination of the F4 is performed.

HG-D-CVAA-WT	Water	Dissolved Mercury in Water by CVAAS	EPA SW846 7470A

Liquid sample is filtered, then digested with a heated, strong, mixed acid solution to convert all forms of mercury to divalent mercury. The divalent mercury is then reduced to elemental mercury, sparged from solution and analyzed by CVAAS.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

MET-D-UG/L-MS-WT	Water	Diss. Metals in Water by ICPMS (ug/L)	EPA 200.8

The metal constituents of a non-acidified sample that pass through a membrane filter prior to ICP/MS analysis.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

Reference Information

PCB-WT Water Polychlorinated Biphenyls EPA 8082
PCBs are extracted from an aqueous sample at neutral pH with aliquots of dichloromethane using a modified separatory funnel technique. The extracts are analyzed by GC/MSD.

PH-WT Water pH APHA 4500 H-Electrode
Water samples are analyzed directly by a calibrated pH meter.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid weight of sample
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Workorder: L1506292 Report Date: 29-AUG-14

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F1-HS-WT	**Water**							
Batch R2927450								
WG1932789-1 CVS								
F1 (C6-C10)			101.9		%		80-120	25-AUG-14
WG1932789-4 DUP		**WG1932789-3**						
F1 (C6-C10)		<100	<100	RPD-NA	ug/L	N/A	50	25-AUG-14
WG1932789-2 MB								
F1 (C6-C10)			<100		ug/L		100	25-AUG-14
Surrogate: 3,4-Dichlorotoluene			121.5		%		60-140	25-AUG-14
WG1932789-5 MS		**WG1932789-3**						
F1 (C6-C10)			96.4		%		50-150	25-AUG-14
F1-WT	**Water**							
Batch R2927450								
WG1932789-1 CVS								
F1 (C6-C10)			101.9		%		70-130	25-AUG-14
WG1932789-4 DUP		**WG1932789-3**						
F1 (C6-C10)		<100	<100	RPD-NA	ug/L	N/A	30	25-AUG-14
WG1932789-2 MB								
F1 (C6-C10)			<100		ug/L		100	25-AUG-14
WG1932789-5 MS		**WG1932789-3**						
F1 (C6-C10)			96.4		%		70-130	25-AUG-14
F2-F4-WT	**Water**							
Batch R2926980								
WG1937277-1 CVS								
F2 (C10-C16)			98.9		%		80-120	24-AUG-14
F3 (C16-C34)			100.2		%		80-120	24-AUG-14
F4 (C34-C50)			99.4		%		80-120	24-AUG-14
WG1936667-2 LCS								
F2 (C10-C16)			112.3		%		65-135	24-AUG-14
F3 (C16-C34)			121.2		%		65-135	24-AUG-14
F4 (C34-C50)			117.9		%		65-135	24-AUG-14
WG1936667-3 LCSD		**WG1936667-2**						
F2 (C10-C16)		112.3	120.4		%	6.9	50	24-AUG-14
F3 (C16-C34)		121.2	128.4		%	5.8	50	24-AUG-14
F4 (C34-C50)		117.9	122.1		%	3.5	50	24-AUG-14
WG1936667-1 MB								
F2 (C10-C16)			<100		ug/L		100	24-AUG-14
F3 (C16-C34)			<250		ug/L		250	24-AUG-14
F4 (C34-C50)			<250		ug/L		250	

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F2-F4-WT	**Water**							
Batch R2926980								
WG1936667-1 MB								
F4 (C34-C50)			<250		ug/L		250	24-AUG-14
Surrogate: 2-Bromobenzotrifluoride			77.7		%		60-140	24-AUG-14
HG-D-CVAA-WT	**Water**							
Batch R2927640								
WG1937477-3 DUP		**L1506459-7**						
Mercury (Hg)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	25-AUG-14
WG1937477-2 LCS								
Mercury (Hg)-Dissolved			97.5		%		80-120	25-AUG-14
WG1937477-1 MB								
Mercury (Hg)-Dissolved			<0.00010		mg/L		0.0001	25-AUG-14
WG1937477-4 MS		**L1506459-8**						
Mercury (Hg)-Dissolved			94.3		%		70-130	25-AUG-14
MET-D-UG/L-MS-WT	**Water**							
Batch R2927554								
WG1937471-1 CVS								
Aluminum (Al)-Dissolved			102.1		%		80-120	25-AUG-14
Antimony (Sb)-Dissolved			102.4		%		80-120	25-AUG-14
Arsenic (As)-Dissolved			99.6		%		80-120	25-AUG-14
Barium (Ba)-Dissolved			103.4		%		80-120	25-AUG-14
Beryllium (Be)-Dissolved			103.5		%		80-120	25-AUG-14
Bismuth (Bi)-Dissolved			100.6		%		80-120	25-AUG-14
Boron (B)-Dissolved			104.1		%		80-120	25-AUG-14
Cadmium (Cd)-Dissolved			102.8		%		80-120	25-AUG-14
Calcium (Ca)-Dissolved			98.4		%		80-120	25-AUG-14
Chromium (Cr)-Dissolved			99.7		%		80-120	25-AUG-14
Cobalt (Co)-Dissolved			99.9		%		80-120	25-AUG-14
Copper (Cu)-Dissolved			100.7		%		80-120	25-AUG-14
Iron (Fe)-Dissolved			99.2		%		80-120	25-AUG-14
Lead (Pb)-Dissolved			98.1		%		80-120	25-AUG-14
Lithium (Li)-Dissolved			96.8		%		80-120	25-AUG-14
Magnesium (Mg)-Dissolved			98.2		%		80-120	25-AUG-14
Manganese (Mn)-Dissolved			99.0		%		80-120	25-AUG-14
Molybdenum (Mo)-Dissolved			100.3		%		80-120	25-AUG-14
Nickel (Ni)-Dissolved			99.97		%		80-120	25-AUG-14

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-UG/L-MS-WT	**Water**							
Batch R2927554								
WG1937471-1 CVS								
Phosphorus (P)-Dissolved			100.2		%		80-120	25-AUG-14
Potassium (K)-Dissolved			101.9		%		80-120	25-AUG-14
Selenium (Se)-Dissolved			100.3		%		80-120	25-AUG-14
Silicon (Si)-Dissolved			108.8		%		80-120	25-AUG-14
Silver (Ag)-Dissolved			104.4		%		80-120	25-AUG-14
Sodium (Na)-Dissolved			99.3		%		80-120	25-AUG-14
Strontium (Sr)-Dissolved			106.3		%		80-120	25-AUG-14
Thallium (Tl)-Dissolved			102.8		%		80-120	25-AUG-14
Tin (Sn)-Dissolved			105.0		%		80-120	25-AUG-14
Titanium (Ti)-Dissolved			100.2		%		80-120	25-AUG-14
Tungsten (W)-Dissolved			98.6		%		80-120	25-AUG-14
Uranium (U)-Dissolved			102.0		%		80-120	25-AUG-14
Vanadium (V)-Dissolved			99.9		%		80-120	25-AUG-14
Zinc (Zn)-Dissolved			93.9		%		80-120	25-AUG-14
Zirconium (Zr)-Dissolved			104.9		%		80-120	25-AUG-14
WG1937380-4 DUP		**WG1937380-3**						
Aluminum (Al)-Dissolved		48	48		ug/L	1.0	20	25-AUG-14
Antimony (Sb)-Dissolved		<0.50	<0.50	RPD-NA	ug/L	N/A	20	25-AUG-14
Arsenic (As)-Dissolved		<1.0	<1.0	RPD-NA	ug/L	N/A	20	25-AUG-14
Barium (Ba)-Dissolved		13.1	13.0		ug/L	0.2	20	25-AUG-14
Beryllium (Be)-Dissolved		<0.40	<0.40	RPD-NA	ug/L	N/A	20	25-AUG-14
Bismuth (Bi)-Dissolved		<1.0	<1.0	RPD-NA	ug/L	N/A	20	25-AUG-14
Boron (B)-Dissolved		<10	<10	RPD-NA	ug/L	N/A	20	25-AUG-14
Cadmium (Cd)-Dissolved		<0.090	<0.090	RPD-NA	ug/L	N/A	20	25-AUG-14
Calcium (Ca)-Dissolved		10400	10400		ug/L	0.1	20	25-AUG-14
Chromium (Cr)-Dissolved		<0.50	<0.50	RPD-NA	ug/L	N/A	20	25-AUG-14
Cobalt (Co)-Dissolved		<0.30	<0.30	RPD-NA	ug/L	N/A	20	25-AUG-14
Copper (Cu)-Dissolved		<1.0	<1.0	RPD-NA	ug/L	N/A	20	25-AUG-14
Iron (Fe)-Dissolved		128	133		ug/L	4.0	20	25-AUG-14
Lead (Pb)-Dissolved		<0.50	<0.50	RPD-NA	ug/L	N/A	20	25-AUG-14
Lithium (Li)-Dissolved		<100	<100	RPD-NA	ug/L	N/A	20	25-AUG-14
Magnesium (Mg)-Dissolved		2270	2280		ug/L	0.3	20	25-AUG-14
Manganese (Mn)-Dissolved		2.9	3.0		ug/L	1.4	20	25-AUG-14

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-UG/L-MS-WT	**Water**							
Batch R2927554								
WG1937380-4 DUP		**WG1937380-3**						
Molybdenum (Mo)-Dissolved		<0.50	<0.50	RPD-NA	ug/L	N/A	20	25-AUG-14
Nickel (Ni)-Dissolved		<1.0	<1.0	RPD-NA	ug/L	N/A	20	25-AUG-14
Phosphorus (P)-Dissolved		<50	<50	RPD-NA	ug/L	N/A	20	25-AUG-14
Potassium (K)-Dissolved		<1000	<1000	RPD-NA	ug/L	N/A	20	25-AUG-14
Selenium (Se)-Dissolved		<0.40	<0.40	RPD-NA	ug/L	N/A	20	25-AUG-14
Silicon (Si)-Dissolved		1300	1300		ug/L	0.2	20	25-AUG-14
Silver (Ag)-Dissolved		<0.10	<0.10	RPD-NA	ug/L	N/A	20	25-AUG-14
Sodium (Na)-Dissolved		4370	4380		ug/L	0.2	20	25-AUG-14
Strontium (Sr)-Dissolved		70.9	72.3		ug/L	1.9	20	25-AUG-14
Thallium (Tl)-Dissolved		<0.20	<0.20	RPD-NA	ug/L	N/A	20	25-AUG-14
Tin (Sn)-Dissolved		<1.0	<1.0	RPD-NA	ug/L	N/A	20	25-AUG-14
Titanium (Ti)-Dissolved		<2.0	<2.0	RPD-NA	ug/L	N/A	20	25-AUG-14
Tungsten (W)-Dissolved		<10	<10	RPD-NA	ug/L	N/A	20	25-AUG-14
Uranium (U)-Dissolved		<1.0	<1.0	RPD-NA	ug/L	N/A	20	25-AUG-14
Vanadium (V)-Dissolved		0.52	0.53		ug/L	2.1	20	25-AUG-14
Zinc (Zn)-Dissolved		<3.0	<3.0	RPD-NA	ug/L	N/A	20	25-AUG-14
Zirconium (Zr)-Dissolved		<4.0	<4.0	RPD-NA	ug/L	N/A	20	25-AUG-14
WG1937380-2 LCS								
Aluminum (Al)-Dissolved			98.9		%		80-120	25-AUG-14
Antimony (Sb)-Dissolved			98.9		%		80-120	25-AUG-14
Arsenic (As)-Dissolved			98.4		%		80-120	25-AUG-14
Barium (Ba)-Dissolved			98.5		%		80-120	25-AUG-14
Beryllium (Be)-Dissolved			98.6		%		80-120	25-AUG-14
Bismuth (Bi)-Dissolved			95.9		%		80-120	25-AUG-14
Boron (B)-Dissolved			94.8		%		80-120	25-AUG-14
Cadmium (Cd)-Dissolved			97.3		%		80-120	25-AUG-14
Calcium (Ca)-Dissolved			102.0		%		80-120	25-AUG-14
Chromium (Cr)-Dissolved			95.0		%		80-120	25-AUG-14
Cobalt (Co)-Dissolved			96.3		%		80-120	25-AUG-14
Copper (Cu)-Dissolved			97.9		%		80-120	25-AUG-14
Iron (Fe)-Dissolved			96.7		%		80-120	25-AUG-14
Lead (Pb)-Dissolved			94.8		%		80-120	25-AUG-14
Lithium (Li)-Dissolved			90.1		%		80-120	25-AUG-14

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-UG/L-MS-WT	**Water**							
Batch	**R2927554**							
WG1937380-2	**LCS**							
Magnesium (Mg)-Dissolved			91.4		%		80-120	25-AUG-14
Manganese (Mn)-Dissolved			96.0		%		80-120	25-AUG-14
Molybdenum (Mo)-Dissolved			98.3		%		80-120	25-AUG-14
Nickel (Ni)-Dissolved			96.3		%		80-120	25-AUG-14
Phosphorus (P)-Dissolved			99.2		%		80-120	25-AUG-14
Potassium (K)-Dissolved			95.9		%		80-120	25-AUG-14
Selenium (Se)-Dissolved			97.3		%		80-120	25-AUG-14
Silicon (Si)-Dissolved			101.7		%		80-120	25-AUG-14
Silver (Ag)-Dissolved			100.6		%		80-120	25-AUG-14
Sodium (Na)-Dissolved			92.4		%		80-120	25-AUG-14
Strontium (Sr)-Dissolved			99.5		%		80-120	25-AUG-14
Thallium (Tl)-Dissolved			98.3		%		80-120	25-AUG-14
Tin (Sn)-Dissolved			98.7		%		80-120	25-AUG-14
Titanium (Ti)-Dissolved			97.2		%		80-120	25-AUG-14
Tungsten (W)-Dissolved			94.6		%		80-120	25-AUG-14
Uranium (U)-Dissolved			99.3		%		80-120	25-AUG-14
Vanadium (V)-Dissolved			98.3		%		80-120	25-AUG-14
Zinc (Zn)-Dissolved			96.8		%		80-120	25-AUG-14
Zirconium (Zr)-Dissolved			100.5		%		80-120	25-AUG-14
WG1937380-1	**MB**							
Aluminum (Al)-Dissolved			<10		ug/L		10	25-AUG-14
Antimony (Sb)-Dissolved			<0.50		ug/L		0.5	25-AUG-14
Arsenic (As)-Dissolved			<1.0		ug/L		1	25-AUG-14
Barium (Ba)-Dissolved			<2.0		ug/L		2	25-AUG-14
Beryllium (Be)-Dissolved			<0.40		ug/L		0.4	25-AUG-14
Bismuth (Bi)-Dissolved			<1.0		ug/L		1	25-AUG-14
Boron (B)-Dissolved			<10		ug/L		10	25-AUG-14
Cadmium (Cd)-Dissolved			<0.090		ug/L		0.09	25-AUG-14
Calcium (Ca)-Dissolved			<500		ug/L		500	25-AUG-14
Chromium (Cr)-Dissolved			<0.50		ug/L		0.5	25-AUG-14
Cobalt (Co)-Dissolved			<0.30		ug/L		0.3	25-AUG-14
Copper (Cu)-Dissolved			<1.0		ug/L		1	25-AUG-14
Iron (Fe)-Dissolved			<50		ug/L		50	25-AUG-14
Lead (Pb)-Dissolved			<0.50		ug/L		0.5	25-AUG-14

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-UG/L-MS-WT	**Water**							
Batch R2927554								
WG1937380-1 MB								
Lithium (Li)-Dissolved			<100		ug/L		100	25-AUG-14
Magnesium (Mg)-Dissolved			<500		ug/L		500	25-AUG-14
Manganese (Mn)-Dissolved			<1.0		ug/L		1	25-AUG-14
Molybdenum (Mo)-Dissolved			<0.50		ug/L		0.5	25-AUG-14
Nickel (Ni)-Dissolved			<1.0		ug/L		1	25-AUG-14
Phosphorus (P)-Dissolved			<50		ug/L		50	25-AUG-14
Potassium (K)-Dissolved			<1000		ug/L		1000	25-AUG-14
Selenium (Se)-Dissolved			<0.40		ug/L		0.4	25-AUG-14
Silicon (Si)-Dissolved			<1000		ug/L		1000	25-AUG-14
Silver (Ag)-Dissolved			<0.10		ug/L		0.1	25-AUG-14
Sodium (Na)-Dissolved			<500		ug/L		500	25-AUG-14
Strontium (Sr)-Dissolved			<1.0		ug/L		1	25-AUG-14
Thallium (Tl)-Dissolved			<0.20		ug/L		0.2	25-AUG-14
Tin (Sn)-Dissolved			<1.0		ug/L		1	25-AUG-14
Titanium (Ti)-Dissolved			<2.0		ug/L		2	25-AUG-14
Tungsten (W)-Dissolved			<10		ug/L		10	25-AUG-14
Uranium (U)-Dissolved			<1.0		ug/L		1	25-AUG-14
Vanadium (V)-Dissolved			<0.50		ug/L		0.5	25-AUG-14
Zinc (Zn)-Dissolved			<3.0		ug/L		3	25-AUG-14
Zirconium (Zr)-Dissolved			<4.0		ug/L		4	25-AUG-14
WG1937380-5 MS		**WG1937380-3**						
Aluminum (Al)-Dissolved			75.7		%		70-130	25-AUG-14
Antimony (Sb)-Dissolved			97.6		%		70-130	25-AUG-14
Arsenic (As)-Dissolved			94.8		%		70-130	25-AUG-14
Barium (Ba)-Dissolved			97.1		%		70-130	25-AUG-14
Beryllium (Be)-Dissolved			97.8		%		70-130	25-AUG-14
Bismuth (Bi)-Dissolved			88.5		%		70-130	25-AUG-14
Boron (B)-Dissolved			99.8		%		70-130	25-AUG-14
Cadmium (Cd)-Dissolved			95.3		%		70-130	25-AUG-14
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	25-AUG-14
Chromium (Cr)-Dissolved			90.2		%		70-130	25-AUG-14
Cobalt (Co)-Dissolved			90.8		%		70-130	25-AUG-14
Copper (Cu)-Dissolved			93.9		%		70-130	25-AUG-14
Iron (Fe)-Dissolved			89.9		%		70-130	25-AUG-14

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-UG/L-MS-WT	**Water**							
Batch R2927554								
WG1937380-5 MS		**WG1937380-3**						
Lead (Pb)-Dissolved			91.2		%		70-130	25-AUG-14
Lithium (Li)-Dissolved			90.3		%		70-130	25-AUG-14
Magnesium (Mg)-Dissolved			82.4		%		70-130	25-AUG-14
Manganese (Mn)-Dissolved			88.8		%		70-130	25-AUG-14
Molybdenum (Mo)-Dissolved			97.8		%		70-130	25-AUG-14
Nickel (Ni)-Dissolved			91.4		%		70-130	25-AUG-14
Phosphorus (P)-Dissolved			97.0		%		70-130	25-AUG-14
Selenium (Se)-Dissolved			98.1		%		70-130	25-AUG-14
Silicon (Si)-Dissolved			N/A	MS-B	%		-	25-AUG-14
Silver (Ag)-Dissolved			98.5		%		70-130	25-AUG-14
Sodium (Na)-Dissolved			73.8		%		70-130	25-AUG-14
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	25-AUG-14
Thallium (Tl)-Dissolved			93.1		%		70-130	25-AUG-14
Tin (Sn)-Dissolved			96.3		%		70-130	25-AUG-14
Titanium (Ti)-Dissolved			94.6		%		70-130	25-AUG-14
Tungsten (W)-Dissolved			92.3		%		70-130	25-AUG-14
Uranium (U)-Dissolved			95.0		%		70-130	25-AUG-14
Vanadium (V)-Dissolved			93.0		%		70-130	25-AUG-14
Zinc (Zn)-Dissolved			93.7		%		70-130	25-AUG-14
Zirconium (Zr)-Dissolved			97.4		%		70-130	25-AUG-14
PCB-WT	**Water**							
Batch R2932887								
WG1941085-1 CVS								
Aroclor 1242			97.5		%		70-130	29-AUG-14
Aroclor 1248			101.5		%		70-130	29-AUG-14
Aroclor 1254			94.8		%		70-130	29-AUG-14
Aroclor 1260			82.5		%		70-130	29-AUG-14
WG1938225-2 LCS								
Aroclor 1242			73.3		%		65-130	29-AUG-14
Aroclor 1248			87.2		%		65-130	29-AUG-14
Aroclor 1254			83.7		%		65-130	29-AUG-14
Aroclor 1260			86.7		%		65-130	29-AUG-14
WG1938225-3 LCSD		**WG1938225-2**						
Aroclor 1242		73.3	80.0		%	8.6	50	29-AUG-14

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-WT	**Water**							
Batch R2932887								
WG1938225-3 LCSD		**WG1938225-2**						
Aroclor 1248		87.2	87.2		%	0.0	50	29-AUG-14
Aroclor 1254		83.7	86.3		%	3.0	50	29-AUG-14
Aroclor 1260		86.7	88.9		%	2.5	50	29-AUG-14
WG1938225-1 MB								
Aroclor 1242			<0.020		ug/L		0.02	29-AUG-14
Aroclor 1248			<0.020		ug/L		0.02	29-AUG-14
Aroclor 1254			<0.020		ug/L		0.02	29-AUG-14
Aroclor 1260			<0.020		ug/L		0.02	29-AUG-14
Surrogate: d14-Terphenyl			93.8		%		50-150	29-AUG-14
PH-WT	**Water**							
Batch R2928116								
WG1937870-1 LCS								
pH			7.01		pH units		6.9-7.1	25-AUG-14

Quality Control Report

Workorder: L1506292 Report Date: 29-AUG-14

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Quality Control Report

Workorder: L1506292 Report Date: 29-AUG-14

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Physical Tests							
pH							
	1	12-AUG-14 07:30	25-AUG-14 09:28	4	13	days	EHTR

Legend & Qualifier Definitions:

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR: Exceeded ALS recommended hold time prior to sample receipt.
EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT: Exceeded ALS recommended hold time prior to analysis.
Rec. HT: ALS recommended hold time (see units).

Notes*:
Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L1506292 were received on 22-AUG-14 09:00.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

C of C # 00008

309 Exeter Road, Unit 29
LONDON, ON N6L 1C1
Phone: (519) 652-6044
Fax: (519) 652-0671
Toll Free: 1-800-668-9878

CHAIN OF CUSTODY / ANALYTICAL SERVICES REQUEST FORM Page _1__ of _1__

Note: all TAT Quoted material is in business days which exclude statutory holidays and weekends. TAT samples received past 3:00 pm or Saturday/Sunday begin the next day.

Specify date required	Service requested			
	5 day (regular)	X	2 day TAT (50%)	
	3-4 day (25%)		Next day TAT (100%)	
			Same day TAT(200%)	

COMPANY NAME	ESG
PROJECT MANAGER	Jasmine King
PROJECT	Dye-M 14-006
ACCOUNT #	
PHONE/FAX	613-541-6000x6386
QUOTE#Q45842	P.O. W0114-4501192649

CRITERIA Criteria on report YES___ NO___

Table 1 2 3

TCLP _____ PWQO _____ ODWS _____ OTHER _____

REPORT FORMAT/DISTRIBUTION

EMAIL _X_____ FAX _____ BOTH _____
SELECT: PDF _X__ DIGITAL _____ BOTH _____ EMAIL
1 jasmine.king@rmc.ca
EMAIL 2 _____

PLEASE INDICATE FILTERED, PRESERVED OR BOTH <----- (F, P, F/P) B440

SUBMISSION #: L1506292

ENTERED BY: MLP

DATE/TIME 8/22/14

SAMPLING INFORMATION

Sample Date/Time		TYPE		MATRIX			SAMPLE DESCRIPTION TO APPEAR ON REPORT	NUMBER OF CONTAINERS	F1-F4(soil)	Hg (Soil)	Metal Scan (soil)	PCB (soil)	F1-F4(water)	Hg (water)	Metal Scan (water)	PCB (water)	pH(water)	COMMENTS	LAB ID
Date (dd-mm-yy)	Time (24hr) (hh:mm)	COMP	GRAB	WATER	SOIL	OTHER													
2014-08-12	07:30		x	x			2014-08189	8					x	x	x	x	x		-1
							trip blank	2					x						-2

L1506292-COFC

SPECIAL INSTRUCTIONS/COMMENTS

Please refer to quote for detection limits.

Are any samples taken from a regulated DW System? Yes ___ No _X_
If yes, an authorized drinking water COC MUST be used for this submission.
Is the water sampled intended to be potable for human consumption? Yes ___ No _X__

SAMPLE CONDITION

___ COLD
___ COOLING INITIATED
___ AMBIENT

MEAN TEMP 14.1

OBSERVATIONS Yes___ No ___ If yes add SIF

INIT

SAMPLED BY: Shari Reed/ Mike Musclow/ Sharilyn Hoobin/ Mark Butto	DATE & TIME Aug 12, 2014	RECEIVED BY:	DATE & TIME
RELINQUISHED BY:	DATE & TIME Aug 13, 2014	RECEIVED AT LAB BY:	DATE & TIME Aug 22

1. Quote number must be provided to ensure proper pricing
2. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs.

Ydam

Department of National Defence - Royal Military College
ATTN: JASMINE KING
Environmental Sciences Group
Kingston ON K7K7B4

Date Received: 22-AUG-14
Report Date: 31-AUG-14 16:15 (MT)
Version: FINAL

Client Phone: 613-541-6000

Certificate of Analysis

Lab Work Order #: L1506349

Project P.O. #: W0114-4501192649
Job Reference: DYE-M 14-006
C of C Numbers: 00007
Legal Site Desc:

Gayle Braun
Senior Account Manager

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1506349-1 SOIL 06-AUG-14 15:30 2014-08249	L1506349-2 SOIL 06-AUG-14 09:30 2014-08259	L1506349-3 SOIL 06-AUG-14 11:50 2014-08269	L1506349-4 SOIL 06-AUG-14 09:40 2014-08279	L1506349-5 SOIL 06-AUG-14 16:30 2014-08289
Sample ID						
Description						
Sampled Date						
Sampled Time						
Client ID						
SOIL						
Physical Tests	% Moisture (%)	9.11	6.59	3.68	5.51	5.61
Metals	Aluminum (Al) (ug/g)	14600	23500	10300	14800	17600
	Antimony (Sb) (ug/g)	<1.0	<1.0	<1.0	<1.0	<1.0
	Arsenic (As) (ug/g)	1.63	0.95	0.64	0.93	1.17
	Barium (Ba) (ug/g)	121	119	57.4	44.4	95.4
	Beryllium (Be) (ug/g)	<0.50	<0.50	<0.50	<0.50	<0.50
	Bismuth (Bi) (ug/g)	<1.0	<1.0	<1.0	<1.0	<1.0
	Boron (B) (ug/g)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (ug/g)	<0.50	<0.50	<0.50	<0.50	<0.50
	Calcium (Ca) (ug/g)	2530	3100	1880	2660	3040
	Chromium (Cr) (ug/g)	63.6	70.5	32.1	25.2	57.0
	Cobalt (Co) (ug/g)	8.8	16.5	11.0	7.6	13.8
	Copper (Cu) (ug/g)	27.6	12.4	20.9	19.4	28.3
	Iron (Fe) (ug/g)	20600	35000	21600	21700	32400
	Lead (Pb) (ug/g)	7.2	8.8	5.5	10.5	10.5
	Lithium (Li) (ug/g)	26.8	61.4	16.8	41.6	40.5
	Magnesium (Mg) (ug/g)	7080	19100	11200	8240	13800
	Manganese (Mn) (ug/g)	194	466	220	262	438
	Molybdenum (Mo) (ug/g)	1.2	<1.0	<1.0	<1.0	<1.0
	Nickel (Ni) (ug/g)	34.4	140	72.3	22.5	71.8
	Phosphorus (P) (ug/g)	359	789	411	374	917
	Potassium (K) (ug/g)	5230	13800	2300	6890	6190
	Selenium (Se) (ug/g)	<1.0	<1.0	<1.0	<1.0	<1.0
	Silver (Ag) (ug/g)	<0.20	<0.20	<0.20	<0.20	<0.20
	Sodium (Na) (ug/g)	270	190	180	170	280
	Strontium (Sr) (ug/g)	13.0	11.8	12.1	18.0	13.6
	Thallium (Tl) (ug/g)	<0.50	0.98	<0.50	0.56	0.60
	Tin (Sn) (ug/g)	<5.0	<5.0	<5.0	<5.0	<5.0
	Titanium (Ti) (ug/g)	1260	2550	937	1640	1820
	Uranium (U) (ug/g)	3.1	1.0	1.2	2.3	2.2
	Vanadium (V) (ug/g)	43.9	46.7	34.0	32.8	55.0
	Zinc (Zn) (ug/g)	45.4	105	39.1	56.9	76.8
Hydrocarbons	F1 (C6-C10) (ug/g)	<5.0	<5.0	<5.0	<5.0	<5.0
	F2 (C10-C16) (ug/g)	<10	<10	<10	<10	<10
	F3 (C16-C34) (ug/g)	<50	<50	<50	<50	<50
	F4 (C34-C50) (ug/g)	<50	<50	<50	<50	<50
	Total Hydrocarbons (C6-C50) (ug/g)	<72	<72	<72	<72	<72

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1506349-6	L1506349-7	L1506349-8	L1506349-9	L1506349-10
Description	SOIL	SOIL	SOIL	SOIL	SOIL
Sampled Date	06-AUG-14	07-AUG-14	07-AUG-14	07-AUG-14	07-AUG-14
Sampled Time	17:00	11:30	15:03	08:00	09:10
Client ID	2014-08299	2014-08319	2014-08329	2014-08339	2014-08349
Grouping **Analyte**					
SOIL					
Physical Tests % Moisture (%)	8.90	2.83	7.34	9.65	13.3
Metals Aluminum (Al) (ug/g)	20600	20300	13100	29300	35700
Antimony (Sb) (ug/g)	<1.0	<1.0	<1.0	<1.0	<1.0
Arsenic (As) (ug/g)	0.96	1.48	0.91	2.93	9.43
Barium (Ba) (ug/g)	99.9	81.9	105	383	306
Beryllium (Be) (ug/g)	<0.50	<0.50	<0.50	<0.50	0.69
Bismuth (Bi) (ug/g)	<1.0	<1.0	<1.0	<1.0	<1.0
Boron (B) (ug/g)	<5.0	<5.0	<5.0	<5.0	<5.0
Cadmium (Cd) (ug/g)	<0.50	<0.50	<0.50	<0.50	<0.50
Calcium (Ca) (ug/g)	4660	5620	1990	2050	3140
Chromium (Cr) (ug/g)	45.3	69.6	58.0	257	284
Cobalt (Co) (ug/g)	18.2	20.0	8.0	15.3	24.1
Copper (Cu) (ug/g)	49.7	42.9	23.8	109	138
Iron (Fe) (ug/g)	34700	30000	18100	57000	68200
Lead (Pb) (ug/g)	7.9	13.5	3.2	9.9	17.3
Lithium (Li) (ug/g)	50.7	21.3	25.8	35.9	35.3
Magnesium (Mg) (ug/g)	17600	23800	6090	18300	19700
Manganese (Mn) (ug/g)	571	375	145	439	425
Molybdenum (Mo) (ug/g)	<1.0	<1.0	<1.0	4.8	6.5
Nickel (Ni) (ug/g)	76.5	156	29.8	74.2	182
Phosphorus (P) (ug/g)	983	316	315	491	579
Potassium (K) (ug/g)	8670	5080	4730	16200	16900
Selenium (Se) (ug/g)	<1.0	<1.0	<1.0	1.7	3.1
Silver (Ag) (ug/g)	<0.20	<0.20	<0.20	<0.20	0.21
Sodium (Na) (ug/g)	320	840	230	500	700
Strontium (Sr) (ug/g)	22.3	20.6	9.1	22.1	38.2
Thallium (Tl) (ug/g)	0.77	<0.50	<0.50	1.02	0.93
Tin (Sn) (ug/g)	<5.0	<5.0	<5.0	<5.0	<5.0
Titanium (Ti) (ug/g)	2260	1360	1060	3300	3120
Uranium (U) (ug/g)	4.9	3.9	<1.0	5.4	3.6
Vanadium (V) (ug/g)	58.3	48.2	37.4	134	173
Zinc (Zn) (ug/g)	74.2	62.4	38.2	105	159
Hydrocarbons F1 (C6-C10) (ug/g)	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16) (ug/g)	<10	<10	<10	41	<10
F3 (C16-C34) (ug/g)	<50	<50	<50	<50	<50
F4 (C34-C50) (ug/g)	<50	<50	<50	<50	<50
Total Hydrocarbons (C6-C50) (ug/g)	<72	<72	<72	<72	<72

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1506349-11 SOIL 07-AUG-14 11:00 2014-08359	L1506349-12 SOIL 07-AUG-14 15:10 2014-08369	L1506349-13 SOIL 10-AUG-14 16:00 2014-08379	L1506349-14 SOIL 08-AUG-14 11:30 2014-08389	L1506349-15 SOIL 08-AUG-14 10:00 2014-08399
SOIL						
Physical Tests	% Moisture (%)	8.31	9.79	12.0	4.34	14.6
Metals	Aluminum (Al) (ug/g)	26500	36800	25100	13200	39400
	Antimony (Sb) (ug/g)	<1.0	<1.0	<1.0	<1.0	<1.0
	Arsenic (As) (ug/g)	3.80	1.68	0.92	0.79	1.34
	Barium (Ba) (ug/g)	278	380	174	88.7	165
	Beryllium (Be) (ug/g)	<0.50	<0.50	<0.50	<0.50	0.67
	Bismuth (Bi) (ug/g)	<1.0	<1.0	<1.0	<1.0	<1.0
	Boron (B) (ug/g)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (ug/g)	<0.50	<0.50	<0.50	<0.50	<0.50
	Calcium (Ca) (ug/g)	2680	1060	3450	2370	7630
	Chromium (Cr) (ug/g)	167	277	51.2	62.5	101
	Cobalt (Co) (ug/g)	15.9	12.2	20.6	15.2	22.7
	Copper (Cu) (ug/g)	79.3	103	39.8	27.9	58.4
	Iron (Fe) (ug/g)	49900	63200	45300	28700	47100
	Lead (Pb) (ug/g)	18.8	5.6	11.0	10.3	19.8
	Lithium (Li) (ug/g)	30.4	49.4	52.5	22.7	53.7
	Magnesium (Mg) (ug/g)	17200	23200	15100	17100	23800
	Manganese (Mn) (ug/g)	367	418	577	327	706
	Molybdenum (Mo) (ug/g)	6.5	5.6	<1.0	<1.0	<1.0
	Nickel (Ni) (ug/g)	79.4	48.9	58.5	107	101
	Phosphorus (P) (ug/g)	460	377	943	382	566
	Potassium (K) (ug/g)	12600	22300	13600	4520	11300
	Selenium (Se) (ug/g)	1.8	1.8	<1.0	<1.0	<1.0
	Silver (Ag) (ug/g)	<0.20	<0.20	<0.20	<0.20	<0.20
	Sodium (Na) (ug/g)	540	520	260	220	380
	Strontium (Sr) (ug/g)	21.0	13.8	10.4	11.4	41.2
	Thallium (Tl) (ug/g)	0.73	1.48	0.97	<0.50	1.01
	Tin (Sn) (ug/g)	<5.0	<5.0	<5.0	<5.0	<5.0
	Titanium (Ti) (ug/g)	2700	3810	3120	1470	2490
	Uranium (U) (ug/g)	3.8	1.9	13.2	9.8	14.9
	Vanadium (V) (ug/g)	119	162	92.5	53.5	88.0
	Zinc (Zn) (ug/g)	113	173	85.2	50.2	115
Hydrocarbons	F1 (C6-C10) (ug/g)	<5.0	<5.0	<5.0	<5.0	<5.0
	F2 (C10-C16) (ug/g)	<10	<10	<10	<10	<10
	F3 (C16-C34) (ug/g)	81	<50	<50	<50	<50
	F4 (C34-C50) (ug/g)	<50	<50	<50	<50	<50
	Total Hydrocarbons (C6-C50) (ug/g)	81	<72	<72	<72	<72

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1506349-16 SOIL 08-AUG-14 11:15 2014-08409	L1506349-17 SOIL 08-AUG-14 10:50 2014-08419	L1506349-18 SOIL 10-AUG-14 16:40 2014-08429	L1506349-19 SOIL 11-AUG-14 11:30 2014-08439	L1506349-20 SOIL 12-AUG-14 09:40 2014-08449
Sample ID						
Description						
Sampled Date						
Sampled Time						
Client ID						
SOIL						
Physical Tests	% Moisture (%)	11.2	10.9	11.5	10.2	5.95
Metals	Aluminum (Al) (ug/g)	24000	17900	35300	30100	16700
	Antimony (Sb) (ug/g)	<1.0	<1.0	<1.0	<1.0	<1.0
	Arsenic (As) (ug/g)	0.79	0.90	1.23	1.13	0.97
	Barium (Ba) (ug/g)	146	124	439	73.0	105
	Beryllium (Be) (ug/g)	<0.50	0.54	<0.50	<0.50	<0.50
	Bismuth (Bi) (ug/g)	<1.0	<1.0	<1.0	<1.0	<1.0
	Boron (B) (ug/g)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (ug/g)	<0.50	<0.50	<0.50	<0.50	<0.50
	Calcium (Ca) (ug/g)	4670	3150	1780	8830	5770
	Chromium (Cr) (ug/g)	69.0	86.0	166	62.7	57.0
	Cobalt (Co) (ug/g)	19.5	14.5	10.4	25.7	9.6
	Copper (Cu) (ug/g)	45.9	35.4	112	55.3	25.8
	Iron (Fe) (ug/g)	37200	29200	56200	38800	19500
	Lead (Pb) (ug/g)	6.3	12.7	5.7	7.6	7.5
	Lithium (Li) (ug/g)	45.8	45.9	49.5	16.9	28.2
	Magnesium (Mg) (ug/g)	21900	13100	22600	24300	6870
	Manganese (Mn) (ug/g)	609	394	343	489	270
	Molybdenum (Mo) (ug/g)	<1.0	<1.0	4.5	1.5	<1.0
	Nickel (Ni) (ug/g)	98.5	60.7	33.2	155	31.7
	Phosphorus (P) (ug/g)	616	405	602	333	342
	Potassium (K) (ug/g)	10200	8000	22600	3870	4590
	Selenium (Se) (ug/g)	<1.0	<1.0	2.6	<1.0	<1.0
	Silver (Ag) (ug/g)	<0.20	<0.20	<0.20	<0.20	<0.20
	Sodium (Na) (ug/g)	400	310	930	1540	200
	Strontium (Sr) (ug/g)	26.9	12.7	19.8	35.7	20.3
	Thallium (Tl) (ug/g)	0.86	0.90	0.84	<0.50	<0.50
	Tin (Sn) (ug/g)	<5.0	<5.0	<5.0	<5.0	<5.0
	Titanium (Ti) (ug/g)	2340	1930	3420	1160	1190
	Uranium (U) (ug/g)	3.9	10.9	3.8	3.8	1.6
	Vanadium (V) (ug/g)	68.1	56.3	171	56.0	34.8
	Zinc (Zn) (ug/g)	78.5	55.4	154	64.1	42.1
Hydrocarbons	F1 (C6-C10) (ug/g)	<5.0	<5.0	<5.0	<5.0	<5.0
	F2 (C10-C16) (ug/g)	<10	<10	<10	<10	<10
	F3 (C16-C34) (ug/g)	<50	<50	<50	<50	<50
	F4 (C34-C50) (ug/g)	<50	<50	<50	<50	<50
	Total Hydrocarbons (C6-C50) (ug/g)	<72	<72	<72	<72	<72

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1506349-21	L1506349-22	L1506349-23		
	Description	SOIL	SOIL	SOIL		
	Sampled Date	12-AUG-14	12-AUG-14	11-AUG-14		
	Sampled Time	09:45	11:15	16:10		
	Client ID	2014-08459	2014-08469	2014-08309		
Grouping	**Analyte**					
SOIL						
Physical Tests	% Moisture (%)	11.8	7.55	7.41		
Metals	Aluminum (Al) (ug/g)	17900	13200	21400		
	Antimony (Sb) (ug/g)	<1.0	<1.0	<1.0		
	Arsenic (As) (ug/g)	1.38	1.06	4.49		
	Barium (Ba) (ug/g)	191	104	118		
	Beryllium (Be) (ug/g)	<0.50	<0.50	<0.50		
	Bismuth (Bi) (ug/g)	<1.0	<1.0	<1.0		
	Boron (B) (ug/g)	<5.0	<5.0	<5.0		
	Cadmium (Cd) (ug/g)	<0.50	<0.50	<0.50		
	Calcium (Ca) (ug/g)	3740	3480	6190		
	Chromium (Cr) (ug/g)	82.9	58.9	86.8		
	Cobalt (Co) (ug/g)	12.0	8.3	18.7		
	Copper (Cu) (ug/g)	33.6	24.0	63.9		
	Iron (Fe) (ug/g)	25400	18600	36900		
	Lead (Pb) (ug/g)	4.1	5.5	18.1		
	Lithium (Li) (ug/g)	36.1	27.0	35.0		
	Magnesium (Mg) (ug/g)	8820	6190	15600		
	Manganese (Mn) (ug/g)	221	154	455		
	Molybdenum (Mo) (ug/g)	<1.0	<1.0	2.5		
	Nickel (Ni) (ug/g)	42.2	30.7	89.7		
	Phosphorus (P) (ug/g)	443	358	497		
	Potassium (K) (ug/g)	7360	4600	6940		
	Selenium (Se) (ug/g)	<1.0	<1.0	<1.0		
	Silver (Ag) (ug/g)	<0.20	<0.20	<0.20		
	Sodium (Na) (ug/g)	310	240	350		
	Strontium (Sr) (ug/g)	14.8	13.0	27.5		
	Thallium (Tl) (ug/g)	<0.50	<0.50	0.59		
	Tin (Sn) (ug/g)	<5.0	<5.0	<5.0		
	Titanium (Ti) (ug/g)	1520	1130	1860		
	Uranium (U) (ug/g)	1.3	1.4	11.0		
	Vanadium (V) (ug/g)	54.2	39.6	69.1		
	Zinc (Zn) (ug/g)	54.0	45.9	78.4		
Hydrocarbons	F1 (C6-C10) (ug/g)	<5.0	<5.0	<5.0		
	F2 (C10-C16) (ug/g)	<10	<10	<10		
	F3 (C16-C34) (ug/g)	<50	<50	<50		
	F4 (C34-C50) (ug/g)	<50	<50	<50		
	Total Hydrocarbons (C6-C50) (ug/g)	<72	<72	<72		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1506349-1	L1506349-2	L1506349-3	L1506349-4	L1506349-5
	Description	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled Date	06-AUG-14	06-AUG-14	06-AUG-14	06-AUG-14	06-AUG-14
	Sampled Time	15:30	09:30	11:50	09:40	16:30
	Client ID	2014-08249	2014-08259	2014-08269	2014-08279	2014-08289
Grouping	**Analyte**					
SOIL						
Hydrocarbons	Chrom. to baseline at nC50	YES	YES	YES	YES	YES
	Surrogate: 2-Bromobenzotrifluoride (%)	72.5	71.9	76.3	76.4	68.6
	Surrogate: 3,4-Dichlorotoluene (%)	98.6	95.8	91.7	101.2	97.2

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1506349-6 SOIL 06-AUG-14 17:00 2014-08299	L1506349-7 SOIL 07-AUG-14 11:30 2014-08319	L1506349-8 SOIL 07-AUG-14 15:03 2014-08329	L1506349-9 SOIL 07-AUG-14 08:00 2014-08339	L1506349-10 SOIL 07-AUG-14 09:10 2014-08349
Sample ID						
Description						
Sampled Date						
Sampled Time						
Client ID						
SOIL						
Hydrocarbons	Chrom. to baseline at nC50	YES	YES	YES	YES	YES
	Surrogate: 2-Bromobenzotrifluoride (%)	81.9	73.6	71.0	78.2	72.3
	Surrogate: 3,4-Dichlorotoluene (%)	96.6	97.5	92.8	115.5	129.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1506349-11 SOIL 07-AUG-14 11:00 2014-08359	L1506349-12 SOIL 07-AUG-14 15:10 2014-08369	L1506349-13 SOIL 10-AUG-14 16:00 2014-08379	L1506349-14 SOIL 08-AUG-14 11:30 2014-08389	L1506349-15 SOIL 08-AUG-14 10:00 2014-08399
Sample ID						
Description						
Sampled Date						
Sampled Time						
Client ID						
SOIL						
Hydrocarbons	Chrom. to baseline at nC50	YES	YES	YES	YES	YES
	Surrogate: 2-Bromobenzotrifluoride (%)	65.1	65.2	75.5	59.6	132.9
	Surrogate: 3,4-Dichlorotoluene (%)	112.8	110.4	108.3	109.2	109.3

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1506349-16	L1506349-17	L1506349-18	L1506349-19	L1506349-20
	Description	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled Date	08-AUG-14	08-AUG-14	10-AUG-14	11-AUG-14	12-AUG-14
	Sampled Time	11:15	10:50	16:40	11:30	09:40
	Client ID	2014-08409	2014-08419	2014-08429	2014-08439	2014-08449
Grouping	**Analyte**					
SOIL						
Hydrocarbons	Chrom. to baseline at nC50	YES	YES	YES	YES	YES
	Surrogate: 2-Bromobenzotrifluoride (%)	130.2	134.3	77.0	78.9	87.1
	Surrogate: 3,4-Dichlorotoluene (%)	108.8	113.7	106.6	124.8	116.9

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1506349-21	L1506349-22	L1506349-23		
	Description	SOIL	SOIL	SOIL		
	Sampled Date	12-AUG-14	12-AUG-14	11-AUG-14		
	Sampled Time	09:45	11:15	16:10		
	Client ID	2014-08459	2014-08469	2014-08309		
Grouping	**Analyte**					
SOIL						
Hydrocarbons	Chrom. to baseline at nC50	YES	YES	YES		
	Surrogate: 2-Bromobenzotrifluoride (%)	85.7	89.0	73.0		
	Surrogate: 3,4-Dichlorotoluene (%)	121.9	121.7	113.1		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

Additional Comments for Sample Listed:

Samplenum	Matrix	Report Remarks	Sample Comments
L1506349-17	Soil	Note:	
L1506349-19	Soil	Note: Sample was received with headspace.	
L1506349-20	Soil	Note: Sample was received with headspace.	
L1506349-21	Soil	Note: Sample was received with headspace.	
L1506349-22	Soil	Note: Sample was received with headspace.	
L1506349-23	Soil	Note: Sample was received with headspace.	

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Aluminum (Al)	MS-B	L1506349-1, -4, -7
Matrix Spike	Barium (Ba)	MS-B	L1506349-1, -4, -7
Matrix Spike	Calcium (Ca)	MS-B	L1506349-1, -4, -7
Matrix Spike	Chromium (Cr)	MS-B	L1506349-1, -4, -7
Matrix Spike	Copper (Cu)	MS-B	L1506349-1, -4, -7
Matrix Spike	Iron (Fe)	MS-B	L1506349-1, -4, -7
Matrix Spike	Lead (Pb)	MS-B	L1506349-1, -4, -7
Matrix Spike	Magnesium (Mg)	MS-B	L1506349-1, -4, -7
Matrix Spike	Manganese (Mn)	MS-B	L1506349-1, -4, -7
Matrix Spike	Nickel (Ni)	MS-B	L1506349-1, -4, -7
Matrix Spike	Phosphorus (P)	MS-B	L1506349-1, -4, -7
Matrix Spike	Potassium (K)	MS-B	L1506349-1, -4, -7
Matrix Spike	Strontium (Sr)	MS-B	L1506349-1, -4, -7
Matrix Spike	Titanium (Ti)	MS-B	L1506349-1, -4, -7
Matrix Spike	Vanadium (V)	MS-B	L1506349-1, -4, -7
Matrix Spike	Zinc (Zn)	MS-B	L1506349-1, -4, -7
Matrix Spike	Aluminum (Al)	MS-B	L1506349-23
Matrix Spike	Arsenic (As)	MS-B	L1506349-23
Matrix Spike	Barium (Ba)	MS-B	L1506349-23
Matrix Spike	Calcium (Ca)	MS-B	L1506349-23
Matrix Spike	Chromium (Cr)	MS-B	L1506349-23
Matrix Spike	Cobalt (Co)	MS-B	L1506349-23
Matrix Spike	Copper (Cu)	MS-B	L1506349-23
Matrix Spike	Iron (Fe)	MS-B	L1506349-23
Matrix Spike	Lead (Pb)	MS-B	L1506349-23
Matrix Spike	Magnesium (Mg)	MS-B	L1506349-23
Matrix Spike	Manganese (Mn)	MS-B	L1506349-23
Matrix Spike	Molybdenum (Mo)	MS-B	L1506349-23
Matrix Spike	Nickel (Ni)	MS-B	L1506349-23
Matrix Spike	Phosphorus (P)	MS-B	L1506349-23
Matrix Spike	Potassium (K)	MS-B	L1506349-23
Matrix Spike	Sodium (Na)	MS-B	L1506349-23
Matrix Spike	Strontium (Sr)	MS-B	L1506349-23
Matrix Spike	Titanium (Ti)	MS-B	L1506349-23
Matrix Spike	Uranium (U)	MS-B	L1506349-23
Matrix Spike	Vanadium (V)	MS-B	L1506349-23
Matrix Spike	Zinc (Zn)	MS-B	L1506349-23
Matrix Spike	Aluminum (Al)	MS-B	L1506349-10, -12, -13, -18, -19, -2, -20, -21, -22, -3, -5, -6, -8, -9
Matrix Spike	Barium (Ba)	MS-B	L1506349-10, -12, -13, -18, -19, -2, -20, -21, -22, -3, -5, -6, -8, -9

Reference Information

	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Calcium (Ca)	MS-B	L1506349-10, -12, -13, -18, -19, -2, -20, -21, -22, -3, -5, -6, -8, -9
Matrix Spike	Chromium (Cr)	MS-B	L1506349-10, -12, -13, -18, -19, -2, -20, -21, -22, -3, -5, -6, -8, -9
Matrix Spike	Copper (Cu)	MS-B	L1506349-10, -12, -13, -18, -19, -2, -20, -21, -22, -3, -5, -6, -8, -9
Matrix Spike	Iron (Fe)	MS-B	L1506349-10, -12, -13, -18, -19, -2, -20, -21, -22, -3, -5, -6, -8, -9
Matrix Spike	Lead (Pb)	MS-B	L1506349-10, -12, -13, -18, -19, -2, -20, -21, -22, -3, -5, -6, -8, -9
Matrix Spike	Magnesium (Mg)	MS-B	L1506349-10, -12, -13, -18, -19, -2, -20, -21, -22, -3, -5, -6, -8, -9
Matrix Spike	Manganese (Mn)	MS-B	L1506349-10, -12, -13, -18, -19, -2, -20, -21, -22, -3, -5, -6, -8, -9
Matrix Spike	Nickel (Ni)	MS-B	L1506349-10, -12, -13, -18, -19, -2, -20, -21, -22, -3, -5, -6, -8, -9
Matrix Spike	Phosphorus (P)	MS-B	L1506349-10, -12, -13, -18, -19, -2, -20, -21, -22, -3, -5, -6, -8, -9
Matrix Spike	Potassium (K)	MS-B	L1506349-10, -12, -13, -18, -19, -2, -20, -21, -22, -3, -5, -6, -8, -9
Matrix Spike	Strontium (Sr)	MS-B	L1506349-10, -12, -13, -18, -19, -2, -20, -21, -22, -3, -5, -6, -8, -9
Matrix Spike	Titanium (Ti)	MS-B	L1506349-10, -12, -13, -18, -19, -2, -20, -21, -22, -3, -5, -6, -8, -9
Matrix Spike	Vanadium (V)	MS-B	L1506349-10, -12, -13, -18, -19, -2, -20, -21, -22, -3, -5, -6, -8, -9
Matrix Spike	Zinc (Zn)	MS-B	L1506349-10, -12, -13, -18, -19, -2, -20, -21, -22, -3, -5, -6, -8, -9
Matrix Spike	Aluminum (Al)	MS-B	L1506349-11, -14, -16, -17
Matrix Spike	Barium (Ba)	MS-B	L1506349-11, -14, -16, -17
Matrix Spike	Calcium (Ca)	MS-B	L1506349-11, -14, -16, -17
Matrix Spike	Chromium (Cr)	MS-B	L1506349-11, -14, -16, -17
Matrix Spike	Copper (Cu)	MS-B	L1506349-11, -14, -16, -17
Matrix Spike	Iron (Fe)	MS-B	L1506349-11, -14, -16, -17
Matrix Spike	Lead (Pb)	MS-B	L1506349-11, -14, -16, -17
Matrix Spike	Magnesium (Mg)	MS-B	L1506349-11, -14, -16, -17
Matrix Spike	Manganese (Mn)	MS-B	L1506349-11, -14, -16, -17
Matrix Spike	Nickel (Ni)	MS-B	L1506349-11, -14, -16, -17
Matrix Spike	Phosphorus (P)	MS-B	L1506349-11, -14, -16, -17
Matrix Spike	Potassium (K)	MS-B	L1506349-11, -14, -16, -17
Matrix Spike	Strontium (Sr)	MS-B	L1506349-11, -14, -16, -17
Matrix Spike	Titanium (Ti)	MS-B	L1506349-11, -14, -16, -17
Matrix Spike	Vanadium (V)	MS-B	L1506349-11, -14, -16, -17
Matrix Spike	Zinc (Zn)	MS-B	L1506349-11, -14, -16, -17
Matrix Spike	Aluminum (Al)	MS-B	L1506349-15
Matrix Spike	Barium (Ba)	MS-B	L1506349-15
Matrix Spike	Calcium (Ca)	MS-B	L1506349-15
Matrix Spike	Chromium (Cr)	MS-B	L1506349-15
Matrix Spike	Cobalt (Co)	MS-B	L1506349-15
Matrix Spike	Copper (Cu)	MS-B	L1506349-15
Matrix Spike	Iron (Fe)	MS-B	L1506349-15
Matrix Spike	Lead (Pb)	MS-B	L1506349-15
Matrix Spike	Magnesium (Mg)	MS-B	L1506349-15
Matrix Spike	Manganese (Mn)	MS-B	L1506349-15
Matrix Spike	Nickel (Ni)	MS-B	L1506349-15
Matrix Spike	Phosphorus (P)	MS-B	L1506349-15
Matrix Spike	Potassium (K)	MS-B	L1506349-15

Reference Information

	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Sodium (Na)	MS-B	L1506349-15
Matrix Spike	Strontium (Sr)	MS-B	L1506349-15
Matrix Spike	Titanium (Ti)	MS-B	L1506349-15
Matrix Spike	Vanadium (V)	MS-B	L1506349-15
Matrix Spike	Zinc (Zn)	MS-B	L1506349-15

Qualifiers for Individual Parameters Listed:

Qualifier	Description
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
F1-F4-511-CALC-WT	Soil	F1-F4 Hydrocarbon Calculated Parameters	CCME CWS-PHC DEC-2000 - PUB# 1310-S

Analytical methods used for analysis of CCME Petroleum Hydrocarbons have been validated and comply with the Reference Method for the CWS PHC.

Hydrocarbon results are expressed on a dry weight basis.

In cases where results for both F4 and F4G are reported, the greater of the two results must be used in any application of the CWS PHC guidelines and the gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
In samples where BTEX and F1 were analyzed , F1-BTEX represents a value where the sum of Benzene, Toluene, Ethylbenzene and total Xylenes has been subtracted from F1.

In samples where PAHs, F2 and F3 were analyzed, F2-Naphth represents the result where Naphthalene has been subtracted from F2. F3-PAH represents a result where the sum of Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene has been subtracted from F3.

Unless otherwise qualified, the following quality control criteria have been met for the F1 hydrocarbon range:
1. All extraction and analysis holding times were met.
2. Instrument performance showing response factors for C6 and C10 within 30% of the response factor for toluene.
3. Linearity of gasoline response within 15% throughout the calibration range.

Unless otherwise qualified, the following quality control criteria have been met for the F2-F4 hydrocarbon ranges:
1. All extraction and analysis holding times were met.
2. Instrument performance showing C10, C16 and C34 response factors within 10% of their average.
3. Instrument performance showing the C50 response factor within 30% of the average of the C10, C16 and C34 response factors.
4. Linearity of diesel or motor oil response within 15% throughout the calibration range.

F1-HS-511-WT	Soil	F1-O.Reg 153/04 (July 2011)	E3398/CCME TIER 1-HS

Fraction F1 is determined by extracting a soil or sediment sample as received with methanol, then analyzing by headspace-GC/FID.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

F2-F4-511-WT	Soil	F2-F4-O.Reg 153/04 (July 2011)	MOE DECPH-E3398/CCME TIER 1

Fractions F2, F3 and F4 are determined by extracting a soil sample with a solvent mix. The solvent recovered from the extracted soil sample is dried and treated to remove polar material. The extract is analyzed by GC/FID.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

MET-UG/G-CCMS-WT	Soil	Metal Scan Collision Cell ICPMS	EPA 200.2/6020A

Sample is vigorously digested with nitric and hydrochloric acid. Analysis is conducted by ICP/MS.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Reference Information

Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Chain of Custody Numbers:

00007

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Workorder: L1506349 Report Date: 31-AUG-14

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F1-HS-511-WT	**Soil**							
Batch R2927475								
WG1936182-1 CVS								
F1 (C6-C10)			100.7		%		80-120	25-AUG-14
WG1936578-2 LCS								
F1 (C6-C10)			113.2		%		80-120	25-AUG-14
WG1936578-1 MB								
F1 (C6-C10)			<5.0		ug/g		5	25-AUG-14
Surrogate: 3,4-Dichlorotoluene			123.8		%		60-140	25-AUG-14
WG1936578-7 MS		**WG1936578-6**						
F1 (C6-C10)			126.3		%		60-140	25-AUG-14
Batch R2927679								
WG1936180-1 CVS								
F1 (C6-C10)			90.0		%		80-120	22-AUG-14
WG1936504-2 LCS								
F1 (C6-C10)			98.8		%		80-120	23-AUG-14
WG1936504-1 MB								
F1 (C6-C10)			<5.0		ug/g		5	23-AUG-14
Surrogate: 3,4-Dichlorotoluene			104.9		%		60-140	23-AUG-14
WG1936504-7 MS		**WG1936504-6**						
F1 (C6-C10)			94.4		%		60-140	23-AUG-14
F2-F4-511-WT	**Soil**							
Batch R2929206								
WG1936471-4 CRM		**ALS PHC2 IRM**						
F2 (C10-C16)			81.5		%		70-130	26-AUG-14
F3 (C16-C34)			92.0		%		70-130	26-AUG-14
F4 (C34-C50)			99.9		%		70-130	26-AUG-14
WG1938849-1 CVS								
F2 (C10-C16)			99.1		%		80-120	26-AUG-14
F3 (C16-C34)			100.7		%		80-120	26-AUG-14
F4 (C34-C50)			100.0		%		80-120	26-AUG-14
WG1938849-2 CVS								
F2 (C10-C16)			95.6		%		80-120	26-AUG-14
F3 (C16-C34)			97.5		%		80-120	26-AUG-14
F4 (C34-C50)			100.2		%		80-120	26-AUG-14
WG1936471-2 LCS								
F2 (C10-C16)			100.9		%		80-120	26-AUG-14
F3 (C16-C34)			111.7		%		80-120	26-AUG-14
F4 (C34-C50)			109.4		%		80-120	26-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F2-F4-511-WT	**Soil**							
Batch R2929206								
WG1936471-3 LCSD		**WG1936471-2**						
F2 (C10-C16)		100.9	85		%	17	50	27-AUG-14
F3 (C16-C34)		111.7	96		%	15	50	27-AUG-14
F4 (C34-C50)		109.4	92		%	17	50	27-AUG-14
WG1936471-1 MB								
F2 (C10-C16)			<10		ug/g		10	26-AUG-14
F3 (C16-C34)			<50		ug/g		50	26-AUG-14
F4 (C34-C50)			<50		ug/g		50	26-AUG-14
Surrogate: 2-Bromobenzotrifluoride			68.3		%		50-140	26-AUG-14
WG1936471-7 MS		**WG1936471-5**						
F2 (C10-C16)			79.6		%		60-140	26-AUG-14
F3 (C16-C34)			92.6		%		60-140	26-AUG-14
F4 (C34-C50)			94.0		%		60-140	26-AUG-14
Batch R2932249								
WG1937452-4 CRM		**ALS PHC2 IRM**						
F2 (C10-C16)			91.7		%		70-130	28-AUG-14
F3 (C16-C34)			107.9		%		70-130	28-AUG-14
F4 (C34-C50)			115.7		%		70-130	28-AUG-14
WG1940190-1 CVS								
F2 (C10-C16)			95.1		%		80-120	28-AUG-14
F3 (C16-C34)			100.0		%		80-120	28-AUG-14
F4 (C34-C50)			101.9		%		80-120	28-AUG-14
WG1940190-2 CVS								
F2 (C10-C16)			102.5		%		80-120	29-AUG-14
F3 (C16-C34)			101.3		%		80-120	29-AUG-14
F4 (C34-C50)			100.7		%		80-120	29-AUG-14
WG1937452-2 LCS								
F2 (C10-C16)			85.2		%		80-120	28-AUG-14
F3 (C16-C34)			99.4		%		80-120	28-AUG-14
F4 (C34-C50)			104.5		%		80-120	28-AUG-14
WG1937452-3 LCSD		**WG1937452-2**						
F2 (C10-C16)		85.2	90		%	5.2	50	28-AUG-14
F3 (C16-C34)		99.4	105		%	5.9	50	28-AUG-14
F4 (C34-C50)		104.5	108		%	3.6	50	28-AUG-14
WG1937452-1 MB								
F2 (C10-C16)			<10		ug/g		10	28-AUG-14
F3 (C16-C34)			<50		ug/g		50	28-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F2-F4-511-WT	**Soil**							
Batch R2932249								
WG1937452-1 MB								
F4 (C34-C50)			<50		ug/g		50	28-AUG-14
Surrogate: 2-Bromobenzotrifluoride			71.0		%		50-140	28-AUG-14
WG1937452-7 MS		**WG1937452-5**						
F2 (C10-C16)			87.9		%		60-140	28-AUG-14
F3 (C16-C34)			100.3		%		60-140	28-AUG-14
F4 (C34-C50)			99.8		%		60-140	28-AUG-14
Batch R2932278								
WG1936930-4 CRM		**ALS PHC2 IRM**						
F2 (C10-C16)			94.1		%		70-130	29-AUG-14
F3 (C16-C34)			103.5		%		70-130	29-AUG-14
F4 (C34-C50)			110.8		%		70-130	29-AUG-14
WG1940195-1 CVS								
F2 (C10-C16)			100.6		%		80-120	28-AUG-14
F3 (C16-C34)			101.7		%		80-120	28-AUG-14
F4 (C34-C50)			102.7		%		80-120	28-AUG-14
WG1940195-2 CVS								
F2 (C10-C16)			103.0		%		80-120	29-AUG-14
F3 (C16-C34)			101.3		%		80-120	29-AUG-14
F4 (C34-C50)			100.1		%		80-120	29-AUG-14
WG1936930-2 LCS								
F2 (C10-C16)			96.5		%		80-120	28-AUG-14
F3 (C16-C34)			101.3		%		80-120	28-AUG-14
F4 (C34-C50)			100.4		%		80-120	28-AUG-14
WG1936930-3 LCSD		**WG1936930-2**						
F2 (C10-C16)		96.5	90		%	7.0	50	28-AUG-14
F3 (C16-C34)		101.3	95		%	6.3	50	28-AUG-14
F4 (C34-C50)		100.4	103		%	2.5	50	28-AUG-14
WG1936930-1 MB								
F2 (C10-C16)			<10		ug/g		10	28-AUG-14
F3 (C16-C34)			<50		ug/g		50	28-AUG-14
F4 (C34-C50)			<50		ug/g		50	28-AUG-14
Surrogate: 2-Bromobenzotrifluoride			85.0		%		50-140	28-AUG-14
WG1936930-7 MS		**WG1936930-5**						
F2 (C10-C16)			96.4		%		60-140	28-AUG-14
F3 (C16-C34)			104.1		%		60-140	28-AUG-14
F4 (C34-C50)			104.0		%		60-140	28-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F2-F4-511-WT	**Soil**							
Batch R2932835								
WG1938145-4 CRM		**ALS PHC2 IRM**						
F2 (C10-C16)			107.2		%		70-130	29-AUG-14
F3 (C16-C34)			117.6		%		70-130	29-AUG-14
F4 (C34-C50)			126.1		%		70-130	29-AUG-14
WG1940199-1 CVS								
F2 (C10-C16)			103.5		%		80-120	29-AUG-14
F3 (C16-C34)			101.4		%		80-120	29-AUG-14
F4 (C34-C50)			99.9		%		80-120	29-AUG-14
WG1938145-2 LCS								
F2 (C10-C16)			98.3		%		80-120	29-AUG-14
F3 (C16-C34)			103.8		%		80-120	29-AUG-14
F4 (C34-C50)			99.6		%		80-120	29-AUG-14
WG1938145-3 LCSD		**WG1938145-2**						
F2 (C10-C16)		98.3	98		%	0.6	50	29-AUG-14
F3 (C16-C34)		103.8	103		%	1.2	50	29-AUG-14
F4 (C34-C50)		99.6	98		%	1.5	50	29-AUG-14
WG1938145-1 MB								
F2 (C10-C16)			<10		ug/g		10	29-AUG-14
F3 (C16-C34)			<50		ug/g		50	29-AUG-14
F4 (C34-C50)			<50		ug/g		50	29-AUG-14
Surrogate: 2-Bromobenzotrifluoride			83.2		%		50-140	29-AUG-14
WG1938145-7 MS		**WG1938145-5**						
F2 (C10-C16)			108.5		%		60-140	29-AUG-14
F3 (C16-C34)			121.4		%		60-140	29-AUG-14
F4 (C34-C50)			127.2		%		60-140	29-AUG-14
Batch R2933141								
WG1938253-4 CRM		**ALS PHC2 IRM**						
F2 (C10-C16)			86.5		%		70-130	29-AUG-14
F3 (C16-C34)			96.5		%		70-130	29-AUG-14
F4 (C34-C50)			92.2		%		70-130	29-AUG-14
WG1941477-1 CVS								
F2 (C10-C16)			99.0		%		80-120	29-AUG-14
F3 (C16-C34)			101.7		%		80-120	29-AUG-14
F4 (C34-C50)			100.0		%		80-120	29-AUG-14
WG1938253-2 LCS								
F2 (C10-C16)			97.6		%		80-120	29-AUG-14
F3 (C16-C34)			103.8		%		80-120	29-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F2-F4-511-WT	**Soil**							
Batch R2933141								
WG1938253-2 LCS								
F4 (C34-C50)			103.6		%		80-120	29-AUG-14
WG1938253-3 LCSD		**WG1938253-2**						
F2 (C10-C16)		97.6	98		%	0.1	50	29-AUG-14
F3 (C16-C34)		103.8	106		%	2.2	50	29-AUG-14
F4 (C34-C50)		103.6	106		%	2.7	50	29-AUG-14
WG1938253-1 MB								
F2 (C10-C16)			<10		ug/g		10	29-AUG-14
F3 (C16-C34)			<50		ug/g		50	29-AUG-14
F4 (C34-C50)			<50		ug/g		50	29-AUG-14
Surrogate: 2-Bromobenzotrifluoride			78.6		%		50-140	29-AUG-14
WG1938253-7 MS		**WG1938253-5**						
F2 (C10-C16)			98.2		%		60-140	29-AUG-14
F3 (C16-C34)			100.4		%		60-140	29-AUG-14
F4 (C34-C50)			99.0		%		60-140	29-AUG-14
MET-UG/G-CCMS-WT	**Soil**							
Batch R2929741								
WG1938661-2 CVS								
Aluminum (Al)			104.8		%		70-130	26-AUG-14
Antimony (Sb)			98.9		%		70-130	26-AUG-14
Arsenic (As)			99.99		%		70-130	26-AUG-14
Barium (Ba)			98.4		%		70-130	26-AUG-14
Beryllium (Be)			94.5		%		70-130	26-AUG-14
Bismuth (Bi)			104.9		%		70-130	26-AUG-14
Boron (B)			96.8		%		70-130	26-AUG-14
Cadmium (Cd)			99.6		%		70-130	26-AUG-14
Calcium (Ca)			105.7		%		70-130	26-AUG-14
Chromium (Cr)			100.7		%		70-130	26-AUG-14
Cobalt (Co)			100.4		%		70-130	26-AUG-14
Copper (Cu)			100.9		%		70-130	26-AUG-14
Iron (Fe)			99.0		%		70-130	26-AUG-14
Lead (Pb)			104.2		%		70-130	26-AUG-14
Lithium (Li)			93.6		%		70-130	26-AUG-14
Magnesium (Mg)			100.7		%		70-130	26-AUG-14
Manganese (Mn)			102.3		%		70-130	26-AUG-14
Molybdenum (Mo)			98.6		%		70-130	26-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-UG/G-CCMS-WT	**Soil**							
Batch R2929741								
WG1938661-2 CVS								
Nickel (Ni)			100.2		%		70-130	26-AUG-14
Phosphorus (P)			100.5		%		70-130	26-AUG-14
Potassium (K)			103.5		%		70-130	26-AUG-14
Selenium (Se)			97.8		%		70-130	26-AUG-14
Silver (Ag)			101.4		%		70-130	26-AUG-14
Sodium (Na)			101.8		%		70-130	26-AUG-14
Strontium (Sr)			99.6		%		70-130	26-AUG-14
Thallium (Tl)			104.2		%		70-130	26-AUG-14
Tin (Sn)			101.1		%		70-130	26-AUG-14
Titanium (Ti)			102.8		%		70-130	26-AUG-14
Uranium (U)			101.5		%		70-130	26-AUG-14
Vanadium (V)			100.6		%		70-130	26-AUG-14
Zinc (Zn)			94.7		%		70-130	26-AUG-14
WG1938661-3 CVS								
Aluminum (Al)			102.7		%		70-130	27-AUG-14
Antimony (Sb)			102.9		%		70-130	27-AUG-14
Arsenic (As)			98.1		%		70-130	27-AUG-14
Barium (Ba)			100.3		%		70-130	27-AUG-14
Beryllium (Be)			97.6		%		70-130	27-AUG-14
Bismuth (Bi)			104.9		%		70-130	27-AUG-14
Boron (B)			99.4		%		70-130	27-AUG-14
Cadmium (Cd)			100.8		%		70-130	27-AUG-14
Calcium (Ca)			94.9		%		70-130	27-AUG-14
Chromium (Cr)			99.5		%		70-130	27-AUG-14
Cobalt (Co)			99.2		%		70-130	27-AUG-14
Copper (Cu)			99.1		%		70-130	27-AUG-14
Iron (Fe)			98.7		%		70-130	27-AUG-14
Lead (Pb)			102.8		%		70-130	27-AUG-14
Lithium (Li)			95.8		%		70-130	27-AUG-14
Magnesium (Mg)			97.0		%		70-130	27-AUG-14
Manganese (Mn)			99.5		%		70-130	27-AUG-14
Molybdenum (Mo)			94.0		%		70-130	27-AUG-14
Nickel (Ni)			97.9		%		70-130	27-AUG-14
Phosphorus (P)			97.9		%		70-130	27-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-UG/G-CCMS-WT	**Soil**							
Batch R2929741								
WG1938661-3 CVS								
Potassium (K)			98.2		%		70-130	27-AUG-14
Selenium (Se)			100.2		%		70-130	27-AUG-14
Silver (Ag)			105.8		%		70-130	27-AUG-14
Sodium (Na)			97.4		%		70-130	27-AUG-14
Strontium (Sr)			100.5		%		70-130	27-AUG-14
Thallium (Tl)			104.6		%		70-130	27-AUG-14
Tin (Sn)			102.2		%		70-130	27-AUG-14
Titanium (Ti)			99.4		%		70-130	27-AUG-14
Uranium (U)			101.1		%		70-130	27-AUG-14
Vanadium (V)			99.1		%		70-130	27-AUG-14
Zinc (Zn)			90.6		%		70-130	27-AUG-14
WG1938193-2 IRM		**ALS MET IRM1**						
Aluminum (Al)			108.7		%		70-130	26-AUG-14
Antimony (Sb)			94.9		%		70-130	26-AUG-14
Arsenic (As)			101.7		%		70-130	26-AUG-14
Barium (Ba)			108.9		%		70-130	26-AUG-14
Beryllium (Be)			118.1		%		70-130	26-AUG-14
Boron (B)			127.4		%		70-130	26-AUG-14
Cadmium (Cd)			103.5		%		70-130	26-AUG-14
Calcium (Ca)			116.8		%		70-130	26-AUG-14
Chromium (Cr)			106.5		%		70-130	26-AUG-14
Cobalt (Co)			104.1		%		70-130	26-AUG-14
Copper (Cu)			103.1		%		70-130	26-AUG-14
Iron (Fe)			106.8		%		70-130	26-AUG-14
Lead (Pb)			110.7		%		70-130	26-AUG-14
Lithium (Li)			126.9		%		70-130	26-AUG-14
Magnesium (Mg)			109.5		%		70-130	26-AUG-14
Manganese (Mn)			106.4		%		70-130	26-AUG-14
Molybdenum (Mo)			1.7		ug/g		1.1-3.1	26-AUG-14
Nickel (Ni)			104.4		%		70-130	26-AUG-14
Phosphorus (P)			104.7		%		70-130	26-AUG-14
Potassium (K)			115.3		%		70-130	26-AUG-14
Selenium (Se)			101.3		%		70-130	26-AUG-14
Silver (Ag)			98.6		%		70-130	26-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-UG/G-CCMS-WT	**Soil**							
Batch R2929741								
WG1938193-2 IRM		**ALS MET IRM1**						
Sodium (Na)			117.0		%		70-130	26-AUG-14
Strontium (Sr)			99.3		%		70-130	26-AUG-14
Thallium (Tl)			108.5		%		70-130	26-AUG-14
Tin (Sn)			115.9		%		70-130	26-AUG-14
Titanium (Ti)			107.4		%		70-130	26-AUG-14
Uranium (U)			1.9		ug/g		0.8-2.8	26-AUG-14
Vanadium (V)			107.8		%		70-130	26-AUG-14
Zinc (Zn)			104.4		%		70-130	26-AUG-14
WG1938193-3 LCS								
Aluminum (Al)			115.3		%		80-120	26-AUG-14
Antimony (Sb)			93.1		%		80-120	26-AUG-14
Arsenic (As)			98.9		%		80-120	26-AUG-14
Barium (Ba)			98.2		%		80-120	26-AUG-14
Beryllium (Be)			108.8		%		80-120	26-AUG-14
Bismuth (Bi)			98.7		%		80-120	26-AUG-14
Boron (B)			105.0		%		80-120	26-AUG-14
Cadmium (Cd)			99.3		%		80-120	26-AUG-14
Calcium (Ca)			98.8		%		80-120	26-AUG-14
Chromium (Cr)			98.1		%		80-120	26-AUG-14
Cobalt (Co)			97.5		%		80-120	26-AUG-14
Copper (Cu)			98.6		%		80-120	26-AUG-14
Iron (Fe)			95.7		%		80-120	26-AUG-14
Lead (Pb)			99.1		%		80-120	26-AUG-14
Lithium (Li)			115.5		%		80-120	26-AUG-14
Magnesium (Mg)			100.8		%		80-120	26-AUG-14
Manganese (Mn)			110.1		%		80-120	26-AUG-14
Molybdenum (Mo)			95.8		%		80-120	26-AUG-14
Nickel (Ni)			97.9		%		80-120	26-AUG-14
Phosphorus (P)			108.7		%		80-120	26-AUG-14
Potassium (K)			93.7		%		80-120	26-AUG-14
Selenium (Se)			99.0		%		80-120	26-AUG-14
Silver (Ag)			96.1		%		80-120	26-AUG-14
Sodium (Na)			102.9		%		80-120	26-AUG-14
Strontium (Sr)			94.9		%		80-120	26-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-UG/G-CCMS-WT	**Soil**							
Batch R2929741								
WG1938193-3 LCS								
Thallium (Tl)			97.3		%		80-120	26-AUG-14
Tin (Sn)			94.4		%		80-120	26-AUG-14
Titanium (Ti)			102.9		%		80-120	26-AUG-14
Uranium (U)			98.6		%		80-120	26-AUG-14
Vanadium (V)			98.6		%		80-120	26-AUG-14
Zinc (Zn)			98.1		%		80-120	26-AUG-14
WG1938193-1 MB								
Aluminum (Al)			<50		ug/g		50	26-AUG-14
Antimony (Sb)			<1.0		ug/g		1	26-AUG-14
Arsenic (As)			<0.20		ug/g		0.2	26-AUG-14
Barium (Ba)			<1.0		ug/g		1	26-AUG-14
Beryllium (Be)			<0.50		ug/g		0.5	26-AUG-14
Bismuth (Bi)			<1.0		ug/g		1	26-AUG-14
Boron (B)			<5.0		ug/g		5	26-AUG-14
Cadmium (Cd)			<0.50		ug/g		0.5	26-AUG-14
Calcium (Ca)			<100		ug/g		100	26-AUG-14
Chromium (Cr)			<1.0		ug/g		1	26-AUG-14
Cobalt (Co)			<1.0		ug/g		1	26-AUG-14
Copper (Cu)			<1.0		ug/g		1	26-AUG-14
Iron (Fe)			<50		ug/g		50	26-AUG-14
Lead (Pb)			<1.0		ug/g		1	26-AUG-14
Lithium (Li)			<1.0		ug/g		1	26-AUG-14
Magnesium (Mg)			<20		ug/g		20	26-AUG-14
Manganese (Mn)			<1.0		ug/g		1	26-AUG-14
Molybdenum (Mo)			<1.0		ug/g		1	26-AUG-14
Nickel (Ni)			<1.0		ug/g		1	26-AUG-14
Phosphorus (P)			<50		ug/g		50	26-AUG-14
Potassium (K)			<100		ug/g		100	26-AUG-14
Selenium (Se)			<1.0		ug/g		1	26-AUG-14
Silver (Ag)			<0.20		ug/g		0.2	26-AUG-14
Sodium (Na)			<100		ug/g		100	26-AUG-14
Strontium (Sr)			<1.0		ug/g		1	26-AUG-14
Thallium (Tl)			<0.50		ug/g		0.5	26-AUG-14
Tin (Sn)			<5.0		ug/g		5	26-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-UG/G-CCMS-WT	**Soil**							
Batch R2929741								
WG1938193-1 MB								
Titanium (Ti)			<5.0		ug/g		5	26-AUG-14
Uranium (U)			<1.0		ug/g		1	26-AUG-14
Vanadium (V)			<1.0		ug/g		1	26-AUG-14
Zinc (Zn)			<5.0		ug/g		5	26-AUG-14
WG1938193-7 MS		**WG1938193-5**						
Aluminum (Al)			N/A	MS-B	%		-	26-AUG-14
Antimony (Sb)			97.2		%		70-130	26-AUG-14
Arsenic (As)			101.6		%		70-130	26-AUG-14
Barium (Ba)			N/A	MS-B	%		-	26-AUG-14
Beryllium (Be)			121.3		%		70-130	26-AUG-14
Bismuth (Bi)			99.3		%		70-130	26-AUG-14
Boron (B)			119.7		%		70-130	26-AUG-14
Cadmium (Cd)			105.7		%		70-130	26-AUG-14
Calcium (Ca)			N/A	MS-B	%		-	26-AUG-14
Chromium (Cr)			N/A	MS-B	%		-	26-AUG-14
Cobalt (Co)			101.4		%		70-130	26-AUG-14
Copper (Cu)			N/A	MS-B	%		-	26-AUG-14
Iron (Fe)			N/A	MS-B	%		-	26-AUG-14
Lead (Pb)			N/A	MS-B	%		-	26-AUG-14
Lithium (Li)			116.5		%		70-130	26-AUG-14
Magnesium (Mg)			N/A	MS-B	%		-	26-AUG-14
Manganese (Mn)			N/A	MS-B	%		-	26-AUG-14
Molybdenum (Mo)			107.2		%		70-130	26-AUG-14
Nickel (Ni)			N/A	MS-B	%		-	26-AUG-14
Phosphorus (P)			N/A	MS-B	%		-	26-AUG-14
Potassium (K)			N/A	MS-B	%		-	26-AUG-14
Selenium (Se)			105.5		%		70-130	26-AUG-14
Silver (Ag)			100.8		%		70-130	26-AUG-14
Sodium (Na)			112.2		%		70-130	26-AUG-14
Strontium (Sr)			N/A	MS-B	%		-	26-AUG-14
Thallium (Tl)			96.3		%		70-130	26-AUG-14
Tin (Sn)			105.2		%		70-130	26-AUG-14
Titanium (Ti)			N/A	MS-B	%		-	26-AUG-14
Uranium (U)			111.6		%		70-130	26-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-UG/G-CCMS-WT	**Soil**							
Batch R2929741								
WG1938193-7 MS		**WG1938193-5**						
Vanadium (V)			N/A	MS-B	%		-	26-AUG-14
Zinc (Zn)			N/A	MS-B	%		-	26-AUG-14
Batch R2930011								
WG1937426-2 CVS								
Aluminum (Al)			96.9		%		70-130	25-AUG-14
Antimony (Sb)			99.6		%		70-130	25-AUG-14
Arsenic (As)			96.6		%		70-130	25-AUG-14
Barium (Ba)			99.5		%		70-130	25-AUG-14
Beryllium (Be)			93.8		%		70-130	25-AUG-14
Bismuth (Bi)			91.8		%		70-130	25-AUG-14
Boron (B)			96.2		%		70-130	25-AUG-14
Cadmium (Cd)			101.0		%		70-130	25-AUG-14
Calcium (Ca)			96.4		%		70-130	25-AUG-14
Chromium (Cr)			99.5		%		70-130	25-AUG-14
Cobalt (Co)			100.8		%		70-130	25-AUG-14
Copper (Cu)			99.9		%		70-130	25-AUG-14
Iron (Fe)			101.5		%		70-130	25-AUG-14
Lead (Pb)			102.7		%		70-130	25-AUG-14
Lithium (Li)			96.6		%		70-130	25-AUG-14
Magnesium (Mg)			97.4		%		70-130	25-AUG-14
Manganese (Mn)			97.9		%		70-130	25-AUG-14
Molybdenum (Mo)			98.5		%		70-130	25-AUG-14
Nickel (Ni)			99.4		%		70-130	25-AUG-14
Phosphorus (P)			94.0		%		70-130	25-AUG-14
Potassium (K)			96.8		%		70-130	25-AUG-14
Selenium (Se)			101.2		%		70-130	25-AUG-14
Silver (Ag)			99.95		%		70-130	25-AUG-14
Sodium (Na)			98.9		%		70-130	25-AUG-14
Strontium (Sr)			95.5		%		70-130	25-AUG-14
Thallium (Tl)			96.0		%		70-130	25-AUG-14
Tin (Sn)			100.3		%		70-130	25-AUG-14
Titanium (Ti)			97.3		%		70-130	25-AUG-14
Uranium (U)			92.2		%		70-130	25-AUG-14
Vanadium (V)			99.5		%		70-130	25-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-UG/G-CCMS-WT	**Soil**							
Batch R2930011								
WG1937426-2 CVS								
Zinc (Zn)			95.3		%		70-130	25-AUG-14
WG1937388-2 IRM		**ALS MET IRM1**						
Aluminum (Al)			94.9		%		70-130	25-AUG-14
Antimony (Sb)			94.0		%		70-130	25-AUG-14
Arsenic (As)			91.3		%		70-130	25-AUG-14
Barium (Ba)			95.5		%		70-130	25-AUG-14
Beryllium (Be)			94.2		%		70-130	25-AUG-14
Boron (B)			97.4		%		70-130	25-AUG-14
Cadmium (Cd)			95.9		%		70-130	25-AUG-14
Calcium (Ca)			93.7		%		70-130	25-AUG-14
Chromium (Cr)			94.7		%		70-130	25-AUG-14
Cobalt (Co)			94.2		%		70-130	25-AUG-14
Copper (Cu)			95.8		%		70-130	25-AUG-14
Iron (Fe)			95.0		%		70-130	25-AUG-14
Lead (Pb)			98.9		%		70-130	25-AUG-14
Lithium (Li)			105.3		%		70-130	25-AUG-14
Magnesium (Mg)			96.3		%		70-130	25-AUG-14
Manganese (Mn)			103.8		%		70-130	25-AUG-14
Molybdenum (Mo)			1.7		ug/g		1.1-3.1	25-AUG-14
Nickel (Ni)			93.0		%		70-130	25-AUG-14
Phosphorus (P)			91.9		%		70-130	25-AUG-14
Potassium (K)			93.5		%		70-130	25-AUG-14
Selenium (Se)			100.6		%		70-130	25-AUG-14
Silver (Ag)			95.2		%		70-130	25-AUG-14
Sodium (Na)			96.7		%		70-130	25-AUG-14
Strontium (Sr)			93.5		%		70-130	25-AUG-14
Thallium (Tl)			93.5		%		70-130	25-AUG-14
Tin (Sn)			95.6		%		70-130	25-AUG-14
Titanium (Ti)			90.8		%		70-130	25-AUG-14
Uranium (U)			1.6		ug/g		0.8-2.8	25-AUG-14
Vanadium (V)			94.6		%		70-130	25-AUG-14
Zinc (Zn)			93.5		%		70-130	25-AUG-14
WG1937388-3 LCS								
Aluminum (Al)			110.9		%		80-120	25-AUG-14
Antimony (Sb)			102.6		%		80-120	25-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-UG/G-CCMS-WT	**Soil**							
Batch R2930011								
WG1937388-3 LCS								
Arsenic (As)			96.1		%		80-120	25-AUG-14
Barium (Ba)			101.3		%		80-120	25-AUG-14
Beryllium (Be)			92.4		%		80-120	25-AUG-14
Bismuth (Bi)			99.6		%		80-120	25-AUG-14
Boron (B)			98.6		%		80-120	25-AUG-14
Cadmium (Cd)			99.8		%		80-120	25-AUG-14
Calcium (Ca)			97.2		%		80-120	25-AUG-14
Chromium (Cr)			98.3		%		80-120	25-AUG-14
Cobalt (Co)			97.1		%		80-120	25-AUG-14
Copper (Cu)			96.9		%		80-120	25-AUG-14
Iron (Fe)			102.4		%		80-120	25-AUG-14
Lead (Pb)			99.7		%		80-120	25-AUG-14
Lithium (Li)			93.9		%		80-120	25-AUG-14
Magnesium (Mg)			98.7		%		80-120	25-AUG-14
Manganese (Mn)			98.1		%		80-120	25-AUG-14
Molybdenum (Mo)			101.1		%		80-120	25-AUG-14
Nickel (Ni)			95.9		%		80-120	25-AUG-14
Phosphorus (P)			88.8		%		80-120	25-AUG-14
Potassium (K)			91.9		%		80-120	25-AUG-14
Selenium (Se)			105.6		%		80-120	25-AUG-14
Silver (Ag)			102.4		%		80-120	25-AUG-14
Sodium (Na)			100.3		%		80-120	25-AUG-14
Strontium (Sr)			101.3		%		80-120	25-AUG-14
Thallium (Tl)			101.2		%		80-120	25-AUG-14
Tin (Sn)			100.7		%		80-120	25-AUG-14
Titanium (Ti)			95.8		%		80-120	25-AUG-14
Uranium (U)			102.1		%		80-120	25-AUG-14
Vanadium (V)			99.8		%		80-120	25-AUG-14
Zinc (Zn)			99.5		%		80-120	25-AUG-14
WG1937388-1 MB								
Aluminum (Al)			<50		ug/g		50	25-AUG-14
Antimony (Sb)			<1.0		ug/g		1	25-AUG-14
Arsenic (As)			<0.20		ug/g		0.2	25-AUG-14
Barium (Ba)			<1.0		ug/g		1	25-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-UG/G-CCMS-WT	**Soil**							
Batch R2930011								
WG1937388-1 MB								
Beryllium (Be)			<0.50		ug/g		0.5	25-AUG-14
Bismuth (Bi)			<1.0		ug/g		1	25-AUG-14
Boron (B)			<5.0		ug/g		5	25-AUG-14
Cadmium (Cd)			<0.50		ug/g		0.5	25-AUG-14
Calcium (Ca)			<100		ug/g		100	25-AUG-14
Chromium (Cr)			<1.0		ug/g		1	25-AUG-14
Cobalt (Co)			<1.0		ug/g		1	25-AUG-14
Copper (Cu)			<1.0		ug/g		1	25-AUG-14
Iron (Fe)			<50		ug/g		50	25-AUG-14
Lead (Pb)			<1.0		ug/g		1	25-AUG-14
Lithium (Li)			<1.0		ug/g		1	25-AUG-14
Magnesium (Mg)			<20		ug/g		20	25-AUG-14
Manganese (Mn)			<1.0		ug/g		1	25-AUG-14
Molybdenum (Mo)			<1.0		ug/g		1	25-AUG-14
Nickel (Ni)			<1.0		ug/g		1	25-AUG-14
Phosphorus (P)			<50		ug/g		50	25-AUG-14
Potassium (K)			<100		ug/g		100	25-AUG-14
Selenium (Se)			<1.0		ug/g		1	25-AUG-14
Silver (Ag)			<0.20		ug/g		0.2	25-AUG-14
Sodium (Na)			<100		ug/g		100	25-AUG-14
Strontium (Sr)			<1.0		ug/g		1	25-AUG-14
Thallium (Tl)			<0.50		ug/g		0.5	25-AUG-14
Tin (Sn)			<5.0		ug/g		5	25-AUG-14
Titanium (Ti)			<5.0		ug/g		5	25-AUG-14
Uranium (U)			<1.0		ug/g		1	25-AUG-14
Vanadium (V)			<1.0		ug/g		1	25-AUG-14
Zinc (Zn)			<5.0		ug/g		5	25-AUG-14
WG1937388-7 MS		**WG1937388-5**						
Aluminum (Al)			N/A	MS-B	%		-	25-AUG-14
Antimony (Sb)			101.5		%		70-130	25-AUG-14
Arsenic (As)			100.3		%		70-130	25-AUG-14
Barium (Ba)			N/A	MS-B	%		-	25-AUG-14
Beryllium (Be)			105.2		%		70-130	25-AUG-14
Bismuth (Bi)			94.6		%		70-130	25-AUG-14

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-UG/G-CCMS-WT	**Soil**							
Batch R2930011								
WG1937388-7 MS		**WG1937388-5**						
Boron (B)			100.6		%		70-130	25-AUG-14
Cadmium (Cd)			113.0		%		70-130	25-AUG-14
Calcium (Ca)			N/A	MS-B	%		-	25-AUG-14
Chromium (Cr)			N/A	MS-B	%		-	25-AUG-14
Cobalt (Co)			103.3		%		70-130	25-AUG-14
Copper (Cu)			N/A	MS-B	%		-	25-AUG-14
Iron (Fe)			N/A	MS-B	%		-	25-AUG-14
Lead (Pb)			N/A	MS-B	%		-	25-AUG-14
Lithium (Li)			100.7		%		70-130	25-AUG-14
Magnesium (Mg)			N/A	MS-B	%		-	25-AUG-14
Manganese (Mn)			N/A	MS-B	%		-	25-AUG-14
Molybdenum (Mo)			112.4		%		70-130	25-AUG-14
Nickel (Ni)			N/A	MS-B	%		-	25-AUG-14
Phosphorus (P)			N/A	MS-B	%		-	25-AUG-14
Potassium (K)			N/A	MS-B	%		-	25-AUG-14
Selenium (Se)			112.2		%		70-130	25-AUG-14
Silver (Ag)			101.5		%		70-130	25-AUG-14
Sodium (Na)			108.7		%		70-130	25-AUG-14
Strontium (Sr)			N/A	MS-B	%		-	25-AUG-14
Thallium (Tl)			95.2		%		70-130	25-AUG-14
Tin (Sn)			109.1		%		70-130	25-AUG-14
Titanium (Ti)			N/A	MS-B	%		-	25-AUG-14
Uranium (U)			105.7		%		70-130	25-AUG-14
Vanadium (V)			N/A	MS-B	%		-	25-AUG-14
Zinc (Zn)			N/A	MS-B	%		-	25-AUG-14
Batch R2930050								
WG1937424-2 CVS								
Aluminum (Al)			96.5		%		70-130	25-AUG-14
Antimony (Sb)			98.4		%		70-130	25-AUG-14
Arsenic (As)			95.6		%		70-130	25-AUG-14
Barium (Ba)			100.9		%		70-130	25-AUG-14
Beryllium (Be)			92.6		%		70-130	25-AUG-14
Bismuth (Bi)			93.3		%		70-130	25-AUG-14
Boron (B)			94.6		%		70-130	25-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-UG/G-CCMS-WT	**Soil**							
Batch R2930050								
WG1937424-2 CVS								
Cadmium (Cd)			99.8		%		70-130	25-AUG-14
Calcium (Ca)			94.5		%		70-130	25-AUG-14
Chromium (Cr)			98.0		%		70-130	25-AUG-14
Cobalt (Co)			99.3		%		70-130	25-AUG-14
Copper (Cu)			98.8		%		70-130	25-AUG-14
Iron (Fe)			100.6		%		70-130	25-AUG-14
Lead (Pb)			102.8		%		70-130	25-AUG-14
Lithium (Li)			97.7		%		70-130	25-AUG-14
Magnesium (Mg)			94.3		%		70-130	25-AUG-14
Manganese (Mn)			96.9		%		70-130	25-AUG-14
Molybdenum (Mo)			97.3		%		70-130	25-AUG-14
Nickel (Ni)			97.2		%		70-130	25-AUG-14
Phosphorus (P)			91.8		%		70-130	25-AUG-14
Potassium (K)			94.6		%		70-130	25-AUG-14
Selenium (Se)			103.2		%		70-130	25-AUG-14
Silver (Ag)			99.3		%		70-130	25-AUG-14
Sodium (Na)			96.0		%		70-130	25-AUG-14
Strontium (Sr)			95.2		%		70-130	25-AUG-14
Thallium (Tl)			95.7		%		70-130	25-AUG-14
Tin (Sn)			100.0		%		70-130	25-AUG-14
Titanium (Ti)			96.1		%		70-130	25-AUG-14
Uranium (U)			93.1		%		70-130	25-AUG-14
Vanadium (V)			97.7		%		70-130	25-AUG-14
Zinc (Zn)			94.0		%		70-130	25-AUG-14
WG1937389-6 DUP		**WG1937389-5**						
Aluminum (Al)		21800	19900		ug/g	8.8	40	25-AUG-14
Antimony (Sb)		<1.0	<1.0	RPD-NA	ug/g	N/A	30	25-AUG-14
Arsenic (As)		4.55	4.14		ug/g	9.4	30	25-AUG-14
Barium (Ba)		116	110		ug/g	5.5	40	25-AUG-14
Beryllium (Be)		<0.50	<0.50	RPD-NA	ug/g	N/A	30	25-AUG-14
Bismuth (Bi)		<1.0	<1.0	RPD-NA	ug/g	N/A	30	25-AUG-14
Boron (B)		<5.0	<5.0	RPD-NA	ug/g	N/A	30	25-AUG-14
Cadmium (Cd)		<0.50	<0.50	RPD-NA	ug/g	N/A	30	25-AUG-14
Calcium (Ca)		5900	5500		ug/g	6.9	30	25-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-UG/G-CCMS-WT	**Soil**							
Batch R2930050								
WG1937389-6 DUP		**WG1937389-5**						
Chromium (Cr)		87.1	81.3		ug/g	6.8	30	25-AUG-14
Cobalt (Co)		18.4	17.1		ug/g	7.3	30	25-AUG-14
Copper (Cu)		63.3	60.2		ug/g	5.0	30	25-AUG-14
Iron (Fe)		36200	34900		ug/g	3.7	30	25-AUG-14
Lead (Pb)		16.6	15.8		ug/g	5.2	40	25-AUG-14
Lithium (Li)		33.2	32.2		ug/g	3.0	30	25-AUG-14
Magnesium (Mg)		15600	14300		ug/g	8.2	30	25-AUG-14
Manganese (Mn)		453	453		ug/g	0.2	30	25-AUG-14
Molybdenum (Mo)		2.6	2.4		ug/g	8.2	40	25-AUG-14
Nickel (Ni)		88.7	82.6		ug/g	7.1	30	25-AUG-14
Phosphorus (P)		479	424		ug/g	12	30	25-AUG-14
Potassium (K)		6770	6210		ug/g	8.7	40	25-AUG-14
Selenium (Se)		<1.0	<1.0	RPD-NA	ug/g	N/A	30	25-AUG-14
Silver (Ag)		<0.20	<0.20	RPD-NA	ug/g	N/A	40	25-AUG-14
Sodium (Na)		350	350		ug/g	0.9	40	25-AUG-14
Strontium (Sr)		25.5	25.9		ug/g	1.6	40	25-AUG-14
Thallium (Tl)		0.59	0.56		ug/g	4.3	30	25-AUG-14
Tin (Sn)		<5.0	<5.0	RPD-NA	ug/g	N/A	40	25-AUG-14
Titanium (Ti)		1960	1840		ug/g	6.1	40	25-AUG-14
Uranium (U)		10.8	10.4		ug/g	3.7	30	25-AUG-14
Vanadium (V)		70.0	65.9		ug/g	6.1	30	25-AUG-14
Zinc (Zn)		78.0	73.9		ug/g	5.3	30	25-AUG-14
WG1937389-2 IRM		**ALS MET IRM1**						
Aluminum (Al)			96.8		%		70-130	25-AUG-14
Antimony (Sb)			88.2		%		70-130	25-AUG-14
Arsenic (As)			91.6		%		70-130	25-AUG-14
Barium (Ba)			94.1		%		70-130	25-AUG-14
Beryllium (Be)			92.5		%		70-130	25-AUG-14
Boron (B)			85.2		%		70-130	25-AUG-14
Cadmium (Cd)			94.2		%		70-130	25-AUG-14
Calcium (Ca)			96.4		%		70-130	25-AUG-14
Chromium (Cr)			96.4		%		70-130	25-AUG-14
Cobalt (Co)			95.1		%		70-130	25-AUG-14
Copper (Cu)			95.4		%		70-130	25-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-UG/G-CCMS-WT	**Soil**							
Batch R2930050								
WG1937389-2 IRM		**ALS MET IRM1**						
Iron (Fe)			97.4		%		70-130	25-AUG-14
Lead (Pb)			96.3		%		70-130	25-AUG-14
Lithium (Li)			99.9		%		70-130	25-AUG-14
Magnesium (Mg)			96.9		%		70-130	25-AUG-14
Manganese (Mn)			95.9		%		70-130	25-AUG-14
Molybdenum (Mo)			1.7		ug/g		1.1-3.1	25-AUG-14
Nickel (Ni)			93.9		%		70-130	25-AUG-14
Phosphorus (P)			88.9		%		70-130	25-AUG-14
Potassium (K)			92.6		%		70-130	25-AUG-14
Selenium (Se)			91.8		%		70-130	25-AUG-14
Silver (Ag)			96.4		%		70-130	25-AUG-14
Sodium (Na)			100.9		%		70-130	25-AUG-14
Strontium (Sr)			95.3		%		70-130	25-AUG-14
Thallium (Tl)			91.9		%		70-130	25-AUG-14
Tin (Sn)			92.3		%		70-130	25-AUG-14
Titanium (Ti)			82.4		%		70-130	25-AUG-14
Uranium (U)			1.6		ug/g		0.8-2.8	25-AUG-14
Vanadium (V)			94.7		%		70-130	25-AUG-14
Zinc (Zn)			94.2		%		70-130	25-AUG-14
WG1937389-3 LCS								
Antimony (Sb)			98.6		%		80-120	25-AUG-14
Arsenic (As)			99.1		%		80-120	25-AUG-14
Barium (Ba)			102.7		%		80-120	25-AUG-14
Beryllium (Be)			89.2		%		80-120	25-AUG-14
Bismuth (Bi)			103.2		%		80-120	25-AUG-14
Boron (B)			93.4		%		80-120	25-AUG-14
Cadmium (Cd)			100.3		%		80-120	25-AUG-14
Calcium (Ca)			99.3		%		80-120	25-AUG-14
Chromium (Cr)			100.9		%		80-120	25-AUG-14
Cobalt (Co)			99.0		%		80-120	25-AUG-14
Copper (Cu)			99.4		%		80-120	25-AUG-14
Iron (Fe)			107.5		%		80-120	25-AUG-14
Lead (Pb)			100.4		%		80-120	25-AUG-14
Lithium (Li)			91.5		%		80-120	25-AUG-14

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-UG/G-CCMS-WT	**Soil**							
Batch R2930050								
WG1937389-3 LCS								
Magnesium (Mg)			100.4		%		80-120	25-AUG-14
Manganese (Mn)			98.1		%		80-120	25-AUG-14
Molybdenum (Mo)			101.1		%		80-120	25-AUG-14
Nickel (Ni)			98.5		%		80-120	25-AUG-14
Phosphorus (P)			91.9		%		80-120	25-AUG-14
Potassium (K)			91.3		%		80-120	25-AUG-14
Selenium (Se)			104.7		%		80-120	25-AUG-14
Silver (Ag)			97.8		%		80-120	25-AUG-14
Sodium (Na)			98.9		%		80-120	25-AUG-14
Strontium (Sr)			97.2		%		80-120	25-AUG-14
Thallium (Tl)			101.6		%		80-120	25-AUG-14
Tin (Sn)			101.7		%		80-120	25-AUG-14
Titanium (Ti)			97.3		%		80-120	25-AUG-14
Uranium (U)			105.2		%		80-120	25-AUG-14
Vanadium (V)			101.4		%		80-120	25-AUG-14
Zinc (Zn)			99.7		%		80-120	25-AUG-14
WG1937389-1 MB								
Aluminum (Al)			<50		ug/g		50	25-AUG-14
Antimony (Sb)			<1.0		ug/g		1	25-AUG-14
Arsenic (As)			<0.20		ug/g		0.2	25-AUG-14
Barium (Ba)			<1.0		ug/g		1	25-AUG-14
Beryllium (Be)			<0.50		ug/g		0.5	25-AUG-14
Bismuth (Bi)			<1.0		ug/g		1	25-AUG-14
Boron (B)			<5.0		ug/g		5	25-AUG-14
Cadmium (Cd)			<0.50		ug/g		0.5	25-AUG-14
Calcium (Ca)			<100		ug/g		100	25-AUG-14
Chromium (Cr)			<1.0		ug/g		1	25-AUG-14
Cobalt (Co)			<1.0		ug/g		1	25-AUG-14
Copper (Cu)			<1.0		ug/g		1	25-AUG-14
Iron (Fe)			<50		ug/g		50	25-AUG-14
Lead (Pb)			<1.0		ug/g		1	25-AUG-14
Lithium (Li)			<1.0		ug/g		1	25-AUG-14
Magnesium (Mg)			<20		ug/g		20	25-AUG-14
Manganese (Mn)			<1.0		ug/g		1	25-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-UG/G-CCMS-WT	**Soil**							
Batch R2930050								
WG1937389-1 MB								
Molybdenum (Mo)			<1.0		ug/g		1	25-AUG-14
Nickel (Ni)			<1.0		ug/g		1	25-AUG-14
Phosphorus (P)			<50		ug/g		50	25-AUG-14
Potassium (K)			<100		ug/g		100	25-AUG-14
Selenium (Se)			<1.0		ug/g		1	25-AUG-14
Silver (Ag)			<0.20		ug/g		0.2	25-AUG-14
Sodium (Na)			<100		ug/g		100	25-AUG-14
Strontium (Sr)			<1.0		ug/g		1	25-AUG-14
Thallium (Tl)			<0.50		ug/g		0.5	25-AUG-14
Tin (Sn)			<5.0		ug/g		5	25-AUG-14
Titanium (Ti)			<5.0		ug/g		5	25-AUG-14
Uranium (U)			<1.0		ug/g		1	25-AUG-14
Vanadium (V)			<1.0		ug/g		1	25-AUG-14
Zinc (Zn)			<5.0		ug/g		5	25-AUG-14
WG1937389-7 MS		**WG1937389-5**						
Aluminum (Al)			N/A	MS-B	%		-	25-AUG-14
Antimony (Sb)			77.6		%		70-130	25-AUG-14
Arsenic (As)			N/A	MS-B	%		-	25-AUG-14
Barium (Ba)			N/A	MS-B	%		-	25-AUG-14
Beryllium (Be)			105.6		%		70-130	25-AUG-14
Bismuth (Bi)			96.4		%		70-130	25-AUG-14
Boron (B)			92.4		%		70-130	25-AUG-14
Cadmium (Cd)			99.9		%		70-130	25-AUG-14
Calcium (Ca)			N/A	MS-B	%		-	25-AUG-14
Chromium (Cr)			N/A	MS-B	%		-	25-AUG-14
Cobalt (Co)			N/A	MS-B	%		-	25-AUG-14
Copper (Cu)			N/A	MS-B	%		-	25-AUG-14
Iron (Fe)			N/A	MS-B	%		-	25-AUG-14
Lead (Pb)			N/A	MS-B	%		-	25-AUG-14
Lithium (Li)			91.4		%		70-130	25-AUG-14
Magnesium (Mg)			N/A	MS-B	%		-	25-AUG-14
Manganese (Mn)			N/A	MS-B	%		-	25-AUG-14
Molybdenum (Mo)			N/A	MS-B	%		-	25-AUG-14
Nickel (Ni)			N/A	MS-B	%		-	25-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-UG/G-CCMS-WT	**Soil**							
Batch R2930050								
WG1937389-7 MS		**WG1937389-5**						
Phosphorus (P)			N/A	MS-B	%		-	25-AUG-14
Potassium (K)			N/A	MS-B	%		-	25-AUG-14
Selenium (Se)			115.3		%		70-130	25-AUG-14
Silver (Ag)			98.1		%		70-130	25-AUG-14
Sodium (Na)			N/A	MS-B	%		-	25-AUG-14
Strontium (Sr)			N/A	MS-B	%		-	25-AUG-14
Thallium (Tl)			86.1		%		70-130	25-AUG-14
Tin (Sn)			115.9		%		70-130	25-AUG-14
Titanium (Ti)			N/A	MS-B	%		-	25-AUG-14
Uranium (U)			N/A	MS-B	%		-	25-AUG-14
Vanadium (V)			N/A	MS-B	%		-	25-AUG-14
Zinc (Zn)			N/A	MS-B	%		-	25-AUG-14
Batch R2931765								
WG1939196-2 CVS								
Aluminum (Al)			99.2		%		70-130	27-AUG-14
Antimony (Sb)			98.6		%		70-130	27-AUG-14
Arsenic (As)			97.1		%		70-130	27-AUG-14
Barium (Ba)			98.3		%		70-130	27-AUG-14
Beryllium (Be)			95.8		%		70-130	27-AUG-14
Bismuth (Bi)			93.4		%		70-130	27-AUG-14
Boron (B)			98.1		%		70-130	27-AUG-14
Cadmium (Cd)			100.7		%		70-130	27-AUG-14
Calcium (Ca)			95.0		%		70-130	27-AUG-14
Chromium (Cr)			98.5		%		70-130	27-AUG-14
Cobalt (Co)			99.9		%		70-130	27-AUG-14
Copper (Cu)			101.4		%		70-130	27-AUG-14
Iron (Fe)			99.5		%		70-130	27-AUG-14
Lead (Pb)			96.8		%		70-130	27-AUG-14
Lithium (Li)			104.2		%		70-130	27-AUG-14
Magnesium (Mg)			97.3		%		70-130	27-AUG-14
Manganese (Mn)			101.7		%		70-130	27-AUG-14
Molybdenum (Mo)			96.0		%		70-130	27-AUG-14
Nickel (Ni)			100.3		%		70-130	27-AUG-14
Phosphorus (P)			94.6		%		70-130	27-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-UG/G-CCMS-WT	**Soil**							
Batch R2931765								
WG1939196-2 CVS								
Potassium (K)			95.6		%		70-130	27-AUG-14
Selenium (Se)			98.2		%		70-130	27-AUG-14
Silver (Ag)			99.4		%		70-130	27-AUG-14
Sodium (Na)			100.9		%		70-130	27-AUG-14
Strontium (Sr)			91.7		%		70-130	27-AUG-14
Thallium (Tl)			93.9		%		70-130	27-AUG-14
Tin (Sn)			99.4		%		70-130	27-AUG-14
Titanium (Ti)			100.3		%		70-130	27-AUG-14
Uranium (U)			93.6		%		70-130	27-AUG-14
Vanadium (V)			98.5		%		70-130	27-AUG-14
Zinc (Zn)			93.8		%		70-130	27-AUG-14
WG1939146-2 IRM		**ALS MET IRM1**						
Aluminum (Al)			104.7		%		70-130	27-AUG-14
Antimony (Sb)			97.2		%		70-130	27-AUG-14
Arsenic (As)			99.7		%		70-130	27-AUG-14
Barium (Ba)			101.8		%		70-130	27-AUG-14
Beryllium (Be)			97.8		%		70-130	27-AUG-14
Boron (B)			100.4		%		70-130	27-AUG-14
Cadmium (Cd)			100.8		%		70-130	27-AUG-14
Calcium (Ca)			102.8		%		70-130	27-AUG-14
Chromium (Cr)			102.1		%		70-130	27-AUG-14
Cobalt (Co)			102.9		%		70-130	27-AUG-14
Copper (Cu)			102.9		%		70-130	27-AUG-14
Iron (Fe)			105.7		%		70-130	27-AUG-14
Lead (Pb)			99.2		%		70-130	27-AUG-14
Lithium (Li)			105.9		%		70-130	27-AUG-14
Magnesium (Mg)			103.0		%		70-130	27-AUG-14
Manganese (Mn)			100.0		%		70-130	27-AUG-14
Molybdenum (Mo)			1.7		ug/g		1.1-3.1	27-AUG-14
Nickel (Ni)			103.8		%		70-130	27-AUG-14
Phosphorus (P)			99.4		%		70-130	27-AUG-14
Potassium (K)			106.1		%		70-130	27-AUG-14
Selenium (Se)			98.7		%		70-130	27-AUG-14
Silver (Ag)			95.3		%		70-130	27-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-UG/G-CCMS-WT	**Soil**							
Batch R2931765								
WG1939146-2 IRM		**ALS MET IRM1**						
Sodium (Na)			105.8		%		70-130	27-AUG-14
Strontium (Sr)			92.0		%		70-130	27-AUG-14
Thallium (Tl)			96.8		%		70-130	27-AUG-14
Tin (Sn)			100.3		%		70-130	27-AUG-14
Titanium (Ti)			101.0		%		70-130	27-AUG-14
Uranium (U)			1.7		ug/g		0.8-2.8	27-AUG-14
Vanadium (V)			103.3		%		70-130	27-AUG-14
Zinc (Zn)			99.9		%		70-130	27-AUG-14
WG1939146-3 LCS								
Antimony (Sb)			99.9		%		80-120	27-AUG-14
Arsenic (As)			93.5		%		80-120	27-AUG-14
Barium (Ba)			96.3		%		80-120	27-AUG-14
Beryllium (Be)			89.8		%		80-120	27-AUG-14
Bismuth (Bi)			94.5		%		80-120	27-AUG-14
Boron (B)			94.4		%		80-120	27-AUG-14
Cadmium (Cd)			96.9		%		80-120	27-AUG-14
Calcium (Ca)			95.1		%		80-120	27-AUG-14
Chromium (Cr)			97.4		%		80-120	27-AUG-14
Cobalt (Co)			94.8		%		80-120	27-AUG-14
Copper (Cu)			97.8		%		80-120	27-AUG-14
Iron (Fe)			97.0		%		80-120	27-AUG-14
Lead (Pb)			95.8		%		80-120	27-AUG-14
Lithium (Li)			94.0		%		80-120	27-AUG-14
Magnesium (Mg)			91.9		%		80-120	27-AUG-14
Manganese (Mn)			95.6		%		80-120	27-AUG-14
Molybdenum (Mo)			98.2		%		80-120	27-AUG-14
Nickel (Ni)			97.2		%		80-120	27-AUG-14
Phosphorus (P)			87.6		%		80-120	27-AUG-14
Potassium (K)			89.0		%		80-120	27-AUG-14
Selenium (Se)			101.8		%		80-120	27-AUG-14
Silver (Ag)			100.2		%		80-120	27-AUG-14
Sodium (Na)			94.0		%		80-120	27-AUG-14
Strontium (Sr)			92.5		%		80-120	27-AUG-14
Thallium (Tl)			94.4		%		80-120	27-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-UG/G-CCMS-WT	**Soil**							
Batch R2931765								
WG1939146-3 LCS								
Tin (Sn)			97.6		%		80-120	27-AUG-14
Titanium (Ti)			91.4		%		80-120	27-AUG-14
Uranium (U)			103.8		%		80-120	27-AUG-14
Vanadium (V)			97.1		%		80-120	27-AUG-14
Zinc (Zn)			101.6		%		80-120	27-AUG-14
WG1939146-1 MB								
Aluminum (Al)			<50		ug/g		50	27-AUG-14
Antimony (Sb)			<1.0		ug/g		1	27-AUG-14
Arsenic (As)			<0.20		ug/g		0.2	27-AUG-14
Barium (Ba)			<1.0		ug/g		1	27-AUG-14
Beryllium (Be)			<0.50		ug/g		0.5	27-AUG-14
Bismuth (Bi)			<1.0		ug/g		1	27-AUG-14
Boron (B)			<5.0		ug/g		5	27-AUG-14
Cadmium (Cd)			<0.50		ug/g		0.5	27-AUG-14
Calcium (Ca)			<100		ug/g		100	27-AUG-14
Chromium (Cr)			<1.0		ug/g		1	27-AUG-14
Cobalt (Co)			<1.0		ug/g		1	27-AUG-14
Copper (Cu)			<1.0		ug/g		1	27-AUG-14
Iron (Fe)			<50		ug/g		50	27-AUG-14
Lead (Pb)			<1.0		ug/g		1	27-AUG-14
Lithium (Li)			<1.0		ug/g		1	27-AUG-14
Magnesium (Mg)			<20		ug/g		20	27-AUG-14
Manganese (Mn)			<1.0		ug/g		1	27-AUG-14
Molybdenum (Mo)			<1.0		ug/g		1	27-AUG-14
Nickel (Ni)			<1.0		ug/g		1	27-AUG-14
Phosphorus (P)			<50		ug/g		50	27-AUG-14
Potassium (K)			<100		ug/g		100	27-AUG-14
Selenium (Se)			<1.0		ug/g		1	27-AUG-14
Silver (Ag)			<0.20		ug/g		0.2	27-AUG-14
Sodium (Na)			<100		ug/g		100	27-AUG-14
Strontium (Sr)			<1.0		ug/g		1	27-AUG-14
Thallium (Tl)			<0.50		ug/g		0.5	27-AUG-14
Tin (Sn)			<5.0		ug/g		5	27-AUG-14
Titanium (Ti)			<5.0		ug/g		5	27-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-UG/G-CCMS-WT	**Soil**							
Batch R2931765								
WG1939146-1 MB								
Uranium (U)			<1.0		ug/g		1	27-AUG-14
Vanadium (V)			<1.0		ug/g		1	27-AUG-14
Zinc (Zn)			<5.0		ug/g		5	27-AUG-14
WG1939146-7 MS		**WG1939146-5**						
Aluminum (Al)			N/A	MS-B	%		-	27-AUG-14
Antimony (Sb)			101.9		%		70-130	27-AUG-14
Arsenic (As)			96.9		%		70-130	27-AUG-14
Barium (Ba)			N/A	MS-B	%		-	27-AUG-14
Beryllium (Be)			103.9		%		70-130	27-AUG-14
Bismuth (Bi)			101.3		%		70-130	27-AUG-14
Boron (B)			125.9		%		70-130	27-AUG-14
Cadmium (Cd)			105.2		%		70-130	27-AUG-14
Calcium (Ca)			N/A	MS-B	%		-	27-AUG-14
Chromium (Cr)			N/A	MS-B	%		-	27-AUG-14
Cobalt (Co)			99.0		%		70-130	27-AUG-14
Copper (Cu)			N/A	MS-B	%		-	27-AUG-14
Iron (Fe)			N/A	MS-B	%		-	27-AUG-14
Lead (Pb)			N/A	MS-B	%		-	27-AUG-14
Lithium (Li)			111.3		%		70-130	27-AUG-14
Magnesium (Mg)			N/A	MS-B	%		-	27-AUG-14
Manganese (Mn)			N/A	MS-B	%		-	27-AUG-14
Molybdenum (Mo)			108.2		%		70-130	27-AUG-14
Nickel (Ni)			N/A	MS-B	%		-	27-AUG-14
Phosphorus (P)			N/A	MS-B	%		-	27-AUG-14
Potassium (K)			N/A	MS-B	%		-	27-AUG-14
Selenium (Se)			109.2		%		70-130	27-AUG-14
Silver (Ag)			104.3		%		70-130	27-AUG-14
Sodium (Na)			107.2		%		70-130	27-AUG-14
Strontium (Sr)			N/A	MS-B	%		-	27-AUG-14
Thallium (Tl)			96.7		%		70-130	27-AUG-14
Tin (Sn)			107.9		%		70-130	27-AUG-14
Titanium (Ti)			N/A	MS-B	%		-	27-AUG-14
Uranium (U)			112.6		%		70-130	27-AUG-14
Vanadium (V)			N/A	MS-B	%		-	27-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-UG/G-CCMS-WT	**Soil**							
Batch R2931765								
WG1939146-7 MS		**WG1939146-5**						
Zinc (Zn)			N/A	MS-B	%		-	27-AUG-14
Batch R2931793								
WG1939197-2 CVS								
Aluminum (Al)			97.3		%		70-130	27-AUG-14
Antimony (Sb)			99.0		%		70-130	27-AUG-14
Arsenic (As)			96.3		%		70-130	27-AUG-14
Barium (Ba)			98.0		%		70-130	27-AUG-14
Beryllium (Be)			95.3		%		70-130	27-AUG-14
Bismuth (Bi)			98.1		%		70-130	27-AUG-14
Boron (B)			96.8		%		70-130	27-AUG-14
Cadmium (Cd)			99.4		%		70-130	27-AUG-14
Calcium (Ca)			98.3		%		70-130	27-AUG-14
Chromium (Cr)			97.7		%		70-130	27-AUG-14
Cobalt (Co)			100.4		%		70-130	27-AUG-14
Copper (Cu)			100.0		%		70-130	27-AUG-14
Iron (Fe)			98.8		%		70-130	27-AUG-14
Lead (Pb)			102.8		%		70-130	27-AUG-14
Lithium (Li)			101.1		%		70-130	27-AUG-14
Magnesium (Mg)			95.6		%		70-130	27-AUG-14
Manganese (Mn)			98.2		%		70-130	27-AUG-14
Molybdenum (Mo)			98.0		%		70-130	27-AUG-14
Nickel (Ni)			100.4		%		70-130	27-AUG-14
Phosphorus (P)			96.4		%		70-130	27-AUG-14
Potassium (K)			99.6		%		70-130	27-AUG-14
Selenium (Se)			101.2		%		70-130	27-AUG-14
Silver (Ag)			101.8		%		70-130	27-AUG-14
Sodium (Na)			100.3		%		70-130	27-AUG-14
Strontium (Sr)			93.7		%		70-130	27-AUG-14
Thallium (Tl)			99.0		%		70-130	27-AUG-14
Tin (Sn)			99.6		%		70-130	27-AUG-14
Titanium (Ti)			98.2		%		70-130	27-AUG-14
Uranium (U)			97.7		%		70-130	27-AUG-14
Vanadium (V)			98.1		%		70-130	27-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-UG/G-CCMS-WT	**Soil**							
Batch R2931793								
WG1939197-2 CVS								
Zinc (Zn)			93.7		%		70-130	27-AUG-14
WG1939147-2 IRM		**ALS MET IRM1**						
Aluminum (Al)			100.6		%		70-130	27-AUG-14
Antimony (Sb)			95.9		%		70-130	27-AUG-14
Arsenic (As)			98.7		%		70-130	27-AUG-14
Barium (Ba)			99.1		%		70-130	27-AUG-14
Beryllium (Be)			97.8		%		70-130	27-AUG-14
Boron (B)			94.8		%		70-130	27-AUG-14
Cadmium (Cd)			102.3		%		70-130	27-AUG-14
Calcium (Ca)			101.1		%		70-130	27-AUG-14
Chromium (Cr)			99.7		%		70-130	27-AUG-14
Cobalt (Co)			103.0		%		70-130	27-AUG-14
Copper (Cu)			101.0		%		70-130	27-AUG-14
Iron (Fe)			100.1		%		70-130	27-AUG-14
Lead (Pb)			97.4		%		70-130	27-AUG-14
Lithium (Li)			107.0		%		70-130	27-AUG-14
Magnesium (Mg)			100.0		%		70-130	27-AUG-14
Manganese (Mn)			103.8		%		70-130	27-AUG-14
Molybdenum (Mo)			1.8		ug/g		1.1-3.1	27-AUG-14
Nickel (Ni)			100.9		%		70-130	27-AUG-14
Phosphorus (P)			95.8		%		70-130	27-AUG-14
Potassium (K)			96.6		%		70-130	27-AUG-14
Selenium (Se)			95.2		%		70-130	27-AUG-14
Silver (Ag)			98.5		%		70-130	27-AUG-14
Sodium (Na)			98.2		%		70-130	27-AUG-14
Strontium (Sr)			94.9		%		70-130	27-AUG-14
Thallium (Tl)			95.3		%		70-130	27-AUG-14
Tin (Sn)			98.1		%		70-130	27-AUG-14
Titanium (Ti)			89.2		%		70-130	27-AUG-14
Uranium (U)			1.7		ug/g		0.8-2.8	27-AUG-14
Vanadium (V)			97.5		%		70-130	27-AUG-14
Zinc (Zn)			98.4		%		70-130	27-AUG-14
WG1939147-3 LCS								
Antimony (Sb)			97.3		%		80-120	27-AUG-14
Arsenic (As)			95.5		%		80-120	27-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-UG/G-CCMS-WT	**Soil**							
Batch R2931793								
WG1939147-3 LCS								
Barium (Ba)			97.0		%		80-120	27-AUG-14
Beryllium (Be)			90.4		%		80-120	27-AUG-14
Bismuth (Bi)			96.4		%		80-120	27-AUG-14
Boron (B)			94.8		%		80-120	27-AUG-14
Cadmium (Cd)			97.9		%		80-120	27-AUG-14
Calcium (Ca)			96.9		%		80-120	27-AUG-14
Chromium (Cr)			98.7		%		80-120	27-AUG-14
Cobalt (Co)			96.0		%		80-120	27-AUG-14
Copper (Cu)			98.0		%		80-120	27-AUG-14
Iron (Fe)			97.9		%		80-120	27-AUG-14
Lead (Pb)			98.6		%		80-120	27-AUG-14
Lithium (Li)			94.7		%		80-120	27-AUG-14
Magnesium (Mg)			91.6		%		80-120	27-AUG-14
Manganese (Mn)			98.1		%		80-120	27-AUG-14
Molybdenum (Mo)			98.8		%		80-120	27-AUG-14
Nickel (Ni)			98.4		%		80-120	27-AUG-14
Phosphorus (P)			89.8		%		80-120	27-AUG-14
Potassium (K)			91.4		%		80-120	27-AUG-14
Selenium (Se)			102.5		%		80-120	27-AUG-14
Silver (Ag)			98.3		%		80-120	27-AUG-14
Sodium (Na)			96.1		%		80-120	27-AUG-14
Strontium (Sr)			95.2		%		80-120	27-AUG-14
Thallium (Tl)			99.2		%		80-120	27-AUG-14
Tin (Sn)			98.0		%		80-120	27-AUG-14
Titanium (Ti)			92.4		%		80-120	27-AUG-14
Uranium (U)			103.8		%		80-120	27-AUG-14
Vanadium (V)			99.1		%		80-120	27-AUG-14
Zinc (Zn)			104.6		%		80-120	27-AUG-14
WG1939147-1 MB								
Aluminum (Al)			<50		ug/g		50	27-AUG-14
Antimony (Sb)			<1.0		ug/g		1	27-AUG-14
Arsenic (As)			<0.20		ug/g		0.2	27-AUG-14
Barium (Ba)			<1.0		ug/g		1	27-AUG-14
Beryllium (Be)			<0.50		ug/g		0.5	27-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-UG/G-CCMS-WT	**Soil**							
Batch R2931793								
WG1939147-1 MB								
Bismuth (Bi)			<1.0		ug/g		1	27-AUG-14
Boron (B)			<5.0		ug/g		5	27-AUG-14
Cadmium (Cd)			<0.50		ug/g		0.5	27-AUG-14
Calcium (Ca)			<100		ug/g		100	27-AUG-14
Chromium (Cr)			<1.0		ug/g		1	27-AUG-14
Cobalt (Co)			<1.0		ug/g		1	27-AUG-14
Copper (Cu)			<1.0		ug/g		1	27-AUG-14
Iron (Fe)			<50		ug/g		50	27-AUG-14
Lead (Pb)			<1.0		ug/g		1	27-AUG-14
Lithium (Li)			<1.0		ug/g		1	27-AUG-14
Magnesium (Mg)			<20		ug/g		20	27-AUG-14
Manganese (Mn)			<1.0		ug/g		1	27-AUG-14
Molybdenum (Mo)			<1.0		ug/g		1	27-AUG-14
Nickel (Ni)			<1.0		ug/g		1	27-AUG-14
Phosphorus (P)			<50		ug/g		50	27-AUG-14
Potassium (K)			<100		ug/g		100	27-AUG-14
Selenium (Se)			<1.0		ug/g		1	27-AUG-14
Silver (Ag)			<0.20		ug/g		0.2	27-AUG-14
Sodium (Na)			<100		ug/g		100	27-AUG-14
Strontium (Sr)			<1.0		ug/g		1	27-AUG-14
Thallium (Tl)			<0.50		ug/g		0.5	27-AUG-14
Tin (Sn)			<5.0		ug/g		5	27-AUG-14
Titanium (Ti)			<5.0		ug/g		5	27-AUG-14
Uranium (U)			<1.0		ug/g		1	27-AUG-14
Vanadium (V)			<1.0		ug/g		1	27-AUG-14
Zinc (Zn)			<5.0		ug/g		5	27-AUG-14
WG1939147-7 MS		**WG1939147-5**						
Aluminum (Al)			N/A	MS-B	%		-	27-AUG-14
Antimony (Sb)			94.6		%		70-130	27-AUG-14
Arsenic (As)			79.7		%		70-130	27-AUG-14
Barium (Ba)			N/A	MS-B	%		-	27-AUG-14
Beryllium (Be)			102.0		%		70-130	27-AUG-14
Bismuth (Bi)			98.8		%		70-130	27-AUG-14
Boron (B)			96.5		%		70-130	27-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-UG/G-CCMS-WT	**Soil**							
Batch R2931793								
WG1939147-7 MS		**WG1939147-5**						
Cadmium (Cd)			106.9		%		70-130	27-AUG-14
Calcium (Ca)			N/A	MS-B	%		-	27-AUG-14
Chromium (Cr)			N/A	MS-B	%		-	27-AUG-14
Cobalt (Co)			N/A	MS-B	%		-	27-AUG-14
Copper (Cu)			N/A	MS-B	%		-	27-AUG-14
Iron (Fe)			N/A	MS-B	%		-	27-AUG-14
Lead (Pb)			N/A	MS-B	%		-	27-AUG-14
Lithium (Li)			102.0		%		70-130	27-AUG-14
Magnesium (Mg)			N/A	MS-B	%		-	27-AUG-14
Manganese (Mn)			N/A	MS-B	%		-	27-AUG-14
Molybdenum (Mo)			111.0		%		70-130	27-AUG-14
Nickel (Ni)			N/A	MS-B	%		-	27-AUG-14
Phosphorus (P)			N/A	MS-B	%		-	27-AUG-14
Potassium (K)			N/A	MS-B	%		-	27-AUG-14
Selenium (Se)			100.2		%		70-130	27-AUG-14
Silver (Ag)			104.8		%		70-130	27-AUG-14
Sodium (Na)			N/A	MS-B	%		-	27-AUG-14
Strontium (Sr)			N/A	MS-B	%		-	27-AUG-14
Thallium (Tl)			94.3		%		70-130	27-AUG-14
Tin (Sn)			108.0		%		70-130	27-AUG-14
Titanium (Ti)			N/A	MS-B	%		-	27-AUG-14
Uranium (U)			114.9		%		70-130	27-AUG-14
Vanadium (V)			N/A	MS-B	%		-	27-AUG-14
Zinc (Zn)			N/A	MS-B	%		-	27-AUG-14
MOISTURE-WT	**Soil**							
Batch R2926545								
WG1936555-4 DUP		**L1506349-23**						
% Moisture		7.41	7.17		%	3.2	30	23-AUG-14
WG1936555-2 LCS								
% Moisture			100.1		%		70-130	23-AUG-14
WG1936555-1 MB								
% Moisture			<0.10		%		0.1	23-AUG-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT	**Soil**							
Batch R2926627								
WG1936672-3 DUP		**L1506349-22**						
% Moisture		7.55	6.87		%	9.4	30	23-AUG-14
WG1936672-2 LCS								
% Moisture			100.3		%		70-130	23-AUG-14
WG1936672-1 MB								
% Moisture			<0.10		%		0.1	23-AUG-14
Batch R2927709								
WG1937478-3 DUP		**L1506349-10**						
% Moisture		13.3	13.8		%	4.0	30	26-AUG-14
WG1937478-2 LCS								
% Moisture			100.1		%		70-130	26-AUG-14
WG1937478-1 MB								
% Moisture			<0.10		%		0.1	26-AUG-14
Batch R2927808								
WG1937573-2 LCS								
% Moisture			99.3		%		70-130	26-AUG-14
WG1937573-1 MB								
% Moisture			<0.10		%		0.1	26-AUG-14

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Physical Tests							
% Moisture							
	1	06-AUG-14 15:30	26-AUG-14 11:47	14	20	days	EHTR
	2	06-AUG-14 09:30	26-AUG-14 11:48	14	20	days	EHTR
	3	06-AUG-14 11:50	26-AUG-14 11:49	14	20	days	EHTR
	4	06-AUG-14 09:40	26-AUG-14 11:50	14	20	days	EHTR
	5	06-AUG-14 16:30	26-AUG-14 11:51	14	20	days	EHTR
	6	06-AUG-14 17:00	26-AUG-14 11:52	14	20	days	EHTR
	7	07-AUG-14 11:30	26-AUG-14 11:53	14	19	days	EHTR
	8	07-AUG-14 15:03	26-AUG-14 11:54	14	19	days	EHTR
	9	07-AUG-14 08:00	26-AUG-14 11:55	14	19	days	EHTR
	10	07-AUG-14 09:10	26-AUG-14 11:56	14	19	days	EHTR
	11	07-AUG-14 11:00	26-AUG-14 15:47	14	19	days	EHTR
	12	07-AUG-14 15:10	26-AUG-14 15:48	14	19	days	EHTR
Hydrocarbons							
F1-O.Reg 153/04 (July 2011)							
	1	06-AUG-14 15:30	22-AUG-14 14:48	14	16	days	EHTR
	2	06-AUG-14 09:30	22-AUG-14 14:49	14	16	days	EHTR
	3	06-AUG-14 11:50	22-AUG-14 14:50	14	16	days	EHTR
	4	06-AUG-14 09:40	22-AUG-14 14:51	14	16	days	EHTR
	5	06-AUG-14 16:30	22-AUG-14 14:52	14	16	days	EHTR
	6	06-AUG-14 17:00	22-AUG-14 14:53	14	16	days	EHTR
	7	07-AUG-14 11:30	22-AUG-14 14:54	14	15	days	EHTR
	8	07-AUG-14 15:03	22-AUG-14 14:55	14	15	days	EHTR
	9	07-AUG-14 08:00	22-AUG-14 14:56	14	15	days	EHTR
	10	07-AUG-14 09:10	22-AUG-14 14:57	14	15	days	EHTR
	11	07-AUG-14 11:00	22-AUG-14 14:58	14	15	days	EHTR
	12	07-AUG-14 15:10	22-AUG-14 14:59	14	15	days	EHTR
F2-F4-O.Reg 153/04 (July 2011)							
	1	06-AUG-14 15:30	26-AUG-14 11:07	14	20	days	EHTR
	2	06-AUG-14 09:30	26-AUG-14 11:08	14	20	days	EHTR
	3	06-AUG-14 11:50	26-AUG-14 11:09	14	20	days	EHTR
	4	06-AUG-14 09:40	26-AUG-14 11:10	14	20	days	EHTR
	5	06-AUG-14 16:30	26-AUG-14 11:11	14	20	days	EHTR
	6	06-AUG-14 17:00	26-AUG-14 11:12	14	20	days	EHTR
	7	07-AUG-14 11:30	26-AUG-14 11:13	14	19	days	EHTR
	8	07-AUG-14 15:03	26-AUG-14 11:14	14	19	days	EHTR
	9	07-AUG-14 08:00	26-AUG-14 11:15	14	19	days	EHTR
	10	07-AUG-14 09:10	26-AUG-14 11:16	14	19	days	EHTR
	11	07-AUG-14 11:00	26-AUG-14 11:17	14	19	days	EHTR
	12	07-AUG-14 15:10	26-AUG-14 11:18	14	19	days	EHTR
	13	10-AUG-14 16:00	27-AUG-14 16:03	14	17	days	EHT
	18	10-AUG-14 16:40	27-AUG-14 16:03	14	17	days	EHT
	19	11-AUG-14 11:30	27-AUG-14 16:03	14	16	days	EHT
	20	12-AUG-14 09:40	27-AUG-14 06:37	14	15	days	EHT
	21	12-AUG-14 09:45	27-AUG-14 06:38	14	15	days	EHT
	22	12-AUG-14 11:15	27-AUG-14 06:39	14	15	days	EHT
	23	11-AUG-14 16:10	27-AUG-14 15:45	14	16	days	EHT

Legend & Qualifier Definitions:

EHTR-FM:	Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR:	Exceeded ALS recommended hold time prior to sample receipt.
EHTL:	Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT:	Exceeded ALS recommended hold time prior to analysis.
Rec. HT:	ALS recommended hold time (see units).

Notes*:
Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is

used for calculation purposes. Samples for L1506349 were received on 22-AUG-14 09:00.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

C of C # 00007

309 Exeter Road, Unit 29
LONDON, ON N6L 1C1
Phone: (519) 652-6044
Fax: (519) 652-0671
Toll Free: 1-800-668-9878

L1506349-COFC

TICAL SERVICES REQUEST FORM

Page _1__ of _2__

statutory holidays /Sunday begin the	Specify date required	Service requested		*2 day TAT (50%)*	
		5 day (regular)	X	*Next day TAT (100%)*	
		3-4 day (25%)		*Same day TAT(200%)*	

COMPANY NAME	ESG
PROJECT MANAGER	Jasmine King
PROJECT	Dye-M 14-006
ACCOUNT #	
PHONE/FAX	613-541-6000x6386
QUOTE#Q45842	P.O. W0114-4501192649

CRITERIA Criteria on report YES___ NO___

Table 1 2 3

TCLP _____ PWQO _____ ODWS _____ OTHER _____

REPORT FORMAT/DISTRIBUTION

EMAIL _X_____ FAX _____ BOTH _____
SELECT: PDF __X__ DIGITAL _____ BOTH _____ EMAIL
1 jasmine.king@rmc.ca
EMAIL 2 _____

ANALYSIS REQUEST

PLEASE INDICATE FILTERED, PRESERVED OR BOTH
<----- (F, P, F/P) B 443

SAMPLING INFORMATION

| Sample Date/Time | | TYPE | | MATRIX | | | | |

309 Exeter Road, Unit 29
LONDON, ON N6L 1C1
Phone: (519) 652-6044
Fax: (519) 652-0671
Toll Free: 1-800-668-9878

C of C # 00007

CHAIN OF CUSTODY / ANALYTICAL SERVICES REQUEST FORM

Note: all TAT Quoted material is in business days which exclude statutory holidays and weekends. TAT samples received past 3:00 pm or Saturday/Sunday begin the next day.

Specify date required	Service requested			
	5 day (regular)	X	2 day TAT (50%)	
	3-4 day (25%)		Next day TAT (100%)	
			Same day TAT(200%)	

COMPANY NAME	ESG
PROJECT MANAGER	Jasmine King
PROJECT	Dye-M 14-006
ACCOUNT #	
PHONE/FAX	613-541-6000x6386
QUOTE#Q45842	P.O. W0114-4501192649

CRITERIA Criteria on report YES___ NO___

Table 1 2 3

TCLP _____ PWQO _____ ODWS _____ OTHER _____

REPORT FORMAT/DISTRIBUTION

EMAIL _X_____ FAX _____ BOTH _____
SELECT: PDF __X__ DIGITAL _____ BOTH _____
EMAIL 1 jasmine.king@rmc.ca
EMAIL 2 _____

ANALYSIS REQUEST

PLEASE INDICATE FILTERED, PRESERVED OR BOTH <····· (F, P, F/P)

SAMPLING INFORMATION

Sample Date/Time		TYPE		MATRIX			NUMBER OF CONTAINERS	F1-F4(soil)	Hg (Soil)	Metal Scan (soil)	PCB (soil)	F1-F4(water)	Hg (water)	Metal Scan (water)	PCB (water)	pH(water)		
Date (dd-mm-yy)	Time (24hr) (hh:mm)	COMP	GRAB	WATER	SOIL	OTHER	SAMPLE DESCRIPTION TO APPEAR ON REPORT										COMMENTS	LAB ID
2014-08-10	16:00		x		x		2014-08379	2	x		x							13
2014-08-08	11:30		x		x		2014-08389	2	x		x							14
2014-08-08	10:00		x		x		2014-08399	2	x		x							15
2014-08-08	11:15		x		x		2014-08409	2	x		x							16
2014-08-09	10:50		x		x		2014-08419	2	x		x							17
2014-08-10	16:40		x		x		2014-08429	2	x		x							18
2014-08-11	11:30		x		x		2014-08439	2	x		x							19
2014-08-12	09:40		x		x		2014-08449	2	x		x							20
2014-08-12	09:45		x		x		2014-08459	2	x		x							21
2014-08-12	11:15		x		x		2014-08469	2	x		x							22
2014-08-11	16:10		x		x		2014-08309	2	x		x							23

Please refer to quote for detection limits.

Are any samples taken from a regulated DW System? Yes ___ No _X_
If yes, an authorized drinking water COC MUST be used for this submission.
Is the water sampled intended to be potable for human consumption? Yes ___ No _X__

SAMPLED BY: Shari Reed/ Mike Musclow/ Sharilyn Hoobin/ Mark Button

DATE & TIME Aug 12, '14

RECEIVED BY:

DATE & TIME

RELINQUISHED BY: S. Hoobin

DATE & TIME

1. Quote number must be provided to ensure proper pricing

TAT may vary dependent on complexity of analysis and lab workloads at time of submission. Please contact the lab to confirm TATs

Aug 13, '14



Department of National Defence - Royal Military College
ATTN: JASMINE KING
Environmental Sciences Group
Kingston ON K7K7B4

Date Received: 22-AUG-14
Report Date: 29-AUG-14 09:28 (MT)
Version: FINAL

Client Phone: 613-541-6000

Certificate of Analysis

Lab Work Order #: L1506415

Project P.O. #: W0114-4501192649
Job Reference: DYE-M 14-006
C of C Numbers: 000006
Legal Site Desc:

Gayle Braun
Senior Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1506415-1 2014-08431 Sampled By: SHARI REED on 11-AUG-14 @ 11:20 Matrix: SOIL							
Physical Tests							
% Moisture	9.93		0.10	%	22-AUG-14	23-AUG-14	R2926629
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931794
Surrogate: d14-Terphenyl	80.5		50-150	%	27-AUG-14	28-AUG-14	R2931794
L1506415-2 2014-08432 Sampled By: SHARI REED on 11-AUG-14 @ 11:20 Matrix: SOIL							
Physical Tests							
% Moisture	8.51		0.10	%	22-AUG-14	23-AUG-14	R2926629
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931794
Surrogate: d14-Terphenyl	91.9		50-150	%	27-AUG-14	28-AUG-14	R2931794
L1506415-3 2014-08433 Sampled By: SHARI REED on 11-AUG-14 @ 11:50 Matrix: SOIL							
Physical Tests							
% Moisture	7.51		0.10	%	22-AUG-14	23-AUG-14	R2926629
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931794
Surrogate: d14-Terphenyl	91.3		50-150	%	27-AUG-14	28-AUG-14	R2931794
L1506415-4 2014-08434 Sampled By: SHARI REED on 11-AUG-14 @ 11:50 Matrix: SOIL							
Physical Tests							
% Moisture	6.84		0.10	%	22-AUG-14	23-AUG-14	R2926629
Metals							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1506415-4 2014-08434 Sampled By: SHARI REED on 11-AUG-14 @ 11:50 Matrix: SOIL							
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931794
Surrogate: d14-Terphenyl	88.8		50-150	%	27-AUG-14	28-AUG-14	R2931794
L1506415-5 2014-08435 Sampled By: SHARI REED on 11-AUG-14 @ 12:10 Matrix: SOIL							
Physical Tests							
% Moisture	4.20		0.10	%	22-AUG-14	23-AUG-14	R2926629
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931794
Surrogate: d14-Terphenyl	80.2		50-150	%	27-AUG-14	28-AUG-14	R2931794
L1506415-6 2014-08437 Sampled By: SHARI REED on 11-AUG-14 @ 12:10 Matrix: SOIL							
Physical Tests							
% Moisture	5.27		0.10	%	22-AUG-14	23-AUG-14	R2926629
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931794
Surrogate: d14-Terphenyl	86.8		50-150	%	27-AUG-14	28-AUG-14	R2931794
L1506415-7 2014-08438 Sampled By: SHARI REED on 11-AUG-14 @ 11:30 Matrix: SOIL							
Physical Tests							
% Moisture	9.41		0.10	%	22-AUG-14	23-AUG-14	R2926629
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1506415-7 2014-08438 Sampled By: SHARI REED on 11-AUG-14 @ 11:30 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931794
Surrogate: d14-Terphenyl	92.1		50-150	%	27-AUG-14	28-AUG-14	R2931794
L1506415-8 2014-08440 Sampled By: SHARI REED on 11-AUG-14 @ 11:30 Matrix: SOIL							
Physical Tests							
% Moisture	8.10		0.10	%	22-AUG-14	23-AUG-14	R2926629
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931794
Surrogate: d14-Terphenyl	92.3		50-150	%	27-AUG-14	28-AUG-14	R2931794
L1506415-9 2014-08441 Sampled By: SHARI REED on 11-AUG-14 @ 11:30 Matrix: SOIL							
Physical Tests							
% Moisture	7.78		0.10	%	22-AUG-14	23-AUG-14	R2926629
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931794
Surrogate: d14-Terphenyl	88.7		50-150	%	27-AUG-14	28-AUG-14	R2931794
L1506415-10 2014-08442 Sampled By: SHARI REED on 11-AUG-14 @ 11:50 Matrix: SOIL							
Physical Tests							
% Moisture	6.39		0.10	%	22-AUG-14	23-AUG-14	R2926629
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1506415-10 2014-08442 Sampled By: SHARI REED on 11-AUG-14 @ 11:50 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931794
Surrogate: d14-Terphenyl	88.6		50-150	%	27-AUG-14	28-AUG-14	R2931794
L1506415-11 2014-08443 Sampled By: SHARI REED on 11-AUG-14 @ 09:15 Matrix: SOIL							
Physical Tests							
% Moisture	8.63		0.10	%	22-AUG-14	23-AUG-14	R2926629
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931794
Surrogate: d14-Terphenyl	85.5		50-150	%	27-AUG-14	28-AUG-14	R2931794
L1506415-12 2014-08444 Sampled By: SHARI REED on 12-AUG-14 @ 09:15 Matrix: SOIL							
Physical Tests							
% Moisture	7.70		0.10	%	22-AUG-14	23-AUG-14	R2926627
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931794
Surrogate: d14-Terphenyl	91.2		50-150	%	27-AUG-14	28-AUG-14	R2931794
L1506415-13 2014-08445 Sampled By: SHARI REED on 12-AUG-14 @ 09:40 Matrix: SOIL							
Physical Tests							
% Moisture	2.85		0.10	%	22-AUG-14	23-AUG-14	R2926627
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1506415-13 2014-08445 Sampled By: SHARI REED on 12-AUG-14 @ 09:40 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931794
Surrogate: d14-Terphenyl	94.2		50-150	%	27-AUG-14	28-AUG-14	R2931794
L1506415-14 2014-08447 Sampled By: SHARI REED on 12-AUG-14 @ 09:40 Matrix: SOIL							
Physical Tests							
% Moisture	8.68		0.10	%	22-AUG-14	23-AUG-14	R2926627
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931794
Surrogate: d14-Terphenyl	89.5		50-150	%	27-AUG-14	28-AUG-14	R2931794
L1506415-15 2014-08448 Sampled By: SHARI REED on 12-AUG-14 @ 10:00 Matrix: SOIL							
Physical Tests							
% Moisture	5.28		0.10	%	22-AUG-14	23-AUG-14	R2926627
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931794
Surrogate: d14-Terphenyl	91.1		50-150	%	27-AUG-14	28-AUG-14	R2931794
L1506415-16 2014-08450 Sampled By: SHARI REED on 12-AUG-14 @ 10:00 Matrix: SOIL							
Physical Tests							
% Moisture	11.2		0.10	%	22-AUG-14	23-AUG-14	R2926627
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1506415-16 2014-08450 Sampled By: SHARI REED on 12-AUG-14 @ 10:00 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931794
Surrogate: d14-Terphenyl	96.7		50-150	%	27-AUG-14	28-AUG-14	R2931794
L1506415-17 2014-08451 Sampled By: SHARI REED on 12-AUG-14 @ 10:00 Matrix: SOIL							
Physical Tests							
% Moisture	10.4		0.10	%	22-AUG-14	23-AUG-14	R2926627
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931794
Surrogate: d14-Terphenyl	90.5		50-150	%	27-AUG-14	28-AUG-14	R2931794
L1506415-18 2014-08452 Sampled By: SHARI REED on 12-AUG-14 @ 10:30 Matrix: SOIL							
Physical Tests							
% Moisture	9.61		0.10	%	22-AUG-14	23-AUG-14	R2926635
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931794
Surrogate: d14-Terphenyl	86.4		50-150	%	27-AUG-14	28-AUG-14	R2931794
L1506415-19 2014-08453 Sampled By: SHARI REED on 12-AUG-14 @ 10:30 Matrix: SOIL							
Physical Tests							
% Moisture	8.63		0.10	%	22-AUG-14	23-AUG-14	R2926635
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1260	0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1506415-19 2014-08453 Sampled By: SHARI REED on 12-AUG-14 @ 10:30 Matrix: SOIL							
Polychlorinated Biphenyls							
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931794
Surrogate: d14-Terphenyl	88.6		50-150	%	27-AUG-14	28-AUG-14	R2931794
L1506415-20 2014-08454 Sampled By: SHARI REED on 12-AUG-14 @ 09:30 Matrix: SOIL							
Physical Tests							
% Moisture	6.16		0.10	%	22-AUG-14	23-AUG-14	R2926627
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931794
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931794
Surrogate: d14-Terphenyl	89.0		50-150	%	27-AUG-14	28-AUG-14	R2931794
L1506415-21 2014-08455 Sampled By: SHARI REED on 12-AUG-14 @ 09:30 Matrix: SOIL							
Physical Tests							
% Moisture	14.8		0.10	%	22-AUG-14	23-AUG-14	R2926627
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931907
Surrogate: d14-Terphenyl	94.4		50-150	%	27-AUG-14	28-AUG-14	R2931907
L1506415-22 2014-08457 Sampled By: SHARI REED on 12-AUG-14 @ 09:45 Matrix: SOIL							
Physical Tests							
% Moisture	11.3		0.10	%	22-AUG-14	23-AUG-14	R2926627
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931907

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1506415-22 2014-08457 Sampled By: SHARI REED on 12-AUG-14 @ 09:45 Matrix: SOIL							
Polychlorinated Biphenyls							
Surrogate: d14-Terphenyl	91.9		50-150	%	27-AUG-14	28-AUG-14	R2931907
L1506415-23 2014-08458 Sampled By: SHARI REED on 12-AUG-14 @ 09:45 Matrix: SOIL							
Physical Tests							
% Moisture	11.6		0.10	%	22-AUG-14	23-AUG-14	R2926627
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931907
Surrogate: d14-Terphenyl	93.2		50-150	%	27-AUG-14	28-AUG-14	R2931907
L1506415-24 2014-08460 Sampled By: SHARI REED on 12-AUG-14 @ 09:45 Matrix: SOIL							
Physical Tests							
% Moisture	9.64		0.10	%	22-AUG-14	23-AUG-14	R2926627
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931907
Surrogate: d14-Terphenyl	91.2		50-150	%	27-AUG-14	28-AUG-14	R2931907
L1506415-26 2014-08461 Sampled By: SHARI REED on 12-AUG-14 @ 09:45 Matrix: SOIL							
Physical Tests							
% Moisture	9.11		0.10	%	22-AUG-14	23-AUG-14	R2926627
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931907
Surrogate: d14-Terphenyl	87.9		50-150	%	27-AUG-14	28-AUG-14	R2931907

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1506415-27 2014-08462 Sampled By: SHARI REED on 12-AUG-14 @ 10:15 Matrix: SOIL							
Physical Tests							
% Moisture	11.4		0.10	%	22-AUG-14	23-AUG-14	R2926627
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931907
Surrogate: d14-Terphenyl	68.2		50-150	%	27-AUG-14	28-AUG-14	R2931907
L1506415-28 2014-08463 Sampled By: SHARI REED on 12-AUG-14 @ 10:15 Matrix: SOIL							
Physical Tests							
% Moisture	12.0		0.10	%	22-AUG-14	23-AUG-14	R2926632
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931907
Surrogate: d14-Terphenyl	89.4		50-150	%	27-AUG-14	28-AUG-14	R2931907
L1506415-29 2014-08464 Sampled By: SHARI REED on 12-AUG-14 @ 10:35 Matrix: SOIL							
Physical Tests							
% Moisture	11.1		0.10	%	22-AUG-14	23-AUG-14	R2926635
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931907
Surrogate: d14-Terphenyl	92.1		50-150	%	27-AUG-14	28-AUG-14	R2931907
L1506415-30 2014-08465 Sampled By: SHARI REED on 12-AUG-14 @ 10:35 Matrix: SOIL							
Physical Tests							
% Moisture	7.21		0.10	%	22-AUG-14	23-AUG-14	R2926635
Metals							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1506415-30 2014-08465 Sampled By: SHARI REED on 12-AUG-14 @ 10:35 Matrix: SOIL							
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931907
Surrogate: d14-Terphenyl	93.0		50-150	%	27-AUG-14	28-AUG-14	R2931907
L1506415-31 2014-08467 Sampled By: SHARI REED on 12-AUG-14 @ 11:15 Matrix: SOIL							
Physical Tests							
% Moisture	11.4		0.10	%	22-AUG-14	23-AUG-14	R2926635
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931907
Surrogate: d14-Terphenyl	90.4		50-150	%	27-AUG-14	28-AUG-14	R2931907
L1506415-32 2014-08468 Sampled By: SHARI REED on 12-AUG-14 @ 11:15 Matrix: SOIL							
Physical Tests							
% Moisture	7.02		0.10	%	22-AUG-14	23-AUG-14	R2926635
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1254	0.013		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931907
Surrogate: d14-Terphenyl	96.1		50-150	%	27-AUG-14	28-AUG-14	R2931907
L1506415-33 2014-08470 Sampled By: SHARI REED on 12-AUG-14 @ 11:40 Matrix: SOIL							
Physical Tests							
% Moisture	7.96		0.10	%	22-AUG-14	23-AUG-14	R2926635
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1506415-33 2014-08470 Sampled By: SHARI REED on 12-AUG-14 @ 11:40 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1254	0.044		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1260	0.018		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Total PCBs	0.063		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931907
Surrogate: d14-Terphenyl	95.1		50-150	%	27-AUG-14	28-AUG-14	R2931907
L1506415-34 2014-08471 Sampled By: SHARI REED on 12-AUG-14 @ 11:40 Matrix: SOIL							
Physical Tests							
% Moisture	9.10		0.10	%	22-AUG-14	23-AUG-14	R2926635
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1254	0.055		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1260	0.019		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Total PCBs	0.074		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931907
Surrogate: d14-Terphenyl	95.7		50-150	%	27-AUG-14	28-AUG-14	R2931907
L1506415-35 2014-08472 Sampled By: SHARI REED on 12-AUG-14 @ 11:40 Matrix: SOIL							
Physical Tests							
% Moisture	5.49		0.10	%	22-AUG-14	23-AUG-14	R2926635
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931907
Surrogate: d14-Terphenyl	97.0		50-150	%	27-AUG-14	28-AUG-14	R2931907
L1506415-36 2014-08473 Sampled By: SHARI REED on 12-AUG-14 @ 10:55 Matrix: SOIL							
Physical Tests							
% Moisture	8.87		0.10	%	22-AUG-14	23-AUG-14	R2926635
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1506415-36 2014-08473 Sampled By: SHARI REED on 12-AUG-14 @ 10:55 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931907
Surrogate: d14-Terphenyl	93.6		50-150	%	27-AUG-14	28-AUG-14	R2931907
L1506415-38 2014-08474 Sampled By: SHARI REED on 12-AUG-14 @ 11:15 Matrix: SOIL							
Physical Tests							
% Moisture	7.36		0.10	%	22-AUG-14	23-AUG-14	R2926635
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931907
Surrogate: d14-Terphenyl	95.0		50-150	%	27-AUG-14	28-AUG-14	R2931907
L1506415-39 2014-08475 Sampled By: SHARI REED on 12-AUG-14 @ 11:15 Matrix: SOIL							
Physical Tests							
% Moisture	11.2		0.10	%	22-AUG-14	23-AUG-14	R2926635
Metals							
Mercury (Hg)	0.011		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1254	0.407		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1260	0.055		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Total PCBs	0.463		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931907
Surrogate: d14-Terphenyl	108.1		50-150	%	27-AUG-14	28-AUG-14	R2931907
L1506415-40 2014-08308 Sampled By: SHARI REED on 11-AUG-14 @ 16:10 Matrix: SOIL							
Physical Tests							
% Moisture	6.41		0.10	%	22-AUG-14	23-AUG-14	R2926541
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1506415-40 2014-08308 Sampled By: SHARI REED on 11-AUG-14 @ 16:10 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1254	0.013		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931907
Surrogate: d14-Terphenyl	97.1		50-150	%	27-AUG-14	28-AUG-14	R2931907
L1506415-41 2014-08310 Sampled By: SHARI REED on 11-AUG-14 @ 16:10 Matrix: SOIL							
Physical Tests							
% Moisture	6.35		0.10	%	22-AUG-14	23-AUG-14	R2926541
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1254	0.133		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1260	0.017		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Total PCBs	0.150		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931907
Surrogate: d14-Terphenyl	99.0		50-150	%	27-AUG-14	28-AUG-14	R2931907
L1506415-42 2014-08311 Sampled By: SHARI REED on 11-AUG-14 @ 16:10 Matrix: SOIL							
Physical Tests							
% Moisture	6.01		0.10	%	22-AUG-14	23-AUG-14	R2926541
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	26-AUG-14	26-AUG-14	R2928833
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1254	0.130		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Aroclor 1260	0.034		0.010	mg/kg	27-AUG-14	28-AUG-14	R2931907
Total PCBs	0.164		0.020	mg/kg	27-AUG-14	28-AUG-14	R2931907
Surrogate: d14-Terphenyl	122.7		50-150	%	27-AUG-14	28-AUG-14	R2931907
L1506415-43 2014-08477 Sampled By: SHARI REED on 11-AUG-14 Matrix: SOIL							
Physical Tests							
% Moisture	6.88		0.10	%	26-AUG-14	27-AUG-14	R2929611
Metals							
Mercury (Hg)	<0.010		0.010	mg/kg	28-AUG-14	28-AUG-14	R2931791
Polychlorinated Biphenyls							
Aroclor 1242	<0.010		0.010	mg/kg	27-AUG-14	29-AUG-14	R2932530
Aroclor 1248	<0.010		0.010	mg/kg	27-AUG-14	29-AUG-14	R2932530
Aroclor 1254	<0.010		0.010	mg/kg	27-AUG-14	29-AUG-14	R2932530

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1506415-43 2014-08477 Sampled By: SHARI REED on 11-AUG-14 Matrix: SOIL							
Polychlorinated Biphenyls							
Aroclor 1260	<0.010		0.010	mg/kg	27-AUG-14	29-AUG-14	R2932530
Total PCBs	<0.020		0.020	mg/kg	27-AUG-14	29-AUG-14	R2932530
Surrogate: d14-Terphenyl	90.6		50-150	%	27-AUG-14	29-AUG-14	R2932530

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Mercury (Hg)	MS-B	L1506415-43

Sample Parameter Qualifier key listed:

Qualifier	Description
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HG-WT	Soil	Mercury by CVAA	EPA 7471
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried
PCB-WT	Soil	Polychlorinated Biphenyls	EPA 8082

A representative sub-sample of a soil sample is mixed with methanol and extracted with toluene using a shaker technique. An aliquot of the separated toluene is analyzed by GC/MSD.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Chain of Custody Numbers:

000006

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid weight of sample
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Workorder: L1506415 Report Date: 29-AUG-14

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-WT	**Soil**							
Batch R2928833								
WG1938193-6 DUP		**WG1938193-5**						
Mercury (Hg)		<0.010	<0.010	RPD-NA	mg/kg	N/A	20	26-AUG-14
WG1938195-6 DUP		**L1506415-14**						
Mercury (Hg)		<0.010	<0.010	RPD-NA	mg/kg	N/A	20	26-AUG-14
WG1938196-6 DUP		**L1506415-35**						
Mercury (Hg)		<0.010	<0.010	RPD-NA	mg/kg	N/A	20	26-AUG-14
WG1938193-2 IRM		**ALS MET IRM1**						
Mercury (Hg)			96.0		%		70-130	26-AUG-14
WG1938195-2 IRM		**ALS MET IRM1**						
Mercury (Hg)			93.6		%		70-130	26-AUG-14
WG1938196-2 IRM		**ALS MET IRM1**						
Mercury (Hg)			96.1		%		70-130	26-AUG-14
WG1938193-4 LCS								
Mercury (Hg)			92.0		%		70-130	26-AUG-14
WG1938195-4 LCS								
Mercury (Hg)			97.0		%		70-130	26-AUG-14
WG1938196-4 LCS								
Mercury (Hg)			107.5		%		70-130	26-AUG-14
WG1938193-1 MB								
Mercury (Hg)			<0.010		mg/kg		0.01	26-AUG-14
WG1938195-1 MB								
Mercury (Hg)			<0.010		mg/kg		0.01	26-AUG-14
WG1938196-1 MB								
Mercury (Hg)			<0.010		mg/kg		0.01	26-AUG-14
WG1938193-7 MS		**WG1938193-5**						
Mercury (Hg)			88.5		%		70-130	26-AUG-14
WG1938195-7 MS		**L1506415-14**						
Mercury (Hg)			84.0		%		70-130	26-AUG-14
WG1938196-7 MS		**L1506415-35**						
Mercury (Hg)			90.0		%		70-130	26-AUG-14
Batch R2931791								
WG1940079-6 DUP		**WG1940079-5**						
Mercury (Hg)		0.407	0.476		mg/kg	16	20	28-AUG-14
WG1940079-2 IRM		**ALS MET IRM1**						
Mercury (Hg)			90.2		%		70-130	28-AUG-14
WG1940079-4 LCS								
Mercury (Hg)			96.0		%		70-130	28-AUG-14
WG1940079-1 MB								

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-WT	**Soil**							
Batch R2931791								
WG1940079-1 MB								
Mercury (Hg)			<0.010		mg/kg		0.01	28-AUG-14
WG1940079-7 MS		**WG1940079-5**						
Mercury (Hg)			N/A	MS-B	%		-	28-AUG-14
MOISTURE-WT	**Soil**							
Batch R2926541								
WG1936543-5 DUP		**L1505155-1**						
% Moisture		6.06	6.30		%	3.9	30	23-AUG-14
WG1936543-4 LCS								
% Moisture			98.4		%		70-130	23-AUG-14
WG1936543-3 MB								
% Moisture			<0.10		%		0.1	23-AUG-14
Batch R2926627								
WG1936672-3 DUP		**L1506349-22**						
% Moisture		7.55	6.87		%	9.4	30	23-AUG-14
WG1936672-2 LCS								
% Moisture			100.3		%		70-130	23-AUG-14
WG1936672-1 MB								
% Moisture			<0.10		%		0.1	23-AUG-14
Batch R2926629								
WG1936451-3 DUP		**L1506415-11**						
% Moisture		8.63	8.58		%	0.7	30	23-AUG-14
WG1936451-2 LCS								
% Moisture			95.6		%		70-130	23-AUG-14
WG1936451-1 MB								
% Moisture			<0.10		%		0.1	23-AUG-14
Batch R2926632								
WG1936800-3 DUP		**L1505925-2**						
% Moisture		14.6	13.4		%	8.7	30	23-AUG-14
WG1936800-2 LCS								
% Moisture			100.2		%		70-130	23-AUG-14
WG1936800-1 MB								
% Moisture			<0.10		%		0.1	23-AUG-14
Batch R2926635								
WG1936691-3 DUP		**L1506612-3**						
% Moisture		19.0	19.5		%	2.6	30	23-AUG-14
WG1936691-2 LCS								

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT	**Soil**							
Batch R2926635								
WG1936691-2 LCS								
% Moisture			107.8		%		70-130	23-AUG-14
WG1936691-1 MB								
% Moisture			<0.10		%		0.1	23-AUG-14
Batch R2929611								
WG1938440-3 DUP		**L1507772-5**						
% Moisture		14.6	14.7		%	0.7	30	27-AUG-14
WG1938440-2 LCS								
% Moisture			93.3		%		70-130	27-AUG-14
WG1938440-1 MB								
% Moisture			<0.10		%		0.1	27-AUG-14
PCB-WT	**Soil**							
Batch R2931794								
WG1939850-1 CVS								
Aroclor 1242			98.2		%		70-130	28-AUG-14
Aroclor 1248			100.1		%		70-130	28-AUG-14
Aroclor 1254			100.8		%		70-130	28-AUG-14
Aroclor 1260			84.5		%		70-130	28-AUG-14
WG1937178-5 DUP		**L1506415-20**						
Aroclor 1242		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	28-AUG-14
Aroclor 1248		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	28-AUG-14
Aroclor 1254		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	28-AUG-14
Aroclor 1260		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	28-AUG-14
WG1937178-2 LCS								
Aroclor 1242			97.1		%		65-130	28-AUG-14
Aroclor 1248			85.8		%		65-130	28-AUG-14
Aroclor 1254			103.9		%		65-130	28-AUG-14
Aroclor 1260			85.2		%		65-130	28-AUG-14
WG1937178-3 LCSD		**WG1937178-2**						
Aroclor 1242		97.1	98.3		%	1.2	50	28-AUG-14
Aroclor 1248		85.8	85.8		%	0.0	50	28-AUG-14
Aroclor 1254		103.9	103.7		%	0.2	50	28-AUG-14
Aroclor 1260		85.2	87.4		%	2.6	50	28-AUG-14
WG1937178-1 MB								
Aroclor 1242			<0.010		mg/kg		0.01	28-AUG-14
Aroclor 1248			<0.010		mg/kg		0.01	28-AUG-14

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-WT	**Soil**							
Batch R2931794								
WG1937178-1 MB								
Aroclor 1254			<0.010		mg/kg		0.01	28-AUG-14
Aroclor 1260			<0.010		mg/kg		0.01	28-AUG-14
Surrogate: d14-Terphenyl			80.3		%		50-150	28-AUG-14
WG1937178-6 MS		**L1506415-20**						
Aroclor 1242			94.6		%		50-150	28-AUG-14
Aroclor 1254			100.1		%		50-150	28-AUG-14
Aroclor 1260			86.3		%		50-150	28-AUG-14
Batch R2931907								
WG1939934-1 CVS								
Aroclor 1242			97.2		%		70-130	28-AUG-14
Aroclor 1248			98.6		%		70-130	28-AUG-14
Aroclor 1254			94.5		%		70-130	28-AUG-14
Aroclor 1260			82.7		%		70-130	28-AUG-14
WG1937179-5 DUP		**L1506415-23**						
Aroclor 1242		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	28-AUG-14
Aroclor 1248		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	28-AUG-14
Aroclor 1254		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	28-AUG-14
Aroclor 1260		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	28-AUG-14
WG1937179-2 LCS								
Aroclor 1242			73.1		%		65-130	28-AUG-14
Aroclor 1248			66.4		%		65-130	28-AUG-14
Aroclor 1254			72.9		%		65-130	28-AUG-14
Aroclor 1260			70.8		%		65-130	28-AUG-14
WG1937179-3 LCSD		**WG1937179-2**						
Aroclor 1242		73.1	82.8		%	12	50	28-AUG-14
Aroclor 1248		66.4	66.4		%	0.0	50	28-AUG-14
Aroclor 1254		72.9	80.3		%	9.7	50	28-AUG-14
Aroclor 1260		70.8	79.2		%	11	50	28-AUG-14
WG1937179-1 MB								
Aroclor 1242			<0.010		mg/kg		0.01	28-AUG-14
Aroclor 1248			<0.010		mg/kg		0.01	28-AUG-14
Aroclor 1254			<0.010		mg/kg		0.01	28-AUG-14
Aroclor 1260			<0.010		mg/kg		0.01	28-AUG-14
Surrogate: d14-Terphenyl			94.6		%		50-150	28-AUG-14
WG1937179-6 MS		**L1506415-23**						

Quality Control Report

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-WT	**Soil**							
Batch R2931907								
WG1937179-6 MS		**L1506415-23**						
Aroclor 1242			82.8		%		50-150	28-AUG-14
Aroclor 1254			79.1		%		50-150	28-AUG-14
Aroclor 1260			79.1		%		50-150	28-AUG-14
Batch R2932530								
WG1939932-1 CVS								
Aroclor 1242			96.3		%		70-130	29-AUG-14
Aroclor 1248			99.0		%		70-130	29-AUG-14
Aroclor 1254			94.3		%		70-130	29-AUG-14
Aroclor 1260			82.0		%		70-130	29-AUG-14
WG1938355-5 DUP		**WG1938355-4**						
Aroclor 1242		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	29-AUG-14
Aroclor 1248		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	29-AUG-14
Aroclor 1254		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	29-AUG-14
Aroclor 1260		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	29-AUG-14
WG1938355-2 LCS								
Aroclor 1242			79.8		%		65-130	29-AUG-14
Aroclor 1248			83.7		%		65-130	29-AUG-14
Aroclor 1254			77.2		%		65-130	29-AUG-14
Aroclor 1260			75.9		%		65-130	29-AUG-14
WG1938355-3 LCSD		**WG1938355-2**						
Aroclor 1242		79.8	72.1		%	10	50	29-AUG-14
Aroclor 1248		83.7	83.7		%	0.0	50	29-AUG-14
Aroclor 1254		77.2	73.5		%	5.0	50	29-AUG-14
Aroclor 1260		75.9	69.3		%	9.0	50	29-AUG-14
WG1938355-1 MB								
Aroclor 1242			<0.010		mg/kg		0.01	29-AUG-14
Aroclor 1248			<0.010		mg/kg		0.01	29-AUG-14
Aroclor 1254			<0.010		mg/kg		0.01	29-AUG-14
Aroclor 1260			<0.010		mg/kg		0.01	29-AUG-14
Surrogate: d14-Terphenyl			101.6		%		50-150	29-AUG-14
WG1938355-6 MS		**WG1938355-4**						
Aroclor 1242			77.8		%		50-150	29-AUG-14
Aroclor 1254			76.6		%		50-150	29-AUG-14
Aroclor 1260			76.3		%		50-150	29-AUG-14

Quality Control Report

Workorder: L1506415 Report Date: 29-AUG-14

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Quality Control Report

Workorder: L1506415 Report Date: 29-AUG-14

Client: Department of National Defence - Royal Military College
Environmental Sciences Group
Kingston ON K7K7B4
Contact: JASMINE KING

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Physical Tests							
% Moisture							
	43	11-AUG-14	27-AUG-14 14:12	14	16	days	EHT

Legend & Qualifier Definitions:

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR: Exceeded ALS recommended hold time prior to sample receipt.
EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT: Exceeded ALS recommended hold time prior to analysis.
Rec. HT: ALS recommended hold time (see units).

Notes*:
Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L1506415 were received on 22-AUG-14 09:00.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

309 Exeter Road, Unit 29
LONDON, ON N6L 1C1
Phone: (519) 652-6044
Fax: (519) 652-0671
Toll Free: 1-800-668-9878

L1506415-COFC

C of C # 00006

CAL SERVICES REQUEST FORM

Not ana... ...statutory holidays
next day. ...samples received past 3:00 pm or Saturday/Sunday begin the

Specify date required	Service requested		2 day TAT (50%)	
	5 day (regular)	X	Next day TAT (100%)	
	3-4 day (25%)		Same day TAT(200%)	

COMPANY NAME	ESG
PROJECT MANAGER	Jasmine King
PROJECT	Dye-M 14-006
ACCOUNT #	
PHONE/FAX	613-541-6000x6386
QUOTE#Q45842	P.O. W0114-4501192649

CRITERIA — Criteria on report YES___ NO___

Table 1 2 3

TCLP _____ PWQO _____ ODWS _____ OTHER _____

REPORT FORMAT/DISTRIBUTION

EMAIL _X_____ FAX _____ BOTH _____
SELECT: PDF __X__ DIGITAL _____ BOTH _____
EMAIL 1 jasmine.king@rmc.ca
EMAIL 2 _____

SAMPLING INFORMATION

Sample Date/Time		TYPE		MATRIX			SAMPLE DESCRIPTION TO APPEAR ON REPORT	NUMBER OF CONTAINERS	ANALYSIS REQUEST										PLEASE INDICATE FILTERED, PRESERVED OR BOTH <----- (F, P, F/P)		
Date (dd-mm-yy)	Time (24hr) (hh:mm)	COMP	GRAB	WATER	SOIL	OTHER			F1-F4(soil)	Hg (Soil)	Metal Scan (soil)	PCB (soil)	F1-F4(water)	Hg (water)	Metal Scan (water)	PCB (water)	pH(water)		COMMENTS	LAB ID
2014-08-11	11:20		x		x		2014-08431	1		x		x								1
2014-08-11	11:20		x		x		2014-08432	1		x		x								2
2014-08-11	11:50		x		x		2014-08433	1		x		x								3
2014-08-11	11:50		x		x		2014-08434	1		x		x								4
2014-08-11	12:10		x		x		2014-08435	1		x		x								5
2014-08-11	12:10		x		x		2014-08437	1		x		x								6
2014-08-11	11:30		x		x		2014-08438	1		x		x								7
2014-08-11	11:30		x		x		2014-08440	1		x		x								8
2014-08-11	11:30		x		x		2014-08441	1		x		x								9
2014-08-11	11:50		x		x		2014-08442	1		x		x								10
2014-08-11	11:50		x		x		2014-08443	1		x		x								11
8/1122014	09:15		x		x		2014-08444	1		x		x								12

Please refer to quote for detection limits.

Are any samples taken from a regulated DW System? Yes ___ No _X_
If yes, an authorized drinking water COC MUST be used for this submission.
Is the water sampled intended to be potable for human consumption? Yes ___ No _X__

SAMPLED BY: Shari Reed/ Mike Musclow/ Sharilyn Hoobin/ Mark Button

RELINQUISHED BY:	DATE & TIME	RECEIVED BY:	DATE & TIME
	Aug 12 2014		
	Aug 13, 2014		

1. Quote number must be provided to ensure proper pricing
2. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs.

309 Exeter Road, Unit 29
LONDON, ON N6L 1C1
Phone: (519) 652-6044
Fax: (519) 652-0671
Toll Free: 1-800-668-9878

L1506415-COFC

C of C # 00006

ICAL SERVICES REQUEST FORM Page _2__ of _4__

N
an.
next day.

tatutory holidays
unday begin the

Specify date required	Service requested		2 day TAT (50%)	
	5 day (regular)	X	Next day TAT (100%)	
	3-4 day (25%)		Same day TAT(200%)	

COMPANY NAME	ESG
PROJECT MANAGER	Jasmine King
PROJECT	Dye-M 14-006
ACCOUNT #	
PHONE/FAX	613-541-6000x6386
QUOTE#Q45842	P.O. W0114-4501192649

CRITERIA — Criteria on report YES___ NO___

Table 1 2 3

TCLP _____ PWQO _____ ODWS _____ OTHER _____

REPORT FORMAT/DISTRIBUTION

EMAIL _X_____ FAX _____ BOTH _____
SELECT: PDF __X__ DIGITAL _____ BOTH _____
1 jasmine.king@rmc.ca
EMAIL 2 _____

SAMPLING INFORMATION

Sample Date/Time		TYPE		MATRIX			NUMBER OF CONTAINERS	ANALYSIS REQUEST										PLEASE INDICATE FILTERED, PRESERVED OR BOTH <----- (F, P, F/P)	
Date (dd-mm-yy)	Time (24hr) (hh:mm)	COMP	GRAB	WATER	SOIL	OTHER		F1-F4(soil)	Hg (Soil)	Metal Scan (soil)	PCB (soil)	F1-F4(water)	Hg (water)	Metal Scan (water)	PCB (water)	pH(water)	SAMPLE DESCRIPTION TO APPEAR ON REPORT	COMMENTS	LAB ID
2014-08-12	09:15		x		x		1		x		x						2014-08445		13
2014-08-12	09:40		x		x		1		x		x						2014-08447		14
2014-08-12	09:40		x		x		1		x		x						2014-08448		15
2014-08-12	10:00		x		x		1		x		x						2014-08450		16
2014-08-12	10:00		x		x		1		x		x						2014-08451		17
2014-08-12	10:00		x		x		1		x		x						2014-08452		18
2014-08-12	10:30		x		x		1		x		x						2014-08453		19
2014-08-12	10:30		x		x		1		x		x						2014-08454		20
2014-08-12	09:30		x		x		1		x		x						2014-08455		21
2014-08-12	09:30		x		x		1		x		x						2014-08457		22
2014-08-12	09:45		x		x		1		x		x						2014-08458		23
2014-08-12	09:45		x		x		1		x		x						2014-08460		24

Please refer to quote for detection limits.

Are any samples taken from a regulated DW System? Yes ___ No _X_
If yes, an authorized drinking water COC MUST be used for this submission.
Is the water sampled intended to be potable for human consumption? Yes ___ No _X__

SAMPLED BY: Shari Reed/ Mike Musclow/ Sharilyn Hoobin/ Mark Butto

RELINQUISHED BY:	DATE & TIME	RECEIVED BY:	DATE & TIME
S. Hoobin	Aug 12, 2014		
	Aug 13, 2014		

1. Quote number must be provided to ensure proper pricing
2. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs.

309 Exeter Road, Unit 29
LONDON, ON N6L 1C1
Phone: (519) 652-6044
Fax: (519) 652-0671
Toll Free: 1-800-668-9878

L1506415-COFC

C of C # 00006

SERVICES REQUEST FORM

Page _3__ of _4__

Note: all ... and weekenas. TAT ... next day.

... holidays begin the

Specify date required	Service requested		2 day TAT (50%)	
	5 day (regular)	X	Next day TAT (100%)	
	3-4 day (25%)		Same day TAT(200%)	

COMPANY NAME	ESG
PROJECT MANAGER	Jasmine King
PROJECT	Dye-M 14-006
ACCOUNT #	
PHONE/FAX	613-541-6000x6386
QUOTE#Q45842	P.O. W0114-4501192649

SAMPLING INFORMATION

Sample Date/Time		TYPE		MATRIX			NUMBER OF CONTAINERS	ANALYSIS REQUEST									
Date (dd-mm-yy)	Time (24hr) (hh:mm)	COMP	GRAB	WATER	SOIL	OTHER		F1-F4(soil)	Hg (Soil)	Metal Scan (soil)	PCB (soil)	F1-F4(water)	Hg (water)	Metal Scan (water)	PCB (water)	pH(water)	SAMPLE DESCRIPTION TO APPEAR ON REPORT
2014-08-12	09:45		x		x		1		x		x						2014-08460
2014-08-12	09:45		x		x		1		x		x						2014-08461
2014-08-12	10:15		x		x		1		x		x						2014-08462
2014-08-12	10:15		x		x		1		x		x						2014-08463
2014-08-12	10:35		x		x		1		x		x						2014-08464
2014-08-12	10:35		x		x		1		x		x						2014-08465
2014-08-12	11:15		x		x		1		x		x						2014-08467
2014-08-12	11:15		x		x		1		x		x						2014-08468
2014-08-12	11:40		x		x		1		x		x						2014-08470
2014-08-12	11:40		x		x		1		x		x						2014-08471
2014-08-12	11:40		x		x		1		x		x						2014-08472
2014-08-12	10:55		x		x		1		x		x						2014-08473

CRITERIA — Criteria on report YES___ NO___

Table 1 2 3

TCLP _____ PWQO _____ ODWS _____ OTHER _____

REPORT FORMAT/DISTRIBUTION

EMAIL _X_____ FAX _____ BOTH _____
SELECT: PDF __X__ DIGITAL _____ BOTH _____
1 jasmine.king@rmc.ca EMAIL
EMAIL 2 _____

PLEASE INDICATE FILTERED, PRESERVED OR BOTH
<----- (F, P, F/P)

SUBMISSION # L1506415

ENTERED BY: RH

DATE/TIME 22-Aug-14

COMMENTS	LAB ID
	25
	26
	27
	28
	29
	30
	31
	32
	33
	34
	35
	36

SPECIAL INSTRUCTIONS/COMMENTS

Please refer to quote for detection limits.

THE QUESTIONS BELOW MUST BE ANSWERED FOR WATER SAMPLES (CHECK Yes OR No)

Are any samples taken from a regulated DW System? Yes ___ No _X_
If yes, an authorized drinking water COC MUST be used for this submission.
Is the water sampled intended to be potable for human consumption? Yes ___ No _X__

SAMPLE CONDITION

___ COLD
___ COOLING INITIATED
___ AMBIENT

MEAN TEMP 11.9

OBSERVATIONS Yes___ No ___ If yes add SIF

INIT

SAMPLED BY: Shari Reed/ Mike Musclow/ Sharilyn Hoobin/ Mark Butto

DATE & TIME Aug 12, 2014

RELINQUISHED BY: S. Hoobin

DATE & TIME Aug 13, 2014

RECEIVED BY:

RECEIVED AT LAB BY:

DATE & TIME

DATE & TIME Aug 22 9am

1. Quote number must be provided to ensure proper pricing

2. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs.

309 Exeter Road, Unit 29
LONDON, ON N6L 1C1
Phone: (519) 652-6044
Fax: (519) 652-0671
Toll Free: 1-800-668-9878

C of C # 00006

CHAIN OF CUSTODY / ANALYTICAL SERVICES REQUEST FORM

COMPANY NAME	ESG
PROJECT MANAGER	Jasmine King
PROJECT	Dye-M 14-006
ACCOUNT #	
PHONE/FAX	613-541-6000x6386
QUOTE#Q45842	P.O. W0114-4501192649

Note: all TAT Quoted material is in business days which exclude statutory holidays and weekends. TAT samples received past 3:00 pm or Saturday/Sunday begin the next day.

Specify date required	Service requested		
	5 day (regular)	X	2 day TAT (50%)	
	3-4 day (25%)		Next day TAT (100%)	
			Same day TAT(200%)	

PLEASE INDICATE FILTERED, PRESERVED OR BOTH <----- (F, P, F/P)

SAMPLING INFORMATION

Sample Date/Time		TYPE		MATRIX			CRITERIA: Criteria on report YES ___ NO ___	ANALYSIS REQUEST											
Date (dd-mm-yy)	Time (24hr) (hh:mm)	COMP	GRAB	WATER	SOIL	OTHER	SAMPLE DESCRIPTION TO APPEAR ON REPORT	NUMBER OF CONTAINERS	F1-F4(soil)	Hg (Soil)	Metal Scan (soil)	PCB (soil)	F1-F4(water)	Hg (water)	Metal Scan (water)	PCB (water)	pH(water)	COMMENTS	LAB ID
2014-08-12	10:55		x		x		2014-08473	1		x		x							37
2014-08-12	11:15						2014-08474	1		x		x							38
2014-08-12	11:15						2014-08475	1		x		x							39
2014-08-11	16:10						2014-08308	1		x		x							40
2014-08-11	16:10						2014-08310	1		x		x							41
2014-08-11	16:10						2014-08311	1		x		x							42

REPORT FORMAT/DISTRIBUTION
EMAIL _X_____ FAX _____ BOTH _____
SELECT: PDF __X__ DIGITAL _____ BOTH _____
EMAIL 1 jasmine.king@rmc.ca
EMAIL 2 _____

TCLP _____ PWQO _____ ODWS _____ OTHER _____

Table 1 2 3

SUBMISSION #: L1506415
ENTERED BY: RH
DATE/TIME: 12-Aug-14

SPECIAL INSTRUCTIONS/COMMENTS
Please refer to quote for detection limits.

THE QUESTIONS BELOW MUST BE ANSWERED FOR WATER SAMPLES (CHECK Yes OR No)
Are any samples taken from a regulated DW System? Yes ___ No _X_
If yes, an authorized drinking water COC MUST be used for this submission.
Is the water sampled intended to be potable for human consumption? Yes ___ No _X__

SAMPLE CONDITION
___ COLD
___ COOLING INITIATED
___ AMBIENT
MEAN TEMP: 11.9
OBSERVATIONS Yes___ No ___ If yes add SIF
INIT: RH

SAMPLED BY: Shari Reed/ Mike Musclow/ Sharilyn Hoobin/ Mark Button	DATE & TIME: Aug 12, 2014	RECEIVED BY:	DATE & TIME
RELINQUISHED BY: S. Hoobin	DATE & TIME	RECEIVED AT LAB BY:	DATE & TIME

1. Quote number must be provided to ensure proper pricing
2. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TAT.

Aug 13, 2014



ANALYTICAL SCIENCES GROUP AND SLOWPOKE-2 FACILITY AT RMC
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Royal Military College of Canada - Collège militaire royal du Canada
P.O. Box 17000 Stn. Forces, Kingston, ON, K7K 7B4
Tel: 613-541-6000 x6684 / Fax: 613-545-8341

Client: **ESG**
12 Verite Ave
Dept. of Chem. / Chem. Eng., RMC
P.O. Box 17000, Stn. Forces
Kingston, Ontario K7K 7B4
(613) 541-6000 ext 6567
Fax: (613) 541-6596

ASG Login No: 24560
Site: Dye-M
Client No: 14-023
Samples Received: 22-Aug-14
Date of analysis: 10-Sep-14
Method No: ASG 015
Date Reported: 11-Sep-14
Sheet No: 1 of 1

RESULTS OF PCB IN WATER ANALYSIS

Sample Type **	Sample I.D.	Unit	Aroclor 1254	Aroclor 1260
W	14-8187*	mg/L	< 0.003	< 0.003

*Averaged result of duplicates

Report Values in PPM

LABORATORY QA/QC

W	14-8187 ; Duplicate	mg/L	< 0.003 ; < 0.003	< 0.003 ; < 0.003
W	Blank	mg/L	< 0.003	< 0.003
W	Control Sample	mg/L	0.011	< 0.003
W	Control Sample Target	mg/L	0.015	< 0.003

** S = Soil , C = Concrete , PC = Paint Chip , SW = Swab , P = Plant , W = Water, L = Leachate

All results corrected for the recovery of the surrogate decachlorobiphenyl

The results reported here relate only to the items tested.

Prepared By: J. McDonald
Julie McDonald, Laboratory Manager

Authorization:
Steve White, Laboratory Manager

PCBregw24560r1.xls

cm: 11 Sept 14

ANALYTICAL SCIENCES GROUP AND SLOWPOKE-2 FACILITY AT RMC
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Fax: (613) 541-6596

ASG Login No: 24498
Site: Dye-M
Client Login No: 14-025
Date Sampled: N/A
Samples Received: 21-Aug-14
Date of analysis: 22-Aug-14
Method No: ASG 055 ~
Date Reported: 29-Aug-14
Sheet: 1 of 1

RESULTS OF PHC IN WATER ANALYSIS - F1 FRACTION^

Sample I.D.	Unit	F1 Fraction (ppm)
14-8187	mg/L	< 0.05

LABORATORY QA/QC SECTION

Blank	mg/L	< 0.05
Gasoline Control Sample	mg/L	0.15
Gasoline Control Target	mg/L	0.16

^ BTEX contribution to F1 fraction not subtracted from reported values
* Averaged result of duplicates

Average response factors for hexane and decane were within 30% of the toluene response factor.
Linearity of calibration standards is within 15%.

The results reported here relate only to the items tested

Prepared by:
Steve White ; Senior Analyst

Authorization:
Julie McDonald ; Laboratory Manager

29 Aug 14

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Fax: (613) 541-6596

ASG Login No: 24498
Site: Dye-M
Client Login No: 14-025
Samples Received: 21-Aug-14
Date of analysis: 22-Aug-14
Date Sampled:
Method No: ASG 055
Date Reported: 25-Aug-14
Sheet: 1 of 1

RESULTS OF PHC IN WATER ANALYSIS^

Sample I.D.	Unit	F2 Fraction (ppm)	F3 Fraction (ppm)	F4 Fraction (ppm)	F4G (ppm)
14-8187	mg/L	< 0.5	< 1.0	< 1.0	N/A

LABORATORY QA/QC FOR F2-F4 FRACTIONS

Sample I.D.	Unit	F2 Fraction (ppm)	F3 Fraction (ppm)	F4 Fraction (ppm)	F4G (ppm)
Blank	mg/L	< 0.5	< 1.0	< 1.0	N/A

Diesel Spike	mg/L	9.4
Diesel Spike Target	mg/L	10
Control Standard	mg/L	2700
Control Standard Target	mg/L	2500

^PAH contributions to F2-F4 not subtracted from reported values.
~The method used complies with the Reference Method for the CWS PHC.
*Averaged result of duplicate
** Unit mg/kg is equivalent to μg/g

Gravimetric heavy hydrocarbons cannot be added to the C6-C50 hydrocarbons.

The results reported here relate only to the items tested.

Prepared By: S. Trickey
Stephanie Trickey, Analyst

Authorization: J. McDonald
Julie McDonald, Lab Manager
Test Report I.D: PHCw24498r1.xls
29 Aug 14.

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Fax: (613) 541-6596

ASG Login No: 24498
Site: Dye-M
Client No: 14-025
Samples Received: 21-Aug-14
Date of analysis: 28-Aug-14
Method No: ASG 021
Date Reported: 04-Sep-14
Sheet: 1 of 1

RESULTS OF MERCURY IN WATER ANALYSIS

Sample ID	Mercury^ µg/L
8187*	< 0.4

LABORATORY QA/QC

Sample ID	Mercury^ µg/L
Duplicate ; 8187*	< 0.4 ; < 0.4
Blank	< 0.4
Control Target	4.0
Control Sample	3.9

* Averaged result of duplicates
^ Acid digestion performed
# Reported at 0.4 µg/L detection limit

The results reported here relate only to the items tested.

Prepared By:
Steve White;
Senior Analyst

Authorization:
Julie McDonald;
Laboratory Manager
Test Report I.D: Hgw24498r1.xls
9 Sept 14.

ANALYTICAL SCIENCES GROUP AND SLOWPOKE-2 FACILITY AT RMC
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Fax: (613) 541-6596

ASG Login No: 24498
Site: Dye-M
Client No: 14-025
Samples Received: 21-Aug-14
Date of analysis: 22-Aug-14
Method No: ASG 037
Date Reported: 25-Aug-14

RESULTS OF pH ANALYSIS

Sample I.D.	pH
14-8187	7.60

* Averaged result of duplicates

LABORATORY QA/QC

Sample I.D.	pH
14-8187; Duplicate	7.60; 7.62
Control	6.96
Control Target	7.00

The results reported here relate only to the items tested.

Prepared By: _____
Shandlyn Robinson, Analyst

Authorization: _____
Julie MacDonald; Lab Manager
pHw24498r1.xls

29 Aug 14

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Fax: (613) 541-6596

ASG Login No: 24516
Site: Dye-M
Client No: 14-026
Samples Received: 02-Sep-14
Date of analysis: 05-Sep-14
Method No: ASG 005C
Date Reported: 11-Sep-14
Sheet No: 1 of 1

RESULTS OF PCB IN SOIL ANALYSIS

Sample Type **	Sample I.D.	Unit	Aroclor 1254	Aroclor 1260
S	14-8233	µg/g	< 0.05	< 0.05
S	14-8249	µg/g	< 0.05	< 0.05
S	14-8259	µg/g	< 0.05	< 0.05
S	14-8269	µg/g	< 0.05	< 0.05
S	14-8279	µg/g	< 0.05	< 0.05
S	14-8289	µg/g	< 0.05	< 0.05
S	14-8299	µg/g	< 0.05	< 0.05
S	14-8309	µg/g	< 0.05	< 0.05
S	14-8319	µg/g	< 0.05	< 0.05
S	14-8329	µg/g	< 0.05	< 0.05
S	14-8339	µg/g	< 0.05	< 0.05
S	14-8349	µg/g	< 0.05	< 0.05
S	14-8359	µg/g	< 0.05	< 0.05
S	14-8369	µg/g	< 0.05	< 0.05
S	14-8379	µg/g	< 0.05	< 0.05
S	14-8389	µg/g	< 0.05	< 0.05
S	14-8399	µg/g	< 0.05	< 0.05
S	14-8409	µg/g	< 0.05	< 0.05
S	14-8419	µg/g	< 0.05	< 0.05
S	14-8439	µg/g	< 0.05	< 0.05
S	14-8449	µg/g	< 0.05	< 0.05
S	14-8459	µg/g	< 0.05	< 0.05
S	14-8469*	µg/g	< 0.05	< 0.05

* Averaged result of duplicates
** O = Oil, S = Soil, C = Concrete, PC = Paint Chips, SW = Swabs, W = Water, P = Plants

LABORATORY QA/QC

S	14-8469 ; Duplicate	µg/g	< 0.05 ; < 0.05	< 0.05 ; < 0.05
	Blank	µg/g	< 0.05	< 0.05
	Control Sample	µg/g	5.0	< 0.05
	Control Sample Target	µg/g	5.0	< 0.05

** S = Soil , C = Concrete , PC = Paint Chip , SW = Swab , P = Plant

All results corrected for the recovery of the surrogate decachlorobiphenyl

The results reported here relate only to the items tested.

Prepared By: S. Trickey
Stephanie Trickey, Anaylst

Authorization: J. McDell
Julie McDonald, Lab Manager

PCBs24516r1.xls
11 Sept 14

ANALYTICAL SCIENCES GROUP AND SLOWPOKE-2 FACILITY AT RMC
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(613) 541-6000 ext 6567
Fax: (613) 541-6596

ASG Login No: 24516
Site: Dye-M
Client No: 14-026
Samples Received: 02-Sep-14
Date of analysis: 09-Sep-14
Method No: ASG 005C
Date Reported: 11-Sep-14
Sheet No: 1 of 1

RESULTS OF PCB IN SOIL ANALYSIS

Sample Type **	Sample I.D.	Unit	Aroclor 1254	Aroclor 1260
S	14-8234*	µg/g	< 0.05	< 0.05
S	14-8429	µg/g	< 0.05	< 0.05

* Averaged result of duplicates
** O = Oil, S = Soil, C = Concrete, PC = Paint Chips, SW = Swabs, W = Water, P = Plants

LABORATORY QA/QC

S	14-8234 ; Duplicate	µg/g	< 0.05 ; < 0.05	< 0.05 ; < 0.05
	Blank	µg/g	< 0.05	< 0.05
	Control Sample	µg/g	5.6	< 0.05
	Control Sample Target	µg/g	5.0	< 0.05

** S = Soil , C = Concrete , PC = Paint Chip , SW = Swab , P = Plant

All results corrected for the recovery of the surrogate decachlorobiphenyl

The results reported here relate only to the items tested.

Prepared By: S Trickey
Stephanie Trickey, Anaylst

Authorization: J. McD
Julie McDonald, Lab Manager
PCBs24516r2.xls
11 Sept 14.

Analytical Services Unit
School of Environmental Studies
Biosciences Complex, Queen's University
Kingston, Ontario, Canada K7L 3N6
Tel: 613 533-2642 Fax: 613 533-2897

ASU #	15179	**Report ID:**	DLCU Phase 1-W1
Client:	ESG	**Date Submitted:**	22-Aug-14
		Date Tested:	2-Sep-14
Site:	DLCU-Phase-1-PMO	**Date:**	4-Sep-14
	14-023	**Matrix:**	Water

Report of Analysis by ICP/MS

Results relate only to the items tested

Total Metals Results in mg/L

SAMPLE	Cu	Ni	Co	Cd	Pb	Zn	Cr	As
14-8187	0.086	0.18	0.013	<0.001	0.005	0.47	1.8	0.003
Blank	<0.005	<0.005	<0.003	<0.001	<0.005	0.008	<0.005	<0.001
Control	0.086	0.073	0.084	0.015	0.087	0.047	0.017	0.046
Control Target	0.088	0.088	0.088	0.016	0.088	0.048	0.016	0.048

Prepared by Paula Whidey

Authorized by A. Nutter

Analytical Services Unit
School of Environmental Studies
Biosciences Complex, Queen's University
Kingston, Ontario, Canada K7L 3N6
Tel: 613 533-2642 Fax: 613 533-2897

REPORT OF ANALYSIS

ASU # 15174 Report ID: Dye-M CCME TPH-1
Client: ESG Submitted: 19-Aug-14
Dye-M ng Initiated: 20-Aug-14
Date Reported: 21-Aug-14
ESG # 14-024 Matrix: Soil

Method: CCME TPH in Soil†
FINAL REPORT

RESULTS

Sample ID	% water of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
14-8240	5%	<10	<10	<10	<10	<40
14-8241	5%	<10	<10	<10	<10	<40
14-8242	5%	<10	<10	<10	<10	<40
14-8243	4%	<10	<10	<10	<10	<40
14-8244	8%	<10	<10	<10	<10	<40
14-8245	8%	<10	<10	<10	<10	<40
14-8247	7%	<10	<10	<10	<10	<40
14-8248	8%	<10	<10	<10	<10	<40
14-8250	9%	<10	<10	<10	<10	<40
14-8251	10%	<10	<10	<10	<10	<40

†Complies with CWS PHC Tier 1 method

‡F4G gravimetric heavy hydrocarbons cannot be added to the sum

Analytical Services Unit
School of Environmental Studies
Biosciences Complex, Queen's University
Kingston, Ontario, Canada K7L 3N6
Tel: 613 533-2642 Fax: 613 533-2897

QUALITY CONTROL

Quality Criteria:

1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) C50 response factors within 70% of nC110 + nC16 + nC34 average;
4) linearity of calibrations standard with 15%

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Blank	<10	<10	<10	<10
Control	125	141		
Control Target	154	170		

COMMENTS

F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Prepared by Paula Whidley. Authorized by A. Netten

Queen's UNIVERSITY PREPARING LEADERS AND CITIZENS FOR A GLOBAL SOCIETY

Analytical Services Unit
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Tel: 613 533-2642 Fax: 613 533-2897

REPORT OF ANALYSIS

ASU # 15174		Report ID:	Dye-M CCME TPH-2
Client: ESG		Date Submitted:	19-Aug-14
	Dye-M	Date Testing Initiated:	20-Aug-14
		Date Reported:	25-Aug-14
ESG # 14-024		Matrix:	Soil

Method: CCME TPH in Soil†
FINAL REPORT

RESULTS

Sample ID	% water of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
14-8252	10%	<10	<10	<10	<10	<40
14-8253	8%	<10	11	<10	<10	<40
14-8254	10%	<10	<10	<10	<10	<40
14-8255	9%	<10	16	<10	<10	<40
14-8257	8%	<10	<10	<10	<10	<40
14-8258	6%	<10	10	<10	<10	<40
14-8260	8%	<10	<10	<10	<10	<40
14-8261	6%	<10	<10	<10	<10	<40
14-8262	5%	<10	10	<10	<10	<40
14-8263*	5%	<10	<10	<10	<10	<40
14-8264	7%	<10	<10	<10	<10	<40
14-8265	2%	<10	<10	<10	<10	<40
14-8267	2%	<10	<10	<10	<10	<40
14-8268	3%	<10	<10	<10	<10	<40
14-8270	3%	<10	<10	<10	<10	<40
14-8271	3%	<10	<10	<10	<10	<40
14-8272	5%	<10	<10	<10	<10	<40
14-8273	3%	<10	<10	<10	<10	<40
14-8274	12%	<10	<10	<10	<10	<40
14-8275	11%	<10	<10	<10	<10	<40
14-8277	7%	<10	<10	<10	<10	<40
14-8278	4%	<10	<10	<10	<10	<40
14-8280	9%	<10	<10	<10	<10	<40
14-8281	10%	<10	<10	<10	<10	<40
14-8282	14%	<10	<10	<10	<10	<40
14-8283	7%	<10	<10	<10	<10	<40
14-8284	6%	<10	<10	<10	<10	<40
14-8285	7%	<10	<10	<10	<10	<40
14-8287	10%	<10	<10	<10	<10	<40
14-8288*	5%	<10	<10	<10	<10	<40

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†Complies with CWS PHC Tier 1 method
‡F4G gravimetric heavy hydrocarbons cannot be added to the sum

QUALITY CONTROL

Quality Criteria:

1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) C50 response factors within 70% of nC110 + nC16 + nC34 average;
4) linearity of calibrations standard with 15%

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Blank	<10	<10	<10	<10
14-8263 duplicate	<10 ; <10	<10 ; <10	<10 ; <10	<10 ; <10
14-8288 duplicate	<10 ; <10	<10 ; <10	<10 ; <10	<10 ; <10
Control	126 ; 123	152 ; 171 ; 166		
Control Target	154	170		

COMMENTS
F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Prepared by Paula Whidley. Authorized by A. Netten

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REPORT OF ANALYSIS

ASU # 15174		Report ID:	Dye-M CCME TPH-3
Client: ESG		Date Submitted:	19-Aug-14
	Dye-M	Date Testing Initiated:	22-Aug-14
		Date Reported:	27-Aug-14
ESG # 14-024		Matrix:	Soil

Method: CCME TPH in Soil†
FINAL REPORT

RESULTS

Sample ID	% water of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
14-8290	2%	<10	<10	<10	<10	<40
14-8291	2%	<10	<10	<10	<10	<40
14-8292	12%	<10	<10	<10	<10	<40
14-8293	9%	<10	<10	<10	<10	<40
14-8294	5%	<10	<10	<10	<10	<40
14-8295	3%	<10	<10	<10	<10	<40
14-8297	8%	<10	<10	<10	<10	<40
14-8298	8%	<10	<10	<10	<10	<40
14-8300	5%	<10	<10	<10	<10	<40
14-8301	7%	<10	<10	<10	<10	<40
14-8302	11%	<10	<10	<10	<10	<40
14-8303	8%	<10	<10	<10	<10	<40
14-8304	5%	<10	<10	<10	<10	<40
14-8305	5%	<10	<10	105	<10	105
14-8307	4%	<10	<10	144	<10	144
14-8312	2%	<10	<10	<10	<10	<40
14-8313	3%	<10	<10	<10	<10	<40
14-8314	1%	<10	<10	<10	<10	<40
14-8315	10%	<10	<10	<10	<10	<40
14-8317*	7%	25	5080	85	<10	5190
14-8318	2%	<10	<10	<10	<10	<40
14-8320	3%	<10	<10	<10	<10	<40
14-8321	3%	<10	<10	<10	<10	<40
14-8322	7%	<10	<10	<10	<10	<40
14-8323	6%	<10	<10	<10	<10	<40
14-8324	11%	<10	<10	171	19	190
14-8325	10%	<10	<10	<10	<10	<40
14-8327	8%	<10	<10	<10	<10	<40
14-8328	6%	<10	<10	<10	<10	<40
14-8330	7%	<10	<10	<10	<10	<40

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14-8331	9%	<10	<10	<10	<10	<40
14-8332	6%	<10	<10	<10	<10	<40
14-8333	6%	<10	<10	<10	<10	<40
14-8334	6%	<10	56	<10	<10	56
14-8335	6%	<10	<10	<10	<10	<40
14-8337	5%	<10	<10	<10	<10	<40
14-8338	9%	<10	<10	<10	<10	<40
14-8340	8%	<10	<10	<10	<10	<40
14-8341	7%	<10	<10	<10	<10	<40
14-8342*	9%	15	2050	39	<10	2100

†Complies with CWS PHC Tier 1 method

‡F4G gravimetric heavy hydrocarbons cannot be added to the sum

* Average result of duplicates

QUALITY CONTROL

Quality Criteria:

1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) C50 response factors within 70% of nC110 + nC16 + nC34 average;
4) linearity of calibrations standard with 15%

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Blank	<10 ; <10	<10 ; <10	<10 ; <10	<10 ; <10
14-8317 duplicate	20 ; 30	4910 ; 5240	102 ; 68	<10 ; <10
14-8342 duplicate	15 ; 14	2160 ; 1930	45 ; 32	<10 ; <10
Control	153 ; 127	157 ; 176		
Control	137 ; 130	160 ; 172		
Control Target	154	170		

COMMENTS

F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Prepared by Paula Whidden Authorized by A. Mutter

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REPORT OF ANALYSIS

ASU # 15174		Report ID:	Dye-M CCME TPH-4
Client: ESG		Date Submitted:	19-Aug-14
	Dye-M	Date Testing Initiated:	25-Aug-14
		Date Reported:	29-Aug-14
ESG # 14-024		Matrix:	Soil

Method: CCME TPH in Soil†
FINAL REPORT

RESULTS

Sample ID	% water of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
14-8343	11%	<10	602	12	<10	614
14-8344	15%	14	232	<10	<10	246
14-8345	12%	<10	<10	<10	<10	<40
14-8347	7%	<10	<10	16	<10	<40
14-8348	9%	<10	<10	<10	<10	<40
14-8350	5%	<10	<10	<10	<10	<40
14-8351	6%	<10	<10	<10	<10	<40
14-8352	2%	<10	<10	<10	<10	<40
14-8353	7%	<10	<10	<10	<10	<40
14-8354	12%	<10	<10	15	<10	<40
14-8355	13%	<10	<10	<10	<10	<40
14-8357	7%	<10	<10	<10	<10	<40
14-8358	8%	<10	<10	13	<10	<40
14-8360	12%	<10	<10	<10	<10	<40
14-8361	13%	<10	<10	<10	<10	<40
14-8362	6%	<10	<10	<10	<10	<40
14-8363	5%	19	1540	393	<10	1950
14-8364	7%	<10	<10	<10	<10	<40
14-8365	8%	<10	<10	17	<10	<40
14-8367*	10%	<10	<10	<10	<10	<40
14-8368	9%	<10	<10	<10	<10	<40
14-8370	7%	<10	<10	<10	<10	<40
14-8371	7%	<10	<10	<10	<10	<40
14-8372	4%	<10	<10	<10	<10	<40
14-8373	9%	<10	<10	<10	<10	<40
14-8374	12%	<10	<10	<10	<10	<40
14-8375	4%	<10	<10	<10	<10	<40
14-8377	3%	<10	<10	<10	<10	<40
14-8378	13%	<10	<10	<10	<10	<40

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†Complies with CWS PHC Tier 1 method
‡F4G gravimetric heavy hydrocarbons cannot be added to the sum
* Average result of duplicates

QUALITY CONTROL

Quality Criteria:

1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) C50 response factors within 70% of nC110 + nC16 + nC34 average;
4) linearity of calibrations standard with 15%

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Blank	<10 ; <10	<10 ; <10	<10 ; <10	<10 ; <10
14-8367 duplicate	<10 ; <10	<10 ; <10	<10 ; <10	<10 ; <10
Control	127	175 ; 187		
Control	129 ; 126	159		
Control Target	154	170		

COMMENTS
F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Prepared by Paula Whitley Authorized by

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REPORT OF ANALYSIS

ASU # 15174		Report ID:	Dye-M CCME TPH-5
Client: ESG		Date Submitted:	19-Aug-14
	Dye-M	Date Testing Initiated:	29-Aug-14
		Date Reported:	2-Sep-14
ESG # 14-024		Matrix:	Soil

Method: CCME TPH in Soil†
FINAL REPORT

RESULTS

Sample ID	% water of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
14-8380	10%	<10	<10	<10	<10	<40
14-8381	11%	<10	<10	<10	<10	<40
14-8382	7%	<10	<10	<10	<10	<40
14-8383	5%	<10	<10	<10	<10	<40
14-8384	12%	<10	<10	<10	<10	<40
14-8385	9%	<10	<10	<10	<10	<40
14-8387	5%	<10	<10	<10	<10	<40
14-8388	4%	<10	<10	<10	<10	<40
14-8390	4%	<10	<10	<10	<10	<40
14-8391	5%	<10	<10	<10	<10	<40
14-8392*	4%	<10	<10	<10	<10	<40
14-8393	11%	<10	<10	<10	<10	<40
14-8394	13%	<10	<10	<10	<10	<40
14-8395	9%	<10	<10	<10	<10	<40
14-8397	9%	<10	<10	<10	<10	<40
14-8398	10%	<10	<10	<10	<10	<40
14-8400	5%	<10	<10	<10	<10	<40
14-8401	8%	<10	<10	<10	<10	<40
14-8402	8%	<10	207	29	<10	236
14-8403	6%	28	724	29	<10	781
14-8404	2%	<10*	<10	<10	<10	<40
14-8405	5%	<10	<10	<10	<10	<40
14-8407	18%	<10	<10	<10	<10	<40
14-8408	11%	<10	<10	<10	<10	<40
14-8410	6%	<10	<10	<10	<10	<40
14-8411	7%	<10	<10	<10	<10	<40
14-8412	8%	<10	<10	<10	<10	<40
14-8413	8%	<10	<10	<10	<10	<40
14-8414	7%	<10	<10	<10	<10	<40
14-8415	10%	<10	<10	<10	<10	<40
14-8417	12%	<10	<10*	<10*	<10*	<40

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†Complies with CWS PHC Tier 1 method
‡F4G gravimetric heavy hydrocarbons cannot be added to the sum
* Average result of duplicates

QUALITY CONTROL

Quality Criteria:

1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) C50 response factors within 70% of nC110 + nC16 + nC34 average;
4) linearity of calibrations standard with 15%

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Blank	<10 ; <10	<10 ; <10	<10 ; <10	<10 ; <10
14-8392 duplicate	<10 ; <10	<10 ; <10	<10 ; <10	<10 ; <10
14-8404 duplicate	<10 ; <10	-	-	-
14-8417 duplicate	-	<10 ; <10	<10 ; <10	<10 ; <10
Control	145 ; 126	169 ; 152		
Control	142	166		
Control Target	154	170		

COMMENTS
F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Prepared by Paula Whidley. Authorized by A. Rutter

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REPORT OF ANALYSIS

ASU # 15174	Report ID:	Dye-M CCME TPH-6
Client: ESG	Date Submitted:	19-Aug-14
Dye-M	Date Testing Initiated:	29-Aug-14
	Date Reported:	3-Sep-14
ESG # 14-024	Matrix:	Soil

Method: CCME TPH in Soil†
FINAL REPORT

RESULTS

Sample ID	% water of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
14-8418	13%	<10	<10	<10	<10	<40
14-8420	15%	<10	<10	<10	<10	<40
14-8421	14%	<10	<10	<10	<10	<40
14-8422	8%	<10	<10	<10	<10	<40
14-8423	8%	<10	<10	<10	<10	<40
14-8424	6%	<10	<10	<10	<10	<40
14-8425	8%	<10	<10	<10	<10	<40
14-8427	6%	<10	<10	<10	<10	<40
14-8428	11%	<10	<10	<10	<10	<40
14-8430	10%	<10	<10	<10	<10	<40
14-8431	11%	<10	<10	<10	<10	<40
14-8432	10%	<10	<10	<10	<10	<40
14-8433	7%	<10	<10	<10	<10	<40
14-8434	6%	<10	<10	<10	<10	<40
14-8435*	4%	<10	<10	<10	<10	<40

†Complies with CWS PHC Tier 1 method
‡F4G gravimetric heavy hydrocarbons cannot be added to the sum
* Average result of duplicates

QUALITY CONTROL

Quality Criteria:
1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) C50 response factors within 70% of nC110 + nC16 + nC34 average;
4) linearity of calibrations standard with 15%

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Blank	<10 ; <10	<10 ; <10	<10 ; <10	<10 ; <10
14-8435 duplicate	<10 ; <10	<10 ; <10	<10 ; <10	<10 ; <10
Control	127 ; 133	180 ; 179		
Control Target	154	170		

COMMENTS
F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Prepared by Paula Whidden Authorized by A. Nutter

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ASU #	15174				Report ID:	DYE-M S1			
Client:	ESG				Date Submitted:	19-Aug-14			
					Date Tested:	20-Aug-14			
Site:	DYE-M				Date Reported:	22-Aug-14			
ESG#	14-024				Matrix:	Soil			
Report of Analysis by ICP/MS			All results in ug/g						
Results relate only to the items tested									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
14-8240	39.4	44.7	11.2	<1.0	67	81	84	1.2	*
14-8241	48.9	49.0	11.9	<1.0	38	80	93	1.8	
14-8242	35.2	44.5	10.6	<1.0	13	71	84	3.2	
14-8243	44.5	50.2	10.9	<1.0	15	72	92	2.4	
14-8244	26.6	38.5	9.4	<1.0	<10	47	75	1.4	
14-8245	43.1	42.7	10.5	<1.0	14	64	86	1.6	
14-8247	42.5	42.2	10.3	<1.0	15	64	81	2.1	
14-8248	34.5	44.6	10.7	<1.0	<10	60	82	2.0	
14-8250	19.1	29.0	6.6	<1.0	<10	33	51	0.7	
14-8251	20.0	32.6	7.3	<1.0	<10	37	56	0.7	
14-8252	24.8	41.1	9.5	<1.0	<10	46	75	1.2	*
14-8253	21.4	33.9	8.0	<1.0	<10	42	63	0.9	
14-8254	32.9	73.3	12.4	<1.0	<10	82	92	0.5	
14-8255	72.0	173.0	19.8	<1.0	<10	111	173	0.9	
14-8257	31.4	81.6	13.6	<1.0	<10	81	89	1.1	
14-8258	15.8	125.5	14.8	<1.0	<10	94	71	0.7	
14-8260	94.8	54.2	11.3	<1.0	<10	78	67	1.3	
14-8261	48.6	45.5	10.5	<1.0	<10	69	53	1.1	*
14-8262	76.7	50.0	13.1	<1.0	<10	94	62	1.5	
14-8263	27.8	58.5	13.1	<1.0	<10	78	58	0.9	
14-8264	19.5	38.3	13.9	<1.0	<10	96	61	1.0	
14-8265	27.3	78.0	13.5	<1.0	<10	67	51	0.8	
14-8267	15.4	43.1	10.3	<1.0	<10	74	32	0.5	
14-8268	15.8	59.2	7.8	<1.0	<10	32	30	0.3	
14-8270	16.0	51.2	7.2	<1.0	<10	28	24	0.6	*
14-8271	14.4	48.2	6.4	<1.0	<10	25	22	0.6	
14-8272	20.5	35.2	6.8	<1.0	<10	44	28	0.6	
14-8273	30.6	13.6	6.2	<1.0	<10	32	<20	0.3	
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2	
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2	
MESS-3	34.2	43.6	12.6	<1.0	21	145	40	22.0	
MESS-3	30.5	40.9	11.8	<1.0	19	139	40	18.7	
14-8240	38.7	43.5	11.2	<1.0	108	85	83	1.3	
14-8240	40.2	46.0	11.1	<1.0	26	76	86	1.1	
14-8252	25.4	40.9	9.8	<1.0	<10	48	75	1.3	
14-8252	24.2	41.4	9.2	<1.0	<10	43	75	1.0	
14-8261	46.1	42.8	10.4	<1.0	<10	64	49	1.1	
14-8261	51.1	48.3	10.6	<1.0	<10	73	57	1.2	
14-8270	16.8	54.3	7.3	<1.0	<10	28	25	0.5	
14-8270	15.1	48.1	7.1	<1.0	<10	28	24	0.6	
Prepared by	Paula Whitley		Authorized by	A. Mutter					

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ASU #	**15174**				Report ID:	DYE-M S2			
Client:	**ESG**				Date Submitted:	19-Aug-14			
					Date Tested:	20-Aug-14			
Site:	**DYE-M**				Date Reported:	22-Aug-14			
ESG#	**14-024**				Matrix:	Soil			
Report of Analysis by ICP/MS			All results in ug/g						
Results relate only to the items tested									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
14-8307	47.5	87.3	13.3	<1.0	23	94	102	3.7	
14-8312	31.4	88.6	13.3	<1.0	19	85	126	1.6	
14-8313	19.6	42.1	8.4	<1.0	<10	59	56	1.0	
14-8314	31.3	78.3	10.7	<1.0	35	78	47	1.1	*
14-8315	148.2	26.5	12.3	<1.0	13	128	32	2.5	
14-8317	102.4	23.2	10.2	<1.0	<10	97	24	2.0	
14-8318	43.5	177.0	20.4	<1.0	11	64	76	1.3	
14-8320	31.8	171.3	18.4	<1.0	12	48	78	0.8	
14-8321	30.3	164.3	17.3	<1.0	12	47	79	1.1	
14-8322	25.9	31.8	7.7	<1.0	<10	42	68	1.0	
14-8323	19.9	29.4	7.2	<1.0	<10	35	59	1.0	*
14-8324	26.3	35.4	8.4	<1.0	19	49	75	1.3	
14-8325	30.4	38.1	9.5	<1.0	<10	45	75	1.3	
14-8327	30.8	38.1	9.3	<1.0	<10	46	76	1.6	
14-8328	30.3	42.9	10.5	<1.0	<10	49	86	1.3	
14-8330	27.1	38.5	8.6	<1.0	<10	40	69	1.3	
14-8331	23.7	32.5	7.4	<1.0	<10	37	62	1.0	
14-8332	23.2	35.5	7.8	<1.0	<10	34	61	3.3	*
14-8333	33.1	40.6	9.6	<1.0	<10	49	80	1.6	
14-8334	41.7	45.4	10.9	<1.0	11	54	94	1.6	
14-8335	27.6	34.8	8.6	<1.0	<10	41	68	1.4	
14-8337	21.1	27.7	7.2	<1.0	<10	31	59	0.9	
14-8338	103.9	79.1	13.6	<1.0	24	82	260	3.3	
14-8340	126.7	75.1	14.7	<1.0	10	98	258	4.6	
14-8341	110.2	72.7	13.9	<1.0	10	100	255	3.9	*
14-8342	93.3	98.1	21.7	<1.0	11	188	293	3.2	
14-8343	83.1	110.1	16.7	<1.0	14	142	209	2.9	
14-8344	115.8	36.5	9.0	<1.0	<10	148	223	1.0	
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2	
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2	
MESS-3	30.9	38.8	11.8	<1.0	20	134	39	19.2	
MESS-3	35.8	43.8	12.8	<1.0	22	150	41	22.3	
14-8314	31.0	78.2	10.5	<1.0	35	79	47	1.1	
14-8314	31.7	78.5	10.9	<1.0	34	78	48	1.1	
14-8323	20.7	30.4	7.3	<1.0	<10	35	59	1.1	
14-8323	19.0	28.5	7.0	<1.0	<10	35	59	1.0	
14-8332	21.6	34.2	7.6	<1.0	<10	34	57	5.6	
14-8332	24.8	36.9	7.9	<1.0	<10	34	64	1.0	
14-8341	103.7	68.0	12.6	<1.0	<10	92	243	3.5	
14-8341	116.6	77.4	15.1	<1.0	11	109	267	4.3	
Prepared by	Paula Whalley		Authorized by		A. Nutter				

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ASU #	**15174**				Report ID:	DYE-M S3			
Client:	**ESG**				Date Submitted:	19-Aug-14			
					Date Tested:	21-Aug-14			
Site:	**DYE-M**				Date Reported:	26-Aug-14			
ESG#	**14-024**				Matrix:	Soil			
Report of Analysis by ICP/MS			All results in ug/g						
Results relate only to the items tested									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
14-8274	23.1	28.0	9.6	<1.0	15	59	26	1.1	
14-8275	23.4	24.9	9.6	<1.0	15	64	21	1.0	
14-8277	16.6	24.0	6.4	<1.0	<10	42	20	0.6	
14-8278	14.0	17.2	<5.0	<1.0	<10	36	<20	0.7	*
14-8280	41.1	40.1	8.5	<1.0	<10	82	83	1.0	
14-8281	44.8	48.4	10.2	<1.0	11	86	80	1.5	
14-8282	19.9	33.0	7.0	<1.0	<10	46	27	0.7	
14-8283	34.4	61.3	11.5	<1.0	<10	44	25	0.6	
14-8284	15.6	12.7	<5.0	<1.0	33	59	<20	0.7	
14-8285	14.7	18.2	8.2	<1.0	13	92	<20	1.1	
14-8287	20.7	16.4	9.2	<1.0	14	121	<20	1.6	*
14-8288	31.5	71.7	12.8	<1.0	10	64	54	1.2	
14-8290	17.0	31.2	8.0	<1.0	<10	45	29	0.6	
14-8291	11.1	26.6	5.6	<1.0	<10	41	21	0.4	
14-8292	24.6	62.1	11.6	<1.0	<10	44	33	0.8	
14-8293	23.6	63.3	12.2	<1.0	<10	48	33	0.8	
14-8294	18.6	86.5	12.6	<1.0	<10	36	36	0.8	
14-8295	15.6	81.7	12.0	<1.0	<10	30	30	0.5	*
14-8297	25.7	52.7	10.9	<1.0	<10	47	27	0.7	
14-8298	34.5	64.7	12.8	<1.0	<10	56	33	0.9	
14-8300	15.4	46.7	8.5	<1.0	<10	34	23	0.6	
14-8301	16.3	50.5	9.1	<1.0	<10	33	25	0.5	
14-8302	19.1	55.0	9.9	<1.0	<10	39	28	0.6	
14-8303	26.2	22.2	6.2	<1.0	12	74	24	1.0	
14-8304	27.6	57.5	11.1	<1.0	14	67	40	1.4	*
14-8305	51.5	93.5	14.6	<1.0	23	91	86	2.6	
14-8345	134.6	31.1	8.3	<1.0	<10	148	199	0.9	
14-8347	133.3	316.1	36.2	<1.0	16	143	449	14.9	
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2	
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2	
MESS-3	30.9	39.4	12.2	<1.0	20	135	37	20.5	
14-8278	14.2	16.7	<5.0	<1.0	<10	34	<20	0.7	
14-8278	13.9	17.7	5.3	<1.0	<10	37	<20	0.7	
14-8287	24.1	17.2	9.4	<1.0	15	128	<20	1.7	
14-8287	17.2	15.7	9.0	<1.0	13	113	<20	1.5	
14-8295	14.7	79.1	11.5	<1.0	<10	29	28	0.3	
14-8295	16.4	84.3	12.5	<1.0	<10	32	32	0.6	
14-8304	24.2	57.6	10.2	<1.0	12	62	38	1.4	
14-8304	31.0	57.3	12.0	<1.0	16	71	41	1.5	
Prepared by	Paula Whitley		Authorized by		A. Nutter				

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ASU #	15174				Report ID:	DYE-M S4			
Client:	ESG				Date Submitted:	19-Aug-14			
					Date Tested:	21-Aug-14			
Site:	DYE-M				Date Reported:	26-Aug-14			
ESG#	14-024				Matrix:	Soil			
Report of Analysis by ICP/MS			All results in ug/g						
Results relate only to the items tested									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
14-8383	64.3	63.4	13.2	<1.0	104	265	76	1.6	
14-8384	39.0	79.3	15.7	<1.0	28	81	63	2.4	
14-8385	35.6	72.1	14.7	<1.0	28	77	56	2.4	
14-8387	35.5	97.3	15.2	<1.0	16	61	68	1.5	*
14-8388	32.5	100.3	15.1	<1.0	13	58	67	1.1	
14-8390	40.7	96.0	14.1	<1.0	<10	74	74	1.5	
14-8391	30.7	71.3	10.5	<1.0	<10	54	51	1.0	
14-8392	27.4	93.8	13.1	<1.0	<10	56	54	1.0	
14-8393	35.5	92.6	15.4	<1.0	22	66	59	1.6	
14-8394	33.7	82.4	15.0	<1.0	22	66	56	1.5	
14-8395	32.2	53.7	10.0	<1.0	12	70	87	1.4	*
14-8397	50.3	65.3	11.8	<1.0	15	89	129	2.1	
14-8398	41.8	111.7	18.2	<1.0	14	85	75	1.5	
14-8400	31.6	97.1	16.9	<1.0	10	63	59	1.0	
14-8401	27.3	91.6	15.1	<1.0	<10	58	54	1.0	
14-8402	37.4	100.9	15.1	<1.0	11	55	48	0.8	
14-8403	43.6	71.2	11.1	<1.0	<10	43	37	0.6	
14-8404	32.9	151.4	19.0	<1.0	<10	46	53	1.1	*
14-8405	35.9	109.7	16.1	<1.0	<10	51	53	0.9	
14-8407	45.6	80.7	14.9	<1.0	<10	63	53	0.9	
14-8408	44.1	97.0	17.8	<1.0	<10	73	63	1.2	
14-8410	33.8	87.1	15.8	<1.0	<10	58	52	0.8	
14-8411	17.3	82.6	15.7	<1.0	<10	59	51	0.7	
14-8412	18.5	78.1	14.2	<1.0	10	49	36	1.0	
14-8413	81.9	75.6	14.7	<1.0	11	112	148	10.8	*
14-8414	69.6	89.5	16.7	<1.0	13	100	158	7.0	
14-8415	75.7	176.8	21.0	<1.0	<10	44	100	17.2	
14-8417	72.0	128.6	19.0	<1.0	<10	40	87	11.8	
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2	
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2	
MESS-3	31.2	39.1	12.0	<1.0	19	135	34	19.9	
MESS-3	29.8	37.7	11.6	<1.0	18	128	32	19.4	
14-8387	37.8	107.2	16.2	<1.0	16	64	73	1.4	
14-8387	33.2	87.4	14.2	<1.0	16	57	64	1.6	
14-8395	31.0	51.9	9.6	<1.0	11	67	85	1.4	
14-8395	33.3	55.6	10.3	<1.0	13	72	89	1.3	
14-8404	33.2	151.0	18.9	<1.0	<10	45	54	0.7	
14-8404	32.7	151.8	19.0	<1.0	10	47	52	1.4	
14-8413	84.1	77.7	15.2	<1.0	11	118	155	11.1	
14-8413	79.8	73.5	14.1	<1.0	12	106	141	10.5	
Prepared by	Paula Whitley		Authorized by		A. Nutter				

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ASU #	15174				Report ID:	DYE-M S5			
Client:	ESG				Date Submitted:	19-Aug-14			
					Date Tested:	25-Aug-14			
Site:	DYE-M				Date Reported:	28-Aug-14			
ESG#	14-024				Matrix:	Soil			
Report of Analysis by ICP/MS			All results in ug/g						
Results relate only to the items tested									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
14-8348	126.4	189.8	24.0	<1.0	12	134	276	11.8	
14-8350	33.0	37.0	10.4	<1.0	<10	61	95	1.2	
14-8351	45.8	53.0	13.5	<1.0	<10	85	125	0.9	
14-8352	38.2	47.6	12.2	<1.0	<10	79	111	0.9	*
14-8353	106.7	40.7	12.6	<1.0	<10	184	193	3.7	
14-8354	194.4	50.7	11.3	<1.0	11	174	180	4.9	
14-8355	114.9	97.7	21.4	<1.0	10	162	173	2.2	
14-8357	103.8	101.6	17.1	<1.0	11	159	189	1.8	
14-8358	69.9	80.6	14.1	<1.0	18	102	146	3.9	
14-8360	144.8	45.1	7.8	<1.0	<10	141	144	10.1	
14-8361	175.8	46.1	7.9	<1.0	11	175	179	12.2	*
14-8362	45.8	61.8	12.6	<1.0	13	86	113	2.0	
14-8363	56.5	54.3	11.5	<1.0	23	104	125	1.7	
14-8364	87.1	293.4	42.9	<1.0	<10	61	75	0.6	
14-8365	78.1	215.0	34.1	<1.0	<10	55	61	0.7	
14-8367	96.5	51.2	11.0	<1.0	11	158	204	2.7	
14-8368	106.1	47.8	11.1	<1.0	<10	180	299	2.5	
14-8370	58.9	41.7	10.3	<1.0	41	126	115	1.2	*
14-8371	79.0	46.5	11.1	<1.0	27	177	125	1.4	
14-8372	76.4	72.7	16.3	<1.0	15	174	179	1.6	
14-8373	83.6	146.0	41.3	<1.0	<10	177	122	3.8	
14-8374	69.3	42.0	12.4	<1.0	<10	134	144	1.5	
14-8375	24.3	45.4	10.8	<1.0	<10	60	56	0.6	
14-8377	27.1	62.6	11.3	<1.0	<10	60	60	0.8	
14-8378	29.9	54.5	16.1	<1.0	<10	65	42	1.1	*
14-8380	24.8	73.4	16.5	<1.0	<10	59	39	0.9	
14-8381	23.8	56.2	15.0	<1.0	<10	56	34	0.9	
14-8382	58.1	61.1	14.7	<1.0	94	284	84	1.7	
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2	
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2	
MESS-3	34.0	42.6	13.3	<1.0	21	150	38	22.2	
MESS-3	28.6	35.6	11.2	<1.0	17	124	36	19.0	
14-8352	36.4	49.6	12.0	<1.0	<10	78	107	0.8	
14-8352	40.0	45.6	12.4	<1.0	<10	81	115	0.9	
14-8361	173.9	44.5	7.7	<1.0	12	174	176	12.1	
14-8361	177.7	47.6	8.0	<1.0	11	177	183	12.3	
14-8370	54.7	44.9	10.2	<1.0	29	128	117	1.1	
14-8370	63.1	38.4	10.3	<1.0	53	124	113	1.4	
14-8378	27.9	51.6	14.8	<1.0	<10	60	39	0.9	
14-8378	31.9	57.4	17.4	<1.0	<10	69	45	1.2	
Prepared by	Paula Whitley		Authorized by	A. Mutter					

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ASU #	15174				Report ID:	DYE-M S6			
Client:	ESG				Date Submitted:	19-Aug-14			
					Date Tested:	26-Aug-14			
Site:	DYE-M				Date Reported:	29-Aug-14			
ESG#	14-024				Matrix:	Soil			
Report of Analysis by ICP/MS			All results in ug/g						
Results relate only to the items tested									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
14-8418	27.4	46.5	10.4	<1.0	<10	40	66	1.4	
14-8420	26.0	44.5	10.1	<1.0	<10	37	62	1.1	
14-8421	26.8	43.9	10.7	<1.0	10	42	63	1.1	
14-8422	30.7	76.5	16.1	<1.0	18	50	154	1.2	*
14-8423	83.9	204.4	42.7	<1.0	17	66	708	2.2	
14-8424	12.9	24.8	11.4	<1.0	19	52	26	1.6	
14-8425	10.5	35.9	13.1	<1.0	30	60	29	1.8	
14-8427	94.8	37.4	10.8	<1.0	<10	147	160	1.6	
14-8428	114.3	36.8	10.9	<1.0	<10	154	171	2.0	
14-8430	63.6	32.5	10.0	<1.0	<10	110	144	2.6	
14-8431	66.9	31.7	9.7	<1.0	<10	115	152	2.9	*
14-8432	89.6	30.0	8.4	<1.0	<10	108	154	5.3	
14-8433	57.4	30.4	9.1	<1.0	27	118	127	1.0	
14-8434	48.7	29.7	7.3	<1.0	<10	97	103	0.7	
14-8435	53.0	37.1	10.1	<1.0	<10	106	127	1.4	
14-8437	37.1	32.4	7.6	<1.0	<10	84	100	1.1	*
14-8438	49.6	152.4	23.1	<1.0	<10	44	53	0.6	
14-8440	24.8	77.6	12.0	<1.0	10	44	40	1.0	
14-8441	24.7	73.5	11.8	<1.0	11	45	41	1.0	
14-8442	97.7	47.8	12.5	<1.0	13	135	179	1.2	
14-8443	92.5	37.5	10.0	<1.0	12	106	139	2.9	
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2	
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2	
MESS-3	28.3	34.3	10.7	<1.0	18	112	34	17.6	
MESS-3	29.1	35.2	11.0	<1.0	19	118	36	19.1	
14-8422	29.1	71.7	15.0	<1.0	19	49	147	1.3	
14-8422	32.3	81.3	17.2	<1.0	18	52	160	1.0	
14-8431	66.2	32.2	9.7	<1.0	<10	116	153	2.9	
14-8431	67.6	31.3	9.7	<1.0	<10	115	152	2.9	
14-8437	37.9	31.6	7.5	<1.0	<10	82	98	1.1	
14-8437	36.3	33.3	7.7	<1.0	<10	86	101	1.1	
Prepared by	Paula Whitley		Authorized by	A. Mutter					

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ASG Login No: 24516
Site: Dye-M
Client No: 14-026
Samples Received: 02-Sep-14
Date of analysis: 03-Sep-14
Method No: ASG 014
Date Reported: 11-Sep-14
Sheet: 1 of 1

RESULTS OF MERCURY IN SOIL ANALYSIS

Sample ID	Mercury µg/g
14-8233	< 0.1
14-8234	< 0.1
14-8249	< 0.1
14-8259	< 0.1
14-8269	< 0.1
14-8279	< 0.1
14-8289	< 0.1
14-8299	< 0.1
14-8309	< 0.1
14-8319	< 0.1
14-8329	< 0.1
14-8339	< 0.1
14-8349	< 0.1
17-8359	< 0.1
14-8369	< 0.1
14-8379	< 0.1
14-8389	< 0.1
14-8399	< 0.1
14-8409	< 0.1
14-8419	< 0.1
14-8429*	< 0.1
14-8439	< 0.1
14-8449	< 0.1
14-8459	< 0.1
14-8469	< 0.1

LABORATORY QA/QC

Sample ID	Mercury µg/g
Duplicate ; 14-8429*	< 0.1 ; < 0.1
Blank	< 0.1
Control Target	0.44
Control Sample	0.46

The results reported here relate only to the items tested.

Prepared By:
Steve White;
Senior Analyst

Authorization:
Julie McDonald;
Laboratory Manager
Test Report I.D: Hgs24516r1.xls
12 Sept 14.

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REPORT OF ANALYSIS

ASU # 15181	Report ID:	Dye-M CCME TPH-7
Client: ESG	Date Submitted:	25-Aug-14
Dye-M	Date Testing Initiated:	29-Aug-14
	Date Reported:	4-Sep-14
ESG # 14-029	Matrix:	Soil

Method: CCME TPH in Soil†
FINAL REPORT
RESULTS

Sample ID	% water of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
14-8308	7%	<10	<10	<10	<10	<40
14-8310	6%	<10	<10	<10	<10	<40
14-8311	6%	<10	<10	<10	<10	<40
14-8437	5%	<10	<10	<10	<10	<40
14-8438	10%	<10	<10	<10	<10	<40
14-8440	8%	<10	<10	<10	<10	<40
14-8441	8%	<10	<10	<10	<10	<40
14-8442	6%	<10	<10	<10	<10	<40
14-8443	7%	<10	19	<10	<10	<40
14-8444	8%	<10	<10	<10	<10	<40
14-8445	2%	<10	<10	<10	<10	<40
14-8447	11%	<10	<10	<10	<10	<40
14-8448	6%	<10	<10	<10	<10	<40
14-8450	10%	<10	<10	<10	<10	<40
14-8451	9%	<10	<10	<10	<10	<40
14-8452	10%	<10	<10	<10	<10	<40
14-8453	7%	<10	<10	<10	<10	<40
14-8454	6%	<10	<10	<10	<10	<40
14-8455	12%	<10	<10	<10	<10	<40
14-8457	9%	<10	<10	<10	<10	<40
14-8458	12%	<10	<10	<10	<10	<40
14-8460	10%	<10	<10	<10	<10	<40
14-8461	9%	<10	<10	<10	<10	<40
14-8462	11%	<10	<10	<10	<10	<40
14-8463*	13%	<10	<10	<10	<10	<40
14-8464	9%	<10	<10	<10	<10	<40
14-8465	9%	<10	<10	<10	<10	<40
14-8467	10%	<10	<10	<10	<10	<40
14-8468	7%	<10	<10	<10	<10	<40
14-8470	9%	<10	<10	13	<10	<40
14-8471	10%	<10	<10	15	<10	<40
14-8472	5%	14	1990	50	<10	2050
14-8473	9%	<10	<10	<10	<10	<40
14-8474	7%	51	2820	130	<10	3000
14-8475	11%	<10	<10	21	<10	<40
14-8477	6%	<10	<10	<10	<10	<40

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†Complies with CWS PHC Tier 1 method
‡F4G gravimetric heavy hydrocarbons cannot be added to the sum
* Average result of duplicates

QUALITY CONTROL

Quality Criteria:

1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) C50 response factors within 70% of nC110 + nC16 + nC34 average;
4) linearity of calibrations standard with 15%

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Blank	<10 ; <10	<10 ; <10	<10 ; <10	<10 ; <10
14-8463 duplicate	<10 ; <10	<10 ; <10	<10 ; <10	<10 ; <10
Control	133 ; 126	163 ; 156 ; 150		
Control Target	154	170		

COMMENTS
F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Prepared by Paula Whitley Authorized by A. Rutter

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ASU #	**15181**				Report ID:	DYE-M S7			
Client:	**ESG**				Date Submitted:	25-Aug-14			
					Date Tested:	26-Aug-14			
Site:	**DYE-M**				Date Reported:	29-Aug-14			
ESG#	**14-029**				Matrix:	Soil			
Report of Analysis by ICP/MS			All results in ug/g						
Results relate only to the items tested									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
14-8233	32.6	48.3	7.9	<1.0	<10	44	25	0.9	
14-8234	28.0	50.1	8.0	<1.0	<10	49	27	0.9	
14-8308	46.9	84.2	14.8	<1.0	14	65	73	3.0	
14-8310	49.2	86.0	13.1	<1.0	17	91	103	5.8	*
14-8311	35.0	56.1	8.9	<1.0	12	66	71	3.9	
14-8444	21.4	29.2	6.0	<1.0	<10	35	47	1.3	
14-8445	24.8	33.2	7.0	<1.0	<10	39	58	1.1	
14-8447	20.5	39.8	8.4	<1.0	<10	48	77	1.1	
14-8448	17.8	31.1	6.5	<1.0	<10	37	58	0.8	
14-8450	40.2	74.2	15.7	<1.0	<10	91	133	2.0	
14-8451	33.5	63.8	13.6	<1.0	<10	77	113	1.8	*
14-8452	38.2	71.2	14.8	<1.0	<10	87	124	1.8	
14-8453	17.7	31.5	6.9	<1.0	11	49	54	1.3	
14-8454	15.0	28.6	6.3	<1.0	<10	40	50	1.1	
14-8455	23.5	44.2	9.8	<1.0	<10	51	86	1.0	
14-8457	33.5	51.8	10.7	<1.0	<10	69	95	1.7	
14-8458	24.9	44.4	9.8	<1.0	<10	55	91	1.5	
14-8460	23.5	39.6	8.6	<1.0	<10	47	74	1.5	*
14-8461	25.9	42.1	9.6	<1.0	<10	50	77	1.8	
14-8462	14.3	24.4	5.7	<1.0	<10	33	51	0.8	
14-8463	24.8	39.2	8.1	<1.0	<10	47	69	1.2	
14-8464	13.7	26.2	5.4	<1.0	<10	30	49	0.9	
14-8465	15.4	29.9	6.6	<1.0	<10	36	54	0.9	
14-8467	69.1	99.2	22.0	<1.0	<10	142	130	4.3	
14-8468	21.0	38.9	8.1	<1.0	<10	50	83	1.3	*
14-8470	23.7	33.7	7.4	<1.0	12	53	71	1.5	
14-8471	22.5	37.0	6.9	<1.0	45	50	80	1.7	
14-8472	25.0	39.8	7.6	<1.0	<10	52	72	1.2	
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2	
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2	
MESS-3	25.3	40.9	9.8	<1.0	19	136	38	19.5	
MESS-3	29.0	45.2	11.5	<1.0	22	125	44	21.5	
14-8310	52.3	92.4	14.3	<1.0	17	95	106	5.7	
14-8310	46.1	79.6	11.9	<1.0	18	87	100	5.9	
14-8451	31.4	58.0	12.5	<1.0	<10	71	102	1.8	
14-8451	35.7	69.6	14.6	<1.0	<10	83	124	1.8	
14-8460	22.0	37.6	8.1	<1.0	<10	46	70	1.5	
14-8460	24.9	41.6	9.1	<1.0	<10	48	77	1.5	
14-8468	20.3	38.7	8.5	<1.0	<10	50	65	1.3	
14-8468	21.8	39.0	7.7	<1.0	<10	50	101	1.2	
Prepared by	Paula Whitley		Authorized by	A. Nutter					

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ASU #	**15181**				Report ID:	DYE-M S8			
Client:	**ESG**				Date Submitted:	25-Aug-14			
					Date Tested:	26-Aug-14			
Site:	**DYE-M**				Date Reported:	2-Sep-14			
ESG#	**14-029**				Matrix:	Soil			
Report of Analysis by ICP/MS			All results in ug/g						
Results relate only to the items tested									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
14-8473	18.5	28.3	7.2	<1.0	<10	40	53	1.1	
14-8474	19.3	29.8	7.3	<1.0	<10	37	55	1.2	
14-8475	24.1	30.7	7.8	<1.0	<10	48	56	1.2	
14-8477	18.1	29.4	7.1	<1.0	<10	33	52	0.8	*
Blank	<3.0	<5.0	<5.0	<1.0	<10	<15	<20	<0.2	
MESS-3	29.6	39.0	11.7	<1.0	18	131	40	20.3	
14-8477	18.0	28.0	7.2	<1.0	<10	34	51	0.8	
14-8477	18.2	30.7	7.0	<1.0	<10	32	53	0.8	
Prepared by	Paula Whitley		Authorized by		A. Nutter				

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Appendix F: DYE-M Year 1 Monitoring Samples Summary

Table F-1: DYE-M Year 1 Monitoring Soil Samples Summary

Landfill	Number of Locations	Number of Samples Planned - Excluding QA samples	Number of Samples Collected - Including QA Samples	QA Sample Breakdown			Comments
				Duplicate Samples Collected	Interlab Samples Collected	Archive Samples Collected	
Lower Site							
LS Tier II	4	8	12	1	1	2	
LS NWHL	5	10	14	2	1	1	
Powerhouse Landfill	4	8	11	1	1	1	
Crossroads Landfill	3	6	8	1	0	1	
Foundation Landfill	3	6	8	0	1	1	
LS NWS Landfill	4	8	11	1	1	1	
Upper Site							
US Tier II	5	10	14	1	1	2	
US NHWL	4	8	11	1	1	1	
West Landfill	22	44	63	7	7	5	
Pallet Line Landfill	10	20	29	3	3	3	
Helipad Landfill	7	14	19	2	2	2	The depth sample at DM-15 could not be collected reducing the sample number by 1.
US NWS Landfill	5	10	17	1	2	2	DM-22 was relocated after samples were collected resulting in a second set of samples being collected.
South Landfill	8	16	23	3	2	2	
Number of Locations	**84**						
TOTAL SAMPLES		**168**	**240**	**24**	**23**	**24**	

Table F-2: DYE-M Year 1 Monitoring Groundwater Samples Summary

Facility	Number of Locations	Number of Wells with Water	Number of Dry Wells	Number of Samples Collected - Including QA Samples	QA Sample Breakdown		Comments
					Duplicate Samples Collected	Interlab Samples Collected	
Lower Site							
LS Tier II	4	1	3	1	0	0	BMW-05-16, MW-05-13 and MW-05-15 were dry. The team was unable to collect the PCB bottle at the MW-12-01 because of lack of volume.
LS NWHL	5	2	3	3	0	1	MW-05-09, MW-05-12 and MW-09-28 were dry.
Powerhouse Landfill	4	0	4	0	0	0	BMW-05-08, MW-05-05, MW-05-06, MW-05-07 were dry.
Upper Site							
US Tier II	5	2	3	2	0	0	BMW-12-02, MW-08-25 and MW-07-22 were dry.
US NHWL	4	2	2	3	1	0	BMW-06-18 and MW-06-19 were dry.
Number of Locations	**22**						
TOTAL SAMPLES		**7**	**15**	**9**	**1**	**1**	Archive samples were not collected for groundwater because of limited hold times

Appendix G: Long Term Monitoring Data Summary

Summary Information for DEW Line Monitoring Data Review Tables

DYE-Main

The former DYE-M DEW Line site was built between 1956 and 1957 at Cape Dyer, Nunavut, on the Cumberland Peninsula on the easternmost point of Baffin Island, at 66° 40' N, 61° 21' W . DYE-Main was one of the larger DEW Line sites in the Arctic and its purpose was to link the DEW Line, Pole Vault Line and Greenland communication facilities. The site of the station, situated at the Upper Site, is at an elevation of 740 m. The airstrip is situated at the Lower Site, which is located 13 km from the Upper Site. In 1993, the site was upgraded to an unmanned long range radar (LRR) site as part of the North Warning System (NWS) and the majority of existing facilities were removed.

Site investigations at DYE-M identified 15 landfills, some consisting of multiple lobes, that required remediation. Remediation of the DYE-Main site began in 2005 and was completed in 2013. Seven landfills — Lower Camp Landfill East, Lower Camp Landfill West, Beach Landfill North, Beach Landfill South, Construction Camp Landfill, DEW Drop Landfill and South Landfill East — were completely excavated.

Seven previously-existing landfills remain after remediation and require soil monitoring. Two of these, the NWS Landfill–Lower Site and the Upper Site West Landfill were partially excavated and covered with additional granular fill. The other five landfills — the Crossroads Landfill, Foundation Landfill, Pallet Line Landfill, NWS Landfill–Upper Site and South Landfill West — were covered with additional granular fill. One final previously-existing landfill, the Powerhouse Landfill, was remediated by the installation of a leachate containment system and the placement of a granular cover layer. This landfill requires thermal, soil and groundwater monitoring.

Four new landfills; two non-hazardous waste landfills (NHWL) and two Tier II disposal facilities, one at each of the Lower and Upper Sites, were constructed to contain the debris and contaminated soil as part of the remediation work. These four landfills require soil and groundwater monitoring, as well as thermal monitoring for the Tier II disposal facilities. The Helipad Regrade was included as part of the monitoring program during baseline and year 1 for soil monitoring, however the size of the Helipad regrade does not fit the requirements of the long term monitoring program and had been included in the program by mistake. No further monitoring will be conducted at the Helipad Regrade.

First Year monitoring was performed in 2014 and subsequent monitoring events are scheduled for 2015, 2016, 2017, 2018 as part of Phase I monitoring. Phase II landfill monitoring is scheduled for 2020 (year 7), 2023, 2028 and 2038 (year 25). In Year 2 and 4, environmental monitoring samples are only collected at facilities with thermal monitoring requirements and at DYE-M these are the two Tier II disposal facilities and the Powerhouse landfill. Visual inspections are completed at all facilities.

Soil and groundwater sampling to establish general site **Background** chemical conditions (not impacted by site activities) for inorganic elements and PCBs was conducted in 1990 by the Environmental Science Group (ESG). **Baseline** conditions refer to existing soil chemistry at the landfill area prior to and during remediation. Baseline data for soil and groundwater are collected around landfill facilities during assessment and remediation of the sites, generally over a period of one or two years. These values are used to determine the existing conditions at each facility and create a baseline average that can be used for comparison to data collected over time following remediation. Baseline samples are collected in areas upgradient and downgradient of each landfill. **Upgradient** soil samples are taken at surface and shallow depth in areas near the landfill but not influenced by migration of contaminants through the landfill. **Downgradient** soil samples are collected at surface and shallow depth areas from areas at the toe of each landfill and from areas of preferential drainage. If a monitoring well is present, the soil samples are collected between 2 and 4m from the well. If only soil monitoring is conducted, samples are collected within a few metres of a specified location, downgradient locations are approximately 8-12m from the landfill toe. These soil samples are analyzed for inorganic elements, Total PCBs and TPH to determine whether there has been migration of contaminants, historically or recent, from the landfill area. Although contaminants are primarily transported in water (surface and groundwater), they have a tendency to sorb to soil particles the water is migrating through. The soil retains information regarding the historical input of contaminants.

Some baseline samples have been flagged and have not been included in the baseline arithmetic mean calculations. These results are not representative of the area and would skew the Baseline Arithmetic mean. In most cases, these samples were from locations that were adjacent to areas of source contamination that were remediated and were often scarified after remediation. These results have been left in the Baseline tables for future reference in the event concentrations similar to these are encountered.

Detailed background metals soil characterization is not generally required for a site investigation or remediation when contaminant sources are clearly anthropogenic and when there are applicable generic soil quality guidelines. However, some geologic units, including those in the Upper Site area of the Cape Dyer region have naturally high concentrations of various metals. A detailed background sampling program was deemed necessary at DYE-M and was conducted in 2002/2003. The background metals investigation identified the need for site-specific target levels at the Upper Site for copper (Cu), nickel (Ni), cobalt (Co) and, for the Upper Site West Landfill only, chromium (Cr). The results of this program indicated that natural levels of these elements exceeded the DEW Line Cleanup Criteria (DLCC) in many locations of the Upper Site. The application of the standard DLCC would thus have led to unnecessary excavation and destruction of large portions of natural tundra. The EWG approved the site-specific criteria (SSC) developed for Cu (296 ppm), nickel (2100 ppm), cobalt (153 ppm) and, in some areas chromium (513 ppm) in 2010. At the Upper Site, the site specific criteria that take into account the elevated naturals levels were used for Cu, Ni, Co and, on a case-by-case basis, Cr, and the standard DLCC values were used for the remainder of the inorganic elements.

During the site assessment and remediation program, hydrocarbons were typically analyzed in the laboratory as total petroleum hydrocarbons (TPH) using hexane extraction. The analysis of hydrocarbons performed for the long-term monitoring program is conducted according to the Canadian Council of Ministers of Environment (CCME 2008) Tier I Method –Rev. 5 Analysis of Petroleum Hydrocarbons (PHC) in Soil for F1 to F4 HC fractions. The TPH analysis resulted in a classification of either Type A or Type B. Type A refers to heavy end products, such as lubricating oils, and is visually observed by dark staining. When compared to the CWS PHC, Type A consists of the sum of the F3 and F4 constituents. Type B includes lighter end or more volatile hydrocarbon products such as MoGas, jet fuel and diesel, and is approximately equal to the sum of F1 to F3. In the following tables, results are presented for F1 to F3 individually, and the three fractions are summed to create a "modified TPH" value that can be compared to data collected from assessment and remediation phase of the project. The action level for hydrocarbon remediation was typically 2500ppm. Therefore, hydrocarbon concentrations below that level are not uncommon in the vicinity of landfills.

The DLCU Protocol was revised to address hydrocarbon-contaminated soil on a risk-management basis under the environmental provisions of the IRC/DND and NTI/DND Cooperation Agreements. Soil containing total petroleum hydrocarbons (TPH) at a concentration of 2,500 parts per million (ppm) or more should be remediated to a maximum concentration of 2,500 ppm if it is situated so that it poses a risk to the surrounding environment. Some areas onsite at DYE-M were remediated to 5000ppm or 7500ppm. Baseline and Monitoring sample results for modified TPH that exceed 2500ppm should be reviewed against the EWG recommendations for HC remediation in that area.

Analytical results of soil samples collected downgradient of landfills are compared to contaminant concentrations of samples collected upgradient of landfills. Upgradient and downgradient samples are also compared to overall site background and baseline contaminant levels. (1) Monitoring data can be considered within baseline conditions when it is within three standard deviations (SD) of the baseline average. When this value is exceeded, the sample results will be further examined to determine whether any follow up action is required.

Soil and groundwater samples are collected from specified soil monitoring locations and permanent monitoring well locations. A total of 22 permanent wells were installed at the NHWLs, Tier II Disposal Facilities and Powerhouse Landfill between 2005 and 2009. Two new permanent monitoring wells were installed in 2012 to replace one damaged well and to replace existing background wells at the Upper Site Tier II disposal facility that did not produce water.

For the Dew Line Monitoring Data Review Tables, the background and baseline sample results were summarized by calculating the arithmetic mean, standard deviation, maximum concentration and minimum concentration along with the 95% confidence value of the mean. Concentrations which were below detection were included in the calculations as half of the detection limit. Duplicates (analytical and field duplicates) were averaged before being included in the background analyses.

Baseline soil results for PCBs prior to and including 2001 had detection limits of 0.5 ppm. Non-detect values from those years have been removed from the baseline average calculation, as it would artifically inflate the baseline average value. The non-detect values remain in the tables for information purposes. All detectable results from that time period were used in the baseline average calculation. Landfills that are impacted by this at DYE-M are Powerhouse Landfill, Crossroads Landfill, Foundation Landfill, Upper Site (US) Non-Hazardous-Waste-Landfill, US NWS Landfill, US South Landfill West, US West Landfill and the Pallet Landfill.

Monitoring Data is compared to Background and Baseline data as well as the DEW Line Cleanup Criteria in the tables by highlighting those values which exceed arithmetic mean of Background and Baseline elements, or the Tier I or Tier II Criteria.

Underlined values : Results exceed Background arithmetic mean
Bold Values : Results exceed Baseline arithmetic mean.
Italicized : Results exceed DLCU Tier I criteria.
Italicized and Highlighted : Results exceed DLCU Tier II criteria or Hydrocarbon Action Level.

Soil and groundwater chemical results are graphed against sampling year. Each soil sampling location consists of a surface (0-10 cm) and subsurface (40-50 cm) sample point. Where results are below the analytical detection limit, half of the detection limit has been used in the charts for the sample points. Temporal trend analysis of upgradient and downgradient concentrations in monitoring locations is conducted to monitor change. Note that a minimum of seven data points are recommended to conclusively establish a trend. In addition, upgradient and downgradient monitoring results are compared to the Baseline arithmetic mean. The baseline arithmetic mean and the baseline arithmetic mean + 3x standard deviation are shown on the graphs. The standard deviation (x3) is useful as an indicator of natural variability seen in baseline samples. If the standard deviation was zero because all samples were below the detection limit, there is no line on the graph.

Sample ID numbers vary with contractors but descriptions of the sample numbers are included in the Table as notes. Field duplicate samples were averaged in Baseline and Monitoring results but for Monitoring results, Interlab duplicates were entered as separate samples.

Water sample inorganic results are reported as Total metals and Samples are not preserved or filtered prior to analysis. While this leads to high variability in chemical concentrations, it provides a conservative (i.e. high) estimate of concentrations because the analytical results include dissolved concentrations as well as particulate-bound concentrations in water. In some cases at DYE-M, dissolved metals have been reported and results are presented highlighted blue in the tables. Dissolved metals were not included in the calculation of Baseline Arithmetic Means.

Landfill Monitoring Schedule at DYE-M in progress including:
Year 1 *2014, performed by ESG/AECOM: Sample ID includes the year and the sample number* .

Year 2 2015
Analytical Methods yyyy:

Year 3
Analytical Methods yyyy:

Year 4
Analytical Methods yyyy:

Year 5
Analytical Methods yyyy:

Year 7 yyyy
Analytical Methods yyyy:

Year 10 yyyy
Analytical Methods yyyy:

Year 15 yyyy
Analytical Methods yyyy:

Year 20 yyyy
Analytical Methods yyyy:

References (DYE-M DLCU LTM reports)

(1) DYE-Main Baseline and First Year Monitoring Report, ESG 2014

DYE-M -Lower Site Tier II Disposal Facility - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
Background Data - Arithmetic mean						43	38	12	1.0	10	84	94	1.0	0.50	0.0002				N/A
Baseline Data - Arithmetic mean						**28**	**38**	**12**	**1.0**	**10**	**47**	**72**	**1.0**	**0.10**	**0.050**	**10**	**4**	**15**	**25**
Baseline Data - Standard Deviation						8.2	8.5	2.8	0.00	0.0	10	16	0.57	0.0	0.012	0.0	4.8	13	13
Baseline Data mean + 3xStandard Deviation						52	64	20	1.0	10	79	120	2.7	0.10	0.086	10	18	55	65
**** If baseline or background arithmetic mean was below the detection limit, the mean has been modified to match the detection limit value.***																			
DEW Line Cleanup Tier I Criteria										*200*					*1*				
DEW Line Cleanup Tier II Criteria & Hydrocarbon Action Level						*100*	*100*	*50*	*5*	*500*	*500*	*250*	*30*	*2.0*	*5*				*2500*
Monitoring Data																**TPH Sum will appear when F1, F2 and F3 fractions are entered.**			
Upgradient																			
	BMW #05-16 surface																		
14-8455	BMW 05-16	2014	Year 1	Phase I	5-10	24	**44**	9.8	<1.0	<10	**51**	**86**	**1.0**	<0.010	<0.010	<10	<10	<10	15
			Year 2	Phase I															#N/A
			Year 3	Phase I															#N/A
			Year 4	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	BMW #05-16 depth																		
14-8457	BMW 05-16	2014	Year 1	Phase I	45-50	**33**	**52**	11	<1.0	<10	**69**	**95**	**1.7**	<0.010	<0.010	<10	<10	<10	15
			Year 2	Phase I															#N/A
			Year 3	Phase I															#N/A
			Year 4	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M -Lower Site Tier II Disposal Facility - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
Downgradient																			
	MW #05-13 surface																		
14-8464	MW 05-13	2014	Year 1	Phase I	5-10	14	26	5.4	<1.0	<10	30	49	0.9	<0.010	<0.010	<10	<10	<10	15
			Year 2	Phase I															#N/A
			Year 3	Phase I															#N/A
			Year 4	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	MW #05-13 depth																		
14-8465	MW 05-13	2014	Year 1	Phase I	45-50	15	30	6.6	<1.0	<10	36	54	0.9	<0.010	<0.010	<10	<10	<10	15
			Year 2	Phase I															#N/A
			Year 3	Phase I															#N/A
			Year 4	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M -Lower Site Tier II Disposal Facility - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	MW #05-15 surface																		
14-8458	MW 05-15	2014	Year 1	Phase I	5-10	25	**44**	10	<1.0	<10	**55**	**91**	**1.5**	<0.010	<0.010	<10	<10	<10	15
			Year 2	Phase I															#N/A
			Year 3	Phase I															#N/A
			Year 4	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	MW #05-15 depth																		
14-8460/61	MW 05-15	2014	Year 1	Phase I	45-50	25	**41**	9.1	<1.0	<10	**49**	**76**	**1.7**	<0.010	<0.010	<10	<10	<10	15
			Year 2	Phase I															#N/A
			Year 3	Phase I															#N/A
			Year 4	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M -Lower Site Tier II Disposal Facility - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	MW #12-01 surface																		
14-8462	MW 12-01	2014	Year 1	Phase I	5-10	14	24	5.7	<1.0	<10	33	51	0.8	<0.010	<0.010	<10	<10	<10	15
			Year 2	Phase I															#N/A
			Year 3	Phase I															#N/A
			Year 4	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	MW #12-01 depth																		
14-8463	MW 12-01	2014	Year 1	Phase I	40-45[1]	25	**39**	8.1	<1.0	<10	47	69	**1.2**	<0.010	<0.010	<10	<10	<10	15
			Year 2	Phase I															#N/A
			Year 3	Phase I															#N/A
			Year 4	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

Legend

XX	sample exceeds background
XX	**sample exceeds baseline**
XX	*sample exceeds DLCU Tier I criteria*
XX	*sample exceeds DLCU Tier II criteria*

Note: Modified TPH Total (C_6-C_{34}) has been calculated by adding results for F1, F2 and F3.

1. Depth halted at 45cm due to large cobble at base.

DYE-M Lower Site Tier II Disposal Facility- BASELINE & BACKGROUND Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Total C6-C34 (mg/kg)
															% Fuel Oil	% Lube Oil				
Baseline Data																				
Upgradient:																				
07-30876	BMW 05-16	2007	0-10	23	33	12	<1.0	<10	44	67	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0	
07-30878	BMW 05-16	2007	25-35	23	34	12	<1.0	<10	44	68	<1.0	<0.10	<0.0030	39			<10	29	<9.0	
08-9762	BMW 05-16	2008	0-10	26	39	13	<1.0	<10	50	77	<1.0	<0.10	<0.0030	25			<10	4.1	16	
08-9764	BMW 05-16	2008	30-40	33	47	14	<1.0	<10	58	85	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0	
09-21556	BMW 05-16	2009	0-10	31	37	12	<1.0	<10	69	71	<1.0	<0.10	<0.0030	32			<10	7.2	20	
09-21558/59	BMW 05-16	2009	30-40	27	38	13	<1.0	<10	50	77	1.1	<0.10	<0.0030	37			<10	5.5	26	
11-13070	BMW05-16	2011	0-10	20	43	11	<1.0	<10	40	63	<1.0	<0.10	<0.050	24			<10	<30	19	
11-13072*	BMW05-16	2011	30-40	31	50	16	<1.0	<10	53	89	1.2	<0.10	<0.050	10			<10	<30	<9.0	
12-44878	BMW05-16	2012	0-10	29	39	10	<1.0	<10	48	77	1.1	<0.10	<0.050	23			<10	13	<9.0	
12-44880	BMW05-16	2012	20-30	28	37	9.1	<1.0	<10	46	71	1.2	<0.10	<0.050	19			<10	9	<9.0	
13-25276	BMW 05-16	2013	0-10	28	42	11	<1.0	<10	52	85	1.6	<0.10	<0.050	12			<10	<4.0	<9.0	
13-25278	BMW 05-16	2013	30-40	31	44	12	<1.0	<10	54	84	1.5	<0.10	<0.050	12			<10	<4.0	<9.0	
Downgradient:																				
07-30872	MW 05-13	2007	0-10	17	30	9.5	<1.0	<10	34	53	<1.0	<0.10	<0.0030	34			<10	5.5	23	
07-30874	MW 05-13	2007	25-35	16	24	8.3	<1.0	<10	32	46	<1.0	<0.10	<0.0030	19			<10	<4.0	12	
07-30864	MW 05-14	2007	0-10	17	25	9.5	<1.0	<10	36	51	<1.0	<0.10	<0.0030	17			<10	<4.0	10	
07-30866	MW 05-14	2007	25-35	18	25	9.1	<1.0	<10	36	54	<1.0	<0.10	<0.0030	19			<10	<4.0	12	
07-30868	MW 05-15	2007	0-10	32	41	15	<1.0	<10	55	81	<1.0	<0.10	<0.0030	25			<10	5.5	14	
07-30870/71	MW 05-15	2007	25-35	36	46	17	<1.0	<10	58	98	<1.0	<0.10	<0.0030	20			<10	<4.0	13	
08-9758*/59	MW 05-13	2008	0-10	23	37	12	<1.0	<10	45	66	<1.0	<0.10	<0.0030	43			<10	<4.0	36	
08-9760	MW 05-13	2008	30-40	23	39	12	<1.0	<10	45	66	<1.0	<0.10	<0.0030	33			<10	<4.0	26	
08-9754	MW 05-14	2008	0-10	19	27	9.6	<1.0	<10	38	55	<1.0	<0.10	<0.0030	35			<10	<4.0	28	
08-9756	MW 05-14	2008	30-40	29	35	11	<1.0	<10	51	68	<1.0	<0.10	<0.0030	53			<10	<4.0	46	
08-9750/51	MW 05-15	2008	0-10	36	44	14	<1.0	<10	61	82	<1.0	<0.10	<0.0030	31			<10	<4.0	24	
08-9752	MW 05-15	2008	30-40	29	38	14	<1.0	<10	56	79	<1.0	<0.10	<0.0030	27			<10	<4.0	20	
09-21552	MW 05-13	2009	0-10	19	29	9.2	<1.0	<10	35	53	<1.0	<0.10	<0.0030	52			<10	7.3	40	
09-21554	MW 05-13	2009	30-40	25	36	10	<1.0	<10	41	60	<1.0	<0.10	<0.0030	47			<10	7.5	34	
09-21548	MW 05-15	2009	0-10	36	45	16	<1.0	<10	59	91	1.5	<0.10	<0.0030	20			<10	<4.0	13	
09-21550	MW 05-15	2009	30-40	26	35	11	<1.0	<10	44	68	1.1	<0.10	<0.0030	56			<10	5.1	46	
11-13066*	MW05-13	2011	0-10	18	24	9.2	<1.0	<10	32	46	<1.0	<0.10	<0.050	55			<10	<30	50	
11-13068/69*	MW05-13	2011	30-40	21	33	10	<1.0	<10	37	58	<1.0	<0.10	<0.050	22			<10	<30	17	
11-13062	MW05-15	2011	0-10	40	50	18	<1.0	<10	58	94	1.7	<0.10	<0.050	18			<10	8.6	<9.0	
11-13064	MW05-15	2011	30-40	41	49	18	<1.0	<10	58	92	1.7	<0.10	<0.050	14			<10	4.4	<9.0	
12-44870	MW05-13	2012	0-10	20	32	8.1	<1.0	<10	34	53	0.98	<0.10	<0.050	16			<10	6.2	<9.0	
12-44872	MW05-13	2012	20-30	22	39	8.5	<1.0	<10	36	62	1.1	<0.10	<0.050	16			<10	6.8	<9.0	
12-44874	MW05-15	2012	0-10	35	49	13	<1.0	<10	56	94	2.0	<0.10	<0.050	14			<10	4.9	<9.0	
12-44876/77	MW05-15	2012	20-30	55	63	16	<1.0	<10	71	110	2.5	<0.10	<0.050	15			<10	5.6	<9.0	
12-44902	MW12-01	2012	0-10	28	36	8.9	<1.0	<10	43	65	1.3	<0.10	<0.050	12			<10	<4.0	<9.0	
12-44904	MW12-01	2012	20-30	38	47	12	<1.0	<10	57	85	1.8	<0.10	<0.050	14			<10	4.7	<9.0	
13-25280/81	MW 05-13	2013	0-10	23	34	8.5	<1.0	<10	39	59	1.1	<0.10	<0.050	24			<10	7.9	11	
13-25282	MW 05-13	2013	30-40	20	31	8	<1.0	<10	33	53	1.8	<0.10	<0.050	36			<10	8.3	23	
13-25288	MW 05-15	2013	0-10	38	49	13	<1.0	<10	56	90	1.9	<0.10	<0.050	12			<10	<4.0	<9.0	
13-25290/91	MW 05-15	2013	30-40	39	51	14	<1.0	<10	60	95	1.9	<0.10	<0.050	12			<10	<4.0	<9.0	
13-25284	MW 12-01	2013	0-10	21	28	7.3	<1.0	<10	34	50	1.2	<0.10	<0.050	12			<10	<4.0	<9.0	
13-25286	MW 12-01	2013	30-40	27	37	10	<1.0	<10	48	72	1.5	<0.10	<0.050	11.5			<10	<4.0	<9.0	
	N value			44	44	44	44	44	44	44	44	44	44	44			44	44	44	
	Baseline Detection Limits			3	5	5	1	10	15	20	1	0.1	0.05	10			10	4	9	
	Arithmetic Mean			28	38	12	0.5	5	47	72	1.00	0.05	0.013	25			5	5	15	
	Arithmetic Mean Corrected for Detection Limits			28	38	12	1	10	47	72	1.00	0.1	0.05	25			10	4	15	
	Standard Deviation			8.2	8.5	2.8	0	0	10	16	0.57	0	0.012	13			0	5	13	
	Minimum			16	24	7.3	0	0	32	46	0.98	0	0	9.5			0	4.1	10	
	Maximum			55	63	18	0	0	71	110	2.5	0	0	56.1			0	29	50	
	95% Confidence Limit			2.4	2.5				3.1	4.8	0.17		0.004	4.0				1.4	3.9	

*F2 fraction TPH results for some Baseline samples from 2011 were reported with elevated detection limits due to interferences. These samples have been removed from the baseline average calculation.

DYE-M Lower Site Tier II Disposal Facility- BASELINE & BACKGROUND Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Total C6-C34 (mg/kg)
															% Fuel Oil	% Lube Oil				
Background Data																				
89-G300	Along the beach, 1 km NW of ravine	1989		89	89	23	<1.0	<10	97	156	2.4	<0.5	0.004							
90-G315	2 km downstream BF304	1990		13	31	5.8	<1.0	<10	34	64	0.3	<0.5	0.024							
90-G320	100 m E of S end runway	1990		23	54	14	<1.0	<10	60	110	0.5	<0.5	<0.0002							
90-G321	0.5 mi E of S end runway	1990		21	63	12	<1.0	<10	60	112	0.5	<0.5	<0.0001							
90-G324	2.8 km from crossroads	1990		7.8	27	<5.0	<1.0	<10	30	46	<0.3	<0.5	<0.0002							
90-G325	5 km from crossroads	1990		32	47	18	<1.0	<10	74	95	0.3	<0.5	<0.0002							
00-25519	Gravel Borrow Area - background	2000		28	26	13	<1.0	<10	53	26	<1.0									
00-25520	Gravel Borrow Area - background	2000		14	18	7	<1.0	<10	28	<20	<1.0									
00-25521	Gravel Borrow Area - background	2000		16	19	8.5	<1.0	<10	41	<20	<1.0									
00-25524	West of glacier - background	2000		49	28	12	<1.0	12	98	94	<1.0									
00-25525	West of glacier - background	2000		60	34	13	<1.0	21	125	126	<1.0									
00-25526	West of glacier - background	2000		93	36	13	1.5	37	113	136	<1.0									
00-25527	West of glacier - background	2000		74	29	13	1.3	13	145	151	<1.0									
00-25528	West of glacier - background	2000		77	28	14	1.8	10	213	177	<1.0									
	N value			14	14	14	14	14	14	14	14	6	6							
	Background Detection Limits			3	5	5	1	10	15	20	1	0.5	0.0002							
	Arithmetic Mean			43	38	12	0.72	9.9	84	94	0.58	0.25	0.0047							
	Arithmetic Mean Corrected for Detection Limits			43	38	12	1	10	84	94	1	0.5	0.0002							
	Standard Deviation			30	19	5.1	0.45	9.1	53	55	0.53	0	0.0096							
	Minimum			7.8	18	2.5	0.5	5	28	10	0.15	0.25	0.00005							
	Maximum			93	89	23	1.8	37	213	177	2.4	0.25	0.024							
	95% Confidence Limit			16	10	0	0	0	0	0	0.28		0.0077							

DYE-M LS Tier II Disposal Facility - Summary of Monitoring Groundwater Analytical Data

Sample ID	Location	Date	Monitoring Year	Monitoring Phase	Cu (mg/L)	Ni (mg/L)	Co (mg/L)	Cd (mg/L)	Pb (mg/L)	Zn (mg/L)	Cr (mg/L)	As (mg/L)	Hg (mg/L)	Total PCB (mg/L)	F1 C_{6}-C_{10} (mg/L)	F2 C_{10}-C_{16} (mg/L)	F3 C_{16}-C_{34} (mg/L)	Modified TPH^ - Total C6-C34 (mg/L)
Baseline Data																		
Upgradient:																		
07-30674	BMW05-16	2007			0.024	0.0730	0.004	<0.0010	<0.010	0.9	0.103	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
08-9734	BMW05-16	2008			0.180	0.3100	0.041	<0.0010	0.013	1.4	0.540	0.004	<0.00040	0.000040	<0.050	<0.50	<1.0	0.8
11-12205	BMW05-16	2011			<0.0050	0.0102	<0.0030	<0.0010	<0.010	10	<0.0050	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
12-34983	BMW05-16	2012			<0.0050	0.0070	<0.0030	<0.0010	<0.0050	14	0.120	0.002	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
13- All wells were dry in 2013		2013																
Downgradient:																		
07-30670/71	MW05-13	2007			0.016	0.048	0.004	<0.0010	<0.010	0.93	0.051	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
07-30673	MW05-14	2007			0.043	0.23	0.011	<0.0010	<0.010	2.6	0.30	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
07-30672	MW05-15	2007			0.100	0.14	0.0240	<0.0010	<0.010	0.9	0.190	0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
08-9733	MW05-13	2008			0.090	0.23	0.021	<0.0010	0.021	0.4	0.410	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
08-9732	MW05-14	2008			0.020	0.19	0.0050	<0.0010	<0.010	3.6	0.350	<0.0030	<0.00040	0.00002	<0.050	<0.50	<1.0	0.8
08-9731	MW05-15	2008			0.065	0.36	0.020	<0.0010	<0.010	0.48	0.800	<0.0030	<0.00040	0.00070	<0.050	<0.50	<1.0	0.8
09-21563	MW05-13	2009			0.028	0.06	0.0065	<0.0010	<0.010	2.5	0.088	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
09-21562	MW05-15	2009			0.120	0.29	0.035	0.0014	0.015	0.58	0.530	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
11-12204	MW05-13	2011			<0.0050	<0.0050	<0.0030	<0.0010	<0.010	2.3	<0.0050	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
11-12203	MW05-15	2011			<0.0050	<0.0050	<0.0030	<0.0010	<0.010	6.6	<0.0050	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
12-34979	MW05-13	2012			<0.0050	0.006	<0.0030	<0.0010	<0.0050	1.4	0.170	0.0020	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
12-34980/81	MW05-15	2012			<0.0050	0.011	<0.0030	<0.0010	<0.0050	4.8	0.190	0.005	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
12-34982	MW12-01	2012			<0.0050	0.0110	<0.0030	<0.0010	<0.0050	0.05	0.370	0.0030	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
13- All wells were dry in 2013		2013																
		N value			17	17	17	17	17	17	17	17	17	17	17	17	17	17
		Arithmetic Mean			**0.07**	**0.19**	**0.017**	**0.001**	**0.008**	**3.1**	**0.30**	**0.002**	**0.0002**	**0.0004**	**0.025**	**0.25**	**0.50**	**0.25**
		Arithmetic Mean Corrected for Detection Limits			**0.07**	**0.19**	**0.017**	**0.001**	**0.010**	**3.1**	**0.30**	**0.003**	**0.0004**	**0.003**	**0.050**	**0.50**	**1.0**	**0.50**
		Standard Deviation			0.054	0.11	0.013	0.0003	0.006	3.8	0.21	0.0009	0.0	0.0	0.0	0.0	0.0	0.0
		Arithmetic Mean + 3xStandard Deviation			0.23	0.52	0.057	0.0019	0.027	15	0.94	0.0058	0.0004	0.0049	0.050	0.50	1.0	0.25
		Detection Limit			0.005	0.005	0.003	0.001	0.010	0.010	0.005	0.003	0.0004	0.003	0.050	0.50	1.0	1.0
Monitoring Data																		
Upgradient - BMW 05-16																		
Not sampled - well dry/ frozen at depth	BMW 05-16	2014	Year 1	Phase I														#N/A
			Year 2	Phase I														#N/A
			Year 3	Phase I														#N/A
			Year 4	Phase I														#N/A
			Year 5	Phase I														#N/A
			Year 7	Phase II														#N/A
			Year 10	Phase II														#N/A
			Year 15	Phase II														#N/A
			Year 25	Phase II														#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A

Modified TPH TOTAL will appear when F1, F2, F3 fraction results are entered.

DYE-M LS Tier II Disposal Facility - Summary of Monitoring Groundwater Analytical Data

Sample ID	Location	Date	Monitoring Year	Monitoring Phase	Cu (mg/L)	Ni (mg/L)	Co (mg/L)	Cd (mg/L)	Pb (mg/L)	Zn (mg/L)	Cr (mg/L)	As (mg/L)	Hg (mg/L)	Total PCB (mg/L)	F1 C_6-C_{10} (mg/L)	F2 C_{10}-C_{16} (mg/L)	F3 C_{16}-C_{34} (mg/L)	Modified TPH^ - Total C6-C34 (mg/L)
Downgradient - MW 05-13																		
Not sampled - well dry/ frozen at depth	MW 05-13	2014	Year 1	Phase I														#N/A
			Year 2	Phase I														#N/A
			Year 3	Phase I														#N/A
			Year 4	Phase I														#N/A
			Year 5	Phase I														#N/A
			Year 7	Phase II														#N/A
			Year 10	Phase II														#N/A
			Year 15	Phase II														#N/A
			Year 25	Phase II														#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A
Downgradient - MW 05-15																		
Not sampled - well dry/ frozen at depth	MW 05-15	2014	Year 1	Phase I														#N/A
			Year 2	Phase I														#N/A
			Year 3	Phase I														#N/A
			Year 4	Phase I														#N/A
			Year 5	Phase I														#N/A
			Year 7	Phase II														#N/A
			Year 10	Phase II														#N/A
			Year 15	Phase II														#N/A
			Year 25	Phase II														#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A
Downgradient - MW 12-01 (replaces MW-14)																		
14-8185*	MW12-01	2014	Year 1	Phase I	<0.0010	0.013	0.00037	<0.000090	<0.00050	<0.0030	<0.00050	<0.0010	<0.00010		<0.025	<0.10	<0.25	0.2
			Year 2	Phase I														#N/A
			Year 3	Phase I														#N/A
			Year 4	Phase I														#N/A
			Year 5	Phase I														#N/A
			Year 7	Phase II														#N/A
			Year 10	Phase II														#N/A
			Year 15	Phase II														#N/A
			Year 25	Phase II														#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A

Note: Modified TPH Total (C_6-C_{34}) has been calculated by adding results for F1, F2 and F3.

N/S - Sample or measurements not taken

blue highlight indicates dissolved metals. Total metal results are not highlighted.

Dissolved metal results have not been included in the Baseline Arithmetic Mean

* insufficient volume to analyze for PCBs in 2014

MW-14 baseline well was damaged in 2009, replaced in 2012 by MW 12-01

DYE-M LS Non Hazardous Waste Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_{6}-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
Background Data - Arithmetic Mean						43	38	12	1.0	10	84	94	1.0	0.50	0.0002				N/A
Baseline Data - Arithmetic Mean						**27**	**35**	**10**	**1.0**	**10**	**54**	**69**	**1.1**	**0.10**	**0.05**	**10**	**16**	**36**	**59**
Baseline Data - Standard Deviation						7.5	5.0	2.1	0	5.7	27	12	0.8	0	0.11	11	73	72	116
Baseline Data Mean + 3xStandard Deviation						49	50	17	1.0	27	135	105	3.6	0.10	0.37	43	234	251	406
**** If baseline or background arithmetic mean was below the detection limit, the mean has been modified to match the detection limit value.***																			
DEW Line Cleanup Tier I Criteria										*200*					*1*				
DEW Line Cleanup Tier II Criteria & Hydrocarbon Action Level						*100*	*100*	*50*	*5*	*500*	*500*	*250*	*30*	*2*	*5*				*2500*
Monitoring Data																			**TPH Sum will appear when F1, F2 and F3 fractions are entered.**
Upgradient																			
	MW BMW 09-26 surface																		
14-8252	BMW09-26	2014	Year 1	Phase I	5-10	25	**41**	9.5	<1.0	<10	46	**75**	**1.2**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	MW BMW 09-26 depth																		
14-8253	BMW09-26	2014	Year 1	Phase I	45-50	21	34	8	<1.0	<10	42	63	0.9	<0.010	<0.010	<10	11	<10	21
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M LS Non Hazardous Waste Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_{6}-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
Downgradient																			
	MW 05-09 surface																		
14-8243	MW 05-09	2014	Year 1	Phase I	5-10	**44**	**50**	**11**	<1.0	**15**	**72**	**92**	**2.4**	0.012	0.018	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	MW 05-09 depth																		
14-8244	MW 05-09	2014	Year 1	Phase I	45-50	**27**	**38**	9.4	<1.0	<10	47	**75**	**1.4**	<0.010	0.018	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	MW 05-12 surface																		
14-8240/41	MW 05-12	2014	Year 1	Phase I	5-10	**44**	**47**	**12**	<1.0	**53**	**81**	**89**	**1.5**	0.013	**0.3**	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M LS Non Hazardous Waste Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_{6}-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	MW 05-12 depth																		
14-8242	MW 05-12	2014	Year 1	Phase I	35-45	**35**	**45**	**11**	<1.0	**13**	**71**	**84**	**3.2**	<0.010	**0.12**	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	MW 09-27 surface																		
14-8248	MW 09-27	2014	Year 1	Phase I	5-10	**34**	**45**	**11**	<1.0	<10	**60**	**82**	**2**	<0.010	0.04	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	MW 09-27 depth																		
14-8250/51	MW 09-27	2014	Year 1	Phase I	45-50	20	31	7.0	<1.0	<10	35	54	0.7	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M LS Non Hazardous Waste Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	MW 09-28 surface																		
14-8245	MW 09-28	2014	Year 1	Phase I	5-10	**43**	**43**	**11**	<1.0	**14**	**64**	**86**	**1.6**	0.015	**0.16**	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	MW 09-28 depth																		
14-8247	MW 09-28	2014	Year 1	Phase I	45-50	**42**	**42**	10	<1.0	**15**	**64**	**81**	**2.1**	0.013	0.032	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

Note: Modified TPH Total (C_6-C_{34}) has been calculated by adding results for F1, F2 and F3.

Legend

XX	sample exceeds background
XX	**sample exceeds baseline**
XX	*sample exceeds DLCU Tier I criteria*
XX	*sample exceeds DLCU Tier II criteria*

DYE-M LS Non Hazardous Waste Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_{6}-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
Baseline Data																			
Upgradient:																			
00-24957		2000	0	27	42	13	<1.0	<10	52	84	<1.0		<0.1						
00-24958	24957	2000	40	29	42	13	<1.0	<10	53	82	<1.0		<0.1						
07-30832	BMW 05-11	2007	0-10	16	29	9.7	<1.0	<10	37	58	<1.0	<0.10	<0.0030	14			<10	4.8	<9.0
07-30834	BMW 05-11	2007	25-35	20	34	12	<1.0	<10	44	67	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0
08-9766	BMW 05-11	2008	0-10	16	29	8.8	<1.0	<10	35	53	<1.0	<0.10	0.004	29			<10	<4.0	22
08-9768/69	BMW 05-11	2008	30-40	20	32	9.6	<1.0	<10	38	55	<1.0	<0.10	<0.0030	19			<10	<4.0	12
11-13058	BMW09-26	2011	0-10	21	36	13	<1.0	<10	42	61	<1.0	<0.10	<0.050	24			<10	14	<9.0
11-13060/61	BMW09-26	2011	30-40	22	40	13	<1.0	<10	43	67	3.2	<0.10	<0.050	28			<10	18	<9.0
12-44858	BMW09-26	2012	0-10	24	37	9	<1.0	<10	43	66	1.7	<0.10	<0.050	18			<10	8.2	<9.0
12-44860	BMW09-26	2012	20-30	30	42	11	<1.0	<10	51	79	1.8	<0.10	<0.050	23			<10	7.8	9.7
13-25184/85	BMW09-26	2013	0-10	29	35	10	<1.0	<10	48	75	2.2	<0.10	<0.050	12			<10	<4.0	<9.0
13-25186	BMW09-26	2013	25-35	32	35	11	<1.0	<10	50	80	2.1	<0.10	<0.050	12			<10	<4.0	<9.0
Downgradient:																			
07-30840/41	MW 05-09	2007	0-10	22	32	10	<1.0	14	47	55	<1.0	<0.10	0.2	37			<10	4.6	27
07-30842	MW 05-09	2007	25-35	25	32	11	<1.0	15	65	59	<1.0	<0.10	0.2	56			<10	4.9	46
07-30836	MW 05-10	2007	0-10	29	41	14	<1.0	<10	51	78	<1.0	<0.10	0.0043	14			<10	4.1	<9.0
07-30838	MW 05-10	2007	25-35	27	39	14	<1.0	<10	49	77	<1.0	<0.10	<0.0030	219			<10	14	200
07-30844	MW 05-12	2007	0-10	20	34	12	<1.0	<10	41	69	<1.0	<0.10	0.003	12			<10	<4.0	<9.0
07-30846	MW 05-12	2007	25-35	18	31	11	<1.0	<10	39	61	<1.0	<0.10	<0.0030	15			<10	5.1	<9.0
08-9774	MW 05-09	2008	0-10	32	42	10	<1.0	14	58	61	<1.0	<0.10	0.18	56			<10	<4.0	49
08-9776/77	MW 05-09	2008	30-40	20	28	9.3	<1.0	<10	41	49	<1.0	<0.10	0.017	64			<10	<4.0	57
08-9770	MW 05-10	2008	0-10	24	33	9.8	<1.0	19	44	59	<1.0	<0.10	<0.0030	117			<10	<4.0	110
08-9772	MW 05-10	2008	30-40	25	34	10	<1.0	<10	42	64	<1.0	<0.10	<0.0030	36			<10	<4.0	29
08-9778	MW 05-12	2008	0-10	36	41	13	<1.0	26	73	79	<1.0	<0.10	0.08	77			<10	<4.0	70
08-9780	MW 05-12	2008	30-40	17	29	9.7	<1.0	<10	38	57	<1.0	<0.10	0.0057	25			<10	<4.0	18
09-21504	MW 05-09	2009	0-10	27	37	12	<1.0	13	61	79	<1.0	<0.10	0.032	455			20	4.7	430
09-21506/07	MW 05-09	2009	30-40	24	30	9.2	<1.0	16	49	55	<1.0	<0.10	0.44	678			81	520	77
09-21500	MW 05-12	2009	0-10	30	37	11	<1.0	23	72	75	<1.0	<0.10	0.56	220			<10	4.7	210
09-21502	MW 05-12	2009	30-40	23	36	11	<1.0	<10	210	67	<1.0	<0.10	0.021	115			15	13	87
11-13042	MW05-09	2011	0-10	32	32	11	<1.0	16	59	72	1.6	<0.10	0.05	12			<10	<4.0	<9.0
11-13044	MW05-09	2011	30-40	24	31	12	<1.0	10	50	65	<1.0	<0.10	0.15	14			<10	4.4	<9.0
11-13046	MW05-12	2011	0-10	29	36	13	<1.0	15	57	71	<1.0	<0.10	0.19	39			<10	6.3	28
11-13048	MW05-12	2011	30-40	24	33	11	<1.0	<10	43	67	<1.0	<0.10	<0.050	12			<10	<4.0	<9.0
11-13054	MW09-27	2011	0-10	12	19	6.8	<1.0	<10	25	36	<1.0	<0.10	<0.050	27			<10	5.8	16
11-13056	MW09-27	2011	30-40	22	28	10	<1.0	<10	39	51	<1.0	<0.10	<0.050	46			<10	7.4	34
11-13050/51	MW09-28	2011	0-10	36	39	14	<1.0	16	62	77	1.4	<0.10	0.09	42			<10	16	21
11-13052	MW09-28	2011	30-40	26	38	13	<1.0	<10	47	69	<1.0	<0.10	<0.050	15			<10	5.7	<9.0
12-44850	MW09-09	2012	0-10	25	30	9.2	<1.0	12	130	56	1.4	<0.10	<0.05	23			<10	6.1	12
12-44852/53	MW09-09	2012	20-30	26	36	9.7	<1.0	12	75	67	1.6	<0.10	0.26	14			<10	4.9	<9.0
12-44854	MW05-12	2012	0-10	33	44	11	<1.0	11	60	85	1.5	<0.10	0.08	24			<10	10	9.4
12-44856	MW05-12	2012	20-30	21	32	8.2	<1.0	<10	46	60	1.1	<0.10	0.06	16			<10	6.9	<9.0
12-44862	MW09-27	2012	0-10	20	27	6.8	<1.0	<10	33	63	1.3	<0.10	<0.050	23			<10	5	13
12-44864/65	MW09-27	2012	20-30	24	35	9	<1.0	<10	41	69	1.5	<0.10	<0.050	19			<10	9.8	<9.0
12-44866	MW09-28	2012	0-10	39	39	10	<1.0	20	63	80	2.3	<0.10	<0.050	22			<10	7	9.6
12-44868	MW09-28	2012	20-30	33	44	11	<1.0	<10	55	86	1.8	<0.10	<0.050	17			<10	7.9	<9.0
13-25196	MW 05-09	2013	0-10	27	31	8.5	<1.0	11	50	63	2.2	<0.10	<0.050	25			<10	4.3	16
13-25198	MW 05-09	2013	25-35	26	32	7.8	<1.0	16	52	64	2.0	<0.10	0.22	50			<10	6	39
13-25200/01	MW 05-12	2013	0-10	35	39	11	<1.0	<10	57	89	2.0	<0.10	<0.050	12			<10	<4.0	<9.0
13-25202	MW 05-12	2013	25-35	27	38	9.3	<1.0	<10	51	79	2.0	<0.10	<0.050	34			<10	<4.0	27
13-25188	MW 09-27	2013	0-10	47	39	9.1	<1.0	11	62	98	3.4	<0.10	<0.050	21			<10	4.7	11
13-25190	MW 09-27	2013	25-35	32	35	9.6	<1.0	13	49	77	1.8	<0.10	<0.050	21			<10	4.7	11
13-25192	MW 09-28	2013	0-10	55	38	11	<1.0	19	69	92	2.9	<0.10	0.07	15			<10	5.2	<9.0

DYE-M LS Non Hazardous Waste Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
13-25194	MW 09-28	2013	25-35	28	34	8.9	<1.0	<10	42	71	1.7	<0.10	<0.050	21			<10	4.3	12
	N value			52	52	52	52	52	52	52	52	50	52	50			50	50	50
	Baseline Detection Limits			3.0	5.0	5.0	1.0	10	15	20	1.0	0.1	0.050	10			10	4	9
	Arithmetic Mean			27	35	10	0.5	9.2	54	69	1.1	0.05	0.067	59			7	16	36
Arithmetic Mean Corrected for Detection Limits				27	35	10	1.0	10	54	69	1.1	0.1	0.05	59			10	16	36
	Standard Deviation			7.5	5.0	2.1	0.0	6	27	12	0.81	0.000	0.108	116			11	73	72
	Minimum			12	19	2.5	0.50	5.0	25	36	0.500	0.050	0.0015	12			15	4	9
	Maximum			55	44	14	0.50	26	210	98	3.4	0.05	0.56	678			81	520	430
	95% Confidence Limit			2.0	1.4	0.6		1.6	7.3	3.3	0.22	0.000	0.029	32			3	20	20
Background Data																			
89-G300	Along the beach, 1 km NW of ravine	1989		89	89	23	<1.0	<10	97	156	2.4	<0.5	0.004						
90-G315	2 km downstream BF304	1990		13	31	5.8	<1.0	<10	34	64	0.3	<0.5	0.024						
90-G320	100 m E of S end runway	1990		23	54	14	<1.0	<10	60	110	0.5	<0.5	<0.0002						
90-G321	0.5 mi E of S end runway	1990		21	63	12	<1.0	<10	60	112	0.5	<0.5	<0.0001						
90-G324	2.8 km from crossroads	1990		7.8	27	<5.0	<1.0	<10	30	46	<0.3	<0.5	<0.0002						
90-G325	5 km from crossroads	1990		32	47	18	<1.0	<10	74	95	0.3	<0.5	<0.0002						
00-25519	Gravel Borrow Area - background	2000		28	26	13	<1.0	<10	53	26	<1.0								
00-25520	Gravel Borrow Area - background	2000		14	18	7	<1.0	<10	28	<20	<1.0								
00-25521	Gravel Borrow Area - background	2000		16	19	8.5	<1.0	<10	41	<20	<1.0								
00-25524	West of glacier - background	2000		49	28	12	<1.0	12	98	94	<1.0								
00-25525	West of glacier - background	2000		60	34	13	<1.0	21	125	126	<1.0								
00-25526	West of glacier - background	2000		93	36	13	1.5	37	113	136	<1.0								
00-25527	West of glacier - background	2000		74	29	13	1.3	13	145	151	<1.0								
00-25528	West of glacier - background	2000		77	28	14	1.8	10	213	177	<1.0								
	N value			14	14	14	14	14	14	14	14	6	6						
	Background Detection Limits			3.0	5.0	5.0	1.0	10	15	20	1.0	1.0	0.0002						
	Arithmetic Mean			43	38	12	0.72	9.9	84	94	0.58	0.25	0.0047						
Arithmetic Mean Corrected for Detection Limits				43	38	12	1.0	10	84	94	1.0	0.5	0.0002						
	Standard Deviation			30	19	5.1	0.5	9.1	53	55.0	0.53	0.00	0.01						
	Minimum			7.8	18	2.5	1	5.0	28	10	0.15	0.25	0.000						
	Maximum			93	89	23	2	37	213	177	2.4	0.3	0.02						
	95% Confidence Limit			16	10						0.28		0.01						

DYE-M LS Non-Hazardous Waste Landfill - Summary of Monitoring Groundwater Analytical Data

Sample ID	Location	Date	Monitoring Year	Monitoring Phase	Cu (mg/L)	Ni (mg/L)	Co (mg/L)	Cd (mg/L)	Pb (mg/L)	Zn (mg/L)	Cr (mg/L)	As (mg/L)	Hg (mg/L)	Total PCB (mg/L)	F1 C_{6}-C_{10} (mg/L)	F2 C_{10}-C_{16} (mg/L)	F3 C_{16}-C_{34} (mg/L)	Modified TPH^ - Total C6-C34 (mg/L)
Baseline Data																		
Upgradient:																		
07-30666	BMW 05-11	2007			0.010	0.08	<0.0030	<0.0010	<0.010	0.66	0.12	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
08-9735	BMW 05-11	2008			0.023	0.21	0.004	<0.0010	<0.010	0.39	0.37	<0.0030	<0.00040	0.001100	<0.050	<0.50	<1.0	0.8
11-12194	BMW09-26	2011			0.007	<0.0050	<0.0030	<0.0010	<0.010	3.2	<0.0050	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
12-34993	BMW09-26	2012			0.016	0.0160	<0.0030	<0.0010	<0.0050	11	0.24	0.002	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
13-29582	BMW09-26	2013			0.010	0.0805	<0.0030	<0.0010	<0.0050	3.9	0.10	0.001	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
Downgradient:																		
07-30668	MW 05-09	2007			0.026	0.14	0.005	<0.0010	0.021	2.9	0.22	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
07-30667	MW 05-10	2007			0.012	0.14	<0.0030	<0.0010	<0.010	0.05	0.30	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
07-30669	MW 05-12	2007			0.016	0.057	0.0039	<0.0010	<0.010	2.0	0.088	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
08-9738	MW 05-09	2008			0.012	0.089	<0.0030	<0.0010	<0.010	1.6	0.16	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
08-9736/37	MW 05-10	2008			0.031	0.140	0.005	<0.0010	<0.010	0.1	0.26	<0.0030	<0.00040	0.000430	<0.050	<0.50	<1.0	0.8
09-21641	MW 05-09	2009			0.039	0.056	0.010	<0.0010	0.048	1.0	0.10	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
11-12188	MW05-09	2011			<0.0050	0.042	<0.0030	<0.0010	<0.010	15	<0.0050	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
11-12193	MW05-12	2011			<0.0050	0.007	<0.0030	<0.0010	<0.010	6.4	<0.0050	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
11-12210/11	MW09-27	2011			<0.0050	<0.0050	<0.0030	<0.0010	<0.010	0.5	<0.0050	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
11-12206	MW09-28	2011			0.024	0.007	<0.0030	<0.0010	<0.010	1.1	<0.0050	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
12-34989	MW05-09	2012			<0.0050	0.0140	<0.0030	<0.0010	<0.0050	7.2	0.086	0.001	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
12-34988	MW05-12	2012			<0.0050	0.006	<0.0030	<0.0010	<0.0050	8.5	0.18	0.003	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
12-34991/92	MW09-27	2012			<0.0050	0.0240	<0.0030	<0.0010	<0.0050	1.1	0.45	0.0080	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
12-34990	MW09-28	2012			<0.0050	0.034	<0.0030	<0.0010	<0.0050	0.53	0.42	0.0050	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
13-29584	MW05-09	2013			<0.0050	0.042	<0.0030	<0.0010	<0.0050	23	0.032	0.0014	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
13-29580/81	MW09-27	2013			<0.0050	0.026	<0.0030	<0.0010	<0.0050	1.8	0.210	0.004	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
13-29583	MW09-28	2013			0.008	0.0299	<0.0030	<0.0010	<0.0050	0.55	0.11	0.0015	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
		N value			22	22	22	22	22	22	22	22	22	22	22	22	22	22
		Arithmetic Mean			**0.021**	**0.11**	**0.004**	**0.001**	**0.012**	**4.2**	**0.20**	**0.002**	**0.0002**	**0.0007**	**0.025**	**0.25**	**0.50**	**0.25**
		Arithmetic Mean Corrected for Detection Limits			**0.021**	**0.11**	**0.003**	**0.001**	**0.010**	**4.2**	**0.20**	**0.003**	**0.0004**	**0.003**	**0.050**	**0.5**	**1.0**	**1.00**
		Standard Deviation			0.010	0.053	0.0	0.0	0.0	5.7	0.12	0.0016	0.0	0.0	0.0	0.0	0.0	0.0
		Arithmetic Mean + 3xStandard Deviation			0.052	0.27	0.012	0.001	0.057	21	0.57	0.008	0.0004	0.005	0.050	0.50	1.00	1.00
		Detection Limit			0.005	0.005	0.003	0.001	0.010	0.010	0.005	0.003	0.0004	0.003	0.050	0.5	1.0	1.0

DYE-M LS Non-Hazardous Waste Landfill - Summary of Monitoring Groundwater Analytical Data

Sample ID	Location	Date	Monitoring Year	Monitoring Phase	Cu (mg/L)	Ni (mg/L)	Co (mg/L)	Cd (mg/L)	Pb (mg/L)	Zn (mg/L)	Cr (mg/L)	As (mg/L)	Hg (mg/L)	Total PCB (mg/L)	F1 C_{6}-C_{10} (mg/L)	F2 C_{10}-C_{16} (mg/L)	F3 C_{16}-C_{34} (mg/L)	Modified TPH^ - Total C6-C34 (mg/L)
Monitoring Data															**Modified TPH TOTAL will appear when F1, F2, F3 fraction results are entered.**			
Upgradient - BMW- 09-26																		
14-8188	BMW09-26	2014	Year 1	Phase I	0.0029	0.096	0.001	0.00024	<0.00050	0.55	<0.00050	<0.0010	<0.00010	<0.000020	<0.025	<0.10	<0.25	0.19
			Year 3	Phase I														#N/A
			Year 5	Phase I														#N/A
			Year 7	Phase II														#N/A
			Year 10	Phase II														#N/A
			Year 15	Phase II														#N/A
			Year 25	Phase II														#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A
Downgradient - MW 05-09																		
Not sampled - dry	MW 05-09	2014	Year 1	Phase I														#N/A
			Year 3	Phase I														#N/A
			Year 5	Phase I														#N/A
			Year 7	Phase II														#N/A
			Year 10	Phase II														#N/A
			Year 15	Phase II														#N/A
			Year 25	Phase II														#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A

DYE-M LS Non-Hazardous Waste Landfill - Summary of Monitoring Groundwater Analytical Data

Sample ID	Location	Date	Monitoring Year	Monitoring Phase	Cu (mg/L)	Ni (mg/L)	Co (mg/L)	Cd (mg/L)	Pb (mg/L)	Zn (mg/L)	Cr (mg/L)	As (mg/L)	Hg (mg/L)	Total PCB (mg/L)	F1 C_6-C_{10} (mg/L)	F2 C_{10}-C_{16} (mg/L)	F3 C_{16}-C_{34} (mg/L)	Modified TPH^ - Total C6-C34 (mg/L)
Downgradient - MW 05-12																		
Not sampled - dry	MW 05-12	2014	Year 1	Phase I														#N/A
			Year 3	Phase I														#N/A
			Year 5	Phase I														#N/A
			Year 7	Phase II														#N/A
			Year 10	Phase II														#N/A
			Year 15	Phase II														#N/A
			Year 25	Phase II														#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A
Downgradient - MW 09-27																		
14-8186	MW09-27	2014	Year 1	Phase I	<0.0010	0.023	0.00034	<0.000090	<0.00050	0.0045	<0.00050	<0.0010	<0.00010	<0.000020	<0.025	<0.10	<0.25	0.2
14-8187ǂ	MW09-27	2014	Year 1	Phase I	**0.086**	**0.180**	**0.013**	<0.0010	0.005	0.47	**1.8**	0.003	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
			Year 3	Phase I														#N/A
			Year 5	Phase I														#N/A
			Year 7	Phase II														#N/A
			Year 10	Phase II														#N/A
			Year 15	Phase II														#N/A
			Year 25	Phase II														#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A
Downgradient - MW 09-28																		
Not sampled - dry	MW 09-28	2014	Year 1	Phase I														#N/A
			Year 3	Phase I														#N/A
			Year 5	Phase I														#N/A
			Year 7	Phase II														#N/A
			Year 10	Phase II														#N/A
			Year 15	Phase II														#N/A
			Year 25	Phase II														#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A

Note: Modified TPH Total (C_6-C_{34}) has been calculated by adding results for F1, F2 and F3.

ǂ sample analyzed for total metals as an interlab sample

blue highlight indicates dissolved metal results. No highlight indicates total metals.

Dissolved metal results have not been included in the Baseline Arithmetic Mean

DYE-M LS Powerhouse Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
Background Data - Arithmetic Mean						43	38	12	1.0	10	84	94	1.0	0.50	0.005				N/A
Baseline Data - Arithmetic Mean						**27**	**34**	**10**	**1.0**	**10**	**55**	**64**	**1.2**	**0.10**	**0.17**	**10**	**32**	**44**	**194**
Baseline Data - Standard Deviation						9	9	2.8	0.0	3.5	26	13	0.80	0.000	0.20	2.6	90	37	372
Baseline Data Mean + 3xStandard Deviation						55	62	19	1.0	20	132	104	3.6	0.10	0.78	18	302	156	1311
**** If baseline or background arithmetic mean was below the detection limit, the mean has been modified to match the detection limit value.***																			
DEW Line Cleanup Tier I Criteria										*200*					*1*				
DEW Line Cleanup Tier II Criteria & Hydrocarbon Action Level						*100*	*100*	*50*	*5*	*500*	*500*	*250*	*30*	*2.0*	*5*				*2500*
Monitoring Data																			**TPH Sum will appear when F1, F2 and F3 fractions are entered.**
Upgradient																			
	BMW 05-08 surface																		
14-8475	BMW 05-08	2014	Year 1	Phase I	5-10	24	31	7.8	<1.0	<10	48	56	1.2	0.011	**0.46**	<10	<10	21	31
			Year 2	Phase I															#N/A
			Year 3	Phase I															#N/A
			Year 4	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	BMW 05-08 depth																		
14-8477	BMW 05-08	2014	Year 1	Phase I	40-45	18	29	7.1	<1.0	<10	33	52	0.8	<0.010	<0.010	<10	<10	<10	15
			Year 2	Phase I															#N/A
			Year 3	Phase I															#N/A
			Year 4	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M LS Powerhouse Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
Downgradient																			
	MW 05-05 surface																		
14-8467	MW 05-05	2014	Year 1	Phase I	5-10	**69**	**99**	**22**	<1.0	<10	**140**	**130**	**4.3**	<0.010	<0.010	<10	<10	<10	15
			Year 2	Phase I															#N/A
			Year 3	Phase I															#N/A
			Year 4	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	MW 05-05 depth																		
14-8468	MW 05-05	2014	Year 1	Phase I	40-45	21	**39**	8.1	<1.0	<10	50	**83**	**1.3**	<0.010	0.013	<10	<10	<10	15
			Year 2	Phase I															#N/A
			Year 3	Phase I															#N/A
			Year 4	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M LS Powerhouse Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	MW 05-06 surface																		
14-8470/71	MW 05-06	2014	Year 1	Phase I	5-10	24	**36**	7.2	<1.0	**29**	52	**76**	**1.6**	<0.010	0.068	<10	<10	14	24
			Year 2	Phase I															#N/A
			Year 3	Phase I															#N/A
			Year 4	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	MW 05-06 depth																		
14-8472	MW 05-06	2014	Year 1	Phase I	35-40[1]	25	**40**	7.6	<1.0	<10	52	**72**	1.2	<0.010	<0.010	**14**	**2000**	**50**	**2064**
			Year 2	Phase I															#N/A
			Year 3	Phase I															#N/A
			Year 4	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M LS Powerhouse Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	MW 05-07 surface																		
14-8473	MW 05-07	2014	Year 1	Phase I	5-10	19	28	7.2	<1.0	<10	40	53	1.1	<0.010	<0.010	<10	<10	<10	15
			Year 2	Phase I															#N/A
			Year 3	Phase I															#N/A
			Year 4	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	MW 05-07 depth																		
14-8474	MW 05-07	2014	Year 1	Phase I	45-50	19	30	7.3	<1.0	<10	37	55	1.2	<0.010	<0.010	**51**	**2800**	**130**	*2981*
			Year 2	Phase I															#N/A
			Year 3	Phase I															#N/A
			Year 4	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A

Note: Modified TPH Total (C_6-C_{34}) has been calculated by adding results for F1, F2 and F3.

1. Depth halted at 40cm due to boulder at base.

Legend

XX	sample exceeds background
XX	**sample exceeds baseline**
XX	*sample exceeds DLCU Tier I criteria*
XX	*sample exceeds DLCU Tier II criteria*

DYE-M LS Powerhouse Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
Baseline Data																	
Upgradient:																	
01-4432		2001	0										0.80	60			
01-4433		2001	0										0.60	220			
01-4436		2001	0	25	31	11	<1.0	10	45	58	<1.0						
01-4437		2001	0										0.02	210			
01-18702	18702	2001	10	26	35	11	<1.0	<10	47	64	<1.0		0.29				
01-18710		2001	40	23	25	8	<1.0	<10	40	48	<1.0		0.14	2200			
01-18711	18710	2001	40	22	27	9	<1.0	<10	43	55	<1.0						
01-18715	18714	2001	50										<0.5	<40			
01-19334		2001	0										0.26	120			
01-19335		2001	0										0.20	120			
01-20606	20606	2001	15	23	35	11	<1.0	<10	51	66	<1.0		0.70	59			
01-20627		2001	0										<0.5	<40			
01-20628		2001	0										<0.5	<40			
00-23767		2000	0						140								
00-23770		2000	0											42			
00-23771		2000	0											<40			
00-23773		2000	0						110				<0.5				
00-24007		2000	0	22	29	10	<1.0	14	49	54	<1.0		<0.5	940			
00-24009		2000	0	24	28	10	<1.0	<10	44	55	<1.0		0.50	760			
00-24010		2000	0										0.10				
00-24049		2000	0										0.50	100			
00-24075		2000	0										<0.5	<40			
00-24076		2000	0	23	31	10	<1.0	10	40	66	<1.0		<0.5	<40			
00-24268		2000	0										<0.5	<40			
09-21544	BMW 05-08	2009	0-10	28	34	11	<1.0	13	50	66	1.4	<0.10	0.098	77	<10	<4.0	70
09-21546	BMW 05-08	2009	30-40	24	32	10	<1.0	<10	51	60	1.2	<0.10	0.048	90	<10	5.4	80
11-38124	BMW05-08	2011	0-10	29	33	10	<1.0	13	61	60	1.1	<0.10	0.670	73	<10	<4.0	66
11-38126/27	BMW05-08	2011	30-40	22	37	13	<1.0	<10	41	69	1.4	<0.10	0.066	17	<10	<4.0	9.7
12-44894	BMW05-08	2012	0-10	22	32	8	<1.0	<10	38	56	1.0	<0.10	<0.050	52	<10	6.1	41
12-44896/97	BMW05-08	2012	20-30	19	27	6	<1.0	<10	31	49	1	<0.10	<0.050	23	<10	8.4	10
13-25216	BMW 05-08	2013	0-10	32	43	10	<1.0	12	58	77	2.5	<0.10	0.14	131	<10	6	120
13-25218	BMW 05-08	2013	30-40	33	45	11	<1.0	<10	55	80	2.0	<0.10	<0.050	55	<10	6.5	43
Downgradient:																	
01-4134	4134	2001	0	24	28	9.8	<1.0	<10	43	53	<1.0						
01-4135	4134	2001	40										<0.5	40			
01-4441		2001	0										0.4				
01-4444		2001	0														
01-4445		2001	0	24	28	9.9	<1.0	<10	42	52	1.6						
01-4483		2001	0	32	34	11	<1.0	<10	58	62	1.5		0.3	570			
01-4485		2001	0										0.4	170			
01-5327	5327	2001	0						170				0.3				
01-5328	5327	2001	50											1300			
01-5336	5336	2001	0						110				0.04				
01-5337	5336	2001	50											1500			
01-5346	5346	2001	0	20	19	7.3	<1.0	<10	58	39	3.1		<0.5				
01-5347	5346	2001	40										<0.5	790			
01-5350		2001	0	12	17	6.0	<1.0	<10	35	30	1.3		<0.5	280			

DYE-M LS Powerhouse Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
01-5352	5350	2001	40	27	37	13	<1.0	<10	47	71	1.7		<0.5	190			
97-7159		1997	0											<40			
97-7172		1997	0											<40			
97-7206		1997	0											<40			
01-18699[1]		2001	50	23	28	9.2	<1.0	<10	40	53	<1.0		<0.5	5400			
01-19298	19298	2001	0	35	37	11	<1.0	<10	51	69	<1.0		<0.1	<40			
01-19302	19302	2001	10	26	29	9.1	<1.0	15	51	62	1.1		0.4				
01-19532	19532	2001	40	23	33	11	<1.0	<10	44	66	1.2		<0.1				
00-23774		2000	0											<40			
00-23777		2000	0										<0.5				
00-23800		2000	0	26	32	15	<1.0	<10	47	60	<1.0						
00-24001		2000	0											50			
00-24003		2000	0											50			
00-24004		2000	0										<0.5				
00-24005		2000	0										<0.5	580			
00-24038		2000	0										<0.5				
00-24233		2000	0											<40			
00-24245		2000	0											460			
00-24247		2000	0											380			
00-24248		2000	0											<40			
00-24249		2000	0										<0.5				
00-24252		2000	0	23	30	11	<1.0	<10	38	61	1.8						
00-24253		2000	0	27	34	12	<1.0	10	49	66	1.7		<0.5				
00-24267		2000	0										<0.5	<40			
00-24643		2000	0										<0.1				
00-24647		2000	0	32	32	11	<1.0	11	47	58	<1.0		<0.5	590			
00-24710	Well 39	2000	0										<0.5	<40			
00-24711	Well 39	2000	0											<40			
00-24712	Well 39	2000	30										<0.5				
00-24973	24247	2000	40	26	42	13	<1.0	<10	56	79	<1.0	<0.1	<0.1	<40			
09-21540	MW 05-05	2009	0-10	31	38	13	<1.0	13	56	78	1.4	<0.10	0.043	63	11	<4.0	50
09-21542	MW 05-05	2009	30-40	25	31	10	<1.0	<10	43	61	<1.0	<0.10	0.033	32	10	<4.0	20
09-21536	MW 05-06	2009	0-10	24	31	10	<1.0	<10	45	63	1.3	<0.10	0.072	53	11	<4.0	40
09-21538	MW 05-06	2009	30-40	24	32	10	<1.0	<10	43	64	1.3	<0.10	0.017	433	13	310	110
09-21532/33	MW 05-07	2009	0-10	27	36	12	<1.0	<10	52	70	1.4	<0.10	0.150	63	14	8.9	40
09-21534	MW 05-07	2009	30-40	21	30	9.3	<1.0	17	38	55	1.1	<0.10	0.025	70	<10	45	20
11-12469*	MW05-05	2011	0-10	26	33	11	<1.0	12	50	64	1.1	<0.10	0.09	59	<10	<30	54
11-12471/845*	MW05-05	2011	30-40	24	33	12	<1.0	<10	45	63	<1.0	<0.10	0.07	30	<10	<30	25
11-12846*	MW05-06	2011	0-10	24	32	11	<1.0	<10	45	59	1.3	<0.10	<0.050	61	<10	<30	56
11-12848 *	MW05-06	2011	30-40	18	27	9.5	<1.0	<10	33	51	<1.0	<0.10	0.16	45	<10	<30	40
11-38120/21*	MW05-07	2011	0-10	21	37	12	<1.0	<10	47	69	<1.0	<0.10	0.07	44	<10	<30	39
11-38122 *	MW05-07	2011	30-40	19	34	11	<1.0	<10	47	64	<1.0	<0.10	<0.050	10	<10	<30	<9.0
12-44882	MW05-05	2012	0-10	83	82	25	<1.0	<10	130	120	5	<0.10	<0.050	18	<10	8.8	<9.0
12-44884	MW05-05	2012	20-30	21	29	7.4	<1.0	<10	39	58	1.4	<0.10	<0.050	15	<10	5.6	<9.0
12-44886	MW05-06	2012	0-10	27	35	9.0	<1.0	10	48	68	1.2	<0.10	0.13	39	<10	6.6	27
12-44888/89	MW05-06	2012	20-30	25	34	8.6	<1.0	<10	41	63	1.5	<0.10	<0.050	12	<10	<4.0	<9.0
12-44890	MW05-07	2012	0-10	24	32	8.1	<1.0	<10	41	59	1.6	<0.10	<0.050	12	<10	<4.0	<9.0
12-44892	MW05-07	2012	20-30	34	46	11	<1.0	<10	52	81	1.3	<0.10	<0.050	17	<10	7.2	<9.0
13-25204	MW 05-05	2013	0-10	41	52	12	<1.0	11	70	84	2.1	<0.10	0.06	49	<10	6.8	37
13-25206	MW 05-05	2013	30-40	42	47	12	<1.0	<10	67	81	1.9	<0.10	<0.050	42	<10	5.2	32
13-25208	MW 05-06	2013	0-10	29	43	10	<1.0	11	55	75	2.0	<0.10	0.14	85	<10	7.7	72

DYE-M LS Powerhouse Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
13-25210/11	MW 05-06	2013	30-40	29	40	9.4	<1.0	<10	52	70	2.1	<0.10	0.23	51	<10	<4.0	44
13-25212	MW 05-07	2013	0-10	28	37	8.8	<1.0	13	54	75	1.3	<0.10	0.48	102	<10	5.8	91
13-25214	MW 05-07	2013	30-40	26	36	7.9	<1.0	11	47	65	1.9	<0.10	0.12	525	<10	360	160
	N value			55	55	55	55	55	59	55	55	33	77	76	32	32	32
	Baseline Detection Limits			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.10	10	10	10	10
	Arithmetic Mean			27	34	10	0.5	7.2	55	64	1.2	0.05	0.17	194	6	32	44
	Arithmetic Mean Corrected for Detection Limits			27	34	10	1.0	10	55	64	1.2	0.10	0.17	194	10	32	44
	Standard Deviation			9	9	2.8	0.0	3.5	26	13.2	0.80	0.000	0.20	372	3	90	37
	Minimum			12	17	2.5	0.5	5.0	31	30	0.500	0.050	0.02	10	10	5	10
	Maximum			83	82	25	0.5	17	170	120	5.0	0.05	0.80	2200	14	360	160
	95% Confidence Limit			2.5	2.4			0.9	6.6		0.21	0.000	0.045	84	0.9	31	13

*F2 fraction TPH results for some Baseline samples from 2011 were reported with elevated detection limits due to interferences. These samples have been removed from the baseline average calculation.

DYE-M LS Powerhouse Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
Background Data																	
89-G300	Along the beach, 1 km NW of ravine	1989		89	89	23	<1.0	<10	97	156	2.4	<0.5	0.004				
90-G315	2 km downstream BF304	1990		13	31	5.8	<1.0	<10	34	64	0.3	<0.5	0.024				
90-G320	100 m E of S end runway	1990		23	54	14	<1.0	<10	60	110	0.5	<0.5	<0.0002				
90-G321	0.5 mi E of S end runway	1990		21	63	12	<1.0	<10	60	112	0.5	<0.5	<0.0001				
90-G324	2.8 km from crossroads	1990		7.8	27	<5.0	<1.0	<10	30	46	<0.3	<0.5	<0.0002				
90-G325	5 km from crossroads	1990		32	47	18	<1.0	<10	74	95	0.3	<0.5	<0.0002				
00-25519	Gravel Borrow Area - background	2000		28	26	13	<1.0	<10	53	26	<1.0						
00-25520	Gravel Borrow Area - background	2000		14	18	7	<1.0	<10	28	<20	<1.0						
00-25521	Gravel Borrow Area - background	2000		16	19	8.5	<1.0	<10	41	<20	<1.0						
00-25524	West of glacier - background	2000		49	28	12	<1.0	12	98	94	<1.0						
00-25525	West of glacier - background	2000		60	34	13	<1.0	21	125	126	<1.0						
00-25526	West of glacier - background	2000		93	36	13	1.5	37	113	136	<1.0						
00-25527	West of glacier - background	2000		74	29	13	1.3	13	145	151	<1.0						
00-25528	West of glacier - background	2000		77	28	14	1.8	10	213	177	<1.0						
	N value			14	14	14	14	14	14	14	14	6	6				
	Background Detection Limits			3.0	5.0	5.0	1.0	10	15	20	1.0	1.0	0.0002				
	Arithmetic Mean			43	38	12	0.72	9.9	84	94	0.58	0.25	0.0047				
	Arithmetic Mean Corrected for Detection Limits			43	38	12	1.0	10	84	94	1.0	0.5	0.0047				
	Standard Deviation			30	19	5.1	0.5	9.1	53	55	0.53	0.00	0.0096				
	Minimum			7.8	18	2.5	0.50	5.0	28	10	0.15	0.25	0.00005				
	Maximum			93	89	23	1.80	37	213	177	2.4	0.3	0.02				
	95% Confidence Limit			16	10						0.28		0.01				

[1]sample results not included in calculation of Baseline Arithmetic Mean

DYE-M LS Powerhouse - Summary of Monitoring Groundwater Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Cu (mg/L)	Ni (mg/L)	Co (mg/L)	Cd (mg/L)	Pb (mg/L)	Zn (mg/L)	Cr (mg/L)	As (mg/L)	Hg (mg/L)	Total PCB (mg/L)	F1 C_{6}-C_{10} (mg/L)	F2 C_{10}-C_{16} (mg/L)	F3 C_{16}-C_{34} (mg/L)	Modified TPH^ - Total C6-C34 (mg/L)
Baseline Data																		
Upgradient:																		
11-12214	BMW05-08	2011			0.006	0.0061	<0.0030	<0.0010	<0.010	12	<0.0050	0.003	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
12-34995	BMW05-08	2012			<0.0050	0.0089	<0.0030	<0.0010	<0.0050	5.3	0.099	0.004	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
All wells were dry in 2013		2013																
Downgradient:																		
12-34998	MW05-05	2012			0.005	0.009	<0.0030	<0.0010	<0.0050	1.4	0.12	0.006	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
12-34997	MW05-06	2012			<0.0050	<0.0050	<0.0030	<0.0010	<0.0050	3.5	0.09	0.003	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
12-34996	MW05-07	2012			<0.0050	0.006	<0.0030	<0.0010	<0.0050	2.6	0.05	<0.0010	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
All wells were dry in 2013		2013																0.0
		N value			5	5	5	5	5	5	5	5	5	5	5	5	5	6
	Arithmetic Mean									**4.9**	**0.09**	**0.003**	**0.0002**	**0.00**	**0.03**	**0.25**	**0.50**	**0.25**
	Arithmetic Mean Adjusted for Detection Limits									**4.9**	**0.09**	**0.003**	**0.0004**	**0.003**	**0.05**	**0.50**	**1.0**	**1.0**
	Standard Deviation									4.1	0.028	0.0020	0.0	0.0	0.0	0.0	0.0	0.0
	Arithmetic Mean + 3xStandard Deviation									17	0.18	0.0096	0.00020	0.0032	0.025	0.25	0.50	0.25
	Detection Limit				0.0050	0.005	0.0030	0.0010	0.010	0.0100	0.0050	0.003	0.0004	0.0030	0.050	0.50	1.0	1.0
Monitoring Data																		**Modified TPH TOTAL will appear when F1, F2, F3 fraction results are entered.**
Upgradient - BMW 05-08																		
Not sampled - well dry	BMW 05-08	2014	Year 1	Phase I														#N/A
			Year 2	Phase I														#N/A
			Year 3	Phase I														#N/A
			Year 4	Phase I														#N/A
			Year 5	Phase I														#N/A
			Year 7	Phase II														#N/A
			Year 10	Phase II														#N/A
			Year 15	Phase II														#N/A
			Year 25	Phase II														#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A

DYE-M LS Powerhouse - Summary of Monitoring Groundwater Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Cu (mg/L)	Ni (mg/L)	Co (mg/L)	Cd (mg/L)	Pb (mg/L)	Zn (mg/L)	Cr (mg/L)	As (mg/L)	Hg (mg/L)	Total PCB (mg/L)	F1 C_{6}-C_{10} (mg/L)	F2 C_{10}-C_{16} (mg/L)	F3 C_{16}-C_{34} (mg/L)	Modified TPH^ - Total C6-C34 (mg/L)
Downgradient - MW 05-05																		
Not sampled - well dry	MW 05-05	2014	Year 1	Phase I														#N/A
			Year 2	Phase I														#N/A
			Year 3	Phase I														#N/A
			Year 4	Phase I														#N/A
			Year 5	Phase I														#N/A
			Year 7	Phase II														#N/A
			Year 10	Phase II														#N/A
			Year 15	Phase II														#N/A
			Year 25	Phase II														#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A
Downgradient - MW 05-06																		
Not sampled - well dry	MW 05-06	2014	Year 1	Phase I														#N/A
			Year 2	Phase I														#N/A
			Year 3	Phase I														#N/A
			Year 4	Phase I														#N/A
			Year 5	Phase I														#N/A
			Year 7	Phase II														#N/A
			Year 10	Phase II														#N/A
			Year 15	Phase II														#N/A
			Year 25	Phase II														#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A
Downgradient - MW 05-07																		
Not sampled - well dry	MW 05-07	2014	Year 1	Phase I														#N/A
			Year 2	Phase I														#N/A
			Year 3	Phase I														#N/A
			Year 4	Phase I														#N/A
			Year 5	Phase I														#N/A
			Year 7	Phase II														#N/A
			Year 10	Phase II														#N/A
			Year 15	Phase II														#N/A
			Year 25	Phase II														#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A

Note: Modified TPH Total (C_{6}-C_{34}) has been calculated by adding results for F1, F2 and F3.

blue highlight indicates dissolved metal results. No highlight indicates total metals.

Dissolved metal results have not been included in the Baseline Arithmetic Mean

DYE-M LS Crossroads Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
Background Data - Arithmetic Mean						43	38	12	1.0	10	84	94	1.00	0.50	0.0002	N/A	N/A	N/A	N/A
Baseline Data - Arithmetic Mean						**30**	**38**	**11**	**1.0**	**10**	**47**	**69**	**1.0**	**0.10**	**0.10**	**5.0**	**10**	**22**	**70**
Baseline Data - Standard Deviation						7.4	7.8	2.5	0.0	2.9	8.0	12	0.82	0.0	0.020	0.0	17	21	190
Baseline Data Mean + 3xStandard Deviation						52	61	19	1.0	19	71	106	3.4	0.10	0.16	5.0	60	85	641
**** If baseline or background arithmetic mean was below the detection limit, the mean has been modified to match the detection limit value.***																			
DEW Line Cleanup Tier I Criteria										*200*					*1*				
DEW Line Cleanup Tier II Criteria & Hydrocarbon Action Level						*100*	*100*	*50*	*5*	*500*	*500*	*250*	*30*	*2.0*	*5*				*2500*
Monitoring Data																**TPH Sum will appear when F1, F2 and F3 fractions are entered.**			
Upgradient																			
	DM-1 surface																		
14-8330/31	DM-1	2014	Year 1	Phase I	0-10	26	36	8.0	<1.0	<10	39	66	**1.2**	<0.01	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-1 depth																		
14-8332	DM-1	2014	Year 1	Phase I	40-50	23	36	7.8	<1.0	<10	34	61	**3.3**	<0.01	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M LS Crossroads Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
Downgradient																			
	DM-2 surface																		
14-8333	DM-2	2014	Year 1	Phase I	0-10	**33**	**41**	9.6	<1.0	<10	**49**	**80**	**1.6**	<0.01	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-2 depth																		
14-8334	DM-2	2014	Year 1	Phase I	40-50	**42**	**45**	11	<1.0	**11**	**54**	**94**	**1.6**	<0.01	<0.010	<10	**56**	<10	66
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M LS Crossroads Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	DM-3 surface																		
14-8335	DM-3	2014	Year 1	Phase I	0-10	28	35	8.6	<1.0	<10	41	68	**1.4**	<0.01	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-3 depth																		
14-8337	DM-3	2014	Year 1	Phase I	40-50	21	28	7.2	<1.0	<10	31	59	0.9	<0.01	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

Note: Modified TPH Total (C_6-C_{34}) has been calculated by adding results for F1, F2 and F3.

Legend

XX	sample exceeds background
XX	**sample exceeds baseline**
XX	*sample exceeds DLCU Tier I criteria*
XX	*sample exceeds DLCU Tier II criteria*

DYE-M LS Crossroads Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_{6}-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
Baseline Data																			
Upgradient:																			
01-18696	18696	2001	0	20	26	9	<1.0	<10	58	50	1.2		<0.5						
01-18697	18696	2001	25	28	38	13	<1.0	<10	54	75	1.1		<0.5	1100					
01-19375	19375	2001	40	24	33	10	<1.0	<10	39	59	<1.0		<0.1	<40					
01-19535	19535	2001	20	19	23	7	<1.0	<10	28	38	<1.0		<0.1	<40					
01-20036	20036	2001	0	17	27	8.9	<1.0	<10	36	55	<1.0		<0.1						
01-20040	20040	2001	0	31	32	9.9	<1.0	<10	46	62	<1.0		<0.1						
01-20041	20040	2001	0	28	33	9.3	<1.0	13	45	58	<1.0		<0.1						
01-20042	20040	2001	40	33	37	11	<1.0	<10	47	74	<1.0		<0.1						
01-20607	20607	2001	0	29	34	10	<1.0	<10	49	64	<1.0		<0.1						
00-24257		2000	0											<40					
07-30880/81	DM-1	2007	0-10	23	34	11	<1.0	<10	41	65	<1.0	<0.10	<0.0030	77			<10	<4.0	70
07-30882	DM-1	2007	25-35	41	43	13	<1.0	<10	50	68	<1.0	<0.10	<0.0030	90			<10	5.4	80
08-11673	DM-1	2008	0-10	26	34	12	<1.0	<10	41	61	<1.0	<0.10	<0.0030	33			<10	<4.0	26
08-11675	DM-1	2008	30-40	36	45	16	<1.0	<10	54	86	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0
11-12970/71	DM-1	2011	0-10	26	49	13	<1.0	<10	60	68	<1.0	<0.10	<0.050	141			<10	82	54
11-12972	DM-1	2011	30-40	16	23	8.7	<1.0	<10	33	44	<1.0	<0.10	<0.050	36			<10	21	10
13-25028	DM-1	2013	0-10	37	43	8.9	<1.0	22	59	76	2.0	<0.10	<0.050	18			<10	8.1	<9.0
13-25030/31	DM-1	2013	30-40	35	41	9.3	<1.0	<10	44	73	2.1	<0.10	<0.050	17			<10	7.3	<9.0
Downgradient:																			
01-19382	19382	2001	40	33	42	13	<1.0	<10	56	83	<1.0		<0.1						
01-19385	19382	2001	40											110					
01-19386	19386	2001	30	28	32	11	<1.0	<10	47	70	<1.0		<0.1						
01-19389	19389	2001	40	30	38	13	<1.0	<10	52	79	<1.0		<0.1						
01-20023	20023	2001	0	24	29	11	<1.0	<10	35	59	<1.0		<0.1						
01-20027	20027	2001	0	25	35	11	<1.0	<10	46	64	<1.0		<0.1						
01-20032	20032	2001	0	32	39	12	<1.0	<10	49	80	<1.0		<0.1						
01-20655	20655	2001	0	19	27	9.1	<1.0	<10	36	52	<1.0		<0.1	<40					
01-20658	20658	2001	0	22	34	10	<1.0	<10	39	67	<1.0		<0.1	<40					
01-20662	20662	2001	0	23	32	11	<1.0	<10	42	66	<1.0		<0.1	<40					
07-30888	DM-2	2007	0-10	39	41	14	<1.0	<10	50	78	<1.0	<0.10	<0.0030	18			<10	<4.0	11
07-30890	DM-2	2007	25-35	36	41	14	<1.0	<10	47	74	<1.0	<0.10	<0.0030	25			<10	<4.0	18
07-30884	DM-3	2007	0-10	29	32	9.7	<1.0	<10	37	59	2.3	<0.10	<0.0030	28			<10	6.7	16
07-30886	DM-3	2007	25-35	41	45	14	<1.0	<10	57	81	1.6	<0.10	<0.0030	44			<10	<4.0	37
08-11665	DM-2	2008	0-10	34	43	14	<1.0	<10	49	79	<1.0	<0.10	<0.0030	25			<10	6.6	13
08-11667/68	DM-2	2008	30-40	28	37	12	<1.0	<10	46	72	<1.0	<0.10	<0.0030	29			<10	9.7	14
08-11669	DM-3	2008	0-10	41	55	16	<1.0	<10	61	90	2.3	<0.10	<0.0030	51			<10	22	24
08-11671	DM-3	2008	35-45	37	46	14	<1.0	<10	56	80	1.0	<0.10	<0.0030	30			<10	4.3	21
11-12974	DM-2	2011	0-10	29	38	13	<1.0	<10	55	71	<1.0	<0.10	<0.050	37			<10	5.9	26
11-12976	DM-2	2011	30-40	26	34	11	<1.0	<10	42	59	<1.0	<0.10	<0.050	59			<10	19	35
11-12978	DM-3	2011	0-10	27	37	11	<1.0	<10	45	65	1.2	<0.10	<0.050	52			<10	6.7	40
11-12980	DM-3	2011	30-40	24	33	11	<1.0	<10	40	59	<1.0	<0.10	<0.050	33			<10	15	13
13-25032	DM-2	2013	0-10	37	48	10	<1.0	<10	51	86	2.2	<0.10	<0.050	12			<10	<4.0	<9.0
13-25034	DM-2	2013	30-40	35	39	8.3	<1.0	<10	43	70	1.6	<0.10	<0.050	12			<10	<4.0	<9.0
13-25036	DM-3	2013	0-10	48	58	11	<1.0	<10	59	99	3.9	<0.10	<0.050	12			<10	<4.0	<9.0
13-25038	DM-3	2013	30-40	40	48	9.5	<1.0	<10	50	82	3.0	<0.10	<0.050	12			<10	<4.0	<9.0
	N value			42	42	42	42	42	42	42	42	24	42	32			24	24	24
	Baseline Detection Limits			3.0	5	5	1.0	10	15	20	1	0.10	0.10	10			10	4	9
	Arithmetic Mean			30	38	11	0.50	5.6	47	69	1.0	0.050	0.0280	70			5	10	22
	Arithmetic Mean Corrected for Detection Limits			30	38	11	1.0	10	47	69	1.0	0.10	0.10	70			5	10	22
	Standard Deviation			7.4	7.8	2.5	0.0	3	8.0	12	0.82	0.000	0.020	190			0	17	21
	Minimum			16	23	2.5	0.50	5.0	28	38	0.500	0.050	0.0015	12			5	2	5
	Maximum			48	58	16.0	0.50	22	61	99	3.9	0.05	0.05	1100			5	82	80
	95% Confidence Limit			2.2	2.4			0.9	2.4		0.25	0.000	0.006	66				7	8

DYE-M LS Crossroads Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_{6}-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
Background Data																			
89-G300	Along the beach, 1 km NW of ravine	1989		89	89	23	<1.0	<10	97	156	2.4	<0.5	0.004						
90-G315	2 km downstream BF304	1990		13	31	5.8	<1.0	<10	34	64	0.3	<0.5	0.024						
90-G320	100 m E of S end runway	1990		23	54	14	<1.0	<10	60	110	0.5	<0.5	<0.0002						
90-G321	0.5 mi E of S end runway	1990		21	63	12	<1.0	<10	60	112	0.5	<0.5	<0.0001						
90-G324	2.8 km from crossroads	1990		7.8	27	<5.0	<1.0	<10	30	46	<0.3	<0.5	<0.0002						
90-G325	5 km from crossroads	1990		32	47	18	<1.0	<10	74	95	0.3	<0.5	<0.0002						
00-25519	Gravel Borrow Area - background	2000		28	26	13	<1.0	<10	53	26	<1.0								
00-25520	Gravel Borrow Area - background	2000		14	18	7	<1.0	<10	28	<20	<1.0								
00-25521	Gravel Borrow Area - background	2000		16	19	8.5	<1.0	<10	41	<20	<1.0								
00-25524	West of glacier - background	2000		49	28	12	<1.0	12	98	94	<1.0								
00-25525	West of glacier - background	2000		60	34	13	<1.0	21	125	126	<1.0								
00-25526	West of glacier - background	2000		93	36	13	1.5	37	113	136	<1.0								
00-25527	West of glacier - background	2000		74	29	13	1.3	13	145	151	<1.0								
00-25528	West of glacier - background	2000		77	28	14	1.8	10	213	177	<1.0								
	N value			14	14	14	14	14	14	14	14	6	6						
	Background Detection Limits			3.0	5.0	5.0	1.0	10	15	20	1.0	1.0	0.0002						
	Arithmetic Mean			43	38	12	0.72	9.9	84	94	0.58	0.25	0.0047						
	Arithmetic Mean Corrected for Detection Limits			43	38	12	1.0	10	84	94	1.0	0.5	0.0002						
	Standard Deviation			30	19	5.1	0.5	9.1	53	55	0.53	0.00	0.0096						
	Minimum			7.8	18	2.5	0.5	5.0	28	10	0.15	0.25	0.000						
	Maximum			93	89	23	1.8	37	213	177	2.4	0.3	0.02						
	95% Confidence Limit			16	10	3	0	5	28	29	0.28		0.01						

DYE-M LS Foundation Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
Background Data - Arithmetic Mean						43	38	12	1.0	10	84	94	1.0	0.50	0.0002	N/A	N/A	N/A	N/A
Baseline Data - Arithmetic Mean						**28**	**35**	**11**	**1.0**	**10**	**61**	**67**	**1.0**	**0.10**	**0.10**	**10**	**4.8**	**25**	**133**
Baseline Data - Standard Deviation						13	6.0	2.4	0.0	19	39	10	0.54	0.000	0.11	0.0	3.2	32	242
Baseline Data Mean + 3xStandard Deviation						67	53	18	1.0	66	179	98	2.6	0.10	0.42	10	14	121	859
**** If baseline or background arithmetic mean was below the detection limit, the mean has been modified to match the detection limit value.***																			
DEW Line Cleanup Tier I Criteria										*200*					*1*				
DEW Line Cleanup Tier II Criteria & Hydrocarbon Action Level						*100*	*100*	*50*	*5*	*500*	*500*	*250*	*30*	*2.0*	*5*				*2500*
Monitoring Data																**TPH Sum will appear when F1, F2 and F3 fractions are entered.**			
Upgradient																			
	DM-4 surface																		
14-8322	DM-4	2014	Year 1	Phase I	0-10	26	32	7.7	<1.0	<10	42	**68**	**1.0**	<0.010	0.027	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-4 depth																		
14-8323	DM-4	2014	Year 1	Phase I	40-50	20	29	7.2	<1.0	<10	35	59	**1.0**	<0.010	0.014	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M LS Foundation Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
Downgradient																			
	DM-5 surface																		
14-8324	DM-5	2014	Year 1	Phase I	0-10	26	**35**	8.4	<1.0	**19**	49	**75**	**1.3**	0.013	0.052	<10	<10	**170**	**180**
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-5 depth																		
14-8325	DM-5	2014	Year 1	Phase I	40-50	**30**	**38**	9.5	<1.0	<10	45	**75**	**1.3**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M LS Foundation Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	DM-6 surface																		
14-8327	DM-6	2014	Year 1	Phase I	0-10	**31**	**38**	9.3	<1.0	<10	46	**76**	**1.6**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-6 depth																		
14-8328	DM-6	2014	Year 1	Phase I	40-45	**30**	**43**	**11**	<1.0	<10	49	**86**	**1.3**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

Note: Modified TPH Total (C_6-C_{34}) has been calculated by adding results for F1, F2 and F3.

Legend

XX	sample exceeds background
XX	**sample exceeds baseline**
XX	*sample exceeds DLCU Tier I criteria*
XX	*sample exceeds DLCU Tier II criteria*

DYE-M LS Foundation Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_{6}-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
Baseline Data																			
Upgradient:																			
01-5327	5327	2001	0						170				0.3						
01-5328	5327	2001	50											1300					
97-7199		1997	0											61					
97-7200		1997	0											<40					
97-7201		1997	0											43					
97-7203[1]		1997	0	26	29	8.6	<1.0	61	160	68	0.66		<0.5	14000					
97-7204		1997	15											98					
97-7205		1997	0						180					<40					
97-7206		1997	0											<40					
97-7207		1997	0											<40					
97-7208		1997	0	110				<100	170					<40					
97-7209[1]		1997	0	33				48	150				<0.5	5200					
97-7210		1997	30											570					
01-20487	20487	2001	0	31	42	12	<1.0	12	54	77	<1.0		<0.1						
01-20492	20492	2001	0	24	27	8.2	<1.0	21	51	53	<1.0		0.3						
01-20508	20508	2001	0	28	39	12	<1.0	<10	51	74	<1.0		<0.1						
00-24233		2000	0											<40					
00-24235		2000	0										<0.5						
00-24245		2000	0											460					
00-24253		2000	0	27	34	12	<1.0	10	49	66	1.7		<0.5						
00-24973	24247	2000	40	26	42	13	<1.0	<10	56	79	<1.0	<0.10	<0.1	<40					
08-11677	DM-4	2008	0-10	28	38	13	<1.0	<10	52	73	<1.0	<0.10	0.14	49			<10	<4.0	42
08-11679	DM-4	2008	30-40	29	41	13	<1.0	13	54	80	<1.0	<0.10	0.17	117			<10	<4.0	110
11-12982	DM-4	2011	0-10	24	34	12	<1.0	11	47	65	<1.0	<0.10	0.050	66			<10	6.9	54
11-12984	DM-4	2011	30-40	21	36	9.9	<1.0	<10	39	67	<1.0	<0.10	0.13	45			<10	4.3	36
13-25040/41	DM-4	2013	0-10	28	39	8.6	<1.0	13	50	73	2.0	<0.10	0.067	23			<10	6.2	12
13-25042	DM-4	2013	30-40	19	28	6.2	<1.0	<10	34	52	0.7	<0.10	<0.050	12			<10	<4.0	<9.0
Downgradient:																			
01-5350		2001	0	12	17	6	<1.0	<10	35	30	1.3		<0.5	280					
01-5352		2001	40	27	37	13	<1.0	<10	47	71	1.7		<0.5	190					
01-18692		2001	0	29	35	11	<1.0	<10	47	65	<1.0		<0.1						
01-18693		2001	50	31	38	11	<1.0	<10	47	66	<1.0		<0.1						
01-19339		2001	0	25	31	9.6	<1.0	<10	200	61	<1.0		<0.1						
01-19538		2001	0	27	31	11	<1.0	42	59	64	<1.0		<0.1	<40					
01-19539		2001	50	19	25	8.7	<1.0	<10	35	54	<1.0		<0.1	<40					
01-19842		2001	0	21	31	8.9	<1.0	<10	43	63	<1.0		<0.1						
01-19846		2001	0	28	33	11	<1.0	19	57	67	<1.0		<0.1						
01-19850		2001	0	28	33	11	<1.0	28	46	60	<1.0		<0.1						
01-19851		2001	0	23	30	9.5	<1.0	15	38	54	<1.0		<0.1						
01-20046		2001	0	23	27	8.4	<1.0	96	63	52	<1.0		<0.1						
01-20478		2001	0	26	33	11	<1.0	11	48	66	<1.0		<0.1						
01-20483		2001	0	28	35	9.9	<1.0	30	49	69	<1.0		<0.1						
01-20514		2001	0	26	34	10	<1.0	17	56	66	<1.0		<0.1						
01-20516		2001	0	20	27	7.9	<1.0	<10	40	55	<1.0		<0.1						
01-20517		2001	40	30	40	11	<1.0	<10	48	64	<1.0		<0.1	90					
01-20610		2001	0	26	33	11	<1.0	<10	52	69	<1.0		<0.1						
01-20611		2001	0	24	34	11	<1.0	<10	53	71	<1.0		<0.1						
00-24239		2000	0										<0.5	<40					
00-24242		2000	0											<40					
00-24255		2000	0	32	34	13	<1.0	28	49	67	1.6		0.6	330					
00-24256		2000	0											430					
00-24257		2000	0											<40					
00-24260		2000	0	24	32	12	<1.0	45	45	61	1.6		<0.5	550					

DYE-M LS Foundation Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_{6}-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
00-24261		2000	0	24	30	11	<1.0	40	44	60	1.4		<0.5	470					
00-24719		2000	0											<40					
08-11681	DM-5	2008	0-10	32	41	15	<1.0	18	52	78	<1.0	<0.10	0.006	99			<10	5.7	88
08-11683	DM-5	2008	35-45	30	40	14	<1.0	<10	45	75	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0
08-11685/86	DM-6	2008	0-10	30	41	14	<1.0	<10	46	74	<1.0	<0.10	<0.0030	23			<10	13	<9.0
08-11687	DM-6	2008	30-40	29	39	13	<1.0	<10	46	73	<1.0	<0.10	<0.0030	14			<10	4.5	<9.0
11-12986	DM-5	2011	0-10	17	26	9.6	<1.0	<10	35	51	<1.0	<0.10	<0.050	36			<10	<4.0	29
11-12988	DM-5	2011	30-40	35	44	15	<1.0	<10	53	80	1.2	<0.10	<0.050	19			<10	<4.0	12
11-12990	DM-6	2011	0-10	27	36	12	<1.0	<10	43	70	1.1	<0.10	<0.050	12			<10	<4.0	<9.0
11-12992	DM-6	2011	30-40	30	42	14	<1.0	<10	49	80	<1.0	<0.10	<0.050	15			<10	5.5	<9.0
13-25044	DM-5	2013	0-10	28	37	9	<1.0	21	54	69	1.8	<0.10	<0.050	26			<10	6.7	14
13-25046	DM-5	2013	30-40	33	44	10	<1.0	<10	48	81	1.9	<0.10	<0.050	19			<10	9.5	<9.0
13-25048	DM-6	2013	0-10	36	46	10	<1.0	12	58	89	1.9	<0.10	<0.050	12			<10	<4.0	<9.0
13-25050/51	DM-6	2013	30-40	31	40	9.4	<1.0	<10	44	72	2.1	<0.10	<0.050	17			<10	7.8	<9.0
	N value			48	46	46	46	48	50	46	46	19	50	46			18	18	18
	Baseline Detection Limits			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.05	40			10	4	9
	Arithmetic Mean			28	35	11	0.50	16	61	67	0.8	0.050	0.073	133			5	5	25
Arithmetic Mean Corrected for Detection Limits				28	35	11	1.0	10	61	67	1.0	0.10	0.10	133			10	5	25
	Standard Deviation			13	6.0	2.4	0.0	19	39	10	0.54	0.000	0.11	242			0	3	32
	Minimum			12	17	2.5	0.50	5.0	34	30	0.50	0.050	0.0015	12			5	2	5
	Maximum			110	46	15	0.50	96	200	89	2.1	0.05	0.60	1300			5	13	110
	95% Confidence Limit			3.6	1.7			5.3	10.9		0.16	0.000	0.029	70				1.5	15
Background Data																			
89-G300	ravine	1989		89	89	23	<1.0	<10	97	156	2.4	<0.5	0.004						
90-G315	2 km downstream BF304	1990		13	31	5.8	<1.0	<10	34	64	0.3	<0.5	0.024						
90-G320	100 m E of S end runway	1990		23	54	14	<1.0	<10	60	110	0.5	<0.5	<0.0002						
90-G321	0.5 mi E of S end runway	1990		21	63	12	<1.0	<10	60	112	0.5	<0.5	<0.0001						
90-G324	2.8 km from crossroads	1990		7.8	27	<5.0	<1.0	<10	30	46	<0.3	<0.5	<0.0002						
90-G325	5 km from crossroads	1990		32	47	18	<1.0	<10	74	95	0.3	<0.5	<0.0002						
00-25519	Gravel Borrow Area - background	2000		28	26	13	<1.0	<10	53	26	<1.0								
00-25520	Gravel Borrow Area - background	2000		14	18	7	<1.0	<10	28	<20	<1.0								
00-25521	Gravel Borrow Area - background	2000		16	19	8.5	<1.0	<10	41	<20	<1.0								
00-25524	West of glacier - background	2000		49	28	12	<1.0	12	98	94	<1.0								
00-25525	West of glacier - background	2000		60	34	13	<1.0	21	125	126	<1.0								
00-25526	West of glacier - background	2000		93	36	13	1.5	37	113	136	<1.0								
00-25527	West of glacier - background	2000		74	29	13	1.3	13	145	151	<1.0								

DYE-M LS North Warning System (NWS) Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
Background Data - Arithmetic Mean						43	38	12	1.0	10	84	94	1.00	0.50	0.0002	N/A	N/A	N/A	N/A
Baseline Data - Arithmetic Mean						**26**	**34**	**12**	**1.0**	**10**	**51**	**65**	**1.0**	**0.10**	**0.10**	**10**	**4.0**	**9.0**	**101**
Baseline Data - Standard Deviation						7.2	10	3.6	0.0	4.0	15	21	0.66	0.000	0.017	0	3.7	11	276
Baseline Data Mean + 3xStandard Deviation						48	64	23	1.0	22	97	126	3.0	0.10	0.15	10	15	43	929
**** If baseline or background arithmetic mean was below the detection limit, the mean has been modified to match the detection limit value.***																			
DEW Line Cleanup Tier I Criteria										*200*					*1*				
DEW Line Cleanup Tier II Criteria & Hydrocarbon Action Level						*100*	*100*	*50*	*5*	*500*	*500*	*250*	*30*	*2.0*	*5*				*2500*
Monitoring Data																			**TPH Sum will appear when F1, F2 and F3 fractions are entered.**
Upgradient																			
	DM-7 surface																		
14-8444	DM-7	2014	Year 1	Phase I	5-10	21	29	6.0	<1.0	<10	35	47	**1.3**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-7 depth																		
14-8445	DM-7	2014	Year 1	Phase I	40-50	25	33	7.0	<1.0	<10	39	58	**1.1**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M LS North Warning System (NWS) Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
Downgradient																			
	DM-8 surface																		
14-8453	DM-8	2014	Year 1	Phase I	5-10	18	32	6.9	<1.0	**11**	49	54	**1.3**	<0.010	0.01	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-8 depth																		
14-8454	DM-8	2014	Year 1	Phase I	40-50	15	29	6.3	<1.0	<10	40	50	**1.1**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M LS North Warning System (NWS) Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	DM-9 surface																		
14-8450/51	DM-9	2014	Year 1	Phase I	5-10	**40**	**74**	**16**	<1.0	<10	**91**	**130**	**2.0**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-9 depth																		
14-8452	DM-9	2014	Year 1	Phase I	40-50	**38**	**71**	**15**	<1.0	<10	**87**	**120**	**1.8**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M LS North Warning System (NWS) Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	DM-10 surface																		
14-8447*	DM-10	2014	Year 1	Phase I	5-10	21	**40**	8.4	<1.0	<10	48	**77**	**1.1**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-10 depth																		
14-8448	DM-10	2014	Year 1	Phase I	30-35	18	31	6.5	<1.0	<10	37	58	0.8	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

Note: Modified TPH Total (C_6-C_{34}) has been calculated by adding results for F1, F2 and F3.

Legend

XX	sample exceeds background
XX	**sample exceeds baseline**
XX	*sample exceeds DLCU Tier I criteria*
XX	*sample exceeds DLCU Tier II criteria*

DYE-M LS NWS Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
Baseline Data																			
Upgradient:																			
01-20747		2001	0	27	36	13	<1.0	<10	48	65	1.2		<0.1						
01-20750		2001	0	24	34	12	<1.0	<10	50	65	<1.0		<0.1						
01-20751		2001	0	28	39	14	<1.0	<10	56	74	<1.0		<0.1						
08-11577/78	DM-7	2008	0-10	15	24	8.1	<1.0	<10	27	44	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0
08-11579	DM-7	2008	30-40	12	21	6.8	<1.0	<10	25	38	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0
11-13002	DM-7	2011	0-10	24	32	11	<1.0	<10	39	54	<1.0	<0.10	<0.050	23			<10	<4.0	16
11-13004	DM-7	2011	30-40	22	28	11	<1.0	<10	37	49	<1.0	<0.10	<0.050	65			<10	4.9	55
13-25168	DM-7	2013	0-10	25	35	10	<1.0	<10	45	67	0.7	<0.10	<0.050	30			<10	12	13
13-25170/71	DM-7	2013	25-35	29	43	12	<1.0	<10	46	73	1.6	<0.10	<0.050	12			<10	<4.0	<9.0
Downgradient:																			
01-20573		2001	0	25	18	7.3	<1.0	11	33	30	<1.0		<0.1	<40					
01-20574		2001	50											120					
01-20576		2001	0	29	39	15	<1.0	<10	53	75	<1.0		<0.1						
01-20579		2001	0	39	55	20	<1.0	<10	72	130	<1.0		<0.1						
01-20582		2001	0	25	34	14	<1.0	<10	55	65	<1.0		<0.1	81					
01-20583		2001	25	19	25	11	<1.0	<10	45	47	<1.0		<0.1	640					
01-20584		2001	0	33	41	15	<1.0	<10	65	81	<1.0		<0.1	<40					
01-20587		2001	0	31	43	17	<1.0	<10	62	81	<1.0		<0.1	<40					
02-14044		2002	0											110					
02-14047		2002	0											270					
02-14048		2002	40											1000					
02-14050/51		2002	0											<40					
02-14052		2002	40											<40					
02-14055		2002	0											<40					
01-20588		2001	40											370					
01-20590		2001	0	31	41	15	<1.0	<10	58	77	<1.0		<0.1	<40					
01-20591		2001	0	34	48	16	<1.0	<10	64	100	3.7		<0.1	<40					
01-20632		2001	0	29	39	13	<1.0	<10	55	71	1.5		<0.1	<40					
01-20634		2001	0	37	49	17	<1.0	<10	68	93	1.0		<0.1	<40					
01-20638		2001	50	22	9.3	5.4	<1.0	15	34	<20	<1.0		<0.1	1600					
01-20639		2001	0	21	21	8.3	<1.0	12	47	35	<1.0		<0.1	<40					
01-20665		2001	0	29	44	15	<1.0	10	64	89	0.5		<0.1						
01-20736		2001	0	24	29	12	<1.0	10	54	49	<1.0		<0.1	<40					
01-20737		2001	45	24	28	12	<1.0	11	54	49	<1.0		<0.1	<40					
01-20738		2001	0	27	33	13	<1.0	14	57	63	<1.0		<0.1	<40					
01-20739		2001	50	28	35	14	<1.0	19	64	63	<1.0		<0.1	<40					
01-20740		2001	0	25	36	11	<1.0	<10	44	58	<1.0		<0.1						
01-20741		2001	0	24	34	11	<1.0	<10	46	65	3.0		<0.1						
01-20744		2001	0	25	37	14	<1.0	<10	54	68	<1.0		<0.1						
00-22509		2000	0	22	35	11	<1.0	<10	42	63	<1.0		<0.1						
00-22510		2000	0	30	37	13	<1.0	11	52	68	<1.0		<0.1	<40					
00-22511		2000	0	29	34	12	<1.0	<10	49	61	<1.0		<0.1						
00-22512		2000	0	51	58	20	<1.0	25	130	100	<1.0		<0.1	<40					

DYE-M LS NWS Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
00-22513		2000	0	32	41	14	<1.0	<10	54	75	<1.0		<0.1	100					
08-11581	DM-8		0-10	26	31	9.9	<1.0	<10	52	63	<1.0	<0.10	0.010	12			<10	<4.0	<9.0
08-11583	DM-8		30-40	21	28	11	<1.0	<10	48	56	1.8	<0.10	0.008	12			<10	<4.0	9.4
08-11585	DM-9		0-10	17	23	9.1	<1.0	<10	35	51	1.1	<0.10	0.007	26			<10	4.6	15
08-11587	DM-9		30-40	26	34	13	<1.0	<10	48	67	<1.0	<0.10	0.004	12			<10	<4.0	15
08-11589	DM-10		0-10	19	29	19	<1.0	<10	47	62	<1.0	<0.10	0.003	12			<10	<4.0	<9.0
08-11591	DM-10		30-40	18	28	19	<1.0	<10	44	74	<1.0	<0.10	0.003	12			<10	<4.0	<9.0
11-13006	DM-8		0-10	18	27	11	<1.0	<10	43	49	<1.0	<0.10	<0.050	28			<10	<4.0	<9.0
11-13008	DM-8		30-40	16	24	9.5	<1.0	<10	41	44	<1.0	<0.10	<0.050	12			<10	<4.0	<9.0
11-13010/11	DM-9		0-10	20	32	12	<1.0	<10	43	61	<1.0	<0.10	<0.050	28			<10	4.7	16
11-13012	DM-9		30-40	17	26	10	<1.0	<10	33	48	<1.0	<0.10	<0.050	15			<10	5.1	<9.0
11-13014	DM-10		0-10	23	33	13	<1.0	<10	45	64	<1.0	<0.10	<0.050	12			<10	<4.0	<9.0
11-13016	DM-10		30-40	25	34	16	<1.0	<10	51	60	<1.0	<0.10	<0.050	14			<10	4.8	<9.0
13-25172	DM-8		0-10	23	31	7.8	<1.0	<10	47	55	1.7	<0.10	<0.050	18			<10	13	21
13-25174	DM-8		25-35	18	25	6.5	<1.0	<10	35	45	0.9	<0.10	<0.050	18			<10	<4.0	<9.0
13-25176	DM-9		0-10	33	48	12	<1.0	<10	55	85	1.5	<0.10	<0.050	19			<10	14	18
13-25178	DM-9		25-35	46	66	18	<1.0	<10	77	120	2.1	<0.10	<0.050	7			<10	<4.0	<9.0
13-25180/81	DM-10		0-10	33	38	13	<1.0	<10	53	68	1.2	<0.10	<0.050	7			<10	<4.0	<9.0
13-25182	DM-10		25-35	27	31	11	<1.0	<10	43	53	1.2	<0.10	<0.050	7			<10	<4.0	<9.0
	N value			53	53	53	53	53	53	53	53	24	53	50			24	24	24
	Baseline Detection Limits			3.0	5.0	5.0	1.0	10	15	20	1.0	0.10	0.1	40			10	4	9

DYE-M LS NWS Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
	Arithmetic Mean			26	34	12	0.50	6.7	51	65	0.8	0.050	0.036	101			5	4	11
Arithmetic Mean Corrected for Detection Limits				26	34	12	1.0	10	51	65	1.0	0.10	0.10	101			10	4	9
	Standard Deviation			7.2	10	3.6	0.0	4	15.5	20.6	0.66	0.000	0.017	276			0.0	3.7	11
	Minimum			12	9.3	2.5	0.50	5.0	25.0	10	0.500	0.050	0.0015	7			5.0	2.0	4.5
	Maximum			51	66	20	0.50	25	130	130	3.7	0.05	0.05	1600			5.0	14	55
	95% Confidence Limit			2.0	2.7			1.1	4.2		0.18	0.000	0.005	76				1.5	4.6
Background Data																			
89-G300	Along the beach, 1 km NW of ravine	1989		89	89	23	<1.0	<10	97	156	2.4	<0.5	0.004						
90-G315	2 km downstream BF304	1990		13	31	5.8	<1.0	<10	34	64	0.3	<0.5	0.024						
90-G320	100 m E of S end runway	1990		23	54	14	<1.0	<10	60	110	0.5	<0.5	<0.0002						
90-G321	0.5 mi E of S end runway	1990		21	63	12	<1.0	<10	60	112	0.5	<0.5	<0.0001						
90-G324	2.8 km from crossroads	1990		7.8	27	<5.0	<1.0	<10	30	46	<0.3	<0.5	<0.0002						
90-G325	5 km from crossroads	1990		32	47	18	<1.0	<10	74	95	0.3	<0.5	<0.0002						
00-25519	Gravel Borrow Area - background	2000		28	26	13	<1.0	<10	53	26	<1.0								
00-25520	Gravel Borrow Area - background	2000		14	18	7	<1.0	<10	28	<20	<1.0								
00-25521	Gravel Borrow Area - background	2000		16	19	8.5	<1.0	<10	41	<20	<1.0								
00-25524	West of glacier - background	2000		49	28	12	<1.0	12	98	94	<1.0								
00-25525	West of glacier - background	2000		60	34	13	<1.0	21	125	126	<1.0								

DYE-M -Upper Site Tier II Disposal Facility - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
Background Data - Arithmetic mean						60	141	20	1.0	10	70	90	1.0	0.5	0.002				N/A
Baseline Data - Arithmetic mean						**43**	**83**	**19**	**1.0**	**18**	**77**	**115**	**3.7**	**0.05**	**0.05**	**10**	**10**	**10**	**18**
Baseline Data - Standard Deviation						29	74	7.1	0.0	21	46	95	3.0	0.0	0.012	3.6	1.8	6.0	7.5
Baseline Data mean + 3xStandard Deviation						130	304	40	1.0	80	214	398	13	0.05	0.085	21	15	28	40
**** If baseline or background arithmetic mean was below the detection limit, the mean has been modified to match the detection limit value.***																			
DEW Line Cleanup Tier I Criteria										*200*					*1*				
DEW Line Cleanup ***Site Specific*** *Tier II Criteria*						*296*	*2100*	*153*	*5*	*500*	*500*	*250*	*30*	*2.0*	*5*				*2500*
Monitoring Data																**TPH Sum will appear when F1, F2 and**			
Upgradient																			
	BMW 12-02 surface																		
14-8424	BMW 12-02	2014	Year 1	Phase I	5-10	13	25	11	<1.0	**19**	52	26	1.6	<0.010	<0.010	<10	<10	<10	15
			Year 2	Phase I															#N/A
			Year 3	Phase I															#N/A
			Year 4	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	BMW 12-02 depth																		
14-8425	BMW 12-02	2014	Year 1	Phase I	45-50	10	36	13	<1.0	**30**	60	29	1.8	<0.010	<0.010	<10	<10	<10	15
			Year 2	Phase I															#N/A
			Year 3	Phase I															#N/A
			Year 4	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M -Upper Site Tier II Disposal Facility - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	BMW 07-22 surface																		
14-8413	BMW 07-22	2014	Year 1	Phase I	5-10	**82**	76	15	<1.0	11	**110**	**150**	**11**	0.019	<0.010	<10	<10	<10	15
			Year 2	Phase I															#N/A
			Year 3	Phase I															#N/A
			Year 4	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	BMW 07-22 depth																		
14-8414	BMW 07-22	2014	Year 1	Phase I	45-50	**70**	**90**	17	<1.0	13	**100**	**160**	**7**	0.012	<0.010	<10	<10	<10	15
			Year 2	Phase I															#N/A
			Year 3	Phase I															#N/A
			Year 4	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M -Upper Site Tier II Disposal Facility - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
Downgradient																			
	MW 07-23 surface																		
14-8415	MW 07-23	2014	Year 1	Phase I	5-10	**76**	**180**	**21**	<1.0	<10	44	100	**17**	<0.010	<0.010	<10	<10	<10	15
			Year 2	Phase I															#N/A
			Year 3	Phase I															#N/A
			Year 4	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	MW 07-23 depth																		
14-8417	MW 07-23	2014	Year 1	Phase I	45-50	**72**	**130**	**19**	<1.0	<10	40	87	**12**	<0.010	<0.010	<10	<10	<10	15
			Year 2	Phase I															#N/A
			Year 3	Phase I															#N/A
			Year 4	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M -Upper Site Tier II Disposal Facility - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	MW 08-24 surface																		
14-8418	MW 08-24	2014	Year 1	Phase I	5-10	27	47	10	<1.0	<10	40	66	1.4	<0.010	<0.010	<10	<10	<10	15
			Year 2	Phase I															#N/A
			Year 3	Phase I															#N/A
			Year 4	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	MW 08-24 depth																		
14-8420/21	MW 08-24	2014	Year 1	Phase I	30-35	27	45	11	<1.0	10	40	63	1.1	<0.010	<0.010	<10	<10	<10	15
			Year 2	Phase I															#N/A
			Year 3	Phase I															#N/A
			Year 4	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M -Upper Site Tier II Disposal Facility - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	MW 08-25 surface																		
14-8422	MW 08-25	2014	Year 1	Phase I	5-10	31	77	16	<1.0	18	50	**150**	1.2	<0.010	<0.010	<10	<10	<10	15
			Year 2	Phase I															#N/A
			Year 3	Phase I															#N/A
			Year 4	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	MW 08-25 depth																		
14-8423	MW 08-25	2014	Year 1	Phase I	40-45	**84**	**200**	**43**	<1.0	17	66	*710*	2.2	<0.010	<0.010	<10	<10	<10	15
			Year 2	Phase I															#N/A
			Year 3	Phase I															#N/A
			Year 4	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

Note: Modified TPH Total (C_6-C_{34}) has been calculated by adding results for F1, F2 and F3.

Legend

XX	sample exceeds background
XX	**sample exceeds baseline**
XX	*sample exceeds DLCU Tier I criteria*
XX	*sample exceeds DLCU Tier II criteria*

DYE-M Upper Site Tier II Disposal Facility- Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
Baseline Data																	
Upgradient:																	
08-9798/99	BMW 07-22	2008	0-10	75	73	18	<1.0	12	94	130	11	<0.10	<0.0030	35	<10	4	26
08-9800	BMW 07-22	2008	30-40	82	74	20	<1.0	<10	120	140	1	<0.10	<0.0030	36	<10	8.1	23
11-13026/27	BMW07-22	2011	0-10	82	69	19	<1.0	14	100	140	9	<0.10	<0.0050	12	<10	<4.0	<9.0
11-13028	BMW07-22	2011	30-40	100	67	22	<1.0	11	130	140	4	<0.10	<0.0050	14	<10	4.6	<9.0
12-44898	BMW12-02	2012	0-10	15	54	15	<1.0	17	62	91	2	<0.10	<0.050	12	<10	<4.0	<9.0
12-44900/91	BMW12-02	2012	20-30	7	100	21	<1.0	30	83	290	3	<0.10	<0.050	16	<10	<4.0	9.1
12-44834/35	BMW07-22	2012	0-10	90	70	21	<1.0	15	110	140	11	<0.10	<0.050	15	<10	<10	<10
12-44836	BMW07-22	2012	20-30	95	68	23	<1.0	13	130	140	5	<0.10	<0.050	15	<10	<10	<10
13-25224	BMW 12-02	2013	0-10	15	61	15	<1.0	22	61	130	2	<0.10	<0.050	24	<10	6.9	12
13-25226	BMW 12-02	2013	30-40	7	220	34	<1.0	36	98	560	2	<0.10	<0.050	12	<10	<4.0	<9.0
13-25220/21	BMW 07-22	2013	0-10	74	73	15	<1.0	14	100	140	8	<0.10	<0.050	25	<10	7.2	13
13-25222	BMW 07-22	2013	30-40	78	69	14	<1.0	11	110	130	5	<0.10	<0.050	12	<10	<4.0	<9.0
Downgradient:																	
08-9802*	MW 07-23	2008	0-10	44	87	14	<1.0	<10	33	60	3.9	<0.10	<0.0030	20	<10	<4.0	13
08-9804	MW 07-23	2008	30-40	41	75	16	<1.0	<10	39	89	5.1	<0.10	<0.0030	19	<10	<4.0	12
09-21520/21	MW07-23	2009	0-10	57	78	17	<1.0	<10	34	72	8.8	<0.10	<0.0030	22	15	<4.0	<9.0
09-21522	MW07-23	2009	30-40	51	71	14	<1.0	<10	28	61	9.2	<0.10	<0.0030	20	13	<4.0	<9.0
09-21566	MW08-24	2009	0-10	11	33	12	<1.0	10	43	52	1.3	<0.10	<0.0030	23	<10	5.1	13
09-21568	MW08-24	2009	30-40	13	34	11	<1.0	<10	41	49	<1.0	<0.10	0.025	12	<10	<4.0	<9.0
09-21560	MW08-25	2009	0-10	53	130	29	<1.0	31	100	300	1.8	<0.10	<0.0030	32	<10	4.5	22
09-21564	MW08-25	2009	30-40	47	70	26	<1.0	40	160	150	3.1	<0.10	<0.0030	21	<10	4.1	12
11-13030	MW07-23	2011	0-10	47	69	15	<1.0	<10	29	69	5	<0.10	<0.0050	14	<10	4.5	<9.0
11-13032	MW07-23	2011	30-40	35	74	13	<1.0	<10	26	53	5.3	<0.10	<0.0050	14	<10	4.8	<9.0
11-13034	MW08-24	2011	0-10	13	27	12	<1.0	11	42	46	1.1	<0.10	<0.0050	14	<10	4.5	<9.0
11-13036	MW08-24	2011	30-40	12	30	11	<1.0	10	43	49	<1.0	<0.10	<0.0050	12	<10	<4.0	<9.0
11-13038/39	MW08-25	2011	0-10	9	36	18	<1.0	20	70	64	<1.0	<0.10	<0.0050	12	<10	<4.0	<9.0
11-13040	MW08-25	2011	30-40	6	35	19	<1.0	22	85	64	1	<0.10	<0.0050	12	<10	<4.0	<9.0
12-44838	MW07-23	2012	0-10	89	65	20	<1.0	<10	46	68	5.3	<0.10	<0.050	21	<10	<10	11
12-44840	MW07-23	2012	20-30	66	91	16	<1.0	<10	35	59	4.3	<0.10	<0.050	30	<10	<10	20
12-44842	MW08-24	2012	0-10	20	43	12	<1.0	11	40	57	1.2	<0.10	<0.050	15	<10	<10	<10
12-44844	MW08-24	2012	20-30	20	35	11	<1.0	11	37	47	1	<0.10	<0.050	34	24	<10	<10
12-44846	MW08-25	2012	0-10	51	73	24	<1.0	25	100	130	1.9	<0.10	<0.050	15	<10	<10	<10
12-44848/49	MW08-25	2012	20-30	49	65	31	<1.0	73.5	190	130	2.5	<0.10	<0.050	22	<10	<10	12
13-25236	MW 07-23	2013	0-10	44	390	40	<1.0	<10	52	100	3.1	<0.10	<0.050	12	<10	<4.0	<9.0
13-25238	MW 07-23	2013	30-40	42	320	30	<1.0	<10	46	91	4.7	<0.10	<0.050	12	<10	<4.0	<9.0
13-25232	MW 08-24	2013	0-10	14	40	10	<1.0	13	45	58	2	<0.10	<0.050	12	<10	<4.0	<9.0
13-25234	MW 08-24	2013	30-40	10	28	10	<1.0	11	50	42	1.4	<0.10	<0.050	12	<10	<4.0	<9.0
13-25228	MW 08-25	2013	0-10	42	82	18	<1.0	34	100	93	2.1	<0.10	<0.050	12	<10	<4.0	<9.0
13-25230/31	MW 08-25	2013	30-40	37	84	25	<1.0	110	210	140	2.6	<0.10	<0.050	12	<10	<4.0	<9.0
	N value			38	38	38	38	38	38	38	38	38	38	38	38	38	38
	Baseline Detection Limits			3	5	5	1	10	15	20	1	0	0	10	10	10	10
	Arithmetic Mean			43	83	19	0.50	18	77	115	3.7	0.050	0.0147	18	6	4	8
	Arithmetic Mean Corrected for Detection Limits			43	83	19	1.0	18	77	115	3.7	0.1	0.050	18	10	10	10
	Standard Deviation			29	74	7.1	0.00	21	46	95	2.97	0	0.012	7.5	3.6	1.8	6.0
	Minimum			6.3	27.0	9.9	0.0	10	26	42	1.0	0.00	0.0	12	13	4	9
	Maximum			100	390	40.0	0.0	110	210	560	11.0	0.00	0.0	36	24	8	26
	95% Confidence Limit			9.2	23.38			6.5	15	30.0	0.94	0.000	0.004	2.4	1.2	0.6	1.9

DYE-M Upper Site Tier II Disposal Facility- Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
Background Data																	
89-G300	Along the beach, 1 km NW of ravine	1989										<0.5	0.004				
90-G315	2 km downstream BF304	1990										<0.5	0.024				
90-G320	100 m E of S end runway	1990										<0.5	<0.0002				
90-G321	0.5 mi E of S end runway	1990										<0.5	<0.0001				
90-G324	2.8 km from crossroads	1990										<0.5	<0.0002				
90-G325	5 km from crossroads	1990										<0.5	<0.0002				
00-25501	Pallet Line Area - background	2000	0-10	40	41	9.8	<1.0	16	41	73	<1.0						
00-25505	East of West Landfill - background - BU 1	2000	0-10	102	268	34	<1.0	<10	70	223	<1.0						
00-25506	East of West Landfill - background - BU 1	2000	0-10	72	293	29	<1.0	<10	84	214	<1.0						
00-25507	East of West Landfill - background - BU 1	2000	0-10	60	183	24	<1.0	<10	69	132	<1.0						
00-25508	East of West Landfill - background - BU 1	2000	0-10	54	138	25	<1.0	<10	99	118	<1.0						
00-25509	East of West Landfill - background - BU 1	2000	0-10	73	85	24	<1.0	<10	114	128	<1.0						
00-25512	South of Tacan - background - BU 2b	2000	0-10	110	99	22	<1.0	<10	37	27	<1.0						
00-25513	South of Tacan - background - BU 2b	2000	0-10	83	127	26	<1.0	<10	45	33	<1.0						
00-25514	South of Tacan - background - BU 2b	2000	0-10	158	96	25	<1.0	<10	43	24	<1.0						
00-25515	South of Tacan - background - BU 2b	2000	0-10	103	68	22	<1.0	<10	45	<20	<1.0						
00-25516	South of Tacan - background - BU 2b	2000	0-10	191	97	23	<1.0	<10	39	24	<1.0						
03-26130	Upper Site - BU-2	2003	0-10	65	940	69	<1.0	<10	61	118	<1.0						
03-26140	Upper Site - BU 4	2003	0-10	16	53	9	<1.0	<10	32	24	<1.0						
03-26150	Upper Site - BU 3	2003	0-10	44	61	13	<1.0	<10	89	115	<1.0						
03-26152	Upper Site - BU 3	2003	0-10	59	60	18	<1.0	10	84	159	<1.0						
03-26153	Upper Site - BU 3	2003	0-10	37	67	13	<1.0	11	75	86	<1.0						
03-26160	Upper Site - BU 1	2003	0-10	37	69	18	<1.0	11	93	86	1.4						
03-26162	Upper Site - BU 1	2003	0-10	70	99	17	<1.0	<10	80	108	1						
03-26163	Upper Site - BU 3	2003	0-10	57	112	17	<1.0	<10	89	106	2.1						
03-26165	Upper Site - BU 3	2003	0-10	65	79	17	<1.0	<10	102	122	<1.0						
03-26166	Upper Site - BU 3	2003	0-10	57	85	20	<1.0	22	99	120	1.6						
03-26167	Upper Site - BU 1	2003	0-10	115	93	19	<1.0	<10	40	121	<1.0						
03-26168	Upper Site - BU 3	2003	0-10	57	41	15	<1.0	<10	76	138	<1.0						
03-26169	Upper Site - BU 3	2003	0-10	38	58	16	<1.0	11	98	109	<1.0						
03-26170	Upper Site - BU 3	2003	0-10	59	28	10	<1.0	<10	100	98	1.8						
03-26172	Upper Site - BU 3	2003	0-10	59	34	7	<1.0	<10	89	94	<1.0						
03-26173	Upper Site - BU 3	2003	0-10	21	34	7	<1.0	<10	36	46	1.1						
03-26174	Upper Site - BU 3	2003	0-10	71	29	8	<1.0	11	106	120	1.4						
03-26175	Upper Site - BU 3	2003	0-10	76	27	9	<1.0	<10	117	119	<1.0						
03-26180	Upper Site - BU 4	2003	0-10	12	16	<5.0	<1.0	<10	28	<20	1.1						
03-26182	Upper Site - BU 4	2003	0-10	32	74	15	<1.0	<10	43	39	<1.0						
03-26183	Upper Site - BU 4	2003	0-10	37	47	10	<1.0	20	69	66	1.2						
03-26184	Upper Site - BU 4	2003	0-10	18	51	8	<1.0	12	39	33	1.4						
03-26185	Upper Site - BU 4	2003	0-10	17	17	5	<1.0	<10	44	<20	<1.0						
03-26186	Upper Site - BU 4	2003	0-10	19	43	9	<1.0	<10	46	57	<1.0						
03-26187	Upper Site - BU 4	2003	0-10	40	44	15	<1.0	<10	57	42	1.4						
03-26188	Upper Site - BU 4	2003	0-10	129	46	21	<1.0	<10	44	31	<1.0						
03-26189	Upper Site - BU 4	2003	0-10	107	39	14	<1.0	<10	38	38	<1.0						
03-26190	Upper Site - BU 4	2003	0-10	33	57	12	<1.0	10	64	73	1.5						
03-26192	Upper Site - BU 3	2003	0-10	66	31	9	<1.0	<10	125	142	2.1						
03-26193	Upper Site - BU 1	2003	0-10	87	86	19	<1.0	26	186	382	<1.0						
03-26194	Upper Site - BU 1	2003	0-10	131	33	10	<1.0	10	137	177	<1.0						
03-26195	Upper Site - BU 3	2003	0-10	11	16	<5.0	<1.0	<10	23	25	<1.0						
03-26196	Upper Site - BU 3	2003	0-10	49	40	10	<1.0	<10	84	107	<1.0						
03-26197	Upper Site - BU 4	2003	0-10	26	41	11	<1.0	10	61	66	1.1						
03-26198	Upper Site - BU 3	2003	0-10	88	26	14	<1.0	13	138	184	<1.0						
03-26199	Upper Site - BU 3	2003	0-10	58	50	15	<1.0	<10	116	144	<1.0						
03-26200	Upper Site - BU 1	2003	0-10	72	118	32	<1.0	13	150	146	<1.0						

DYE-M Upper Site Tier II Disposal Facility- Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
03-26202	Upper Site - BU 4	2003	0-10	28	88	18	<1.0	15	60	46	<1.0						
03-26203	Upper Site - BU 4	2003	0-10	26	108	14	<1.0	<10	43	46	<1.0						
03-26204	Upper Site - BU 4	2003	0-10	29	93	17	<1.0	20	81	46	1.6						
03-26205	Upper Site - BU 3	2003	0-10	108	91	22	<1.0	10	127	147	<1.0						
03-26206	Upper Site - BU 3	2003	0-10	81	85	15	<1.0	<10	108	178	<1.0						
03-26212	Upper Site - BU 4	2003	0-10	22	13	<5.0	<1.0	<10	47	<20	<1.0						
03-26213	Upper Site - BU 4	2003	0-10	15	40	7.8	<1.0	<10	32	24	<1.0						
03-26214	Upper Site - BU 4	2003	0-10	23	250	26	<1.0	12	70	580	<1.0						
03-26215	Upper Site - BU 4	2003	0-10	40	68	20	<1.0	11	77	119	<1.0						
03-26216	Upper Site - BU 3	2003	0-10	62	73	22	<1.0	23	111	115	1.3						
03-26217	Upper Site - BU 4	2003	0-10	21	36	8.3	<1.0	<10	42	35	1.3						
03-26218	Upper Site - BU 3	2003	0-10	124	53	14	<1.0	13	140	167	<1.0						
03-26219	Upper Site - BU 3	2003	0-10	53	48	12	<1.0	<10	90	105	<1.0						
03-26220	Upper Site - BU 3	2003	0-10	44	34	8	<1.0	<10	74	82	<1.0						
03-26222	Upper Site - BU 3	2003	0-10	63	59	14	<1.0	24	84	107	5.9						
03-26223	Upper Site - BU 4	2003	0-10	29	29	24	<1.0	<10	67	41	1.9						
03-26224	Upper Site - BU 4	2003	0-10	21	50	9.0	<1.0	<10	42	39	1.3						
03-26225	Upper Site - BU 4	2003	0-10	17	27	7.7	<1.0	<10	40	23	1.2						
03-26226	Upper Site - BU 4	2003	0-10	23	24	9.3	<1.0	<10	54	27	<1.0						
03-26227	Upper Site - BU 1	2003	0-10	66	56	14	<1.0	<10	64	52	<1.0						
03-26228	Upper Site - BU 3	2003	0-10	42	48	13	<1.0	13	96	106	<1.0						
03-26229	Upper Site - BU 4	2003	0-10	22	23	7.3	<1.0	<10	30	21	<1.0						
03-26230	Upper Site - BU 3	2003	0-10	61	71	15	<1.0	12	88	95	1.4						
03-26232	Upper Site - BU 4	2003	0-10	32	31	11	<1.0	<10	61	26	1						
03-26233	Upper Site - BU 4	2003	0-10	42	40	11	<1.0	<10	50	35	<1.0						
03-26234	Upper Site - BU 4	2003	0-10	29	51	10	<1.0	14	49	43	<1.0						
03-26235	Upper Site - BU 1	2003	0-10	144	77	20	<1.0	<10	48	56	<1.0						
03-26236	Upper Site - BU 1	2003	0-10	56	325	32	<1.0	<10	32	185	<1.0						
03-26237	Upper Site - BU 4	2003	0-10	29	49	8	<1.0	<10	52	53	<1.0						
03-26238	Upper Site - BU 4	2003	0-10	36	93	14	<1.0	<10	57	50	<1.0						
03-26239	Upper Site - BU 2	2003	0-10	147	93	20	<1.0	<10	46	28	<1.0						
03-26240	Upper Site - BU 2	2003	0-10	117	240	31	<1.0	<10	51	67	<1.0						
03-26242	Upper Site - BU 1	2003	0-10	38	101	14	<1.0	<10	53	92	<1.0						
03-26243	Upper Site - BU 2	2003	0-10	42	275	28	<1.0	<10	59	65	<1.0						
03-26244	Upper Site - BU 2	2003	0-10	64	171	22	<1.0	<10	45	62	<1.0						
03-26245	Upper Site - BU 4	2003	0-10	28	42	10	<1.0	<10	50	39	1.7						
03-26246	Upper Site - BU 2	2003	0-10	70	1000	69	<1.0	<10	73	126	<1.0						
03-26250	Upper Site - BU 2	2003	0-10	49	1100	76	<1.0	<10	76	140	<1.0						
03-26251	Upper Site - BU 2	2003	0-10	51	1060	72	<1.0	<10	70	136	<1.0						
03-26252	Upper Site - BU 2	2003	0-10	120	95	18	<1.0	<10	42	25	<1.0						
03-26254	Upper Site - BU 2	2003	0-10	58	1140	76	<1.0	<10	74	141	<1.0						
03-26255	Upper Site - BU 2	2003	0-10	77	720	61	<1.0	<10	72	110	<1.0						
03-26256	Upper Site - BU 2	2003	0-10	84	289	38	<1.0	<10	52	77	<1.0						
03-26257	Upper Site - BU 2	2003	0-10	113	199	34	<1.0	<10	62	103	<1.0						
03-26258	Upper Site - BU 2	2003	0-10	81	284	36	<1.0	<10	54	74	<1.0						
03-26259	Upper Site - BU 2	2003	0-10	103	167	28	<1.0	<10	49	35	<1.0						
03-26260	Upper Site - BU 4	2003	0-10	13	21	<5.0	<1.0	<10	30	<20	1						
03-26262	Upper Site - BU 4	2003	0-10	26	46	9	<1.0	11	61	41	1.3						
03-26263	Upper Site - BU 4	2003	0-10	17	43	10	<1.0	<10	51	32	<1.0						
03-26264	Upper Site - BU 4	2003	0-10	15	15	5	<1.0	<10	44	<20	<1.0						
03-26265	Upper Site - BU 4	2003	0-10	10	21	<5.0	<1.0	<10	29	20	<1.0						
03-26266	Upper Site - BU 4	2003	0-10	19	55	10	<1.0	<10	42	32	<1.0						
03-26267	Upper Site - BU 4	2003	0-10	22	42	9	<1.0	10	63	60	<1.0						
03-26268	Upper Site - BU 3	2003	0-10	79	63	16	<1.0	12	135	186	<1.0						
03-26154	Upper Site - BU 3	2003	0-10	132	168	46	<1.0	21	175	151	<1.0						

DYE-M Upper Site Tier II Disposal Facility- Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
03-26155	Upper Site - BU 3	2003	0-10	81	118	21	<1.0	17	100	92	<1.0						
03-26156	Upper Site - BU 3	2003	0-10	86	50	14	<1.0	<10	113	134	<1.0						
03-26157	Upper Site - BU 3	2003	0-10	37	32	8	<1.0	<10	74	82	1.1						
03-26158	Upper Site - BU 1	2003	0-10	222	495	60	<1.0	<10	37	134	1.3						
03-26159	Upper Site - BU 1	2003	0-10	53	640	57	<1.0	<10	28	63	1.2						
	N value			108	108	108	108	108	108	108	108	6	6				
	Background Detection Limits			5.0	5.0	5.0	1.0	10	15	20	1.00	0.5	0.002				
	Arithmetic Mean			60	141	20	0.50	7.7	70	90	0.78	0.25	0.0047				
	Arithmetic Mean Corrected for Detection Limits			60	141	20	1.0	10	70	90	1.0	0.5	0.002				
	Standard Deviation			40	230	16	0.0	4.9	33	76	0.65	0.0	0.01				
	Minimum			9.9	13	2.5	0.50	5.0	23	10	0.50	0.25	0.00005				
	Maximum			222	1140	76	0.50	26	186	580	5.9	0.25	0.024				

DYE-M US Tier II Disposal Facility - Summary of Monitoring Groundwater Analytical Data

Sample ID	Location	Date	Monitoring Year	Monitoring Phase	Cu (mg/L)	Ni (mg/L)	Co (mg/L)	Cd (mg/L)	Pb (mg/L)	Zn (mg/L)	Cr (mg/L)	As (mg/L)	Hg (mg/L)	Total PCB (mg/L)	F1 C_6-C_{10} (mg/L)	F2 C_{10}-C_{16} (mg/L)	F3 C_{16}-C_{34} (mg/L)	Modified TPH^ - Total C6-C34 (mg/L)
Baseline Data																		
Upgradient:																		
12-34978	BMW12-02	2012			<0.0050	<0.0050	<0.0030	<0.0010	<0.0050	0.011	0.76	<0.0010	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
Downgradient:																		
08-9742	MW07-23	2008			0.036	0.16	0.008	<0.0010	<0.010	0.025	0.30	<0.0030	<0.00040	<0.000020	<0.050	<0.050	<1.0	0.6
09-21499	MW07-23	2009			0.094	0.073	0.015	<0.0010	0.013	0.11	0.08	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
09-21572	MW08-24	2009			0.12	0.41	0.0135	<0.0010	0.020	0.049	0.52	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
11-12190/91	MW07-23	2011			<0.0050	<0.0050	<0.0030	<0.0010	<0.010	5.92	<0.0050	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
11-12192	MW08-24	2011			0.007	<0.0050	<0.0030	<0.0010	<0.010	0.29	<0.0050	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
12-34966	MW07-23	2012			<0.0050	<0.0050	<0.0030	<0.0010	<0.0050	0.25	0.16	0.0057	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
12-34967	MW08-24	2012			<0.0050	0.0100	<0.0030	<0.0010	<0.0050	0.23	0.41	0.007	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
13-29589	MW08-24	2013			<0.0050	<0.0050	<0.0030	<0.0010	<0.0050	0.16	0.17	0.002	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
		N value			9	9	9	9	9	9	9	9	9	9	9	9	9	9
	Arithmetic Mean				**0.083**	**0.21**	**0.003**	**0.0010**	**0.010**	**0.78**	**0.34**	**0.003**	**0.0002**	**0.0007**	**0.025**	**0.23**	**0.5**	**0.23**
	Arithmetic Mean Adjusted for Detection Limit				**0.005**	**0.005**	**0.003**	**0.001**	**0.010**	**0.78**	**0.34**	**0.003**	**0.0004**	**0.003**	**0.05**	**0.5**	**1.0**	**1.0**
	Standard Deviation				0.043	0.17	0.004	0.000	0.0	1.9	0.24	0.0022	0.000	0.001	0.000	0.0	0.0	0.1
	Arithmetic Mean + 3xStandard Deviation				0.13	0.53	0.014	0.001	0.033	6.6	1.1	0.010	0.0004	0.005	0.050	0.5	1.0	1.2
	Detection Limit				0.0050	0.005	0.0030	0.0010	0.010	0.0100	0.0050	0.003	0.0004	0.0030	0.0500	0.5	1.0	1.0
Monitoring Data																		
Upgradient - BMW 12-02																		
Not Sampled	BMW 12-02	2014	Year 1	Phase I														#N/A
			Year 2	Phase I														#N/A
			Year 3	Phase I														#N/A
			Year 4	Phase I														#N/A
			Year 5	Phase I														#N/A
			Year 7	Phase II														#N/A
			Year 10	Phase II														#N/A
			Year 15	Phase II														#N/A
			Year 25	Phase II														#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A

Modified TPH TOTAL will appear when F1, F2, F3 fraction results are entered.

DYE-M US Tier II Disposal Facility - Summary of Monitoring Groundwater Analytical Data

Sample ID	Location	Date	Monitoring Year	Monitoring Phase	Cu (mg/L)	Ni (mg/L)	Co (mg/L)	Cd (mg/L)	Pb (mg/L)	Zn (mg/L)	Cr (mg/L)	As (mg/L)	Hg (mg/L)	Total PCB (mg/L)	F1 C_6-C_{10} (mg/L)	F2 C_{10}-C_{16} (mg/L)	F3 C_{16}-C_{34} (mg/L)	Modified TPH^ - Total C6-C34 (mg/L)
Upgradient - BMW 07-22																		
Not Sampled	BMW 07-22	2014	Year 1	Phase I														#N/A
			Year 2	Phase I														#N/A
			Year 3	Phase I														#N/A
			Year 4	Phase I														#N/A
			Year 5	Phase I														#N/A
			Year 7	Phase II														#N/A
			Year 10	Phase II														#N/A
			Year 15	Phase II														#N/A
			Year 25	Phase II														#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A
Downgradient - MW 07-23																		
14-8183	MW07-23	2014	Year 1	Phase I	<0.0010	0.0025	<0.00030	<0.000090	<0.00050	0.02	<0.00050	<0.0010	<0.00010	<0.000020	<0.025	<0.10	<0.25	0.2
			Year 2	Phase I														#N/A
			Year 3	Phase I														#N/A
			Year 4	Phase I														#N/A
			Year 5	Phase I														#N/A
			Year 7	Phase II														#N/A
			Year 10	Phase II														#N/A
			Year 15	Phase II														#N/A
			Year 25	Phase II														#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A

DYE-M US Tier II Disposal Facility - Summary of Monitoring Groundwater Analytical Data

Sample ID	Location	Date	Monitoring Year	Monitoring Phase	Cu (mg/L)	Ni (mg/L)	Co (mg/L)	Cd (mg/L)	Pb (mg/L)	Zn (mg/L)	Cr (mg/L)	As (mg/L)	Hg (mg/L)	Total PCB (mg/L)	F1 C_6-C_{10} (mg/L)	F2 C_{10}-C_{16} (mg/L)	F3 C_{16}-C_{34} (mg/L)	Modified TPH^ - Total C6-C34 (mg/L)
Downgradient - MW 08-24																		
14-8184	MW08-24	2014	Year 1	Phase I	0.0036	0.004	<0.00030	<0.000090	<0.00050	<0.0030	0.001	0.0020	<0.00010	<0.000020	<0.025	<0.10	<0.25	0.2
			Year 2	Phase I														#N/A
			Year 3	Phase I														#N/A
			Year 4	Phase I														#N/A
			Year 5	Phase I														#N/A
			Year 7	Phase II														#N/A
			Year 10	Phase II														#N/A
			Year 15	Phase II														#N/A
			Year 25	Phase II														#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A
Downgradient - MW 08-25																		
Not Sampled	MW 08-25	2014	Year 1	Phase I														#N/A
			Year 2	Phase I														#N/A
			Year 3	Phase I														#N/A
			Year 4	Phase I														#N/A
			Year 5	Phase I														#N/A
			Year 7	Phase II														#N/A
			Year 10	Phase II														#N/A
			Year 15	Phase II														#N/A
			Year 25	Phase II														#N/A
																		#N/A
																		#N/A
																		#N/A

Note: Modified TPH Total (C_6-C_{34}) has been calculated by adding results for F1, F2 and F3.

blue highlight indicates dissolved metal results. No highlight indicates total metals.

Dissolved metal results have not been included in the Baseline Arithmetic Mean

DYE-M US Non Hazardous Waste Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
Background Data - Arithmetic Mean						60	141	20	1.0	10	70	90	1.00	0.50	0.002	N/A	N/A	N/A	N/A
Baseline Data - Arithmetic Mean						**27**	**65**	**14**	**1.0**	**10**	**57**	**41**	**1.0**	**0.10**	**0.05**	30	10	10	**216**
Baseline Data - Standard Deviation						16	38	5.8	0.0	7.7	30	24	0.37	0.0	0.093	3.8	1.7	256	416
Baseline Data Mean + 3xStandard Deviation						74	178	31	1.0	33	148	115	2.1	0.10	0.33	41	15	777	1464
**** If baseline or background arithmetic mean was below the detection limit, the mean has been modified to match the detection limit value.***																			
DEW Line Cleanup Tier I Criteria										*200*					*1*				
Level						*296*	*2100*	*153*	*5*	*500*	*500*	*250*	*30*	*2.0*	*5*				*2500*
Monitoring Data																**TPH Sum will appear when F1, F2 and F3 fractions are entered.**			
Upgradient																			
	BMW 06-18 surface																		
14-8292	BMW 06-18	2014	Year 1	Phase I	5-10	25	62	12	<1.0	<10	44	33	0.77	<0.010	0.034	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	BMW 06-18 depth																		
14-8293	BMW 06-18	2014	Year 1	Phase I	40-50	24	63	12	<1.0	<10	48	33	0.8	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US Non Hazardous Waste Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
Downgradient																			
	MW 06-19 surface																		
14-8294	MW 06-19	2014	Year 1	Phase I	5-10	19	**87**	13	<1.0	<10	36	36	0.85	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	MW 06-19 depth																		
14-8295	MW 06-19	2014	Year 1	Phase I	25-35[1]	16	**82**	12	<1.0	<10	30	30	0.5	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US Non Hazardous Waste Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	MW 06-20 surface																		
14-8297	MW 06-20	2014	Year 1	Phase I	5-10	26	53	11	<1.0	<10	47	27	0.7	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	MW 06-20 depth																		
14-8298	MW 06-20	2014	Year 1	Phase I	40-45	**35**	**65**	13	<1.0	<10	56	33	0.9	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US Non Hazardous Waste Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	MW 07-21 surface																		
14-8300/01	MW 07-21	2014	Year 1	Phase I	5-10	16	49	8.8	<1.0	<10	34	24	0.56	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	MW 07-21 depth																		
14-8302	MW 07-21	2014	Year 1	Phase I	40-50	19	55	9.9	<1.0	<10	39	28	0.60	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A

Note: Modified TPH Total (C_6-C_{34}) has been calculated by adding results for F1, F2 and F3.

1. Depth sample taken at 25-35cm because boulder noted at base of test pit.

Legend

XX	sample exceeds background
XX	**sample exceeds baseline**
XX	*sample exceeds DLCU Tier I criteria*
XX	*sample exceeds DLCU Tier II criteria*

DYE-M US Non Hazardous Waste Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
Baseline Data																			
Upgradient:																			
01-3522	3522	2001	0											<130					
01-3524	3522	2001	30											<130					
01-3537[1]	3536	2001	30											2800					
01-3685	3683	2001	55											46					
01-3644	3642	2001	40											190					
01-3645	3642	2001	55											370					
00-23696		2000	0											490					
00-23670/71		2000	0	27	47	11	<1.0	<10	60	69	<1.0			365					
00-23672		2000	0	44	63	19	<1.0	17	92	110	<1.0		<0.2						
00-23673		2000	0										<0.2						
01-3872	3870	2001	20											<40					
00-23697		2000	0											200					
00-23693		2000	0										0.28						
00-23698		2000	0										<0.2						
00-23699		2000	30										0.3						
00-23700/01		2000	0										<0.5						
00-23675		2000	0	36	56	13	<1.0	17	91	86	<1.0		0.31	<40					
00-23720/21		2000	0											<40					
00-23722		2000	0										<0.2						
00-23724		2000	0										< 0.5	<40					
00-23725		2000	30										<0.2						
00-23726		2000	0										<0.2						
00-23727		2000	0										<0.2						
00-23728		2000	0	67	240	31	<1.0	11	80	51	<1.0		0.32	<40					
00-23729		2000	0										0.45	1200					
00-23714		2000	0											460					
00-23715		2000	0										<0.2	370					
00-23716		2000	0										<0.2	<40					
00-23703		2000	0										<0.2	150					
00-23702		2000	0	58	180	24	<1.0	12	140	58	<1.0		<0.2	53					
00-23704		2000	0											120					
00-23690/91		2000	0										<0.2						
00-23676		2000	0										<0.2						
00-23677		2000	30										<0.2						
00-23679		2000	0										<0.2	<40					
00-23717		2000	0	58	220	27	<1.0	11	110	52	<1.0		<0.2						
01-3867	3865	2001	50											130					
00-23718		2000	0										0.3						
00-23719		2000	30										<0.2						
00-23723		2000	0										< 0.5	<40					
01-3687	3686	2001	20											170					
01-5430/31	5430	2001	0											<40					
07-30852	BMW 06-18	2007	0-10	35	60	15	<1.0	30	79	66	<1.0	<0.10	0.065	41			<10	4.0	32
07-30854	BMW 06-18	2007	25-35	13	26	8.5	<1.0	<10	33	<20	<1.0	<0.10	0.0036	527			<10	<4.0	520
08-9782*	BMW 06-18	2008	0-10	21	46	11	<1.0	<10	51	38	<1.0	<0.10	0.020	43			<10	<4.0	36
08-9784*	BMW 06-18	2008	30-40	14	48	10	<1.0	<10	31	20	<1.0	<0.10	<0.0030	107			<10	<4.0	100
09-21480	BMW 06-18	2009	0-10	20	40	10	<1.0	<10	46	38	<1.0	<0.10	0.0134	91			<10	7.7	78
09-21482	BMW 06-18	2009	30-40	15	30	8.1	<1.0	<10	36	28	1.2	<0.10	<0.0030	86			<10	4.5	76
11-12994/95	BMW06-18	2011	0-10	22	43	11	<1.0	19	53	42	<1.0	<0.10	<0.050	45			<10	4.4	36
11-12996	BMW06-18	2011	30-40	16	49	12	<1.0	<10	39	32	<1.0	<0.10	<0.050	22			<10	<4.0	15
12-44818	BMW06-18	2012	0-10	31	64	11	<1.0	22	76	61	0.98	<0.10	0.25	25			<30	<10	<10

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Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
12-44820	BMW06-18	2012	20-30	26	48	9.1	<1.0	14	52	38	<1.0	<0.10	<0.050	25			<30	<10	<10
13-25240/41	BMW 06-18	2013	0-10	17	49	11	<1.0	<10	42	26	1.2	<0.10	0.10	55			<10	<4.0	48
13-25242	BMW 06-18	2013	30-40	18	46	11	<1.0	11	49	25	0.82	<0.10	<0.050	27			<10	<4.0	20
Downgradient:																			
01-3520/21	3519	2001	20											230					
01-3500/01	3500	2001	0											960					
01-3503	3500	2001	40											810					
01-3599	3598	2001	30											<40					
01-3635	3598	2001	50											<40					
00-24942		2000	0	24	41	12	<1.0	10	50	28	<1.0		<0.1	1900					
00-24943		2000	50	32	39	14	<1.0	<10	56	26	<1.0		<0.1	210					
01-3526	3525	2001	30											<130					
01-3586	3586	2001	0											130					
01-3588	3586	2001	55											<40					
00-23744		2000	0											1000					
00-23743		2000	0											840					
00-23730/31		2000	0											110					
01-3875	3874	2001	20											180					
01-3880/81	3879	2001	30											<40					
00-23706		2000	30	57	53	18	<1.0	15	110	130	<1.0								
00-23707		2000	0										<0.2						
00-23710/11		2000	0										0.3						
00-23712		2000	0											<40					
00-23713		2000	0											120					
00-23683		2000	0										<0.2						
00-23684		2000	0						130										
00-23685		2000	0										0.3						
01-19972	19970	2001	50											460					
01-19975	19974	2001	50											600					
01-19966	19965	2001	50											2200					
00-24937		2000	0	22	58	18	<1.0	21	75	57	<1.0		<0.1						
00-24938		2000	50	24	75	26	<1.0	19	100	89	<1.0		<0.1	<40					
01-19998	19997	2001	50											<40					
00-23732		2000	0	39	55	15	<1.0	15	97	80	<1.0			2000					
00-23733		2000	0	28	46	13	<1.0	15	75	58	<1.0			<40					
00-23734		2000	0	60	42	15	<1.0	12	120	130	<1.0		<0.2						
00-23739		2000	0	170					180										
00-23740/41		2000	0											450					
00-23742		2000	0											250					
01-19980/81	19980	2001	30											<40					
00-24939		2000	0	44	71	22	<1.0	21	66	37	1		<0.1						
00-24940		2000	50	82	67	33	<1.0	19	83	35	<1.0		<0.1						
00-24941		2000	50	80	66	33	<1.0	21	79	30	<1.0		<0.1						
01-3596	3595	2001	25											<40					
01-3538	3536	2001	50											960					
01-3532	3530	2001	20											<40					
01-3533	3530	2001	45											320					
07-30848	MW 06-19	2007	0-10	22	120	20	<1.0	<10	44	50	<1.0	<0.10	<0.0030	25			<10	4.3	16
07-30850	MW 06-19	2007	25-35	16	75	14	<1.0	<10	35	34	<1.0	<0.10	<0.0030	43			<10	<4.0	36
07-30856	MW 06-20	2007	0-10	21	51	13	<1.0	<10	45	24	<1.0	<0.10	<0.0030	44			<10	4.7	34
07-30858	MW 06-20	2007	25-35	12	22	8	<1.0	<10	32	<20	<1.0	<0.10	<0.0030	26			<10	<4.0	19
07-30860/61	MW 07-21	2007	0-10	16	59	12	<1.0	<10	30	28	<1.0	<0.10	<0.0030	40			<10	<4.0	33
07-30862	MW 07-21	2007	25-35	16	59	11	<1.0	<10	31	27	<1.0	<0.10	<0.0030	29			<10	<4.0	22
08-9794*	MW 06-19	2008	0-10	19	100	17	<1.0	<10	39	40	<1.0	<0.10	<0.0030	1413			<10	8.0	1400
08-9796*	MW 06-19	2008	30-40	17	89	15	<1.0	<10	36	38	<1.0	<0.10	0.0056	83			<10	<4.0	76

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Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
08-9790*	MW 06-20	2008	0-10	16	27	11	<1.0	<10	48	<20	<1.0	<0.10	<0.0030	277			<10	<4.0	270
08-9792*	MW 06-20	2008	30-40	18	55	12	<1.0	<10	38	25	<1.0	<0.10	<0.0030	32			<10	<4.0	25
08-9786*	MW 07-21	2008	0-10	18	62	13	<1.0	<10	36	31	<1.0	<0.10	<0.0030	28			<10	<4.0	21
08-9788*	MW 07-21	2008	30-40	22	63	13	<1.0	<10	41	34	<1.0	<0.10	<0.0030	39			<10	4.9	29
09-21494	MW 06-19	2009	0-10	21	100	17	<1.0	<10	44	46	<1.0	<0.10	<0.0030	42			<10	<4.0	35
09-21496	MW 06-19	2009	30-40	18	89	15	<1.0	<10	38	40	<1.0	<0.10	<0.0030	39			<10	<4.0	32
09-21489	MW 06-20	2009	0-10	20	46	13	<1.0	<10	62	29	<1.0	<0.10	0.01	48			<10	<4.0	41
09-21491	MW 06-20	2009	30-40	19	45	11	<1.0	<10	35	22	<1.0	<0.10	<0.0030	29			<10	<4.0	22
09-21485/86	MW 07-21	2009	0-10	24	62	13	<1.0	<10	46	37	<1.0	<0.10	<0.0030	65			<10	4.4	56
09-21487	MW 07-21	2009	30-40	31	70	16	<1.0	<10	53	44	1.1	<0.10	<0.0030	21			<10	<4.0	14
11-12998	MW06-19	2011	0-10	13	68	12	<1.0	<10	28	29	<1.0	<0.10	<0.050	73			<10	5.4	63
11-13000	MW06-19	2011	30-40	12	57	11	<1.0	<10	23	24	<1.0	<0.10	<0.050	50			<10	4.4	41
11-13018	MW06-20	2011	0-10	16	40	10	<1.0	<10	36	20	<1.0	<0.10	<0.050	17			<10	<4.0	10
11-13020	MW06-20	2011	30-40	14	45	9.9	<1.0	<10	34	27	<1.0	<0.10	<0.050	12			<10	<4.0	<9.0
11-13022	MW07-21	2011	0-10	17	51	12	<1.0	<10	41	27	<1.0	<0.10	<0.050	12			<10	<4.0	<9.0
11-13024	MW07-21	2011	30-40	20	58	12	<1.0	<10	39	33	<1.0	<0.10	<0.050	12			<10	<4.0	<9.0
12-44822	MW06-19	2012	0-10	23	100	15	<1.0	<10	44	46	1.2	<0.10	<0.050	25			<30	<10	<10
12-44824	MW06-19	2012	20-30	17	63	12	<1.0	12	42	32	1.7	<0.10	<0.050	25			<30	<10	<10
12-44826	MW06-20	2012	0-10	25	52	11	<1.0	<10	45	27	1.3	<0.10	<0.050	25			<30	<10	<10
12-44828	MW06-20	2012	20-30	32	61	12	<1.0	<10	47	35	<1.0	<0.10	<0.050	25			<30	<10	<10
12-44830	MW07-21	2012	0-10	26	57	11	<1.0	<10	48	36	<1.0	<0.10	0.15	25			<30	<10	<10
12-44832/33	MW07-21	2012	20-30	25	77	13	<1.0	<10	44	41	1.1	<0.10	<0.050	25			<30	<10	<10
13-25244	MW 06-19	2013	0-10	12	58	13	<1.0	47	37	33	0.5	<0.10	<0.050	12			<10	<4.0	<9.0
13-25246	MW 06-19	2013	30-40	19	66	17	<1.0	10	46	37	2.2	<0.10	<0.050	12			<10	<4.0	<9.0
13-25248	MW 06-20	2013	0-10	16	40	9.5	<1.0	<10	40	22	0.46	<0.10	<0.050	14			<10	4.1	<9.0
13-25250/51	MW 06-20	2013	30-40	28	48	13	<1.0	<10	53	28	1.0	<0.10	<0.050	26			<10	<4.0	19
13-25252	MW 07-21	2013	0-10	20	51	10	<1.0	<10	33	29	0.8	<0.10	<0.050	16			<10	<4.0	9
13-25254	MW 07-21	2013	30-40	21	49	10	<1.0	<10	34	31	2.0	<0.10	<0.050	12			<10	<4.0	<9.0
	N value			66	65	65	65	65	67	65	65	48	86	105			48	48	48
	Baseline Detection Limits			3.0	5	5	1	10	15	20	1	0	0	10			10	10	10
	Arithmetic Mean			27	65	14	0.50	9.4	57	41	0.7	0.050	0.073	216			7	3	102
Arithmetic Mean Corrected for Detection Limits				27	65	14	1.0	10	57	41	1.0	0.10	0.05	216			30	10	10
	Standard Deviation			16	38	6	0.0	7.7	30	24	0.37	0.0	0.093	416			4	2	256
	Minimum			12	22	3	0.50	5.0	23	10	0.45	0.050	0.0015	11.5			5.0	2.0	5.0
	Maximum			82	240	33.0	0.50	47	180	130	2.2	0.05	0.45	2200			15	8	1400
	95% Confidence Limit			3.8	9.2			1.9	7.3		0.09	0.000	0.020	80			1	0	72

Background Data																			
89-G300	Along the beach, 1 km NW of ravine	1989										<0.5	0.004						
90-G315	2 km downstream BF304	1990										<0.5	0.024						
90-G320	100 m E of S end runway	1990										<0.5	<0.0002						
90-G321	0.5 mi E of S end runway	1990										<0.5	<0.0001						
90-G324	2.8 km from crossroads	1990										<0.5	<0.0002						
90-G325	5 km from crossroads	1990										<0.5	<0.0002						
00-25501	Pallet Line Area - background	2000	0-10	40	41	9.8	<1.0	16	41	73	<1.0								
00-25505	East of West Landfill - background - BU 1	2000	0-10	102	268	34	<1.0	<10	70	223	<1.0								
00-25506	East of West Landfill - background - BU 1	2000	0-10	72	293	29	<1.0	<10	84	214	<1.0								

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															% Fuel Oil	% Lube Oil			
00-25507	East of West Landfill - background - BU 1	2000	0-10	60	183	24	<1.0	<10	69	132	<1.0								
00-25508	East of West Landfill - background - BU 1	2000	0-10	54	138	25	<1.0	<10	99	118	<1.0								
00-25509	East of West Landfill - background - BU 1	2000	0-10	73	85	24	<1.0	<10	114	128	<1.0								
00-25512	South of Tacan - background - BU 2b	2000	0-10	110	99	22	<1.0	<10	37	27	<1.0								
00-25513	South of Tacan - background - BU 2b	2000	0-10	83	127	26	<1.0	<10	45	33	<1.0								
00-25514	South of Tacan - background - BU 2b	2000	0-10	158	96	25	<1.0	<10	43	24	<1.0								
00-25515	South of Tacan - background - BU 2b	2000	0-10	103	68	22	<1.0	<10	45	<20	<1.0								
00-25516	South of Tacan - background - BU 2b	2000	0-10	191	97	23	<1.0	<10	39	24	<1.0								
03-26130	Upper Site - BU-2	2003	0-10	65	940	69	<1.0	<10	61	118	<1.0								
03-26140	Upper Site - BU 4	2003	0-10	16	53	9	<1.0	<10	32	24	<1.0								
03-26150	Upper Site - BU 3	2003	0-10	44	61	13	<1.0	<10	89	115	<1.0								
03-26152	Upper Site - BU 3	2003	0-10	59	60	18	<1.0	10	84	159	<1.0								
03-26153	Upper Site - BU 3	2003	0-10	37	67	13	<1.0	11	75	86	<1.0								
03-26160	Upper Site - BU 1	2003	0-10	37	69	18	<1.0	11	93	86	1.4								
03-26162	Upper Site - BU 1	2003	0-10	70	99	17	<1.0	<10	80	108	1								
03-26163	Upper Site - BU 3	2003	0-10	57	112	17	<1.0	<10	89	106	2.1								
03-26165	Upper Site - BU 3	2003	0-10	65	79	17	<1.0	<10	102	122	<1.0								
03-26166	Upper Site - BU 3	2003	0-10	57	85	20	<1.0	22	99	120	1.6								
03-26167	Upper Site - BU 1	2003	0-10	115	93	19	<1.0	<10	40	121	<1.0								
03-26168	Upper Site - BU 3	2003	0-10	57	41	15	<1.0	<10	76	138	<1.0								
03-26169	Upper Site - BU 3	2003	0-10	38	58	16	<1.0	11	98	109	<1.0								
03-26170	Upper Site - BU 3	2003	0-10	59	28	10	<1.0	<10	100	98	1.8								
03-26172	Upper Site - BU 3	2003	0-10	59	34	7	<1.0	<10	89	94	<1.0								
03-26173	Upper Site - BU 3	2003	0-10	21	34	7	<1.0	<10	36	46	1.1								
03-26174	Upper Site - BU 3	2003	0-10	71	29	8	<1.0	11	106	120	1.4								
03-26175	Upper Site - BU 3	2003	0-10	76	27	9	<1.0	<10	117	119	<1.0								
03-26180	Upper Site - BU 4	2003	0-10	12	16	<5.0	<1.0	<10	28	<20	1.1								
03-26182	Upper Site - BU 4	2003	0-10	32	74	15	<1.0	<10	43	39	<1.0								
03-26183	Upper Site - BU 4	2003	0-10	37	47	10	<1.0	20	69	66	1.2								
03-26184	Upper Site - BU 4	2003	0-10	18	51	8	<1.0	12	39	33	1.4								
03-26185	Upper Site - BU 4	2003	0-10	17	17	5	<1.0	<10	44	<20	<1.0								
03-26186	Upper Site - BU 4	2003	0-10	19	43	9	<1.0	<10	46	57	<1.0								
03-26187	Upper Site - BU 4	2003	0-10	40	44	15	<1.0	<10	57	42	1.4								
03-26188	Upper Site - BU 4	2003	0-10	129	46	21	<1.0	<10	44	31	<1.0								
03-26189	Upper Site - BU 4	2003	0-10	107	39	14	<1.0	<10	38	38	<1.0								
03-26190	Upper Site - BU 4	2003	0-10	33	57	12	<1.0	10	64	73	1.5								
03-26192	Upper Site - BU 3	2003	0-10	66	31	9	<1.0	<10	125	142	2.1								
03-26193	Upper Site - BU 1	2003	0-10	87	86	19	<1.0	26	186	382	<1.0								
03-26194	Upper Site - BU 1	2003	0-10	131	33	10	<1.0	10	137	177	<1.0								
03-26195	Upper Site - BU 3	2003	0-10	11	16	<5.0	<1.0	<10	23	25	<1.0								
03-26196	Upper Site - BU 3	2003	0-10	49	40	10	<1.0	<10	84	107	<1.0								
03-26197	Upper Site - BU 4	2003	0-10	26	41	11	<1.0	10	61	66	1.1								
03-26198	Upper Site - BU 3	2003	0-10	88	26	14	<1.0	13	138	184	<1.0								
03-26199	Upper Site - BU 3	2003	0-10	58	50	15	<1.0	<10	116	144	<1.0								
03-26200	Upper Site - BU 1	2003	0-10	72	118	32	<1.0	13	150	146	<1.0								
03-26202	Upper Site - BU 4	2003	0-10	28	88	18	<1.0	15	60	46	<1.0								
03-26203	Upper Site - BU 4	2003	0-10	26	108	14	<1.0	<10	43	46	<1.0								
03-26204	Upper Site - BU 4	2003	0-10	29	93	17	<1.0	20	81	46	1.6								
03-26205	Upper Site - BU 3	2003	0-10	108	91	22	<1.0	10	127	147	<1.0								
03-26206	Upper Site - BU 3	2003	0-10	81	85	15	<1.0	<10	108	178	<1.0								

DYE-M US Non Hazardous Waste Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
03-26212	Upper Site - BU 4	2003	0-10	22	13	<5.0	<1.0	<10	47	<20	<1.0								
03-26213	Upper Site - BU 4	2003	0-10	15	40	7.8	<1.0	<10	32	24	<1.0								
03-26214	Upper Site - BU 4	2003	0-10	23	250	26	<1.0	12	70	580	<1.0								
03-26215	Upper Site - BU 4	2003	0-10	40	68	20	<1.0	11	77	119	<1.0								
03-26216	Upper Site - BU 3	2003	0-10	62	73	22	<1.0	23	111	115	1.3								
03-26217	Upper Site - BU 4	2003	0-10	21	36	8.3	<1.0	<10	42	35	1.3								
03-26218	Upper Site - BU 3	2003	0-10	124	53	14	<1.0	13	140	167	<1.0								
03-26219	Upper Site - BU 3	2003	0-10	53	48	12	<1.0	<10	90	105	<1.0								
03-26220	Upper Site - BU 3	2003	0-10	44	34	8	<1.0	<10	74	82	<1.0								
03-26222	Upper Site - BU 3	2003	0-10	63	59	14	<1.0	24	84	107	5.9								
03-26223	Upper Site - BU 4	2003	0-10	29	29	24	<1.0	<10	67	41	1.9								
03-26224	Upper Site - BU 4	2003	0-10	21	50	9.0	<1.0	<10	42	39	1.3								
03-26225	Upper Site - BU 4	2003	0-10	17	27	7.7	<1.0	<10	40	23	1.2								
03-26226	Upper Site - BU 4	2003	0-10	23	24	9.3	<1.0	<10	54	27	<1.0								
03-26227	Upper Site - BU 1	2003	0-10	66	56	14	<1.0	<10	64	52	<1.0								
03-26228	Upper Site - BU 3	2003	0-10	42	48	13	<1.0	13	96	106	<1.0								
03-26229	Upper Site - BU 4	2003	0-10	22	23	7.3	<1.0	<10	30	21	<1.0								
03-26230	Upper Site - BU 3	2003	0-10	61	71	15	<1.0	12	88	95	1.4								
03-26232	Upper Site - BU 4	2003	0-10	32	31	11	<1.0	<10	61	26	1								
03-26233	Upper Site - BU 4	2003	0-10	42	40	11	<1.0	<10	50	35	<1.0								
03-26234	Upper Site - BU 4	2003	0-10	29	51	10	<1.0	14	49	43	<1.0								
03-26235	Upper Site - BU 1	2003	0-10	144	77	20	<1.0	<10	48	56	<1.0								
03-26236	Upper Site - BU 1	2003	0-10	56	325	32	<1.0	<10	32	185	<1.0								
03-26237	Upper Site - BU 4	2003	0-10	29	49	8	<1.0	<10	52	53	<1.0								
03-26238	Upper Site - BU 4	2003	0-10	36	93	14	<1.0	<10	57	50	<1.0								
03-26239	Upper Site - BU 2	2003	0-10	147	93	20	<1.0	<10	46	28	<1.0								
03-26240	Upper Site - BU 2	2003	0-10	117	240	31	<1.0	<10	51	67	<1.0								
03-26242	Upper Site - BU 1	2003	0-10	38	101	14	<1.0	<10	53	92	<1.0								
03-26243	Upper Site - BU 2	2003	0-10	42	275	28	<1.0	<10	59	65	<1.0								
03-26244	Upper Site - BU 2	2003	0-10	64	171	22	<1.0	<10	45	62	<1.0								
03-26245	Upper Site - BU 4	2003	0-10	28	42	10	<1.0	<10	50	39	1.7								
03-26246	Upper Site - BU 2	2003	0-10	70	1000	69	<1.0	<10	73	126	<1.0								
03-26250	Upper Site - BU 2	2003	0-10	49	1100	76	<1.0	<10	76	140	<1.0								
03-26251	Upper Site - BU 2	2003	0-10	51	1060	72	<1.0	<10	70	136	<1.0								

DYE-M US Non Hazardous Waste Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
03-26252	Upper Site - BU 2	2003	0-10	120	95	18	<1.0	<10	42	25	<1.0								
03-26254	Upper Site - BU 2	2003	0-10	58	1140	76	<1.0	<10	74	141	<1.0								
03-26255	Upper Site - BU 2	2003	0-10	77	720	61	<1.0	<10	72	110	<1.0								
03-26256	Upper Site - BU 2	2003	0-10	84	289	38	<1.0	<10	52	77	<1.0								
03-26257	Upper Site - BU 2	2003	0-10	113	199	34	<1.0	<10	62	103	<1.0								
03-26258	Upper Site - BU 2	2003	0-10	81	284	36	<1.0	<10	54	74	<1.0								
03-26259	Upper Site - BU 2	2003	0-10	103	167	28	<1.0	<10	49	35	<1.0								
03-26260	Upper Site - BU 4	2003	0-10	13	21	<5.0	<1.0	<10	30	<20	1								
03-26262	Upper Site - BU 4	2003	0-10	26	46	9	<1.0	11	61	41	1.3								
03-26263	Upper Site - BU 4	2003	0-10	17	43	10	<1.0	<10	51	32	<1.0								
03-26264	Upper Site - BU 4	2003	0-10	15	15	5	<1.0	<10	44	<20	<1.0								
03-26265	Upper Site - BU 4	2003	0-10	10	21	<5.0	<1.0	<10	29	20	<1.0								
03-26266	Upper Site - BU 4	2003	0-10	19	55	10	<1.0	<10	42	32	<1.0								
03-26267	Upper Site - BU 4	2003	0-10	22	42	9	<1.0	10	63	60	<1.0								
03-26268	Upper Site - BU 3	2003	0-10	79	63	16	<1.0	12	135	186	<1.0								

DYE-M US Non-Hazardous Waste Landfill - Summary of Monitoring Groundwater Analytical Data

Sample ID	Location	Date	Monitoring Year	Monitoring Phase	Cu (mg/L)	Ni (mg/L)	Co (mg/L)	Cd (mg/L)	Pb (mg/L)	Zn (mg/L)	Cr (mg/L)	As (mg/L)	Hg (mg/L)	Total PCB (mg/L)	F1 C_6-C_{10} (mg/L)	F2 C_{10}-C_{16} (mg/L)	F3 C_{16}-C_{34} (mg/L)	Modified TPH^ - Total C6-C34 (mg/L)
Baseline Data																		
Upgradient:																		
08-9739	BMW06-18				0.110	0.0888	0.029	<0.0010	0.041	0.71	0.088	0.0078	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
09-21484	BMW06-18				0.376	0.3910	0.086	0.00277	0.256	18	0.59	0.020	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
12-34964	BMW06-18				<0.0050	0.0061	<0.0030	<0.0010	<0.0050	12	0.30	0.033	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
Downgradient:																		
08-9741	MW06-19				0.033	0.11	0.009	<0.0010	<0.010	0.049	0.19	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
08-9740	MW06-20				0.25	0.19	0.064	<0.0010	0.031	1.00	0.17	0.005	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
09-21497	MW06-19				0.22	0.19	0.074	0.0019	0.088	0.29	0.31	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
09-21493	MW06-20				0.50	0.35	0.130	0.0033	0.068	6.04	0.38	0.006	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
11-12187	MW06-19				<0.0050	0.0089	<0.0030	<0.0010	<0.010	0.33	0.006	<0.0030	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
11-12189	MW07-21				<0.0050	<0.0050	<0.0030	<0.0010	<0.010	0.56	<0.0050	0.0059	<0.00040	<0.000020	<0.050	<0.50	<1.0	0.8
12-34965	MW06-19				<0.0050	<0.0050	<0.0030	<0.0010	<0.0050	0.094	0.11	0.002	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
12-34963	MW06-20				<0.0050	<0.0050	<0.0030	<0.0010	<0.0050	9.1	0.40	0.018	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
13-29590/91	MW06-19				<0.0050	<0.0050	<0.0030	<0.0010	<0.0050	0.095	0.078	<0.0010	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
13-29592	MW06-20				<0.0050	<0.0050	<0.0030	<0.0010	<0.0050	6.30	0.07	0.0048	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
13-29593	MW07-21				<0.0050	<0.0050	<0.0030	<0.0010	<0.0050	0.59	0.50	0.0210	<0.00040	<0.0030	<0.050	<0.50	<1.0	0.8
		N value			14	14	14	14	14	14	14	14	14	14	14	14	14	14
		Arithmetic Mean			**0.25**	**0.22**	**0.07**	**0.002**	**0.082**	**4.0**	**0.27**	**0.009**	**0.0002**	**0.001**	**0.03**	**0.25**	**0.50**	**0.25**
		Arithmetic Mean Corrected for Detection Limit			**0.005**	**0.22**	**0.003**	**0.001**	**0.005**	**4.0**	**0.27**	**0.009**	**0.0004**	**0.003**	**0.05**	**0.50**	**1.0**	**1.0**
		Standard Deviation			0.17	0.12	0.04	0.001	0.1	5.7	0.17	0.0098	0.0	0.0008	0.0	0.0	0.0	0.0
		Arithmetic Mean + 3xStandard Deviation			0.52	0.59	0.13	0.005	0.28	21	0.79	0.039	0.0004	0.0053	0.05	0.50	1.00	1.0
		Detection Limit			0.005	0.005	0.003	0.001	0.010	0.010	0.005	0.003	0.0004	0.003	0.05	0.50	1.00	1.0
Monitoring Data																		
Upgradient - BMW 06-18																		
Not Sampled	BMW 06-18	2014	Year 1	Phase I														#N/A
			Year 3	Phase I														#N/A
			Year 5	Phase I														#N/A
			Year 7	Phase II														#N/A
			Year 10	Phase II														#N/A
			Year 15	Phase II														#N/A
			Year 25	Phase II														#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A

Modified TPH TOTAL will appear when F1, F2, F3 fraction results are entered.

DYE-M US Non-Hazardous Waste Landfill - Summary of Monitoring Groundwater Analytical Data

Sample ID	Location	Date	Monitoring Year	Monitoring Phase	Cu (mg/L)	Ni (mg/L)	Co (mg/L)	Cd (mg/L)	Pb (mg/L)	Zn (mg/L)	Cr (mg/L)	As (mg/L)	Hg (mg/L)	Total PCB (mg/L)	F1 C_6-C_{10} (mg/L)	F2 C_{10}-C_{16} (mg/L)	F3 C_{16}-C_{34} (mg/L)	Modified TPH^ - Total C6-C34 (mg/L)
Downgradient - MW 06-19																		
Not Sampled	MW06-19	2014	Year 1	Phase I														#N/A
			Year 3	Phase I														#N/A
			Year 5	Phase I														#N/A
			Year 7	Phase II														#N/A
			Year 10	Phase II														#N/A
			Year 15	Phase II														#N/A
			Year 25	Phase II														#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A
Downgradient - MW 06-20																		
14-8180/81	MW06-20	2014	Year 1	Phase I	<0.0010	<0.0010	<0.00030	<0.000090	<0.00050	0.21	<0.00050	<0.0010	<0.00010	<0.000020	<0.025	<0.10	<0.25	0.2
			Year 3	Phase I														#N/A
			Year 5	Phase I														#N/A
			Year 7	Phase II														#N/A
			Year 10	Phase II														#N/A
			Year 15	Phase II														#N/A
			Year 25	Phase II														#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A
Downgradient - MW 07-21																		
14-8182	MW07-21	2014	Year 1	Phase I	<0.0010	<0.0010	<0.00030	<0.000090	<0.00050	<0.0030	<0.00050	<0.0010	<0.00010	<0.000020	<0.025	<0.10	<0.25	0.2
			Year 3	Phase I														#N/A
			Year 5	Phase I														#N/A
			Year 7	Phase II														#N/A
			Year 10	Phase II														#N/A
			Year 15	Phase II														#N/A
			Year 25	Phase II														#N/A
																		#N/A
																		#N/A
																		#N/A
																		#N/A

Note: Modified TPH Total (C_6-C_{34}) has been calculated by adding results for F1, F2 and F3.

blue highlight indicates dissolved metal results. No highlight indicates total metals.

Dissolved metal results have not been included in the Baseline Arithmetic Mean

DYE-M US NWS Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
Background Data - Arithmetic Mean						60	141	20	1.0	10	70	90	1.0	0.5	0.0	N/A	N/A	N/A	N/A
Baseline Data - Arithmetic Mean						**25**	**55**	**10**	**1.0**	**10**	**63**	**20**	**1.0**	**0.10**	**0.10**	10	4.0	9.0	**252**
Baseline Data - Standard Deviation						15	70	4.3	0.09	8.4	30	35	0.57	0.0	0.15	0	10	10	503
Baseline Data Mean + 3xStandard Deviation						70	266	23	1.3	35	155	126	2.7	0.10	0.56	10	34	39	1760
**** If baseline or background arithmetic mean was below the detection limit, the mean has been modified to match the detection limit value.***																			
DEW Line Cleanup Tier I Criteria										*200*					*1*				
*DEW Line Cleanup **Site Specific** Tier II Criteria & Hydrocarbon Action*						*296*	*2100*	*153*	*5*	*500*	*500*	*250*	*30*	*2.0*	*5*				*2500*
Monitoring Data																			**TPH Sum will appear when F1, F2 and F3 fractions are entered.**
Upgradient																			
	DM-18 surface																		
14-8274	DM-18	2014	Year 1	Phase I	0-10	23	28	9.6	<1.0	**15**	59	**26**	**1.1**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-18 depth																		
14-8275	DM-18	2014	Year 1	Phase I	40-50	23	25	9.6	<1.0	**15**	**64**	**21**	**1.0**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US NWS Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
Downgradient																			
	DM-19 surface																		
14-8277	DM-19	2014	Year 1	Phase I	0-10	17	24	6.4	<1.0	<10	42	**20**	0.6	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-19 depth																		
14-8278	DM-19	2014	Year 1	Phase I	40-50	14	17	<5.0	<1.0	<10	36	<20	0.7	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-20 surface																		
14-8283	DM-20	2014	Year 1	Phase I	0-10	**34**	**61**	**12**	<1.0	<10	44	**25**	0.6	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US NWS Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	DM-20 depth																		
14-8284	DM-20	2014	Year 1	Phase I	30-40[1]	16	13	<5.0	<1.0	**33**	59	<20	0.7	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-21 surface																		
14-8285	DM-21	2014	Year 1	Phase I	0-10	15	18	8.2	<1.0	**13**	**92**	<20	**1.1**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-21 depth																		
14-8287	DM-21	2014	Year 1	Phase I	45-55	21	16	9.2	<1.0	**14**	**120**	<20	**1.6**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US NWS Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	DM-22 surface																		
14-8288	DM-22Old	2014	Year 1	Phase I	0-10	**31**	**72**	**13**	<1.0	**10**	**64**	**54**	**1.2**	<0.010	<0.010	<10	<10	<10	15
14-8233	DM-22	2014	Year 1	Phase I	5-10	**33**	48	7.9	<1.0	<10	44	**25**	0.9	<0.10	<0.050				#N/A
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-22 depth																		
14-8290/91	DM-22Old	2014	Year 1	Phase I	25-30[2]	14	29	6.8	<1.0	<10	43	**25**	0.52	<0.010	<0.010	<10	<10	<10	15
14-8234	DM-22	2014	Year 1	Phase I	45-50	**28**	50	8	<1.0	<10	49	**27**	0.9	<0.10	<0.050				#N/A
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A

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Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	DM-23 surface																		
14-8280/81	DM-23	2014	Year 1	Phase I	0-10	**43**	44	9.3	<1.0	**11**	**84**	**82**	**1.3**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-23 depth																		
14-8282	DM-23	2014	Year 1	Phase I	40-50	20	33	7	<1.0	<10	46	**27**	0.7	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

Note: Modified TPH Total (C_6-C_{34}) has been calculated by adding results for F1, F2 and F3.

#N/A represents a function that automatically calculates modified TPH value for charts.

1. Depth sample taken at 30-40cm because large rock noted at 45cm depth.

2. Depth sample taken at 25-30cm because large rock noted at base.

Legend

XX	sample exceeds background
XX	**sample exceeds baseline**
XX	*sample exceeds DLCU Tier I criteria*
XX	*sample exceeds DLCU Tier II criteria*

DYE-M US NWS Landfill - Summary of Monitoring Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Total C6-C34 (mg/kg)
															% Fuel Oil	% Lube Oil				
Baseline Data																				
Upgradient:																				
97-6898		1997	0	39	110	20	<1.0	13	82	180	1.1		<0.5	<40						
01-5300/01	5300	2001	0	26	64	14	<1.0	11	57	43	<1.0		<0.1							
01-5301	5300	2001	0	29	63	15	<1.0	11	56	43	<1.0		<0.1							
00-23259	23259	2000	0	41	61	17	<1.0	13	60	57	<1.0		<0.1							
00-23260/1	23259	2000	30	24	34	14	<1.0	10	63	36	<1.0		<0.1							
00-23122		2000	0	48	45	17	1.0	15	68	72	<1.0		0.10	<40						
00-23123		2000	30	24	37	11	<1.0	<10	39	38	<1.0		<0.1	<40						
08-11819	DM-18		0-10	34	76	15	<1.0	14	65	85	1.4	<0.10	0.13	40			<10	<4.0	33	
08-11821/22	DM-18		30-40	27	58	14	<1.0	16	57	59	<1.0	<0.10	0.01	63			<10	37	21	
11-12878	DM-18		0-10	43	84	16	<1.0	<10	41	84	2.9	<0.10	<0.050	42			<10	16	21	
11-12880	DM-18		30-40	20	33	8	<1.0	16	63	37	<1.0	<0.10	<0.050	60			<10	37	18	
13-25148	DM-18		0-10	48	140	18	<1.0	11	45	150	2.6	<0.10	<0.050	34			<10	12	17	
13-25150/51	DM-18		30-40	56	140	18	<1.0	<10	42	140	2.7	<0.10	<0.050	12			<10	<4.0	<9.0	
Downgradient:																				
01-5413	5413	2001	0	60	55	11	<1.0	39	110	130	<1.0		<0.1							
01-5416	5416	2001	0	81	44	11	<1.0	11	140	130	<1.0		<0.1							
01-5417	5416	2001	30																	
01-5249	5249	2001	0	26	28	11	<1.0	14	89	48	<1.0		<0.7							
01-5250/51	5249	2001	30											375						
01-5252	5249	2001	55	21	16	10	<1.0	<10	77	35	<1.0		<0.1	<40						
01-5243	5243	2001	0	33	36	12	<1.0	19	93	45	1.3		0.1							
01-5246	5246	2001	0										0.1							
01-5247	5246	2001	40											1100						
97-6899		1997	0	33	40	10	<1.0	44	140	55	0.8		0.7	1000						
97-6900		1997	0	23	30	7	<1.0	13	100	42	0.5		<0.5							
01-5419	5419	2001	0	42	37	11	<1.0	14	68	56	<1.0		<0.1							
01-5420/21	5419	2001	30	32	26	11	<1.0	<10	51	25	<1.0		<0.1							
00-23547		2000	0	69	26	11	1.1	42	150	39	2.6		0.3							
01-5258		2001	0										0.3							
01-5256		2001	0										<0.2							
01-5259		2001	0										0.3							
01-5260/61		2001	0										<0.1							
01-5406	5406	2001	0	13	25	6	<1.0	<10	39	<20	<1.0		<0.1							
01-5262		2001	0										<0.1							
01-5263		2001	0										<0.1							
01-5264		2001	0										<0.1							
01-5295	5295	2001	0										<0.2							
01-5296	5295	2001	50										0.4	220						
01-5253	5253	2001	0										0.7							
01-5409	5409	2001	0	12	22	6	<1.0	12	43	<20	<1.0		<0.1							
00-23549		2000	0	14	20	8	<1.0	<10	53	<20	<1.0		<0.1							
00-23550/51		2000	30	12	20	7	<1.0	<10	41	<20	<1.0		<0.1							
01-5288	5288	2001	0	25	22	9	<1.0	<10	68	21	<1.0		<0.1							
01-5290/91	5288	2001	50	36	31	12	<1.0	<10	99	31	<1.0		<0.1							
01-5292	5292	2001	0	18	29	11	<1.0	12	65	27	<1.0		<0.1							
01-5285	5285	2001	0	16	22	8	<1.0	<10	57	<20	<1.0		<0.1							
01-5287	5285	2001	55	17	30	10	<1.0	15	63	25	<1.0		<0.1							
00-23552		2000	0	12	16	8	<1.0	<10	52	<20	<1.0		0.1							
01-5265	5265	2001	0	12	19	7	<1.0	<10	53	<20	<1.0		0.1							
01-5268	5268	2001	0	23	30	11	<1.0	12	83	29	<1.0		<0.1							
00-23264	23552	2000	30										<0.1							
01-5277	5277	2001	0	27	29	15	<1.0	<10	45	<20	<1.0		<0.1							
00-23553		2000	0	25	22	17	<1.0	<10	61	20	<1.0		<0.1							
00-23554		2000	30	28	28	16	<1.0	<10	64	23	<1.0		<0.1							
01-5280/81	5280	2001	0	32	21	15	<1.0	<10	35	<20	<1.0		<0.1							
97-7768		1997	0										<0.5	<40						
97-7769		1997	0											1900						
97-7742		1997	0	37	140			12	67											

DYE-M US NWS Landfill - Summary of Monitoring Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Total C6-C34 (mg/kg)
															% Fuel Oil	% Lube Oil				
97-7744		1997	0	58	440			<10	40				<0.5	<40						
97-7745		1997	0																	
97-7749		1997	0	30	160			14	59				<0.5	87						
97-7752		1997	0	40	100			11	77					<40						
97-7754		1997	0	44	230			10	40				<0.5	890						
97-5937	7748	1997	30											<40						
97-5939	7743	1997	20											<40						
97-7743		1997	0	23	100			<10	49					120						
00-23342		2000	0										0.8	1100						
00-23344		2000	0											970						
00-23347		2000	0											<130						
00-23348		2000	0											270						
00-23349		2000	0										<0.1							
00-23126	7750	2000	30	11	38	7	<1.0	<10	23	<20	<1.0		<0.1	620						
97-7753		1997	0											<40						
97-7760/61		1997	0	50	370			25	170		<0.2		<0.5	1600						
01-20650/51		2001	0										<0.5							
01-4903		2001	0										<0.5							
01-4904		2001	0										0.1							
01-4905		2001	0	20	42	10	<1.0	<10	61	29	<1.0									
01-4906		2001	0										<0.1							
01-4907		2001	0	20	42	10	<1.0	<10	61	29	<1.0									
01-4908		2001	0	23	7	5	<1.0	11	39	<20	1.2									
01-20649		2001	0										<0.5							
00-23352		2000	0										<0.1							
00-23353		2000	0										<0.1							
00-23355		2000	0										<0.5	1100						
00-23356		2000	0											<130						
00-23358		2000	0										<0.1							
00-23359		2000	0										<0.1							
01-4909	4909	2001	0	31	160	20	<1.0	22	69	60	<1.0		0.2							
97-7647		1997	0	24	31	7	<1.0	<10	130	62	0.3		0.7	<40						
97-7652		1997	0											99						
97-7649		1997	0											<40						
97-7659		1997	0											<40						
97-7662		1997	0						130					<40						
97-7665		1997	0										<0.5	<40						
97-7653		1997	0										<0.5	<40						
97-7656		1997	0											1100						
97-7657		1997	0										<0.5	<40						
01-4914	4913	2001	50											2200						
01-4916[1]	4916	2001	0											14000						
01-4917[1]	4916	2001	40	23	7	5	<1.0	11	39	<20	1.2		<0.1	3500						
01-4922[1]	4922	2001	0	12	24	7	<1.0	22	77	23	<1.0		<0.1	8800						
97-5869	7659	1997	40											<40						
00-23369		2000	0											770						
00-23368		2000	0											<40						
97-5869	7659	1997	40											<40						
97-5874	7650	1997	30	11	17	5.0	<1.0	<10	37	<20	0.3		<0.5	160						
97-5875	7650	1997	40	8	14	<5.0	<1.0	<10	32	<20	0.2		<0.5							
97-7650/51		1997	0											2100						
01-4918	4918	2001	0	20	23	7.6	<1.0	<10	41	28	<1.0		<0.1							
00-23362		2000	0											<40						
00-23363		2000	0											<40						
00-23367		2000	0											<40						
00-23372		2000	0											590						
97-7672		1997	0						120					<40						
97-7748[1]	usla-2	1997	0											2600						
97-7762[1]	just E of usla-4	1997	0	38	220			14	100				<0.5	4900						
97-7664[1]	W of usla-4	1997	0											3200						
97-7666[1]	usla-3	1997	0	13	25	6	<1.0	17	130	38	<0.2		<0.5	6900						
00-23360/61[1]	usla-3	2000	0											5300						

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Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Total C6-C34 (mg/kg)
															% Fuel Oil	% Lube Oil				
97-5876	7666	1997	30											<40						
01-4943	4943	2001	0	24	64	12	<1.0	<10	41	40	<1.0		<0.1							
01-4944	4943	2001	40										<0.2	170						
01-4946	4946	2001	0	24	110	17	<1.0	<10	37	52	<1.0		<0.1							
01-4947	4946	2001	40	58	84	18	<1.0	<10	41	54	<1.0		<0.1							
08-11823	DM-19		0-10	16	27	8.5	<1.0	<10	48	23.0	<1.0	<0.10	<0.0030	18			<10	<4.0	11.0	
08-11825	DM-19		30-40	9.0	13	5.2	<1.0	<10	32	<20	<1.0	<0.10	<0.0030	20			<10	<4.0	13.0	
08-11827	DM-20		0-10	7.9	13	<5.0	<1.0	11	30	<20	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0	
08-11829	DM-20		30-40	9.8	15	5.3	<1.0	14	34	<20	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0	
08-11831	DM-21		0-10	13	23	9.3	<1.0	<10	49	<20	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0	
08-11833	DM-21		30-40	14	17	10	<1.0	<10	80	<20	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0	
08-11835	DM-22Old		0-10	13	44	9.7	<1.0	<10	42	31	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0	
08-11837	DM-22Old		30-40	14	42	10	<1.0	<10	36	48	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0	
11-12882	DM-19		0-10	14	20	8.0	<1.0	<10	41	<20	<1.0	<0.10	0.28	12			<10	<4.0	<9.0	
11-12884	DM-19		20-30	14	20	7.4	<1.0	<10	38	20.0	<1.0	<0.10	<0.050	12			<10	<4.0	<9.0	
11-12886	DM-20		0-10	8.8	20	6.4	<1.0	<10	36	<20	<1.0	<0.10	<0.050	12			<10	<4.0	<9.0	
11-12888	DM-20		30-40	7.3	12	<5.0	<1.0	<10	30	<20	<1.0	<0.10	<0.050	29			<10	<4.0	22	
11-12890	DM-21		0-10	15	31	11	<1.0	<10	62	<20	<1.0	<0.10	<0.050	12			<10	<4.0	<9.0	
11-12892	DM-21		30-40	19	26	13	<1.0	11	87	<20	1.3	<0.10	<0.050	12			<10	<4.0	<9.0	
11-12894/95	DM-22Old		0-10	15	49	15	<1.0	<10	66	57	<1.0	<0.10	<0.050	12			<10	<4.0	<9.0	
11-12896	DM-22Old		20-30	17	39	11	<1.0	<10	47	38	<1.0	<0.10	<0.050	12			<10	<4.0	<9.0	
13-25152	DM-19		0-10	15	21	<5.0	<1.0	<10	33	<20	0.6	<0.10	<0.050	32			<10	10	17	
13-25154	DM-19		20-30	13	19	<5.0	<1.0	<10	32	<20	0.9	<0.10	<0.050	54			<10	13	36	
13-25156	DM-20		0-10	21	22	5.1	<1.0	11	41	<20	0.9	<0.10	<0.050	46			<10	12	29	
13-25158	DM-20		30-40	15	19	7.3	<1.0	39	69	<20	2.4	<0.10	<0.050	12			<10	<4.0	<9.0	
13-25160/61	DM-21		0-10	19	27	7.0	<1.0	<10	47	<20	1.3	<0.10	<0.050	22			<10	12	<9.0	
13-25162	DM-21		30-40	19	26	8.7	<1.0	<10	58	<20	1.4	<0.10	<0.050	12			<10	<4.0	<9.0	
13-25164	DM-22Old		0-10	16	47	9.2	<1.0	<10	61	57	0.9	<0.10	<0.050	59			<10	24	30	
13-25166	DM-22Old		20-30	18	49	11	<1.0	<10	64	50	1.0	<0.10	<0.050	12			<10	<4.0	<9.0	
	N value			86	86	78	78	86	88	78	79	30	109	87			30	30	30	
	Baseline Detection Limits			3.0	5.0	5.0	1.0	10	15	20	1.0	0.1	0.10	40			10	4	9	
	Arithmetic Mean			25	55	10	0.51	10	63	36	0.7	0.050	0.09	252			5	7	12	
	Arithmetic Mean Corrected for Detection Limits			25	55	10	1.0	10	63	20	1.0	0.10	0.10	252			10	4	9	
	Standard Deviation			15	70	4.3	0.1	8	30	35	0.57	0.000	0.15	503			0	10	10	
	Minimum			7	7	2.5	0.50	5.0	23	10	0.10	0.050	0.00	12			5	2	5	
	Maximum			81	440	20	1.10	44	170	180	2.9	0.05	0.80	2200			5	37	36	
	95% Confidence Limit			3.2	15	1.0		1.8	6.4	8	0.13	0.000	0.029	105.6				3.5	3.6	
Background Data																				
89-G300	Along the beach, 1 km NW of ravine	1989										<0.5	0.004							
90-G315	2 km downstream BF304	1990										<0.5	0.024							
90-G320	100 m E of S end runway	1990										<0.5	<0.0002							
90-G321	0.5 mi E of S end runway	1990										<0.5	<0.0001							
90-G324	2.8 km from crossroads	1990										<0.5	<0.0002							
90-G325	5 km from crossroads	1990										<0.5	<0.0002							
00-25501	Pallet Line Area - background	2000	0-10	40	41	9.8	<1.0	16	41	73	<1.0									
00-25505	East of West Landfill - background - BU 1	2000	0-10	102	268	34	<1.0	<10	70	223	<1.0									
00-25506	East of West Landfill - background - BU 1	2000	0-10	72	293	29	<1.0	<10	84	214	<1.0									
00-25507	East of West Landfill - background - BU 1	2000	0-10	60	183	24	<1.0	<10	69	132	<1.0									
00-25508	East of West Landfill - background - BU 1	2000	0-10	54	138	25	<1.0	<10	99	118	<1.0									
00-25509	East of West Landfill - background - BU 1	2000	0-10	73	85	24	<1.0	<10	114	128	<1.0									
00-25512	South of Tacan - background - BU 2b	2000	0-10	110	99	22	<1.0	<10	37	27	<1.0									
00-25513	South of Tacan - background - BU 2b	2000	0-10	83	127	26	<1.0	<10	45	33	<1.0									
00-25514	South of Tacan - background - BU 2b	2000	0-10	158	96	25	<1.0	<10	43	24	<1.0									
00-25515	South of Tacan - background - BU 2b	2000	0-10	103	68	22	<1.0	<10	45	<20	<1.0									
00-25516	South of Tacan - background - BU 2b	2000	0-10	191	97	23	<1.0	<10	39	24	<1.0									
03-26130	Upper Site - BU-2	2003	0-10	65	940	69	<1.0	<10	61	118	<1.0									
03-26140	Upper Site - BU 4	2003	0-10	16	53	8.5	<1.0	<10	32	24	<1.0									

DYE-M US NWS Landfill - Summary of Monitoring Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Total C6-C34 (mg/kg)
															% Fuel Oil	% Lube Oil				
03-26150	Upper Site - BU 3	2003	0-10	44	61	13	<1.0	<10	89	115	<1.0									
03-26152	Upper Site - BU 3	2003	0-10	59	60	18	<1.0	10	84	159	<1.0									
03-26153	Upper Site - BU 3	2003	0-10	37	67	13	<1.0	11	75	86	<1.0									
03-26160	Upper Site - BU 1	2003	0-10	37	69	18	<1.0	11	93	86	1.4									
03-26162	Upper Site - BU 1	2003	0-10	70	99	17	<1.0	<10	80	108	1									
03-26163	Upper Site - BU 3	2003	0-10	57	112	17	<1.0	<10	89	106	2.1									
03-26165	Upper Site - BU 3	2003	0-10	65	79	17	<1.0	<10	102	122	<1.0									
03-26166	Upper Site - BU 3	2003	0-10	57	85	20	<1.0	22	99	120	1.6									
03-26167	Upper Site - BU 1	2003	0-10	115	93	19	<1.0	<10	40	121	<1.0									
03-26168	Upper Site - BU 3	2003	0-10	57	41	15	<1.0	<10	76	138	<1.0									
03-26169	Upper Site - BU 3	2003	0-10	38	58	16	<1.0	11	98	109	<1.0									
03-26170	Upper Site - BU 3	2003	0-10	59	28	10	<1.0	<10	100	98	1.8									
03-26172	Upper Site - BU 3	2003	0-10	59	34	7.1	<1.0	<10	89	94	<1.0									
03-26173	Upper Site - BU 3	2003	0-10	21	34	7.2	<1.0	<10	36	46	1.1									
03-26174	Upper Site - BU 3	2003	0-10	71	29	8.0	<1.0	11	106	120	1.4									
03-26175	Upper Site - BU 3	2003	0-10	76	27	8.7	<1.0	<10	117	119	<1.0									
03-26180	Upper Site - BU 4	2003	0-10	12	16	<5.0	<1.0	<10	28	<20	1.1									
03-26182	Upper Site - BU 4	2003	0-10	32	74	15	<1.0	<10	43	39	<1.0									
03-26183	Upper Site - BU 4	2003	0-10	37	47	10	<1.0	20	69	66	1.2									
03-26184	Upper Site - BU 4	2003	0-10	18	51	8.0	<1.0	12	39	33	1.4									
03-26185	Upper Site - BU 4	2003	0-10	17	17	5.3	<1.0	<10	44	<20	<1.0									
03-26186	Upper Site - BU 4	2003	0-10	19	43	8.7	<1.0	<10	46	57	<1.0									
03-26187	Upper Site - BU 4	2003	0-10	40	44	15	<1.0	<10	57	42	1.4									
03-26188	Upper Site - BU 4	2003	0-10	129	46	21	<1.0	<10	44	31	<1.0									
03-26189	Upper Site - BU 4	2003	0-10	107	39	14	<1.0	<10	38	38	<1.0									
03-26190	Upper Site - BU 4	2003	0-10	33	57	12	<1.0	10	64	73	1.5									
03-26192	Upper Site - BU 3	2003	0-10	66	31	8.6	<1.0	<10	125	142	2.1									
03-26193	Upper Site - BU 1	2003	0-10	87	86	19	<1.0	26	186	382	<1.0									
03-26194	Upper Site - BU 1	2003	0-10	131	33	10	<1.0	10	137	177	<1.0									
03-26195	Upper Site - BU 3	2003	0-10	11	16	<5.0	<1.0	<10	23	25	<1.0									
03-26196	Upper Site - BU 3	2003	0-10	49	40	10	<1.0	<10	84	107	<1.0									
03-26197	Upper Site - BU 4	2003	0-10	26	41	11	<1.0	10	61	66	1.1									
03-26198	Upper Site - BU 3	2003	0-10	88	26	14	<1.0	13	138	184	<1.0									
03-26199	Upper Site - BU 3	2003	0-10	58	50	15	<1.0	<10	116	144	<1.0									
03-26200	Upper Site - BU 1	2003	0-10	72	118	32	<1.0	13	150	146	<1.0									
03-26202	Upper Site - BU 4	2003	0-10	28	88	18	<1.0	15	60	46	<1.0									
03-26203	Upper Site - BU 4	2003	0-10	26	108	14	<1.0	<10	43	46	<1.0									
03-26204	Upper Site - BU 4	2003	0-10	29	93	17	<1.0	20	81	46	1.6									
03-26205	Upper Site - BU 3	2003	0-10	108	91	22	<1.0	10	127	147	<1.0									
03-26206	Upper Site - BU 3	2003	0-10	81	85	15	<1.0	<10	108	178	<1.0									
03-26212	Upper Site - BU 4	2003	0-10	22	13	<5.0	<1.0	<10	47	<20	<1.0									
03-26213	Upper Site - BU 4	2003	0-10	15	40	7.8	<1.0	<10	32	24	<1.0									
03-26214	Upper Site - BU 4	2003	0-10	23	250	26	<1.0	12	70	580	<1.0									
03-26215	Upper Site - BU 4	2003	0-10	40	68	20	<1.0	11	77	119	<1.0									
03-26216	Upper Site - BU 3	2003	0-10	62	73	22	<1.0	23	111	115	1.3									
03-26217	Upper Site - BU 4	2003	0-10	21	36	8.3	<1.0	<10	42	35	1.3									
03-26218	Upper Site - BU 3	2003	0-10	124	53	14	<1.0	13	140	167	<1.0									
03-26219	Upper Site - BU 3	2003	0-10	53	48	12	<1.0	<10	90	105	<1.0									
03-26220	Upper Site - BU 3	2003	0-10	44	34	8	<1.0	<10	74	82	<1.0									
03-26222	Upper Site - BU 3	2003	0-10	63	59	14	<1.0	24	84	107	5.9									
03-26223	Upper Site - BU 4	2003	0-10	29	29	24	<1.0	<10	67	41	1.9									
03-26224	Upper Site - BU 4	2003	0-10	21	50	9.0	<1.0	<10	42	39	1.3									
03-26225	Upper Site - BU 4	2003	0-10	17	27	7.7	<1.0	<10	40	23	1.2									
03-26226	Upper Site - BU 4	2003	0-10	23	24	9.3	<1.0	<10	54	27	<1.0									
03-26227	Upper Site - BU 1	2003	0-10	66	56	14	<1.0	<10	64	52	<1.0									
03-26228	Upper Site - BU 3	2003	0-10	42	48	13	<1.0	13	96	106	<1.0									
03-26229	Upper Site - BU 4	2003	0-10	22	23	7.3	<1.0	<10	30	21	<1.0									
03-26230	Upper Site - BU 3	2003	0-10	61	71	15	<1.0	12	88	95	1.4									
03-26232	Upper Site - BU 4	2003	0-10	32	31	11	<1.0	<10	61	26	1									
03-26233	Upper Site - BU 4	2003	0-10	42	40	11	<1.0	<10	50	35	<1.0									
03-26234	Upper Site - BU 4	2003	0-10	29	51	10	<1.0	14	49	43	<1.0									
03-26235	Upper Site - BU 1	2003	0-10	144	77	20	<1.0	<10	48	56	<1.0									

DYE-M US NWS Landfill - Summary of Monitoring Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Total C6-C34 (mg/kg)
															% Fuel Oil	% Lube Oil				
03-26236	Upper Site - BU 1	2003	0-10	56	325	32	<1.0	<10	32	185	<1.0									
03-26237	Upper Site - BU 4	2003	0-10	29	49	8	<1.0	<10	52	53	<1.0									
03-26238	Upper Site - BU 4	2003	0-10	36	93	14	<1.0	<10	57	50	<1.0									
03-26239	Upper Site - BU 2	2003	0-10	147	93	20	<1.0	<10	46	28	<1.0									
03-26240	Upper Site - BU 2	2003	0-10	117	240	31	<1.0	<10	51	67	<1.0									
03-26242	Upper Site - BU 1	2003	0-10	38	101	14	<1.0	<10	53	92	<1.0									
03-26243	Upper Site - BU 2	2003	0-10	42	275	28	<1.0	<10	59	65	<1.0									
03-26244	Upper Site - BU 2	2003	0-10	64	171	22	<1.0	<10	45	62	<1.0									
03-26245	Upper Site - BU 4	2003	0-10	28	42	10	<1.0	<10	50	39	1.7									
03-26246	Upper Site - BU 2	2003	0-10	70	1000	69	<1.0	<10	73	126	<1.0									
03-26250	Upper Site - BU 2	2003	0-10	49	1100	76	<1.0	<10	76	140	<1.0									
03-26251	Upper Site - BU 2	2003	0-10	51	1060	72	<1.0	<10	70	136	<1.0									
03-26252	Upper Site - BU 2	2003	0-10	120	95	18	<1.0	<10	42	25	<1.0									
03-26254	Upper Site - BU 2	2003	0-10	58	1140	76	<1.0	<10	74	141	<1.0									
03-26255	Upper Site - BU 2	2003	0-10	77	720	61	<1.0	<10	72	110	<1.0									
03-26256	Upper Site - BU 2	2003	0-10	84	289	38	<1.0	<10	52	77	<1.0									
03-26257	Upper Site - BU 2	2003	0-10	113	199	34	<1.0	<10	62	103	<1.0									
03-26258	Upper Site - BU 2	2003	0-10	81	284	36	<1.0	<10	54	74	<1.0									
03-26259	Upper Site - BU 2	2003	0-10	103	167	28	<1.0	<10	49	35	<1.0									
03-26260	Upper Site - BU 4	2003	0-10	13	21	<5.0	<1.0	<10	30	<20	1									
03-26262	Upper Site - BU 4	2003	0-10	26	46	9.1	<1.0	11	61	41	1.3									
03-26263	Upper Site - BU 4	2003	0-10	17	43	10	<1.0	<10	51	32	<1.0									
03-26264	Upper Site - BU 4	2003	0-10	15	15	5.1	<1.0	<10	44	<20	<1.0									
03-26265	Upper Site - BU 4	2003	0-10	10	21	<5.0	<1.0	<10	29	20	<1.0									
03-26266	Upper Site - BU 4	2003	0-10	19	55	10	<1.0	<10	42	32	<1.0									
03-26267	Upper Site - BU 4	2003	0-10	22	42	9.0	<1.0	10	63	60	<1.0									
03-26268	Upper Site - BU 3	2003	0-10	79	63	16	<1.0	12	135	186	<1.0									
03-26154	Upper Site - BU 3	2003	0-10	132	168	46	<1.0	21	175	151	<1.0									
03-26155	Upper Site - BU 3	2003	0-10	81	118	21	<1.0	17	100	92	<1.0									
03-26156	Upper Site - BU 3	2003	0-10	86	50	14	<1.0	<10	113	134	<1.0									
03-26157	Upper Site - BU 3	2003	0-10	37	32	8.3	<1.0	<10	74	82	1.1									
03-26158	Upper Site - BU 1	2003	0-10	222	495	60	<1.0	<10	37	134	1.3									
03-26159	Upper Site - BU 1	2003	0-10	53	640	57	<1.0	<10	28	63	1.2									
	N value			108	108	108	108	108	108	108	108	6	6							
	Background Detection Limits			3.0	5.0	5.0	1.0	10	15	20	1.0	0.5	0.002							
	Arithmetic Mean			60	141	20	0.5	7.7	70	90	0.78	0.250	0.005							
	Arithmetic Mean Corrected for Detection Limits			60	141	20	1.0	10	70	90	1.0	0.5	0.002							
	Standard Deviation			40	230	16	0	4.9	33	76	0.65	0.000	0.010							
	Minimum			9.9	13	2.5	0.5	5.0	23	10	0.5	0.250	0.0001							
	Maximum			222	1140	76	0.5	26	186	580	5.90	0.250	0.024							
	95% Confidence Limit			7.6	43	3.0		0.9	6.3	14.3	0.1	#NUM!	0.0							

[1]sample results not included in calculation of Baseline Arithmetic Mean.

DYE-M US South Landfill West - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
Background Data - Arithmetic Mean						60	141	20	1.0	10	70	90	1.0	0.50	0.002				N/A
Baseline Data - Arithmetic Mean						**26**	**42**	**13**	**1.0**	**10**	**84**	**56**	**2.3**	**0.10**	**0.05**	**10**	**4.0**	**9.0**	**175**
Baseline Data - Standard Deviation						21	20	13	6.8	27	48	41	15	0.0	0.17	0	2.3	41	387
Baseline Data Mean + 3xStandard Deviation						88	102	52	21	92	227	179	47	0.10	0.56	10	11	131	1337
**** If baseline or background arithmetic mean was below the detection limit, the mean has been modified to match the detection limit value.***																			
DEW Line Cleanup Tier I Criteria										*200*					*1*				
*DEW Line Cleanup **Site Specific** Tier II Criteria & Hydrocarbon Action Level*						*296*	*2100*	*153*	*5*	*500*	*500*	*250*	*30*	*2.0*	*5*				*2500*
Monitoring Data																			**TPH Sum will appear when F1, F2 and F3 fractions are entered.**
Upgradient																			
	DM-19 surface (also US NWS LF downgradient)																		
14-8277	DM-19	2014	Year 1	Phase I	0-10	17	24	6.4	<1.0	<10	42	20	0.6	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-19 depth (also US NWS LF downgradient)																		
14-8278	DM-19	2014	Year 1	Phase I	40-50	14	17	<5.0	<1.0	<10	36	<20	0.7	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US South Landfill West - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	DM-23 surface (also US NWS LF downgradient)																		
14-8280/81	DM-23	2014	Year 1	Phase I	0-10	**43**	**44**	9.3	<1.0	**11**	**84**	**82**	1.3	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-23 depth (also US NWS LF downgradient)																		
14-8282	DM-23	2014	Year 1	Phase I	40-50	20	33	7	<1.0	<10	46	27	0.7	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
Downgradient																			
	DM-24 surface																		
14-8254	DM-24	2014	Year 1	Phase I	0-10	**33**	**73**	12	<1.0	<10	82	**92**	0.5	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US South Landfill West - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	DM-24 depth																		
14-8255	DM-24	2014	Year 1	Phase I	25-35	**72**	**170**	**20**	<1.0	<10	**110**	**170**	0.9	<0.010	<0.010	<10	**16**	<10	26
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-25 surface																		
14-8257	DM-25	2014	Year 1	Phase I	0-10	**31**	**82**	**14**	<1.0	<10	81	**89**	1.1	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-25 depth																		
14-8258	DM-25	2014	Year 1	Phase I	25-35	16	**130**	**15**	<1.0	<10	**94**	**71**	0.7	<0.010	<0.010	<10	**10**	<10	20
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US South Landfill West - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	DM-26 surface																		
14-8260/61	DM-26	2014	Year 1	Phase I	0-10	**72**	**50**	11	<1.0	<10	74	**60**	1.2	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-26 depth																		
14-8262	DM-26	2014	Year 1	Phase I	25-35	**77**	**50**	**13**	<1.0	<10	**94**	**62**	1.5	<0.010	<0.010	<10	**10**	<10	20
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-27 surface																		
14-8263	DM-27	2014	Year 1	Phase I	0-10	**28**	**58**	**13**	<1.0	<10	78	**58**	0.9	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US South Landfill West - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	DM-27 depth																		
14-8264	DM-27	2014	Year 1	Phase I	25-35	20	38	**14**	<1.0	<10	**96**	**61**	1.0	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-28 surface																		
14-8265	DM-28	2014	Year 1	Phase I	0-10	**27**	**78**	**14**	<1.0	<10	67	51	0.8	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US South Landfill West - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	DM-28 depth																		
14-8267	DM-28	2014	Year 1	Phase I	25-35	15	**43**	10	<1.0	<10	74	32	0.5	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-29 surface																		
14-8268	DM-29	2014	Year 1	Phase I	0-10	16	**59**	7.8	<1.0	<10	32	30	0.3	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US South Landfill West - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	DM-29 depth																		
14-8270/71	DM-29	2014	Year 1	Phase I	25-35	15	**50**	6.8	<1.0	<10	27	23	0.6	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-30 surface																		
14-8272	DM-30	2014	Year 1	Phase I	0-10	20	35	6.8	<1.0	<10	44	28	0.6	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US South Landfill West - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	DM-30 depth																		0
14-8273	DM-30	2014	Year 1	Phase I	25-35	**31**	14	6.2	<1.0	<10	32	<20	0.3	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

Note: Modified TPH Total (C_6-C_{34}) has been calculated by adding results for F1, F2 and F3.

Legend

XX	sample exceeds background
XX	**sample exceeds baseline**
XX	*sample exceeds DLCU Tier I criteria*
XX	*sample exceeds DLCU Tier II criteria*

DYE-M US South Landfill West - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
Baseline Data																			
Upgradient:																			
01-5256		2001	0										<0.2						
01-5258		2001	0										0.32						
01-5259		2001	0										0.32						
01-5260/61		2001	0										<0.1						
01-5262		2001	0										<0.1						
01-5263		2001	0										<0.1						
01-5264		2001	0										<0.1						
01-5409	5409	2001	0	12	22	6.1	<1.0	12	43	<20	<1.0		<0.1						
01-5410/11	5409	2001	40																
01-5246	5246	2001	0										0.1						
01-5247	5246	2001	40											1100					
01-5243	5243	2001	0	33	36	12	<1.0	19	93	45	1.3		0.1						
01-5249	5249	2001	0	26	28	11	<1.0	14	89	48	<1.0		<0.7						
01-5250/51	5249	2001	30											375					
01-5252	5249	2001	55	21	16	10	<1.0	<10	77	35	<1.0		<0.1	<40					
97-6899		1997	0	33	40	10	<1.0	44	140	55	0.75		0.66	1000					
97-6900		1997	0	23	30	7.3	<1.0	13	100	42	0.5		<0.5						
01-5406	5406	2001	0	13	25	6.3	<1.0	<10	39	<20	<1.0		<0.1						
01-5295	5295	2001	0										<0.2						
01-5296	5295	2001	50										0.38	220					
01-5292	5292	2001	0	18	29	11	<1.0	12	65	27	<1.0		<0.1						
01-5293	5292	2001	30																
01-5285	5285	2001	0	16	22	7.6	<1.0	<10	57	<20	<1.0		<0.1						
01-5286	5285	2001	40																
01-5287	5285	2001	55	17	30	9.5	<1.0	15	63	25	<1.0		<0.1						
01-5288	5288	2001	0	25	22	9.2	<1.0	<10	68	21	<1.0		<0.1						
01-5289	5288	2001	30																
01-5290/91	5288	2001	50	36	31	12	<1.0	<10	99	31	<1.0		<0.1						
00-23549		2000	0	14	20	7.6	<1.0	<10	53	<20	<1.0		<0.1						
00-23550/51		2000	30	12	20	7.2	<1.0	<10	41	<20	<1.0		<0.1						
00-23547		2000	0	69	26	11	1.1	42	150	39	2.6		0.3						
08-11689*/90	DM-23		0-10	9.6	21	<5.0	<1.0	<10	27	<20	<1.0	<0.10	<0.0030	20			<10	<4.0	13
08-11691*/92	DM-23		30-40	15	38	8.4	<1.0	<10	36	27	<1.0	<0.10	<0.0030	19			<10	4.5	9
11-12898*/99	DM-23		0-10	19	58	11	<1.0	<10	38	33	<1.0	<0.10	<0.050	12			<10	<4.0	<9.0
11-12900*/01	DM-23		20-30	14	48	9.7	<1.0	<10	31	28	<1.0	<0.10	<0.050	12			<10	<4.0	<9.0
13-25116*/17	DM-23		0-10	17	66	9.3	<1.0	<10	38	35	0.9	<0.10	<0.050	19			<10	<4.0	12
13-25118*/19	DM-23		25-35	11	39	<5.0	<1.0	<10	24	<20	0.7	<0.10	<0.050	12			<10	<4.0	<9.0
Downgradient:																			
01-5366	5367	2001	50.0										<0.1						
01-5372	5372	2001	0.0	21	44	12	<1.0	<10	65	76	<1.0		<0.1	<40					
01-5373	5372	2001	40.0											<40					
01-4029	4029	2001	0.0	26	49	13	<1.0	<10	93	130	<1.0		<0.1						
01-4030/31	4029	2001	20.0	25	55	14	<1.0	<10	68	110	<1.0		<0.1	<40					
01-5375	5375	2001	0.0										<0.1						
97-7772		1997	0.0						240					<40					
97-7773		1997	0.0											<40					
97-7774		1997	0.0											<40					
97-7775		1997	0.0											<40					
97-7776		1997	0.0											63					
97-7780/81		1997	0.0											<40					
97-7770/71		1997	0.0											<40					
97-5956	7776	1997	20.0											340					
97-7808		1997	0.0						140										
97-5946	7779	1997	50.0											890					
97-7782		1997	0.0						130				<0.5	<40					

DYE-M US South Landfill West - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
97-7783		1997	0.0											<40					
97-7784		1997	0.0						180										
97-7786		1997	0.0										<0.5	<40					
97-7787		1997	0.0											51					
97-7788		1997	0.0											<40					
97-7789		1997	0.0											1200					
97-7790/91		1997	0.0											<40					
97-7792		1997	0.0											<40					
97-7793		1997	0.0											1500					
97-7794		1997	0.0											210					
97-5949	7789	1997	20.0											<40					
97-5950/51	7789	1997	30.0											<40					
97-7805		1997	0.0						140					430					
97-7807		1997	0.0						120					<40					
00-23266	23266	2000	0.0	9	53	18	<1.0	<10	100	83	<1.0		<0.1	<40					
00-23267	23266	2000	30.0	4	58	23	<1.0	<10	140	50	<1.0		<0.1						
00-5382	5382	2001	0.0										<0.2						
00-23415		2000	0.0											<130					
97-5952	7793	1997	15.0											<40					
97-7623		1997	0.0										<0.5	<40					
97-5954	7797	1997	20.0											<40					
97-7796		1997	0.0											<40					
97-7797		1997	0.0						200					250					
00-23423		2000	0.0											<130					
00-23427		2000	0.0										<0.1						
97-7630/31		1997	0.0											<40					
97-7628		1997	0.0	42				17.0	140					<40					
97-7629		1997	0.0										<0.5	<40					
97-5970/71	7624	1997	20.0										<0.5	<40					
97-5972	7624	1997	30.0										<0.5						
97-7624		1997	0.0											120					
97-5960/61	7803	1997	20.0											1400					
97-7798		1997	0.0										<0.5						
97-7800/01		1997	0.0											210					
97-7802		1997	0.0											<40					
01-4013	4013	2001	0.0										<0.1						
01-4016	4016	2001	0.0										<0.1						
01-5388	5388	2001	0.0										0.440						
97-6354[1]		1997	0.0										<0.5	2700					
97-6355[1]		1997	0.0	17	30	9	<1.0	<10	69	63	<0.2		<0.5	3100					
97-6356[1]		1997	0.0	20	43	7	<1.0	<10	82	65	<0.2		<0.5	7200					
97-6357[1]		1997	0.0	160				31.0	210				0.5	2800					
97-5945[1]	7779	1997	20.0	18	40	10	<1.0	<10	65	56	0.3		<0.5	2800					
97-7625		1997	0.0						170				<0.5	1300					
97-7632		1997	0.0						200					<40					
97-7620/21		1997	0.0	29				<10	93				<0.5	1200					
97-7622		1997	0.0	13				<10	110					<40					
01-5385	5385	2001	0.0										0.280						
97-7614		1997	0.0						200					700					
97-7615		1997	0.0	68				46.0	160				<0.5	<40					
97-7618		1997	0.0						150				<0.5	1600					
97-7619		1997	0.0	64				22.0	130				<0.5	1500					
97-7626		1997	0.0											<40					
97-5973	7619	1997	20.0										<0.5	890					
97-5974	7619	1997	30.0										<0.5	1600					
		2000	0.0										<0.1						
97-5967	7627	1997	25.0											<40					
97-7636		1997	0.0						120					<40					
97-7635		1997	0.0											<40					
01-5402	5402	2001	0.0										<0.2						

DYE-M US South Landfill West - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
00-23270/71	23270/71	2000	0.0	24	52	14	<1.0	<10	61	66	<1.0		0.400	<40					
00-23272	23270/71	2000	30.0	25	57	15	<1.0	<10	74	100	<1.0		<0.1	<40					
97-5969	7634	1997	20.0											<40					
97-7634		1997	0.0						110				<0.5	<40					
01-4032	4032	2001	0.0										<0.2						
01-4033	4032	2001	50.0										0.460						
01-5395	5395	2001	0.0	38	79	17	<1.0	<10	73	130	<1.0		<0.1						
00-23428		2000	0.0											<130					
00-23429		2000	0.0											<130					
00-23430/31		2000	0.0										<0.1	<130					
00-23432		2000	0.0										0.800	820					
00-23560/61		2000	0.0										<0.1						
00-23434		2000	0.0										<0.2						
00-23435		2000	0.0										0.780						
00-23436		2000	0.0										<0.5						
00-23437		2000	0.0										<0.1						
00-23443		2000	0.0	65	20	130	65.0	140	130	65	140.0								
00-23557		2000	0.0										0.500						
00-23558		2000	30.0										0.600						
01-5398	5398	2001	0.0										0.720						
00-23555		2000	0.0	13	130	13	<1.0	<10	20	130	<1.0								
00-23438		2000	0.0	29	79	18	<1.0	12.0	100	100	2.1								
01-4023	4023	2001	0.0	26	49	13	<1.0	<10	93	130	<1.0		<0.2						
97-7643		1997	0.0											<40					
97-7637		1997	0.0	24	49	11	<1.0	<10	69	88	<0.2								
97-7639		1997	0.0	25				38.0	67										
97-7640/41		1997	0.0	67	54	14	<1.0	170.0	160	120	0.4		<0.5	95					
01-4026	4026	2001	0.0										<0.2						
97-7644		1997	0.0						220										
97-7645		1997	0.0						170										
97-5978	7642	1997	30.0	16	39	11	<1.0	<10	74	58	<0.2								
97-7642		1997	0.0						150										
00-23440/41		2000	0.0	59	52	14	<1.0	64	130	73	<1.0								
00-23442		2000	0.0	65	60	17	<1.0	140	130	100	<1.0								
00-23444		2000	0.0	41				46	110										
00-23446		2000	0.0					12											
00-23447		2000	0.0					75											
00-24890		2000	0.0	27	70	17	<1.0	12	88	120	<1.0		<0.1	<40					
00-24891		2000	0.0	19	69	23	<1.0	12	92	100	<1.0		<0.1	<40					
00-24892		2000	30.0	8.5	72	16	<1.0	<10	91	170	<1.0		<0.1	<40					
01-20013		2001	0.0					44											
01-20014		2001	0.0					26											
01-5419	5419	2001	0.0	42	37	11	<1.0	14	68	56	<1.0		<0.1						
01-5420/21	5419	2001	30.0	32	26	11	<1.0	<10	51	25	<1.0		<0.1						
01-5416	5416	2001	0.0	81	44	11	<1.0	11	140	130	<1.0		<0.1						
01-5413	5413	2001	0.0	60	55	11	<1.0	39	110	130	<1.0		<0.1						
08-11693/94	DM-24		0-10	33	61	15	<1.0	<10	97	120	<1.0	<0.10	0.008	85			<10	<4.0	78
08-11695	DM-24		30-40	<3.0	95	18	<1.0	<10	82	190	<1.0	<0.10	<0.0030	17			<10	<4.0	10
08-11697	DM-25		0-10	25	58	15	<1.0	<10	67	91	<1.0	<0.10	<0.0030	197			<10	<4.0	190
08-11699	DM-25		30-40	23	48	13	<1.0	<10	68	71	<1.0	<0.10	<0.0030	38			<10	<4.0	31
08-11799	DM-26		0-10	12	24	8	<1.0	<10	50	35	<1.0	<0.10	0.009	18			<10	<4.0	11
08-11801	DM-26		30-40	11	25	8	<1.0	<10	40	33	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0
08-11803	DM-27		0-10	20	35	12	<1.0	<10	59	39	<1.0	<0.10	<0.0030	25			<10	<4.0	18
08-11805	DM-27		30-40	19	27	14	<1.0	<10	75	37	<1.0	<0.10	<0.0030	20			<10	<4.0	13
08-11807	DM-28		0-10	23	34	16	<1.0	<10	120	38	<1.0	<0.10	0.0045	37			<10	<4.0	30
08-11809	DM-28		30-40	9.3	16	12	<1.0	<10	77	23	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0
08-11811	DM-29		0-10	12	42	7.4	<1.0	<10	27	20	<1.0	<0.10	<0.0030	21			<10	<4.0	14
08-11813	DM-29		30-40	14	39	7.9	<1.0	<10	29	<20	1.2	<0.10	<0.0030	12			<10	<4.0	<9.0
08-11815	DM-30		0-10	12	12	<5.0	<1.0	<10	22	<20	<1.0	<0.10	<0.0030	19			<10	<4.0	12
08-11817	DM-30		30-40	13	9.4	<5.0	<1.0	<10	18	<20	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0

DYE-M US South Landfill West - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
11-12902	DM-24		0-10	25	35	14	<1.0	<10	57	58	<1.0	<0.10	<0.050	12			<10	<4.0	<9.0
11-12904	DM-24		20-30	31	53	14	<1.0	<10	55	78	<1.0	<0.10	<0.050	12			<10	<4.0	<9.0
11-12906	DM-25		0-10	28	60	18	<1.0	<10	67	88	1.6	<0.10	<0.050	63			<10	<4.0	56
11-12908	DM-25		20-30	25	83	19	<1.0	<10	85	100	1.8	<0.10	<0.050	12			<10	<4.0	<9.0
11-12910	DM-26		0-10	21	53	14	<1.0	<10	73	61	<1.0	<0.10	<0.050	12			<10	<4.0	<9.0
11-1291/13	DM-26		20-30	23	42	14	<1.0	<10	67	55	1.3	<0.10	<0.050	12			<10	<4.0	<9.0
11-12914	DM-27		0-10	21	37	13	<1.0	<10	60	44	1.6	<0.10	<0.050	23			<10	<4.0	16
11-12916	DM-27		20-30	18	33	16	<1.0	<10	78	44	1.1	<0.10	<0.050	12			<10	<4.0	<9.0
11-12918	DM-28		0-10	18	25	15	<1.0	<10	96	34	1.2	<0.10	<0.050	12			<10	<4.0	<9.0
11-12920	DM-28		30-40	19	51	17	<1.0	<10	68	41	<1.0	<0.10	<0.050	12			<10	<4.0	<9.0
11-12922	DM-29		0-10	14	23	10	<1.0	<10	33	<20	<1.0	<0.10	<0.050	12			<10	<4.0	<9.0
11-12924	DM-29		30-40	20	54	13	<1.0	<10	40	32	<1.0	<0.10	<0.050	12			<10	<4.0	<9.0
11-12926/27	DM-30		0-10	18	31	8.7	<1.0	<10	35	23	<1.0	<0.10	<0.050	12			<10	<4.0	<9.0
11-12928	DM-30		30-40	17	26	7.5	<1.0	<10	32	22	<1.0	<0.10	<0.050	12			<10	<4.0	<9.0
13-25120/21	DM-24		0-10	33	60	11	<1.0	<10	84	99	1.5	<0.10	<0.050	21			<10	<4.0	14
13-25122	DM-24		25-35	8.5	52	8.5	<1.0	<10	57	44	0.7	<0.10	<0.050	12			<10	<4.0	<9.0
13-25124	DM-25		0-10	31	61	12	<1.0	<10	66	88	2.0	<0.10	<0.050	18			<10	<4.0	11
13-25126	DM-25		25-35	24	41	10	<1.0	<10	72	57	2.0	<0.10	<0.050	22			<10	5.6	11
13-25128	DM-26		0-10	28	55	10	<1.0	<10	65	54	2.1	<0.10	0.088	22			<10	5.7	11
13-25130/31	DM-26		25-35	18	37	7.7	<1.0	<10	51	48	1.5	<0.10	<0.050	16			<10	6.8	<9.0
13-25132	DM-27		0-10	19	36	5.8	<1.0	<10	38	33	1.1	<0.10	<0.050	61			<10	13	43
13-25134	DM-27		25-35	21	24	7.5	<1.0	<10	59	22	2.2	<0.10	<0.050	12			<10	<4.0	<9.0
13-25136	DM-28		0-10	16	20	8.9	<1.0	<10	79	28	1.1	<0.10	<0.050	32			<10	9.9	17
13-25138	DM-28		25-35	14	22	9	<1.0	<10	70	28	0.69	<0.10	<0.050	12			<10	<4.0	<9.0
13-25140/41	DM-29		0-10	18	38	6.2	<1.0	<10	33	25	0.82	<0.10	<0.050	12			<10	<4.0	<9.0
13-25142	DM-29		25-35	23	61	11	<1.0	<10	45	33	1.2	<0.10	<0.050	23			<10	7.9	9.8
13-25144	DM-30		0-10	23	33	7.7	<1.0	<10	37	27	1.0	<0.10	<0.050	12			<10	<4.0	<9.0
13-25146	DM-30		25-35	19	13	7.2	<1.0	<10	24	<20	<0.20	<0.10	<0.050	12			<10	<4.0	<9.0
	N value			98	90	90	90	102	114	90	90	48	133	127			48	48	48
	Baseline Detection Limits			3.0	5.0	5.0	1.0	10	15	20	1	0	0	40			10	4.0	9.0
	Arithmetic Mean			26	42	13	1.2	15	84	56	2.3	0.050	0.10	175			5	3	23
	Arithmetic Mean Corrected for Detection Limits			26	42	13	1.0	10	84	56	2.3	0.10	0.05	175			10	4	9
	Standard Deviation			20.7	20	13.2	6.8	27	48	41	14.85	0.000	0.17	387			0	2	41
	Minimum			1.5	9.4	2.5	0.50	5.0	18	10	0.10	0.050	0.0015	12			5	2	5
	Maximum			160	130	130	65.00	170	240	190	140.0	0.05	0.80	1600			5	13	190
	95% Confidence Limit			4.1	4.1	2.7		5	8.7	8.4	3.07	0.000	0.029	67				1	11
Background Data																			
89-G300	Along the beach, 1 km NW of ravine	1989										<0.5	0.004						
90-G315	2 km downstream BF304	1990										<0.5	0.024						
90-G320	100 m E of S end runway	1990										<0.5	<0.0002						
90-G321	0.5 mi E of S end runway	1990										<0.5	<0.0001						
90-G324	2.8 km from crossroads	1990										<0.5	<0.0002						
90-G325	5 km from crossroads	1990										<0.5	<0.0002						
00-25501	Pallet Line Area - background	2000	0-10	40	41	9.8	<1.0	16	41	73	<1.0								
00-25505	East of West Landfill - background - BU 1	2000	0-10	102	268	34	<1.0	<10	70	223	<1.0								
00-25506	East of West Landfill - background - BU 1	2000	0-10	72	293	29	<1.0	<10	84	214	<1.0								
00-25507	East of West Landfill - background - BU 1	2000	0-10	60	183	24	<1.0	<10	69	132	<1.0								
00-25508	East of West Landfill - background - BU 1	2000	0-10	54	138	25	<1.0	<10	99	118	<1.0								
00-25509	East of West Landfill - background - BU 1	2000	0-10	73	85	24	<1.0	<10	114	128	<1.0								
00-25512	South of Tacan - background - BU 2b	2000	0-10	110	99	22	<1.0	<10	37	27	<1.0								
00-25513	South of Tacan - background - BU 2b	2000	0-10	83	127	26	<1.0	<10	45	33	<1.0								
00-25514	South of Tacan - background - BU 2b	2000	0-10	158	96	25	<1.0	<10	43	24	<1.0								
00-25515	South of Tacan - background - BU 2b	2000	0-10	103	68	22	<1.0	<10	45	<20	<1.0								
00-25516	South of Tacan - background - BU 2b	2000	0-10	191	97	23	<1.0	<10	39	24	<1.0								
03-26130	Upper Site - BU-2	2003	0-10	65	940	69	<1.0	<10	61	118	<1.0								
03-26140	Upper Site - BU 4	2003	0-10	16	53	8.5	<1.0	<10	32	24	<1.0								
03-26150	Upper Site - BU 3	2003	0-10	44	61	13	<1.0	<10	89	115	<1.0								
03-26152	Upper Site - BU 3	2003	0-10	59	60	18	<1.0	10	84	159	<1.0								
03-26153	Upper Site - BU 3	2003	0-10	37	67	13	<1.0	11	75	86	<1.0								

DYE-M US South Landfill West - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
03-26160	Upper Site - BU 1	2003	0-10	37	69	18	<1.0	11	93	86	1.4								
03-26162	Upper Site - BU 1	2003	0-10	70	99	17	<1.0	<10	80	108	1								
03-26163	Upper Site - BU 3	2003	0-10	57	112	17	<1.0	<10	89	106	2.1								
03-26165	Upper Site - BU 3	2003	0-10	65	79	17	<1.0	<10	102	122	<1.0								
03-26166	Upper Site - BU 3	2003	0-10	57	85	20	<1.0	22	99	120	1.6								
03-26167	Upper Site - BU 1	2003	0-10	115	93	19	<1.0	<10	40	121	<1.0								
03-26168	Upper Site - BU 3	2003	0-10	57	41	15	<1.0	<10	76	138	<1.0								
03-26169	Upper Site - BU 3	2003	0-10	38	58	16	<1.0	11	98	109	<1.0								
03-26170	Upper Site - BU 3	2003	0-10	59	28	10	<1.0	<10	100	98	1.8								
03-26172	Upper Site - BU 3	2003	0-10	59	34	7.1	<1.0	<10	89	94	<1.0								
03-26173	Upper Site - BU 3	2003	0-10	21	34	7.2	<1.0	<10	36	46	1.1								
03-26174	Upper Site - BU 3	2003	0-10	71	29	8.0	<1.0	11	106	120	1.4								
03-26175	Upper Site - BU 3	2003	0-10	76	27	8.7	<1.0	<10	117	119	<1.0								
03-26180	Upper Site - BU 4	2003	0-10	12	16	<5.0	<1.0	<10	28	<20	1.1								
03-26182	Upper Site - BU 4	2003	0-10	32	74	15	<1.0	<10	43	39	<1.0								
03-26183	Upper Site - BU 4	2003	0-10	37	47	10	<1.0	20	69	66	1.2								
03-26184	Upper Site - BU 4	2003	0-10	18	51	8.0	<1.0	12	39	33	1.4								
03-26185	Upper Site - BU 4	2003	0-10	17	17	5.3	<1.0	<10	44	<20	<1.0								
03-26186	Upper Site - BU 4	2003	0-10	19	43	8.7	<1.0	<10	46	57	<1.0								
03-26187	Upper Site - BU 4	2003	0-10	40	44	15	<1.0	<10	57	42	1.4								
03-26188	Upper Site - BU 4	2003	0-10	129	46	21	<1.0	<10	44	31	<1.0								
03-26189	Upper Site - BU 4	2003	0-10	107	39	14	<1.0	<10	38	38	<1.0								
03-26190	Upper Site - BU 4	2003	0-10	33	57	12	<1.0	10	64	73	1.5								
03-26192	Upper Site - BU 3	2003	0-10	66	31	8.6	<1.0	<10	125	142	2.1								
03-26193	Upper Site - BU 1	2003	0-10	87	86	19	<1.0	26	186	382	<1.0								
03-26194	Upper Site - BU 1	2003	0-10	131	33	10	<1.0	10	137	177	<1.0								
03-26195	Upper Site - BU 3	2003	0-10	11	16	<5.0	<1.0	<10	23	25	<1.0								
03-26196	Upper Site - BU 3	2003	0-10	49	40	10	<1.0	<10	84	107	<1.0								
03-26197	Upper Site - BU 4	2003	0-10	26	41	11	<1.0	10	61	66	1.1								
03-26198	Upper Site - BU 3	2003	0-10	88	26	14	<1.0	13	138	184	<1.0								
03-26199	Upper Site - BU 3	2003	0-10	58	50	15	<1.0	<10	116	144	<1.0								
03-26200	Upper Site - BU 1	2003	0-10	72	118	32	<1.0	13	150	146	<1.0								
03-26202	Upper Site - BU 4	2003	0-10	28	88	18	<1.0	15	60	46	<1.0								
03-26203	Upper Site - BU 4	2003	0-10	26	108	14	<1.0	<10	43	46	<1.0								
03-26204	Upper Site - BU 4	2003	0-10	29	93	17	<1.0	20	81	46	1.6								
03-26205	Upper Site - BU 3	2003	0-10	108	91	22	<1.0	10	127	147	<1.0								
03-26206	Upper Site - BU 3	2003	0-10	81	85	15	<1.0	<10	108	178	<1.0								
03-26212	Upper Site - BU 4	2003	0-10	22	13	<5.0	<1.0	<10	47	<20	<1.0								
03-26213	Upper Site - BU 4	2003	0-10	15	40	7.8	<1.0	<10	32	24	<1.0								
03-26214	Upper Site - BU 4	2003	0-10	23	250	26	<1.0	12	70	580	<1.0								
03-26215	Upper Site - BU 4	2003	0-10	40	68	20	<1.0	11	77	119	<1.0								
03-26216	Upper Site - BU 3	2003	0-10	62	73	22	<1.0	23	111	115	1.3								
03-26217	Upper Site - BU 4	2003	0-10	21	36	8.3	<1.0	<10	42	35	1.3								
03-26218	Upper Site - BU 3	2003	0-10	124	53	14	<1.0	13	140	167	<1.0								
03-26219	Upper Site - BU 3	2003	0-10	53	48	12	<1.0	<10	90	105	<1.0								
03-26220	Upper Site - BU 3	2003	0-10	44	34	8	<1.0	<10	74	82	<1.0								
03-26222	Upper Site - BU 3	2003	0-10	63	59	14	<1.0	24	84	107	5.9								
03-26223	Upper Site - BU 4	2003	0-10	29	29	24	<1.0	<10	67	41	1.9								
03-26224	Upper Site - BU 4	2003	0-10	21	50	9.0	<1.0	<10	42	39	1.3								
03-26225	Upper Site - BU 4	2003	0-10	17	27	7.7	<1.0	<10	40	23	1.2								
03-26226	Upper Site - BU 4	2003	0-10	23	24	9.3	<1.0	<10	54	27	<1.0								
03-26227	Upper Site - BU 1	2003	0-10	66	56	14	<1.0	<10	64	52	<1.0								
03-26228	Upper Site - BU 3	2003	0-10	42	48	13	<1.0	13	96	106	<1.0								
03-26229	Upper Site - BU 4	2003	0-10	22	23	7.3	<1.0	<10	30	21	<1.0								
03-26230	Upper Site - BU 3	2003	0-10	61	71	15	<1.0	12	88	95	1.4								
03-26232	Upper Site - BU 4	2003	0-10	32	31	11	<1.0	<10	61	26	1								
03-26233	Upper Site - BU 4	2003	0-10	42	40	11	<1.0	<10	50	35	<1.0								
03-26234	Upper Site - BU 4	2003	0-10	29	51	10	<1.0	14	49	43	<1.0								
03-26235	Upper Site - BU 1	2003	0-10	144	77	20	<1.0	<10	48	56	<1.0								
03-26236	Upper Site - BU 1	2003	0-10	56	325	32	<1.0	<10	32	185	<1.0								
03-26237	Upper Site - BU 4	2003	0-10	29	49	8	<1.0	<10	52	53	<1.0								

DYE-M US South Landfill West - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
03-26238	Upper Site - BU 4	2003	0-10	36	93	14	<1.0	<10	57	50	<1.0								
03-26239	Upper Site - BU 2	2003	0-10	147	93	20	<1.0	<10	46	28	<1.0								
03-26240	Upper Site - BU 2	2003	0-10	117	240	31	<1.0	<10	51	67	<1.0								
03-26242	Upper Site - BU 1	2003	0-10	38	101	14	<1.0	<10	53	92	<1.0								
03-26243	Upper Site - BU 2	2003	0-10	42	275	28	<1.0	<10	59	65	<1.0								
03-26244	Upper Site - BU 2	2003	0-10	64	171	22	<1.0	<10	45	62	<1.0								
03-26245	Upper Site - BU 4	2003	0-10	28	42	10	<1.0	<10	50	39	1.7								
03-26246	Upper Site - BU 2	2003	0-10	70	1000	69	<1.0	<10	73	126	<1.0								
03-26250	Upper Site - BU 2	2003	0-10	49	1100	76	<1.0	<10	76	140	<1.0								
03-26251	Upper Site - BU 2	2003	0-10	51	1060	72	<1.0	<10	70	136	<1.0								
03-26252	Upper Site - BU 2	2003	0-10	120	95	18	<1.0	<10	42	25	<1.0								
03-26254	Upper Site - BU 2	2003	0-10	58	1140	76	<1.0	<10	74	141	<1.0								
03-26255	Upper Site - BU 2	2003	0-10	77	720	61	<1.0	<10	72	110	<1.0								
03-26256	Upper Site - BU 2	2003	0-10	84	289	38	<1.0	<10	52	77	<1.0								
03-26257	Upper Site - BU 2	2003	0-10	113	199	34	<1.0	<10	62	103	<1.0								
03-26258	Upper Site - BU 2	2003	0-10	81	284	36	<1.0	<10	54	74	<1.0								
03-26259	Upper Site - BU 2	2003	0-10	103	167	28	<1.0	<10	49	35	<1.0								
03-26260	Upper Site - BU 4	2003	0-10	13	21	<5.0	<1.0	<10	30	<20	1								
03-26262	Upper Site - BU 4	2003	0-10	26	46	9.1	<1.0	11	61	41	1.3								
03-26263	Upper Site - BU 4	2003	0-10	17	43	10	<1.0	<10	51	32	<1.0								
03-26264	Upper Site - BU 4	2003	0-10	15	15	5.1	<1.0	<10	44	<20	<1.0								
03-26265	Upper Site - BU 4	2003	0-10	10	21	<5.0	<1.0	<10	29	20	<1.0								
03-26266	Upper Site - BU 4	2003	0-10	19	55	10	<1.0	<10	42	32	<1.0								
03-26267	Upper Site - BU 4	2003	0-10	22	42	9.0	<1.0	10	63	60	<1.0								
03-26268	Upper Site - BU 3	2003	0-10	79	63	16	<1.0	12	135	186	<1.0								
03-26154	Upper Site - BU 3	2003	0-10	132	168	46	<1.0	21	175	151	<1.0								
03-26155	Upper Site - BU 3	2003	0-10	81	118	21	<1.0	17	100	92	<1.0								
03-26156	Upper Site - BU 3	2003	0-10	86	50	14	<1.0	<10	113	134	<1.0								
03-26157	Upper Site - BU 3	2003	0-10	37	32	8.3	<1.0	<10	74	82	1.1								
03-26158	Upper Site - BU 1	2003	0-10	222	495	60	<1.0	<10	37	134	1.3								
03-26159	Upper Site - BU 1	2003	0-10	53	640	57	<1.0	<10	28	63	1.2								
	N value			108	108	108	108	108	108	108	108	6	6						
	Background Detection Limits			5.0	5.0	5.0	1.0	10	15	20	1.0	0.5	0.002						
	Arithmetic Mean			60	141	20	0.50	7.7	70	90	0.78	0.25	0.0047						
	Arithmetic Mean Corrected for Detection Limits			60	141	20	1.0	10	70	90	1.0	0.5	0.002						
	Standard Deviation			40	230	16	0.0	4.9	33	76	0.65	0.00	0.01						
	Minimum			9.9	13	2.5	0.50	5.0	23	10	0.50	0.25	0.0001						
	Maximum			222	1140	76	0.50	26	186	580	5.9	0.25	0.024						
	95% Confidence Limit			7.6	43	3.0		0.9	6.3	14	0.12		0.01						

[1]sample results not included in calculation of Baseline Arithmetic Mean.

DYE-M US West Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34* (mg/kg)
Background Data - Arithmetic Mean						60	141	20	1.0	10	70	90	1.0	0.50	0.0002				N/A
Baseline Data - Arithmetic Mean						**67**	**62**	**16**	**1.0**	**10**	**115**	**133**	**1.3**	**0.1**	**0.1**	**30**	**10**	**10**	**139**
Baseline Data - Standard Deviation						30	49	7.0	0.41	16	47	60	2.4	0.0071	0.12	5.4	85	69	360
Baseline Data Mean + 3xStandard Deviation						157	207	37	2.2	58	257	313	8.5	0.12	0.46	46	264	217	1219
**** If baseline or background arithmetic mean was below the detection limit, the mean has been modified to match the detection limit value.***																			
DEW Line Cleanup Tier I Criteria										*200*					*1*				
*DEW Line Cleanup **Site Specific** Tier II Criteria & Hydrocarbon Action Level*						*296*	*2100*	*153*	*5*	*500*	*500*	*513*	*30*	*2*	*5*				*2500*
Monitoring Data																			**TPH Sum will appear when F1, F2 and F3 fractions are entered.**
Upgradient																			
	DM-35 surface																		
14-8438	DM-35	2014	Year 1	Phase I	5-10	50	**150**	**23**	<1.0	<10	44	53	0.6	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-35 depth																		
14-8440/41	DM-35	2014	Year 1	Phase I	45-50	25	**76**	12	<1.0	**11**	45	41	1.0	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-39 surface																		
14-8427	DM-39	2014	Year 1	Phase I	5-10	**95**	37	11	<1.0	<10	**147**	**160**	**1.6**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A

DYE-M US West Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34* (mg/kg)
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-39 depth																		
14-8428	DM-39	2014	Year 1	Phase I	45-50	**110**	37	11	<1.0	<10	**154**	**170**	**2.0**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-40 surface																		
14-8367	DM-40	2014	Year 1	Phase I	5-10	**97**	51	11	<1.0	**11**	**158**	**200**	**2.7**	0.02	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-40 depth																		
14-8368	DM-40	2014	Year 1	Phase I	45-50	**100**	48	11	<1.0	<10	**180**	**300**	**2.5**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US West Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34* (mg/kg)
	DM-47 surface																		
14-8342	DM-47	2014	Year 1	Phase I	5-10	**93**	**98**	**22**	<1.0	**11**	**190**	**290**	**3.2**	<0.010	<0.010	15	**2100**	**39**	**2144**
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-47 depth																		
14-8343	DM-47	2014	Year 1	Phase I	45-50	**83**	**110**	**17**	<1.0	**14**	**140**	**210**	**2.9**	<0.010	0.059	<10	**600**	**12**	**617**
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US West Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34* (mg/kg)
	DM-50 surface																		
14-8338	DM-50	2014	Year 1	Phase I	5-10	**100**	**79**	14	<1.0	**24**	82	**260**	**3.3**	0.015	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-50 depth																		
14-8340/41	DM-50	2014	Year 1	Phase I	35-40	**120**	**74**	15	<1.0	**10**	99	**260**	**4.3**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-51 surface																		
14-8362	DM-51	2014	Year 1	Phase I	5-10	46	**62**	13	<1.0	**13**	86	110	**2.0**	<0.010	0.018	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-51 depth																		
14-8363	DM-51	2014	Year 1	Phase I	30-35	56	54	11	<1.0	**23**	100	130	**1.7**	<0.010	0.066	19	**1500**	**390**	**1909**
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A

DYE-M US West Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34* (mg/kg)
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-52 surface																		
14-8364	DM-52	2014	Year 1	Phase I	5-10	**87**	**290**	**43**	<1.0	<10	61	75	0.6	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-52 depth																		
14-8365	DM-52	2014	Year 1	Phase I	40-45	**78**	**220**	**34**	<1.0	<10	55	61	0.7	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US West Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34* (mg/kg)
Downgradient																			
	DM-31 surface																		
14-8433	DM-31	2014	Year 1	Phase I	5-10	57	30	9.1	<1.0	**27**	**118**	130	1.0	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-31 depth																		
14-8434	DM-31	2014	Year 1	Phase I	40-45	49	30	7.3	<1.0	<10	97	100	0.7	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US West Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34* (mg/kg)
	DM-32 surface																		
14-8430/31	DM-32	2014	Year 1	Phase I	5-10	66	33	9.9	<1.0	<10	115	**150**	**2.8**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-32 depth																		0
14-8432	DM-32	2014	Year 1	Phase I	45-50	**90**	30	8.4	<1.0	<10	108	**150**	**5.3**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US West Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34* (mg/kg)
	DM-33 surface																		
14-8375	DM-33	2014	Year 1	Phase I	5-10	24	45	11	<1.0	<10	60	56	0.6	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-33 depth																		
14-8377	DM-33	2014	Year 1	Phase I	45-50	27	**63**	11	<1.0	<10	60	60	0.8	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US West Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34* (mg/kg)
	DM-34 surface																		
14-8378	DM-34	2014	Year 1	Phase I	5-10	30	55	16	<1.0	<10	65	42	1.1	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-34 depth																		
14-8380/81	DM-34	2014	Year 1	Phase I	45-50	25	**65**	16	<1.0	<10	58	37	0.9	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US West Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34* (mg/kg)
	DM-36 surface																		
14-8442	DM-36	2014	Year 1	Phase I	5-10	**98**	48	13	<1.0	**13**	**135**	**180**	1.2	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-36 depth																		
14-8443	DM-36	2014	Year 1	Phase I	45-50	**93**	38	10	<1.0	**12**	106	**140**	**2.9**	<0.010	<0.010	<10	**19**	<10	29
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US West Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34* (mg/kg)
	DM-37 surface																		
14-8435	DM-37	2014	Year 1	Phase I	5-10	53	37	10.1	<1.0	<10	106	130	**1.4**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-37 depth																		
14-8437	DM-37	2014	Year 1	Phase I	45-50	37	32	7.6	<1.0	<10	84	100	1.1	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US West Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34* (mg/kg)
	DM-38 surface																		
14-8382	DM-38	2014	Year 1	Phase I	5-10	58	61	15	<1.0	**94**	**284**	84	**1.7**	0.02	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-38 depth																		
14-8383	DM-38	2014	Year 1	Phase I	45-50	64	**63**	13	<1.0	**100**	**265**	76	**1.6**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US West Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34* (mg/kg)
	DM-41 surface																		
14-8370/71	DM-41	2014	Year 1	Phase I	5-10	**69**	44	11	<1.0	**34**	**155**	125	1.3	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-41 depth																		
14-8372	DM-41	2014	Year 1	Phase I	35-40	**76**	**73**	16	<1.0	**15**	**170**	**180**	**1.6**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US West Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34* (mg/kg)
	DM-42 surface																		
14-8373	DM-42	2014	Year 1	Phase I	5-10	**84**	**150**	**41**	<1.0	<10	**180**	120	**3.8**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-42 depth																		
14-8374	DM-42	2014	Year 1	Phase I	50-55	**69**	42	12	<1.0	<10	**130**	**140**	**1.5**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US West Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34* (mg/kg)
	DM-43 surface																		
14-8350/51	DM-43	2014	Year 1	Phase I	5-10	40	45	12	<1.0	<10	73	110	1.1	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-43 depth																		
14-8352	DM-43	2014	Year 1	Phase I	45-50	38	48	12	<1.0	<10	79	110	0.9	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US West Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34* (mg/kg)
	DM-44 surface																		
14-8353	DM-44	2014	Year 1	Phase I	5-10	**110**	41	13	<1.0	<10	**180**	**190**	**3.7**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-44 depth																		
14-8354	DM-44	2014	Year 1	Phase I	45-50	**190**	51	11	<1.0	**11**	**170**	**180**	**4.9**	0.023	<0.010	<10	<10	**15**	25
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US West Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34* (mg/kg)
	DM-45 surface																		
14-8355	DM-45	2014	Year 1	Phase I	5-10	**110**	**98**	**21**	<1.0	**10**	**160**	**170**	**2.2**	0.03	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-45 depth																		
14-8357	DM-45	2014	Year 1	Phase I	45-50	**100**	**100**	**17**	<1.0	**11**	**160**	**190**	**1.8**	0.024	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US West Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34* (mg/kg)
	DM-46 surface																		
14-8358	DM-46	2014	Year 1	Phase I	5-10	**70**	**81**	14	<1.0	**18**	100	**150**	**3.9**	<0.010	<0.010	<10	<10	**13**	23
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-46 depth																		
14-8360/61	DM-46	2014	Year 1	Phase I	45-50	**160**	46	7.9	<1.0	**11**	**160**	**160**	**11**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US West Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34* (mg/kg)
	DM-48 surface																		
14-8347	DM-48	2014	Year 1	Phase I	5-10	**130**	**320**	**36**	<1.0	**16**	**140**	**450**	**15**	<0.010	<0.010	<10	<10	**16**	26
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-48 depth																		
14-8348	DM-48	2014	Year 1	Phase I	45-50	**130**	**190**	**24**	<1.0	**12**	**130**	**280**	**12**	0.017	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US West Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd* (mg/kg)	Pb* (mg/kg)	Zn (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB* (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34* (mg/kg)
	DM-49 surface																		
14-8344	DM-49	2014	Year 1	Phase I	5-10	**120**	37	9	<1.0	<10	**150**	**220**	1	<0.010	<0.010	14	**230**	<10	**249**
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-49 depth																		
14-8345	DM-49	2014	Year 1	Phase I	45-50	**130**	31	8.3	<1.0	<10	**150**	**200**	0.9	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

Note: Modified TPH Total (C_6-C_{34}) has been calculated by adding results for F1, F2 and F3.

Legend

XX	sample exceeds background
XX	**sample exceeds baseline**
XX	*sample exceeds DLCU Tier I criteria*
XX	*sample exceeds DLCU Tier II criteria*

DYE-M US West Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
Baseline Data																			
Upgradient:																			
01-19039	19039	2001	0	83	18	13	<1.0	<10	120	150	<1.0		<0.1						
01-19043	19043	2001	0	79	36	13	<1.0	12	140	160	<1.0		<0.1						
01-19044	19043	2001	40	110	35	14	<1.0	<10	200	190	<1.0		<0.1	420					
01-19046	19046	2001	0	65	35	13	<1.0	<10	110	150	<1.0		<0.1						
01-4097	4097	2001	0	38	51	12	<1.0	20	93	110	<1.0		0.2						
01-4098	4097	2001	50										<0.1						
97-5679		1997	0	49				27	110				<0.5	150					
97-7914		1997	0	49				46	99				0.62	1900					
97-7915		1997	0	75				13	81				<0.5						
97-7924		1997	0	19				26	65				<0.5						
97-7930/31		1997	0	65				51	145				<0.5						
97-7932		1997	0	44				36	95				<0.5	240					
97-7935		1997	0										<0.5						
97-7936		1997	0	53				<10	72				<0.5	<40					
97-7942		1997	0	21				12	66				<0.5	84					
01-18623	18623	2001	0	88	55	20	<1.0	22	150	190	<1.0		<0.1						
01-18626	18626	2001	0	35	37	12	<1.0	14	76	98	<1.0		<0.1						
01-18633	18633	2001	0	55	47	15	<1.0	31	130	130	<1.0		<0.1						
01-18636	18636	2001	0	42	44	13	<1.0	23	100	110	<1.0		<0.1						
01-18637	18636	2001	40											<40					
01-18646	18649	2001	50	120	110	38	<1.0	30	150	200	<1.0		<0.1						
01-18648	18648	2001	0	43	58	16	<1.0	17	91	110	<1.0		<0.1	<40					
01-18649	18649	2001	0	46	60	18	<1.0	22	93	110	<1.0		<0.1						
01-18650/51[1]	18648	2001	50											6800					
01-18653	18653	2001	0	41	42	14	<1.0	15	78	99	<1.0		<0.1						
01-18654	18653	2001	50											<40					
01-18656	18656	2001	0										0.34						
01-18657	18656	2001	50	44	18	6.6	<1.0	16	66	82	<1.0		<0.1						
01-18659	18659	2001	0										0.52						
01-18778	18778	2001	0	49	53	13	<1.0	27	94	110	<1.0		<0.1						
01-18785	18785	2001	0	80	64	16	<1.0	14	130	160	2		<0.1						
01-18788	18788	2001	0	69	39	13	<1.0	16	110	140	<1.0		<0.1						
01-18890/91	18889	2001	50	25	49	13	<1.0	14	59	48	<1.0		<0.1						
01-18896	18896	2001	0	97	68	17	<1.0	27	150	190	<1.0		0.5						
01-18897	18896	2001	50										0.1						
00-22453		2000	0	61	54	16	<1.0	<10	110	130	<1.0		<0.1						
00-22458		2000	0	41.5	49.9	13.2	<1.0	14	79	100	<1.0		<0.1						
00-23035		2000	0										0.82						
00-23057		2000	0	61	77	21	<1.0	19	110	130	<1.0		0.2						

DYE-M US West Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
00-23058		2000	0	130				120	400				0.66						
00-23062		2000	0						100				<0.2						
00-23063		2000	0										<0.2						
00-23064		2000	0						100				<0.2						
00-23066		2000	0										0.33						
00-23067		2000	0										0.6						
00-23076		2000	0											310					
00-23078		2000	0					140	140										
00-23080/81		2000	0											56					
00-23082		2000	0											140					
00-23497		2000	0	32	35	11	<1.0	15	65	81	<1.0		<0.1						
00-23524		2000	0	37	50	13	<1.0	28	75	93	<1.0		<0.1						
00-23525		2000	0	41	39	14	<1.0	110	94	110	<1.0		<0.1						
00-23526		2000	0	34	39	13	<1.0	11	70	94	<1.0		<0.1						
00-22394		2000	0	62	24	14	<1.0	<10	92	120	<1.0		<0.1						
00-22398		2000	0	98	47	19	<1.0	<10	140	160	<1.0		<0.1						
00-22397		2000	0	57	53	19	<1.0	<10	88	120	<1.0		<0.1						
97-5677		1997	0	47	44	14	<1.0	<10	100	120	0.3		<0.5						
97-5678		1997	35	81	47	14	<1.0	<10	140	160	0.24		<0.5						
08-29283	DM-39	2008	0-10	64	37	15	<1.0	<10	140	130	<1.0	<0.10	<0.0030	16			<10	<4.0	9.3
08-29285/86	DM-39	2008	30-40	71	26	16	<1.0	<10	120	120	<1.0	<0.10	<0.0030	30			<10	8.2	17
08-11633	DM-40	2008	0-10	43	46	13	<1.0	25	100	110	<1.0	<0.10	<0.0030	41			<10	<4.0	34
08-11635	DM-40	2008	30-40	58	41	13	<1.0	12	140	150	<1.0	<0.10	<0.0030	55			<10	<4.0	48
08-11641	DM-47	2008	0-10	59	70	20	<1.0	<10	130	180	<1.0	<0.10	0.019	821			21	680	120
08-11643/44	DM-47	2008	30-40	75	62	22	<1.0	<10	160	210	<1.0	<0.10	<0.0030	86			<10	67	14
08-11621/22	DM-50	2008	0-10	35	48	12	<1.0	20	76	91	<1.0	<0.10	0.003	81			<10	6.6	69
08-11623	DM-50	2008	30-40	76	96	18	<1.0	15	78	150	<1.0	<0.10	0.0047	99			<10	5.1	89
08-11625	DM-51	2008	0-10	41	70	16	<1.0	18	87	120	<1.0	<0.10	0.029	94			<10	4.8	84
08-11627	DM-51	2008	30-40	53	50	16	<1.0	21	110	140	<1.0	<0.10	0.03	1150			50	530	570
08-11629	DM-52	2008	0-10	76	260	42	<1.0	<10	56	73	<1.0	<0.10	0.0062	33			<10	<4.0	26
08-11631	DM-52	2008	30-40	82	160	33	<1.0	<10	72	84	<1.0	<0.10	0.023	44			<10	<4.0	37
09-21617	DM-35	2009	0-10	85	99	23	<1.0	<10	120	140	2.1	<0.10	<0.0030	12			<10	<4.0	<9.0
09-21619/20	DM-35	2009	30-40	120	43	14	<1.0	<10	130	160	2.2	<0.10	<0.0030	46			<10	14	27
09-21613	DM-39	2009	0-10	48	76	20	<1.0	11	56	61	<1.0	<0.10	<0.0030	14			<10	4.2	<9.0
09-21615	DM-39	2009	30-40	46	93	20	<1.0	13	59	61	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0
09-21573	DM-40	2009	0-10	76	73	23	<1.0	<10	130	130	1.2	<0.10	<0.0030	30			<10	13	12
09-21575	DM-40	2009	30-40	120	37	9.6	<1.0	17	140	150	2.8	<0.10	<0.0030	37			<10	18	14
11-12942	DM-47	2011	0-10	55	52	16	<1.0	13	100	120	1.1	<0.10	0.05	53			<10	33	15
11-12944	DM-47	2011	30-40	88	84	28	<1.0	27	190	230	<1.0	<0.10	0.06	407			<10	370	32
11-12930	DM-50	2011	0-10	29	42	13	<1.0	11	56	68	<1.0	<0.10	0.05	36			<10	<4.0	29
11-12932	DM-50	2011	30-40	58	78	17	<1.0	20	95	140	<1.0	<0.10	0.19	64			<10	4.6	54
11-12934	DM-51	2011	0-10	41	74	18	<1.0	24	83	99	2.0	<0.10	<0.050	33			<10	5.5	22
11-12936	DM-51	2011	30-40	42	65	16	<1.0	19	85	98	<1.0	<0.10	0.05	251			<10	220	26

DYE-M US West Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
11-12938	DM-52	2011	0-10	80	350	50	<1.0	<10	66	92	<1.0	<0.10	<0.050	17			<10	<4.0	10
11-12940	DM-52	2011	30-40	91	190	37	<1.0	<10	70	86	<1.0	<0.10	<0.050	35			<10	<4.0	28
12-44798	DM-35	2012	0-10	80	100	22	<1.0	<10	140	150	3.3	<0.10	<0.050	12			<10	<4.0	<9.0
12-44800	DM-35	2012	20-30	88	53	12	<1.0	<10	170	190	2.2	<0.10	<0.050	238			<10	160	73
12-44810/11	DM-39	2012	0-10	74	51	13	<1.0	<10	180	170	1.1	<0.10	<0.050	30			<10	4.5	20.5
12-44812	DM-39	2012	20-30	85	37	12	<1.0	<10	140	170	<1.0	<0.10	<0.050	12			<10	<4.0	<9.0
12-44750/51	DM-40	2012	0-10	71	79	28	<1.0	<10	140	120	2.95	<0.10	<0.050	25			<30	<10	<10
12-44752	DM-40	2012	20-30	150	45	12	<1.0	18	190	230	2.1	0.0061	<0.050	25			<30	<10	<10
13-25320/21	DM-35	2013	0-10	110	38	7.3	<1.0	18	160	180	3.8	<0.10	<0.050	93			<10	38	50
13-25322	DM-35	2013	30-40	110	42	8.3	<1.0	15	150	180	2.5	<0.10	<0.050	171			<10	56	110
13-25336	DM-39	2013	0-10	78	47	11	<1.0	<10	160	170	2.0	<0.10	<0.050	43			<10	17	21
13-25338	DM-39	2013	30-40	95	38	11	<1.0	<10	150	170	2.2	<0.10	<0.050	12			<10	<4.0	<9.0
13-25292	DM-40	2013	0-10	85	77	19	<1.0	<10	130	120	3.0	<0.10	<0.050	29			<10	9.6	14
13-25294	DM-40	2013	30-40	85	77	19	<1.0	<10	130	120	2.7	<0.10	<0.050	64			<10	41	18
13-25052	DM-47	2013	0-10	64	53	11	<1.0	14	100	130	2.5	<0.10	0.15	178			<10	74	99
13-25054	DM-47	2013	30-40	67	59	16	<1.0	10	140	190	2.0	<0.10	<0.050	27			<10	17	<9.0
13-25064	DM-50	2013	0-10	68	52	10	<1.0	<10	78	140	2.6	<0.10	<0.050	12			<10	<4.0	<9.0
13-25066	DM-50	2013	30-40	80	43	10	<1.0	12	94	150	2.9	<0.10	<0.050	15			<10	5.8	<9.0
13-25068	DM-51	2013	0-10	32	47	8.7	<1.0	14	60	74	2.0	<0.10	<0.050	57			<10	7.9	44
13-25070/71	DM-51	2013	30-40	46	60	11	<1.0	22	80	110	2.4	<0.10	<0.050	418			28	240	150
13-25072	DM-52	2013	0-10	77	260	40	<1.0	<10	68	79	1.2	<0.10	<0.050	21			<10	<4.0	14
13-25074	DM-52	2013	30-40	76	200	34	<1.0	<10	48	57	0.4	<0.10	<0.050	21			<10	<4.0	14
Downgradient:																			
01-19152	19152	2001	0	58	31	13	<1.0	<10	100	120	<1.0		<0.1						
01-19209	19209	2001	0	110	30	12	<1.0	10	100	120	2.6		<0.1						
01-19210/11	19209	2001	50											<40					
01-19049	19049	2001	0	76	35	14	<1.0	<10	150	160	<1.0		<0.1						
01-19052	19049	2001	50	84	66	16	<1.0	<10	97	120	<1.0		<0.1						
01-19036	19036	2001	0	66	22	10	<1.0	<10	130	140	1.4		<0.1						
01-19158	19158	2001	0	59	37	14	<1.0	<10	120	130	<1.0		0.2						
01-19148	19148	2001	0	130	43	21	<1.0	56	440	220	<1.0		<0.1						
01-19149	19148	2001	40											160					
01-19155	19155	2001	0	58	41	16	<1.0	<10	110	140	<1.0		<0.1						
01-19109	19109	2001	0	45	45	16	<1.0	12	89	110	<1.0		<0.1						
01-19112	19112	2001	0	57	34	12	<1.0	<10	94	110	<1.0		<0.1						
01-19237	19237	2001	0	80	75	21	2.1	<10	110	120	<1.0		<0.1						
01-19238	19237	2001	30	54	51	15	1.8	<10	98	110	<1.0		<0.1						
00-22388		2000	0	72	33	11	<1.0	<10	110	130	<1.0		<0.1	<40					
00-22389		2000	0	83	44	18	<1.0	12	140	180	<1.0		<0.1	<40					
00-22390/91		2000	0	77	37	18	<1.0	21	150	140	<1.0		<0.1						
00-22392		2000	0	69	31	19	<1.0	<10	110	140	<1.0		<0.1						
00-24760		2000	0											<40					
00-24761		2000	0											<40					

DYE-M US West Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
00-24762		2000	0											<40					
00-24763		2000	0											<40					
00-24764		2000	0											42					
00-24765		2000	0											82					
00-24766		2000	0											400					
00-24770		2000	0											1100					
00-24771		2000	0											1300					
01-18929		2001	0	110	270	30	<1.0	<10	110	540	7.7		<0.1						
01-18914		2001	50	94	370	48	<1.0	<10	130	1200	<1.0		<0.1						
01-18909		2001	0	180	210	32	<1.0	<10	140	610	<1.0		<0.1						
97-5671		1997	0	57	45	14	<1.0	<10	100	130	0.25		<0.5						
97-5672		1997	40	91	68	14	<1.0	<10	120	160	0.72		<0.5						
97-5673		1997	0	87	11	9.1	<1.0	<10	130	180	0.24		<0.5						
97-5674		1997	35	120	18	7.6	<1.0	<10	120	170	0.23		<0.5						
97-5675		1997	0	56	60	21	<1.0	11	91	120	0.25		<0.5						
97-5676		1997	30	68	90	26	<1.0	<10	82	180	<0.2		0.51						
00-22315		2000	0	43	34	15	<1.0	<10	76	95	<1.0		<0.1						
00-22316		2000	30	37	31	15	<1.0	<10	76	92	<1.0		<0.1						
01-19054	19054	2001	0	78	22	9.7	<1.0	12	120	100	<1.0		<0.1						
01-19057	19057	2001	0	73	36	13	<1.0	40	140	160	<1.0		<0.1						
01-19060/61	19060	2001	0	60	24	10	<1.0	16	120	130	<1.0		<0.1						
01-19115	19115	2001	0	70	35	13	<1.0	24	130	140	<1.0		<0.1						
01-19118	19118	2001	0	56	41	15	<1.0	15	110	110	<1.0		<0.1						
01-19119	19118	2001	50											<40					
00-24804		2000	0											150					
00-24805		2000	30											96					
00-24807		2000	0											1900					
00-24808		2000	30											<130					
00-24810		2000	0											<40					
00-24811		2000	0											<40					
00-24812		2000	30											<40					
00-24813		2000	50											<40					
00-22387		2000	0											<40					
00-24767		2000	0											170					
00-24768		2000	0											340					
00-24769		2000	0											150					
01-19122	19122	2001	0	87	48	18	<1.0	14	150	200	<1.0		<0.1						
01-19125	19125	2001	0	47	39	13	<1.0	12	91	100	<1.0		<0.1						
01-24772		2000	0											1300					
01-19064	19064	2001	0	59	27	8.6	<1.0	<10	110	120	4.7		<0.1						
01-19067	19067	2001	0	62	27	9.2	<1.0	12	100	110	2.8		<0.1						
01-19068	19067	2001	50	170	33	12	<1.0	26	210	160	9.9		<0.1						
00-22378		2000	0	100	48	21	<1.0	<10	150	200	<1.0		<0.1	<40					

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Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
00-24930		2000	0	46	45	15	<1.0	14	100	130	<1.0		<0.1						
00-24931		2000	0	45	41	14	<1.0	15	97	120	<1.0		<0.1						
00-24932	24930	2000	30	60	40	14	<1.0	<10	130	150	<1.0		<0.1						
00-24927		2000	0	66	31	15	<1.0	<10	200	160	<1.0		<0.1						
00-24928	24927	2000	30	71	27	15	<1.0	<10	160	150	<1.0		<0.1						
01-19053	19053	2001	0	67	30	13	<1.0	<10	130	120	<1.0		<0.1						
01-19089	19089	2001	0	43	38	16	<1.0	<10	120	180	<1.0		<0.1						
01-19090/91	19089	2001	40											<40					
01-19093	19093	2001	0	68	36	16	<1.0	<10	120	130	<1.0		<0.1						
01-19094	19093	2001	40											100					
01-19070/71	19069	2001	50											<40					
01-19003	19003	2001	0	48	37	13	<1.0	13	120	140	<1.0		<0.1						
00-22380/81		2000	0	72	53	18	<1.0	<10	140	180	<1.0		<0.1						
00-22382		2000	30	62	44	15	<1.0	15	130	160	4.7		<0.1						
01-19096	19096	2001	0	50	39	18	<1.0	<10	130	160	<1.0		<0.1						
01-19097	19096	2001	40											<40					
01-19099	19099	2001	0	84	26	16	<1.0	11	160	150	<1.0		<0.1						
01-19103	19103	2001	0	45	27	12	<1.0	<10	97	96	<1.0		<0.1						
01-18993	18993	2001	0	67	26	11	<1.0	11	120	130	<1.0		0.2						
01-18996	18996	2001	0	44	32	11	<1.0	<10	100	110	<1.0		<0.1						
01-18999	18999	2001	0	37	31	9.9	<1.0	11	83	99	<1.0		<0.1						
01-19106	19106	2001	0	46	42	15	<1.0	<10	93	110	<1.0		<0.1						
00-22383		2000	0	41	29	12	<1.0	10	110	120	<1.0		<0.1						
00-22372		2000	0	56	49	15	<1.0	22	120	210	<1.0		<0.1						
01-19076	19076	2001	0	53	40	12	<1.0	18	120	190	<1.0		<0.1						
01-19077	19076	2001	50											<40					
01-19083	19083	2001	0	95	19	9.6	<1.0	<10	120	170	<1.0		<0.1						
01-19084	19083	2001	50	84	19	10	<1.0	<10	140	180	<1.0		<0.1	<40					
01-19079	19079	2001	0	74	46	15	<1.0	<10	130	180	<1.0		<0.1						
01-19080/81	19079	2001	50											<40					
01-19280	19280	2001	50	84	19	11	1.1	11	140	130	<1.0		<0.1						
01-22373		2000	0	36	26	11	<1.0	<10	76	99	<1.0		<0.1						
01-22374		2000	30	36	27	11	<1.0	<10	73	99	<1.0		<0.1						
01-19142	19142	2001	0	23	66	16	<1.0	<10	46	54	1.1		<0.1						
01-19138	19138	2001	0	31	46	11	<1.0	<10	45	48	<1.0		<0.1						
01-19139/40	19138	2001	40	43	68	16	<1.0	<10	69	78	<1.0		<0.1						
01-19169	19169	2001	0	33	58	20	<1.0	10	75	41	<1.0		<0.1						
01-19166	19166	2001	0	22	44	14	<1.0	15	76	59	<1.0		<0.1						
01-19163	19163	2001	0	19	59	12	<1.0	12	47	41	1.4		<0.1						
01-19173	19173	2001	0	24	50	15	<1.0	<10	59	34	<1.0		<0.1						
01-19159	19159	2001	0	44	40	25	<1.0	<10	75	28	2.3		<0.1						
00-22307		2000	0	19	60	15	<1.0	<10	61	36	6.7		<0.1	<40					
00-22308		2000	0	18	56	11	<1.0	<10	44	37	1.1		<0.1						

DYE-M US West Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
01-19263	19263	2001	0	24	55	17	<1.0	12	69	50	<1.0		<0.1						
01-19264	19263	2001	40	24	41	14	<1.0	13	68	48	<1.0		<0.1						
01-19259	19259	2001	0	24	77	13	<1.0	<10	53	40	<1.0		<0.1						
01-19260/61	19259	2001	40	34	60	14	<1.0	<10	50	44	<1.0		<0.1						
01-19176	19176	2001	0	18	61	12	<1.0	18	65	33	<1.0		<0.1						
01-19179	19179	2001	0	18	21	12	<1.0	11	65	26	<1.0		<0.1						
00-22323		2000	0	38	57	17	<1.0	<10	79	84	<1.0		<0.1						
01-19256	19256	2001	0	21	62	13	<1.0	<10	53	41	<1.0		<0.1						
00-22309		2000	0	140	59	30	<1.0	13	99	84	<1.0		<0.1						
01-19246	19246	2001	0	50	50	16	<1.0	10	63	56	<1.0		<0.1						
01-19253	19253	2001	0	30	47	18	<1.0	<10	58	52	<1.0		<0.1						
01-19249	19249	2001	0	56	98	29	1.1	13	91	77	<1.0		<0.1						
01-19252	19249	2001	50	45	88	24	<1.0	12	79	71	<1.0		<0.1						
00-22313		2000	0	47	87	25	<1.0	14	99	91	<1.0		<0.1						
00-22314		2000	30	54	84	27	<1.0	<10	99	88	<1.0		<0.1						
00-24869		2000	0										<0.5	1300					
00-24870		2000	0											1900					
00-24860/61		2000	0											535					
00-24862		2000	0										<0.5						
00-24864		2000	0										<0.5						
00-24865		2000	0											350					
00-24867		2000	0										<0.5						
00-24868		2000	0											<40					
00-24842		2000	0										0.8						
00-24843		2000	0										<0.5						
00-24845		2000	0										<0.5						
00-24846		2000	0										<0.5						
00-24847		2000	0										<0.5						
00-24848		2000	0										0.8						
00-24855		2000	0										<0.5						
00-24856		2000	0										0.9						
00-24857		2000	0										<0.5						
00-24859		2000	0										<0.5						
00-22459		2000	0	57.8	45.1	12.4	<1.0	<10	101	120	<1.0		<0.1						
00-22460/61		2000	0	58.4	45.5	14.2	<1.0	<10	106	120	<1.0		<0.1	<40					
00-22869		2000	0										<0.5						
00-22870/71		2000	0										<0.5						
00-22872		2000	0										<0.5						
00-22874		2000	0										<0.1						
00-22876		2000	0										<0.1						
00-22880/81		2000	0										<0.1						
00-22882		2000	0										<0.1						
00-22883		2000	0										<0.1						

DYE-M US West Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
00-22884		2000	0										<0.1						
00-22886		2000	0										<0.5						
00-22888		2000	0										<0.5						
00-22889		2000	0										<0.5						
00-22890/91		2000	0										<0.5						
00-22892		2000	0										<0.5						
00-22893		2000	0										<0.5						
00-22894		2000	0										<0.5						
00-22896		2000	0										0.2						
01-18639	18639	2001	0	45	45	13	<1.0	18	130	110	<1.0		<0.1						
01-18782	18782	2001	0	51	50	13	<1.0	29	130	110	<1.0		0.5						
01-18785	18785	2001	0	80	64	16	<1.0	14	130	160	2		<0.1						
01-20540/41		2001	0										<0.5						
01-20542		2001	0										<0.5						
00-22455		2000	0											<40					
01-19188	19188	2001	0	75	47	12	<1.0	14	150	150	<1.0		<0.1						
01-19189	19188	2001	50	110	69	15	<1.0	14	170	170	<1.0		<0.1						
00-23498		2000	0											55					
00-23499		2000	0											<40					
00-22445		2000	0	46	47	16	<1.0	16	100	120	<1.0		<0.1						
00-22400/01		2000	0	59	30	12	<1.0	<10	110	110	<1.0		<0.1						
01-18804	18804	2001	0	56	42	13	<1.0	15	120	140	<1.0		<0.1						
01-18805	18804	2001	40											<40					
01-19134	19134	2001	0	80	40	13	<1.0	18	110	130	<1.0		<0.1						
01-19183	19134	2001	50											<40					
01-19128	19128	2001	0	50	43	12	<1.0	15	90	96	1.1		<0.1						
01-19129	19128	2001	50											220					
01-19132	19132	2001	0	56	41	13	<1.0	10	110	120	<1.0		<0.1						
01-19133	19132	2001	50	150	46	17	<1.0	10	170	180	<1.0		<0.1	<40					
01-19185	19185	2001	0	87	39	13	<1.0	12	120	120	3.7		<0.1						
01-19186	19185	2001	50											2400					
01-18807	18807	2001	0	85	54	17	<1.0	<10	130	160	<1.0		<0.1						
01-18808	18807	2001	40											<40					
01-18800/01	18800	2001	0	53	49	14	<1.0	19	110	130	<1.0		<0.1						
01-18802	18800	2001	40											1700					
00-22446		2000	0	110	26	12	<1.0	<10	70	91	6.9		<0.1						
00-22399		2000	0	55	45	18	<1.0	<10	110	130	<1.0		<0.1						
01-18840/41	18840	2001	0	63	51	16	<1.0	19	110	130	<1.0		<0.1						
01-18844	18844	2001	0	94	63	14	<1.0	<10	130	130	<1.0		<0.1						
01-18837	18837	2001	0	61	56	13	<1.0	<10	86	99	<1.0		<0.1						
01-18834	18834	2001	0	52	40	13	<1.0	12	98	130	<1.0		<0.1						
01-18810/11	18810	2001	0	58	52	19	<1.0	<10	150	210	<1.0		<0.1						
01-18850/51	18850	2001	0	81	59	15	<1.0	<10	140	150	2.3		<0.1						

DYE-M US West Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
01-18852	18850	2001	40	74	53	14	<1.0	<10	120	140	<1.0		<0.1						
01-18854	18854	2001	0	66	42	14	<1.0	<10	110	120	<1.0		<0.1						
01-18857	18857	2001	0	140	34	11	<1.0	11	170	160	<1.0		<0.1						
01-19006	19006	2001	0	120	49	12	<1.0	54	200	140	<1.0		0.3						
01-19009	19009	2001	0	96	39	13	<1.0	10	130	150	<1.0		<0.1						
01-18847	18847	2001	0	130	38	14	<1.0	<10	190	180	<1.0		<0.1						
00-22447		2000	0	72	68	17	<1.0	39	120	120	<1.0		0.3						
00-22449		2000	0	140	45	15	1.4	66	210	140	<1.0		0.2						
01-19016	19016	2001	0	93	66	18	<1.0	<10	140	150	<1.0		<0.1						
01-19019	19019	2001	0	58	90	20	<1.0	<10	110	130	<1.0		<0.1						
01-19023	19023	2001	0	68	57	17	<1.0	<10	110	130	<1.0		<0.1						
01-19026	19026	2001	0	71	36	13	<1.0	<10	92	110	26		<0.1						
01-19029	19029	2001	0	88	67	17	<1.0	11	130	150	<1.0		<0.1						
01-19030/31	19029	2001	50	110	58	15	<1.0	<10	150	150	<1.0		<0.1						
01-19033	19033	2001	0	90	71	17	<1.0	11	130	140	<1.0		<0.1						
00-22448		2000	0	82	100	24	<1.0	<10	160	160	<1.0		<0.1						
00-22450/51		2000	0	63	72	18	<1.0	13	130	130	<1.0		<0.1						
00-22452		2000	0	69	50	15	<1.0	42	280	150	<1.0		<0.1						
01-20535	20534	2001	40											110					
01-18953	18953	2001	0	62	42	12	<1.0	<10	110	120	<1.0		<0.1						
01-18954	18953	2001	50										<0.2	<40					
01-18955	18955	2001	0	82	89	20	<1.0	<10	120	150	<1.0		<0.1						
01-18956	18955	2001	50	100	160	27	<1.0	10	150	170	<1.0		<0.1						
01-18943	18943	2001	0	60	49	13	<1.0	<10	120	120	<1.0		<0.1						
01-18944	18943	2001	50	65	55	16	<1.0	<10	110	120	<1.0		<0.1						
01-18934	18934	2001	0	63	120	16	<1.0	12	110	140	<1.0		<0.1						
01-18946	18946	2001	0	87	45	14	<1.0	16	170	140	<1.0		<0.1						
01-18949	18949	2001	0	55	50	13	<1.0	14	160	120	<1.0		<0.1						
01-18937	18937	2001	0	93	84	21	<1.0	21	110	200	3.3		<0.1						
01-18940/41	18940	2001	0	63	45	11	<1.0	16	110	120	1.2		<0.1						
01-18932	18932	2001	0	77	180	67	<1.0	19	130	190	5.7		<0.1						
01-18926	18926	2001	0	99	180	27	<1.0	20	140	460	<1.0		0.1						
01-18906	18906	2001	0	100	41	11	<1.0	12	180	230	<1.0		<0.1						
01-18903	18903	2001	0	130	81	16	<1.0	17	170	230	<1.0		<0.1						
01-18916	18916	2001	0	52	61	12	<1.0	13	78	110	<1.0		<0.1						
01-18919	18919	2001	0	100	200	29	<1.0	12	140	200	<1.0		<0.1						
01-18920/21	18919	2001	50	110	200	29	<1.0	11	160	380	1.7		<0.1						
01-18923	18923	2001	0	50	49	13	<1.0	14	98	120	<1.0		<0.1						
08-11649	DM-31	2008	0-10	45	21	11	<1.0	<10	99	110	<1.0	<0.10	0.11	44			<10	4.2	35
08-11651	DM-31	2008	35-45	35	18	9.5	<1.0	<10	86	92	<1.0	<0.10	0.027	21			<10	6.8	9.4
08-11657	DM-32	2008	0-10	52	38	15	<1.0	<10	100	160	<1.0	<0.10	<0.0030	24			<10	6.8	12
08-11659	DM-32	2008	30-40	58	39	15	<1.0	<10	100	170	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0
08-11661	DM-33	2008	0-10	19	41	11	<1.0	<10	44	43	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0

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Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
08-11663	DM-33	2008	35-45	27	39	13	<1.0	<10	52	54	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0
08-11653	DM-34	2008	0-10	19	49	13	<1.0	<10	41	32	<1.0	<0.10	<0.0030	15			<10	5.4	<9.0
08-11655	DM-34	2008	30-40	19	41	13	<1.0	<10	40	30	<1.0	<0.10	<0.0030	15			<10	5.3	<9.0
08-29275	DM-37	2008	0-10	69	52	19	<1.0	<10	120	140	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0
08-29277	DM-37	2008	30-40	52	40	16	<1.0	<10	110	130	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0
08-11637	DM-41	2008	0-10	110	43	16	<1.0	59	360	130	<1.0	<0.10	0.02	119			<10	38	76
08-11639	DM-41	2008	30-40	59	37	15	<1.0	13	140	120	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0
08-11645	DM-49	2008	0-10	98	160	29	<1.0	<10	140	280	1.6	<0.10	0.0031	41			<10	5.8	30
08-11647	DM-49	2008	30-40	160	210	38	<1.0	10	190	300	2.5	<0.10	<0.0030	16			<10	<4.0	9.2
09-21605	DM-36	2009	0-10	84	58	17	<1.0	12	100	150	<1.0	<0.10	<0.0030	19			<10	<4.0	12
09-21607	DM-36	2009	30-40	68	53	16	<1.0	11	96	130	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0
09-21609	DM-37	2009	0-10	79	44	18	<1.0	<10	130	150	<1.0	<0.10	<0.0030	29			<10	<4.0	22
09-21611	DM-37	2009	30-40	39	35	14	<1.0	<10	100	110	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0
09-21577/78	DM-41	2009	0-10	91	48	15	<1.0	36	250	130	<1.0	<0.10	0.0059	82			<10	23	54
09-21579	DM-41	2009	30-40	51	47	15	<1.0	<10	100	110	<1.0	<0.10	<0.0030	25			<10	4.3	16
09-21581	DM-42	2009	0-10	53	55	19	<1.0	<10	120	160	<1.0	<0.10	<0.0030	18			<10	<4.0	11
09-21583	DM-42	2009	30-40	39	57	18	<1.0	<10	98	130	<1.0	<0.10	<0.0030	17			<10	<4.0	10
09-21585	DM-43	2009	0-10	40	43	18	<1.0	<10	73	120	<1.0	<0.10	<0.0030	21			<10	<4.0	14
09-21587	DM-43	2009	30-40	30	46	15	<1.0	<10	59	93	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0
09-21589	DM-44	2009	0-10	97	38	17	<1.0	<10	180	190	<1.0	<0.10	<0.0030	16			<10	6.6	<9.0
09-21591	DM-44	2009	30-40	160	65	15	<1.0	<10	130	130	1.1	<0.10	<0.0030	12			<10	<4.0	<9.0
09-21593	DM-45	2009	0-10	76	93	23	<1.0	26	120	120	<1.0	<0.10	<0.0030	16			<10	<4.0	9.1
09-21595	DM-45	2009	30-40	86	120	24	<1.0	16	170	170	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0
09-21597	DM-46	2009	0-10	71	63	15	<1.0	21	100	130	1.2	<0.10	0.0071	19			<10	<4.0	12
09-21599	DM-46	2009	30-40	73	58	14	<1.0	19	100	120	<1.0	<0.10	<0.0030	282			<10	77	200
09-21601	DM-48	2009	0-10	110	350	44	<1.0	<10	110	440	13	<0.10	0.0043	140			<10	4.7	130
09-21603	DM-48	2009	30-40	88	120	18	<1.0	<10	95	170	6.8	<0.10	<0.0030	12			<10	<4.0	<9.0
11-12954	DM-31	2011	0-10	55	39	14	<1.0	14	110	120	<1.0	<0.10	0.19	42			<10	5.5	31
11-12956/57	DM-31	2011	30-40	54	43	15	<1.0	<10	100	120	<1.0	<0.10	0.08	93			<10	5	83
11-12958	DM-32	2011	0-10	67	48	18	<1.0	10	120	180	2.0	<0.10	<0.050	12			<10	<4.0	<9.0
11-12960	DM-32	2011	30-40	99	46	14	<1.0	11	94	170	3.4	<0.10	<0.050	12			<10	<4.0	<9.0
11-12962	DM-33	2011	0-10	24	43	13	<1.0	<10	58	60	<1.0	<0.10	<0.050	12			<10	<4.0	<9.0
11-12964	DM-33	2011	30-40	20	50	14	<1.0	<10	49	47	<1.0	<0.10	<0.050	12			<10	<4.0	<9.0
11-12966	DM-34	2011	0-10	15	57	12	<1.0	<10	43	38	1.3	<0.10	<0.050	20			<10	10	<9.0
11-12968	DM-34	2011	30-40	12	45	14	<1.0	<10	34	27	1.6	<0.10	<0.050	17			<10	7.2	<9.0
11-12946	DM-48	2011	0-10	130	380	49	<1.0	<10	120	460	13	<0.10	<0.050	12			<10	<4.0	<9.0
11-12948	DM-48	2011	30-40	150	130	26	<1.0	13	130	190	8.9	<0.10	<0.050	12			<10	<4.0	<9.0
11-12950	DM-49	2011	0-10	97	120	25	<1.0	13	140	310	<1.0	<0.10	<0.050	12			<10	<4.0	<9.0
11-12952	DM-49	2011	30-40	100	170	31	<1.0	10	160	210	1.4	<0.10	<0.0050	17			<10	<4.0	9.7
12-44802	DM-36	2012	0-10	94	73	17	<1.0	27	140	190	1.0	<0.10	<0.050	12			<10	<4.0	<9.0
12-44804	DM-36	2012	20-30	82	77	18	<1.0	19	130	180	1.2	<0.10	<0.050	12			<10	<4.0	<9.0
12-44806	DM-37	2012	0-10	65	46	13	<1.0	<10	130	150	1.5	<0.10	<0.050	19			<10	<4.0	12
12-44808	DM-37	2012	20-30	62	46	12	<1.0	<10	120	150	1.4	<0.10	<0.050	17			<10	<4.0	10

DYE-M US West Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
12-44814/15	DM-38	2012	0-10	65.5	66	15	<1.0	110	310	95.5	2.25	<0.10	<0.050	25			<30	<10	<10
12-44816	DM-38	2012	20-30	65	79	16	<1.0	57	160	76	2.2	<0.10	<0.050	25			<30	<10	<10
12-44754	DM-41	2012	0-10	71	47	17	<1.0	22	160	140	2.0	0.023	<0.050	121			<30	26	80
12-44756	DM-41	2012	20-30	62	45	18	<1.0	<10	120	130	1.3	0.0063	<0.050	25			<30	<10	<10
12-44758	DM-42	2012	0-10	50	48	18	<1.0	<10	110	130	1.0	<0.10	<0.050	25			<30	<10	<10
12-44760	DM-42	2012	20-30	46	43	17	<1.0	<10	100	130	0.9	<0.10	<0.050	25			<30	<10	<10
12-44762/63	DM-43	2012	0-10	47	40	21	<1.0	<10	70.5	110	1.3	<0.10	<0.050	25			<30	<10	<10
12-44764	DM-43	2012	20-30	36	42	19	<1.0	<10	68	100	1.2	<0.10	<0.050	25			<30	<10	<10
12-44766	DM-44	2012	0-10	84	52	21	<1.0	<10	160	170	3	<0.10	<0.050	25			<30	<10	<10
12-44768	DM-44	2012	20-30	110	40	16	<1.0	19	150	140	2.3	0.023	<0.050	25			<30	<10	<10
12-44770	DM-45	2012	0-10	61	84	19	<1.0	<10	95	95	1.2	<0.10	<0.050	25			<30	<10	<10
12-44772	DM-45	2012	20-30	82	94	22	<1.0	12	150	150	1.6	<0.10	<0.050	25			<30	<10	<10
12-44774	DM-46	2012	0-10	70	53	16	<1.0	21	100	120	3.8	0.0062	<0.050	25			<30	<10	<10
12-44776	DM-46	2012	20-30	63	58	16	<1.0	<10	89	93	2.2	<0.10	<0.050	331			<30	116	200
13-25340/41	DM-31	2013	0-10	59	42	11	<1.0	<10	140	160	1.7	<0.10	<0.050	14			<10	4.6	<9.0
13-25342	DM-31	2013	30-40	54	34	8.1	<1.0	<10	120	140	1.3	<0.10	<0.050	12			<10	<4.0	<9.0
13-25344	DM-32	2013	0-10	86	43	10	<1.0	11	120	190	3.5	<0.10	<0.050	12			<10	<4.0	<9.0
13-25346	DM-32	2013	30-40	63	31	9.6	<1.0	<10	91	130	3.2	<0.10	<0.050	12			<10	<4.0	<9.0
13-25348	DM-33	2013	0-10	18	40	7.6	<1.0	<10	47	44	1.3	<0.10	<0.050	22			<10	7.4	9.7
13-25350/51	DM-33	2013	30-40	28	60	13	<1.0	<10	63	60	1.1	<0.10	<0.050	14			<10	4.4	<9.0
13-25352	DM-34	2013	0-10	36	58	18	<1.0	<10	74	47	2.0	<0.10	<0.050	12			<10	<4.0	<9.0
13-25354	DM-34	2013	30-40	36	54	17	<1.0	<10	76	43	1.3	<0.10	<0.050	12			<10	<4.0	<9.0
13-25324	DM-36	2013	0-10	110	71	16	<1.0	15	130	190	1.4	<0.10	<0.050	12			<10	<4.0	<9.0
13-25326	DM-36	2013	30-40	91	63	14	<1.0	15	110	170	0.71	<0.10	<0.050	12			<10	<4.0	<9.0
13-25328	DM-37	2013	0-10	66	42	10	<1.0	<10	110	140	3.3	<0.10	<0.050	14			<10	4.7	<9.0
13-25330/31	DM-37	2013	30-40	49	46	11	<1.0	<10	120	140	1.4	<0.10	<0.050	12			<10	<4.0	<9.0
13-25332	DM-38	2013	0-10	90	60	12	<1.0	56	160	68	1.9	<0.10	<0.050	27			<10	6.4	16
13-25334	DM-38	2013	30-40	92	61	12	<1.0	58	170	72	2.6	<0.10	<0.050	30			<10	5.4	20
13-25296	DM-41	2013	0-10	55	46	11	<1.0	28	150	120	1.3	<0.10	<0.050	54			<10	9.4	40
13-25298	DM-41	2013	30-40	68	52	12	<1.0	<10	110	130	1.5	<0.10	<0.050	43			<10	33	<9.0
13-25300/01	DM-42	2013	0-10	44	64	16	<1.0	<10	110	150	1.2	<0.10	<0.050	12			<10	<4.0	<9.0
13-25302	DM-42	2013	30-40	40	82	15	<1.0	<10	100	140	1.3	<0.10	<0.050	12			<10	<4.0	<9.0
13-25304	DM-43	2013	0-10	41	42	12	<1.0	<10	74	120	0.9	<0.10	<0.050	12			<10	<4.0	<9.0
13-25306	DM-43	2013	30-40	35	49	14	<1.0	<10	74	120	0.88	<0.10	<0.050	12			<10	<4.0	<9.0
13-25308	DM-44	2013	0-10	160	37	8.4	<1.0	11	180	190	4.3	<0.10	<0.050	12			<10	<4.0	<9.0
13-25310/11	DM-44	2013	30-40	60	60	11	<1.0	<10	120	130	1.3	<0.10	<0.050	30			<10	6.7	18
13-25312	DM-45	2013	0-10	84	110	18	<1.0	10	120	130	1.6	<0.10	<0.050	12			<10	<4.0	<9.0
13-25314	DM-45	2013	30-40	82	100	16	<1.0	10	120	130	1.6	<0.10	<0.050	12			<10	<4.0	<9.0
13-25316	DM-46	2013	0-10	66	57	9.7	7.5	13	99	100	3.2	<0.10	<0.050	71			<10	10	56
13-25318	DM-46	2013	30-40	95	52	10	<1.0	27	130	150	5.6	<0.10	<0.050	562			<10	97	460
13-25056	DM-48	2013	0-10	99	330	35	<1.0	<10	100	420	18	<0.10	<0.050	33			<10	9.6	18
13-25058	DM-48	2013	30-40	160	170	24	<1.0	14	140	230	11	<0.10	<0.050	18			<10	8.2	<9.0
13-25060/61	DM-49	2013	0-10	88	76	16	<1.0	11	120	180	2.4	<0.10	<0.050	21			<10	11	<9.0

DYE-M US West Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
13-25062	DM-49	2013	30-40	100	27	6.6	<1.0	11	150	180	1.1	<0.10	<0.050	12			<10	<4.0	<9.0
	N value			329	320	320	320	330	332	320	320	138	374	205			138	138	138
	Baseline Detection Limits			3.0	5.0	5.0	1.0	10	15	20	1.0	0.1	0.1	40			30	10	10
	Arithmetic Mean			67	62	16	0.54	13	115	133	1.3	0.049	0.068	139			7	25	29
Arithmetic Mean Corrected for Detection Limits				67	62	16	1.0	10	115	133	1.3	0.10	0.10	139			30	10	10
	Standard Deviation			30	49	7.0	0.41	16	47	60	2.4	0.007	0.121	360			5	85	69
	Minimum			12	11	6.6	0.5	5.0	34	26	0.1	0.006	0.002	12			5	2	5
	Maximum			170	380	67	7.5	140	440	460	26	0.05	0.90	2400			50	680	570
	95% Confidence Limit			3.2	5	1			5.1	7	0.26	0.001	0.012	49			1	14	12
Background Data																			
89-G300	Along the beach, 1 km NW of ravine	1989										<0.5	0.004						
90-G315	2 km downstream BF304	1990										<0.5	0.024						
90-G320	100 m E of S end runway	1990										<0.5	<0.0002						
90-G321	0.5 mi E of S end runway	1990										<0.5	<0.0001						
90-G324	2.8 km from crossroads	1990										<0.5	<0.0002						
90-G325	5 km from crossroads	1990										<0.5	<0.0002						
00-25501	Pallet Line Area - background	2000	0-10	40	41	9.8	<1.0	16	41	73	<1.0								
00-25505	East of West Landfill - background - BU 1	2000	0-10	102	268	34	<1.0	<10	70	223	<1.0								
00-25506	East of West Landfill - background - BU 1	2000	0-10	72	293	29	<1.0	<10	84	214	<1.0								
00-25507	East of West Landfill - background - BU 1	2000	0-10	60	183	24	<1.0	<10	69	132	<1.0								
00-25508	East of West Landfill - background - BU 1	2000	0-10	54	138	25	<1.0	<10	99	118	<1.0								
00-25509	East of West Landfill - background - BU 1	2000	0-10	73	85	24	<1.0	<10	114	128	<1.0								
00-25512	South of Tacan - background - BU 2b	2000	0-10	110	99	22	<1.0	<10	37	27	<1.0								
00-25513	South of Tacan - background - BU 2b	2000	0-10	83	127	26	<1.0	<10	45	33	<1.0								
00-25514	South of Tacan - background - BU 2b	2000	0-10	158	96	25	<1.0	<10	43	24	<1.0								
00-25515	South of Tacan - background - BU 2b	2000	0-10	103	68	22	<1.0	<10	45	<20	<1.0								
00-25516	South of Tacan - background - BU 2b	2000	0-10	191	97	23	<1.0	<10	39	24	<1.0								
03-26130	Upper Site - BU-2	2003	0-10	65	940	69	<1.0	<10	61	118	<1.0								
03-26140	Upper Site - BU 4	2003	0-10	16	53	8.5	<1.0	<10	32	24	<1.0								
03-26150	Upper Site - BU 3	2003	0-10	44	61	13	<1.0	<10	89	115	<1.0								

DYE-M US West Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
03-26152	Upper Site - BU 3	2003	0-10	59	60	18	<1.0	10	84	159	<1.0								
03-26153	Upper Site - BU 3	2003	0-10	37	67	13	<1.0	11	75	86	<1.0								
03-26160	Upper Site - BU 1	2003	0-10	37	69	18	<1.0	11	93	86	1.4								
03-26162	Upper Site - BU 1	2003	0-10	70	99	17	<1.0	<10	80	108	1								
03-26163	Upper Site - BU 3	2003	0-10	57	112	17	<1.0	<10	89	106	2.1								
03-26165	Upper Site - BU 3	2003	0-10	65	79	17	<1.0	<10	102	122	<1.0								
03-26166	Upper Site - BU 3	2003	0-10	57	85	20	<1.0	22	99	120	1.6								
03-26167	Upper Site - BU 1	2003	0-10	115	93	19	<1.0	<10	40	121	<1.0								
03-26168	Upper Site - BU 3	2003	0-10	57	41	15	<1.0	<10	76	138	<1.0								
03-26169	Upper Site - BU 3	2003	0-10	38	58	16	<1.0	11	98	109	<1.0								
03-26170	Upper Site - BU 3	2003	0-10	59	28	10	<1.0	<10	100	98	1.8								
03-26172	Upper Site - BU 3	2003	0-10	59	34	7.1	<1.0	<10	89	94	<1.0								
03-26173	Upper Site - BU 3	2003	0-10	21	34	7.2	<1.0	<10	36	46	1.1								
03-26174	Upper Site - BU 3	2003	0-10	71	29	8.0	<1.0	11	106	120	1.4								
03-26175	Upper Site - BU 3	2003	0-10	76	27	8.7	<1.0	<10	117	119	<1.0								
03-26180	Upper Site - BU 4	2003	0-10	12	16	<5.0	<1.0	<10	28	<20	1.1								
03-26182	Upper Site - BU 4	2003	0-10	32	74	15	<1.0	<10	43	39	<1.0								
03-26183	Upper Site - BU 4	2003	0-10	37	47	10	<1.0	20	69	66	1.2								
03-26184	Upper Site - BU 4	2003	0-10	18	51	8.0	<1.0	12	39	33	1.4								
03-26185	Upper Site - BU 4	2003	0-10	17	17	5.3	<1.0	<10	44	<20	<1.0								
03-26186	Upper Site - BU 4	2003	0-10	19	43	8.7	<1.0	<10	46	57	<1.0								
03-26187	Upper Site - BU 4	2003	0-10	40	44	15	<1.0	<10	57	42	1.4								
03-26188	Upper Site - BU 4	2003	0-10	129	46	21	<1.0	<10	44	31	<1.0								
03-26189	Upper Site - BU 4	2003	0-10	107	39	14	<1.0	<10	38	38	<1.0								
03-26190	Upper Site - BU 4	2003	0-10	33	57	12	<1.0	10	64	73	1.5								
03-26192	Upper Site - BU 3	2003	0-10	66	31	8.6	<1.0	<10	125	142	2.1								
03-26193	Upper Site - BU 1	2003	0-10	87	86	19	<1.0	26	186	382	<1.0								
03-26194	Upper Site - BU 1	2003	0-10	131	33	10	<1.0	10	137	177	<1.0								
03-26195	Upper Site - BU 3	2003	0-10	11	16	<5.0	<1.0	<10	23	25	<1.0								
03-26196	Upper Site - BU 3	2003	0-10	49	40	10	<1.0	<10	84	107	<1.0								
03-26197	Upper Site - BU 4	2003	0-10	26	41	11	<1.0	10	61	66	1.1								
03-26198	Upper Site - BU 3	2003	0-10	88	26	14	<1.0	13	138	184	<1.0								
03-26199	Upper Site - BU 3	2003	0-10	58	50	15	<1.0	<10	116	144	<1.0								
03-26200	Upper Site - BU 1	2003	0-10	72	118	32	<1.0	13	150	146	<1.0								
03-26202	Upper Site - BU 4	2003	0-10	28	88	18	<1.0	15	60	46	<1.0								
03-26203	Upper Site - BU 4	2003	0-10	26	108	14	<1.0	<10	43	46	<1.0								
03-26204	Upper Site - BU 4	2003	0-10	29	93	17	<1.0	20	81	46	1.6								
03-26205	Upper Site - BU 3	2003	0-10	108	91	22	<1.0	10	127	147	<1.0								
03-26206	Upper Site - BU 3	2003	0-10	81	85	15	<1.0	<10	108	178	<1.0								
03-26212	Upper Site - BU 4	2003	0-10	22	13	<5.0	<1.0	<10	47	<20	<1.0								
03-26213	Upper Site - BU 4	2003	0-10	15	40	7.8	<1.0	<10	32	24	<1.0								
03-26214	Upper Site - BU 4	2003	0-10	23	250	26	<1.0	12	70	580	<1.0								
03-26215	Upper Site - BU 4	2003	0-10	40	68	20	<1.0	11	77	119	<1.0								

DYE-M US West Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
03-26216	Upper Site - BU 3	2003	0-10	62	73	22	<1.0	23	111	115	1.3								
03-26217	Upper Site - BU 4	2003	0-10	21	36	8.3	<1.0	<10	42	35	1.3								
03-26218	Upper Site - BU 3	2003	0-10	124	53	14	<1.0	13	140	167	<1.0								
03-26219	Upper Site - BU 3	2003	0-10	53	48	12	<1.0	<10	90	105	<1.0								
03-26220	Upper Site - BU 3	2003	0-10	44	34	8	<1.0	<10	74	82	<1.0								
03-26222	Upper Site - BU 3	2003	0-10	63	59	14	<1.0	24	84	107	5.9								
03-26223	Upper Site - BU 4	2003	0-10	29	29	24	<1.0	<10	67	41	1.9								
03-26224	Upper Site - BU 4	2003	0-10	21	50	9.0	<1.0	<10	42	39	1.3								
03-26225	Upper Site - BU 4	2003	0-10	17	27	7.7	<1.0	<10	40	23	1.2								
03-26226	Upper Site - BU 4	2003	0-10	23	24	9.3	<1.0	<10	54	27	<1.0								
03-26227	Upper Site - BU 1	2003	0-10	66	56	14	<1.0	<10	64	52	<1.0								
03-26228	Upper Site - BU 3	2003	0-10	42	48	13	<1.0	13	96	106	<1.0								
03-26229	Upper Site - BU 4	2003	0-10	22	23	7.3	<1.0	<10	30	21	<1.0								
03-26230	Upper Site - BU 3	2003	0-10	61	71	15	<1.0	12	88	95	1.4								
03-26232	Upper Site - BU 4	2003	0-10	32	31	11	<1.0	<10	61	26	1								
03-26233	Upper Site - BU 4	2003	0-10	42	40	11	<1.0	<10	50	35	<1.0								
03-26234	Upper Site - BU 4	2003	0-10	29	51	10	<1.0	14	49	43	<1.0								
03-26235	Upper Site - BU 1	2003	0-10	144	77	20	<1.0	<10	48	56	<1.0								
03-26236	Upper Site - BU 1	2003	0-10	56	325	32	<1.0	<10	32	185	<1.0								
03-26237	Upper Site - BU 4	2003	0-10	29	49	8	<1.0	<10	52	53	<1.0								
03-26238	Upper Site - BU 4	2003	0-10	36	93	14	<1.0	<10	57	50	<1.0								
03-26239	Upper Site - BU 2	2003	0-10	147	93	20	<1.0	<10	46	28	<1.0								
03-26240	Upper Site - BU 2	2003	0-10	117	240	31	<1.0	<10	51	67	<1.0								
03-26242	Upper Site - BU 1	2003	0-10	38	101	14	<1.0	<10	53	92	<1.0								
03-26243	Upper Site - BU 2	2003	0-10	42	275	28	<1.0	<10	59	65	<1.0								
03-26244	Upper Site - BU 2	2003	0-10	64	171	22	<1.0	<10	45	62	<1.0								
03-26245	Upper Site - BU 4	2003	0-10	28	42	10	<1.0	<10	50	39	1.7								
03-26246	Upper Site - BU 2	2003	0-10	70	1000	69	<1.0	<10	73	126	<1.0								
03-26250	Upper Site - BU 2	2003	0-10	49	1100	76	<1.0	<10	76	140	<1.0								
03-26251	Upper Site - BU 2	2003	0-10	51	1060	72	<1.0	<10	70	136	<1.0								
03-26252	Upper Site - BU 2	2003	0-10	120	95	18	<1.0	<10	42	25	<1.0								
03-26254	Upper Site - BU 2	2003	0-10	58	1140	76	<1.0	<10	74	141	<1.0								
03-26255	Upper Site - BU 2	2003	0-10	77	720	61	<1.0	<10	72	110	<1.0								
03-26256	Upper Site - BU 2	2003	0-10	84	289	38	<1.0	<10	52	77	<1.0								
03-26257	Upper Site - BU 2	2003	0-10	113	199	34	<1.0	<10	62	103	<1.0								
03-26258	Upper Site - BU 2	2003	0-10	81	284	36	<1.0	<10	54	74	<1.0								
03-26259	Upper Site - BU 2	2003	0-10	103	167	28	<1.0	<10	49	35	<1.0								
03-26260	Upper Site - BU 4	2003	0-10	13	21	<5.0	<1.0	<10	30	<20	1								
03-26262	Upper Site - BU 4	2003	0-10	26	46	9.1	<1.0	11	61	41	1.3								
03-26263	Upper Site - BU 4	2003	0-10	17	43	10	<1.0	<10	51	32	<1.0								
03-26264	Upper Site - BU 4	2003	0-10	15	15	5.1	<1.0	<10	44	<20	<1.0								
03-26265	Upper Site - BU 4	2003	0-10	10	21	<5.0	<1.0	<10	29	20	<1.0								
03-26266	Upper Site - BU 4	2003	0-10	19	55	10	<1.0	<10	42	32	<1.0								

DYE-M US West Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
03-26267	Upper Site - BU 4	2003	0-10	22	42	9.0	<1.0	10	63	60	<1.0								
03-26268	Upper Site - BU 3	2003	0-10	79	63	16	<1.0	12	135	186	<1.0								
03-26154	Upper Site - BU 3	2003	0-10	132	168	46	<1.0	21	175	151	<1.0								
03-26155	Upper Site - BU 3	2003	0-10	81	118	21	<1.0	17	100	92	<1.0								
03-26156	Upper Site - BU 3	2003	0-10	86	50	14	<1.0	<10	113	134	<1.0								
03-26157	Upper Site - BU 3	2003	0-10	37	32	8.3	<1.0	<10	74	82	1.1								
03-26158	Upper Site - BU 1	2003	0-10	222	495	60	<1.0	<10	37	134	1.3								
03-26159	Upper Site - BU 1	2003	0-10	53	640	57	<1.0	<10	28	63	1.2								
	N value			108	108	108	108	108	108	108	108	6	6						
	Background Detection Limits			5.0	5.0	5.0	1.0	10	15	20	1.0	0.5	0.002						
	Arithmetic Mean			60	141	20	0.5	7.7	70	90	0.78	0.25	0.0047						
	Arithmetic Mean Corrected for Detection Limits			60	141	20	1.0	10	70	90	1.0	0.5	0.0002						
	Standard Deviation			40	230	16	0	4.9	33	76	0.65	0.0	0.01						
	Minimum			9.9	13	2.5	0.5	5.0	23	10	0.5	0.25	0.00005						
	Maximum			222	1140	76	0.5	26	186	580	5.90	0.25	0.02						
	95% Confidence Limit			7.6	43	3.0		0.9	6.3	14.3	0.1		0.008						

[1]sample results not included in calculation of Baseline Arithmetic Mean.

DYE-M US Pallet Line Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
Background Data - Arithmetic Mean						60	141	20	1.0	10	70	90	1.0	0.5	0.002				N/A
Baseline Data - Arithmetic Mean						**37**	**75**	**17**	**1.0**	**10**	**75**	**72**	**1.0**	**0.1**	**0.05**	**30**	**10**	**10**	**324**
Baseline Data - Standard Deviation						17	25	6.3	0.15	24	33	36	0.6	0.0053	0.13	77	293	265	576
Baseline Data Mean + 3xStandard Deviation						88	150	35	1.4	82	175	179	2.8	0.12	0.44	261	888	806	2051
**** If baseline or background arithmetic mean was below the detection limit, the mean has been modified to match the detection limit value.***																			
DEW Line Cleanup Tier I Criteria										*200*					*1*				
*DEW Line Cleanup **Site Specific** Tier II Criteria & Hydrocarbon Action Level*						*296*	*2100*	*153*	*5*	*500*	*500*	*250*	*30*	*2*	*5*				*2500*
Monitoring Data																			
Upgradient																			
	DM-50 surface																		
14-8338	DM-50	2014	Year 1	Phase I	5-10	**100**	**79**	14	<1.0	**24**	**82**	*260*	**3.3**	0.015	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-50 depth																		
14-8340/41	DM-50	2014	Year 1	Phase I	35-40	**120**	74	15	<1.0	**10**	**99**	*260*	**4.3**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

TPH Sum will appear when F1, F2 and F3 fractions are entered.

DYE-M US Pallet Line Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	DM-51 surface																		
14-8362	DM-51	2014	Year 1	Phase I	5-10	**46**	62	13	<1.0	**13**	**86**	**110**	**2.0**	<0.010	0.018	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-51 depth																		
14-8363	DM-51	2014	Year 1	Phase I	30-35	**56**	54	11	<1.0	**23**	**100**	**130**	**1.7**	<0.010	**0.066**	19	**1500**	**390**	**1909**
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-53 surface																		
14-8395	DM-53	2014	Year 1	Phase I	5-10	32	54	10	<1.0	**12**	70	**87**	**1.4**	<0.010	0.013	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US Pallet Line Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	DM-53 depth																		
14-8397	DM-53	2014	Year 1	Phase I	45-50	**50**	65	12	<1.0	**15**	**89**	**130**	**2.1**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-60 surface																		
14-8410/11	DM-60	2014	Year 1	Phase I	5-10	25.5	**85**	16	<1.0	<10	58.5	51.5	0.75	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-60 depth																		
14-8412	DM-60	2014	Year 1	Phase I	40-45	18	**78**	14	<1.0	**10**	49	36	**1.0**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US Pallet Line Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
Downgradient																			0
	DM-54 surface																		0
14-8393	DM-54	2014	Year 1	Phase I	5-10[1]	35	**93**	15	<1.0	**22**	66	59	**1.6**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-54 depth																		0
14-8394	DM-54	2014	Year 1	Phase I	35-40	34	**82**	15	<1.0	**22**	66	56	**1.5**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-55 surface																		0
14-8384	DM-55	2014	Year 1	Phase I	5-10[1]	**39**	**79**	16	<1.0	**28**	**81**	63	**2.4**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-55 depth																		0
14-8385	DM-55	2014	Year 1	Phase I	45-50	36	72	15	<1.0	**28**	**77**	56	**2.4**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-56 surface																		0
14-8387	DM-56	2014	Year 1	Phase I	5-10[1]	36	**97**	15	<1.0	**16**	61	68	**1.5**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US Pallet Line Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
																			#N/A
	DM-56 depth																		0
14-8388	DM-56	2014	Year 1	Phase I	45-50	32	**100**	15	<1.0	**13**	58	67	**1.1**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US Pallet Line Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	DM-57 surface																		0
14-8390/91	DM-57	2014	Year 1	Phase I	5-10[1]	36	**84**	12	<1.0	<10	64	62.5	**1.25**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-57 depth																		0
14-8392	DM-57	2014	Year 1	Phase I	40-45	27	**94**	13	<1.0	<10	56	54	**1**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US Pallet Line Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	DM-58 surface																		0
14-8398	DM-58	2014	Year 1	Phase I	5-10	**42**	**110**	**18**	<1.0	**14**	**85**	**75**	**1.5**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-58 depth																		0
14-8400/01	DM-58	2014	Year 1	Phase I	45-50	29.5	**95**	16	<1.0	**10**	60.5	56.5	**1**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US Pallet Line Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	DM-59 surface																		0
14-8402	DM-59	2014	Year 1	Phase I	5-10	**37**	**100**	15	<1.0	**11**	55	48	0.8	<0.010	<0.010	<10	**210**	**29**	244
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-59 depth																		
14-8403	DM-59	2014	Year 1	Phase I	40-45	**44**	71	11	<1.0	<10	43	37	0.6	<0.010	<0.010	28	**720**	**29**	**777**
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US Pallet Line Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	DM-61 surface																		
14-8407	DM-61	2014	Year 1	Phase I	5-10	**46**	**81**	15	<1.0	<10	63	53	0.9	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-61 depth																		
14-8408	DM-61	2014	Year 1	Phase I	40-45	**44**	**97**	**18**	<1.0	<10	73	63	**1.2**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

DYE-M US Pallet Line Landfill - Summary of Monitoring Soil Analytical Data

Sample ID	Location	Year	Monitoring Year	Monitoring Phase	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co* (mg/kg)	Cd* (mg/kg)	Pb (mg/kg)	Zn* (mg/kg)	Cr* (mg/kg)	As (mg/kg)	Hg* (mg/kg)	Total PCB (mg/kg)	F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)	Modified TPH^ - Total C6-C34 (mg/kg)
	DM-62 surface																		
14-8404	DM-62	2014	Year 1	Phase I	5-10	33	**150**	**19**	<1.0	<10	46	53	**1.1**	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A
	DM-62 depth																		0
14-8405	DM-62	2014	Year 1	Phase I	40-45	36	**110**	16	<1.0	<10	51	53	0.9	<0.010	<0.010	<10	<10	<10	15
			Year 3	Phase I															#N/A
			Year 5	Phase I															#N/A
			Year 7	Phase II															#N/A
			Year 10	Phase II															#N/A
			Year 15	Phase II															#N/A
			Year 25	Phase II															#N/A
																			#N/A
																			#N/A
																			#N/A
																			#N/A

Note: Modified TPH Total (C_6-C_{34}) has been calculated by adding results for F1, F2 and F3.

1. Organics noted on surface of DM-54, DM-55, DM-56, DM-57 so surface depth measured as 5-10cm and depth sample 45-50

Legend	
XX	sample exceeds background
XX	**sample exceeds baseline**
XX	*sample exceeds DLCU Tier I criteria*
XX	*sample exceeds DLCU Tier II criteria*

DYE-M US Pallet Line Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
Baseline Data																			
Upgradient:																			
00-22457		2000	0	32	41	10	<1.0	12	68	84	<1.0		<0.1						
01-4089	4089	2001	0	46	69	18	<1.0	34	130	110	<1.0		<0.1	<130					
00-23579		2000	0											<40					
00-23587		2000	0	22	47	13	<1.0	31	58	58	<1.0								
00-23595		2000	0										<0.1						
00-23588		2000	0										<0.1						
00-23284	23284	2000	0	51	51	11	<1.0	<10	27	28	1		<0.1	<40					
00-23285	23284	2000	30	89	57	15	<1.0	<10	37	42	<1.0		<0.1	<40					
08-11621/22	DM-50		0-10	35	48	12	<1.0	20	76	91	<1.0	<0.10	0.003	81			<10	6.6	69
08-11623	DM-50		30-40	76	96	18	<1.0	15	78	150	<1.0	<0.10	0.0047	99			<10	5.1	89
08-11625	DM-51		0-10	41	70	16	<1.0	18	87	120	<1.0	<0.10	0.029	94			<10	4.8	84
08-11627	DM-51		30-40	53	50	16	<1.0	21	110	140	<1.0	<0.10	0.03	1150			50	530	570
09-21629/30	DM-60		0-10	46	75	17	<1.0	12	65	49	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0
09-21631	DM-60		30-40	43	120	20	<1.0	<10	51	56	<1.0	<0.10	<0.0030	15			<10	5.1	<9.0
11-12930	DM-50		0-10	29	42	13	<1.0	11	56	68	<1.0	<0.10	0.05	36			<10	<4.0	29
11-12932	DM-50		30-40	58	78	17	<1.0	20	95	140	<1.0	<0.10	0.19	64			<10	4.6	54
11-12934	DM-51		0-10	41	74	18	<1.0	24	83	99	2.0	<0.10	<0.050	33			<10	5.5	22
11-12936	DM-51		30-40	42	65	16	<1.0	19	85	98	<1.0	<0.10	0.05	251			<10	220	26
12-29421	DM-50		0-10	89	110	18	<1.0	18	100	200	2.6	<0.10	<0.050	12			<10	<4.0	<9.0
12-29423	DM-50		20-30	84	55	12	<1.0	19	110	180	3.0	<0.10	<0.050	12			<10	<4.0	<9.0
12-29417/18	DM-51		0-10	34	54	11	<1.0	19	71	96	1.4	<0.10	<0.050	26			<10	<4.0	18.5
12-29419	DM-51		20-30	57	59	14	<1.0	31	130	170	1.4	<0.10	<0.050	1264			14	890	360
12-29425	DM-53		0-10	32	51	9.8	<1.0	21	77	86	1.3	<0.10	<0.050	16			<10	<4.0	9.4
12-29427	DM-53		20-30	35	72	12	<1.0	28	85	120	1.6	<0.10	<0.050	30			<10	<4.0	23
12-44778	DM-60		0-10	19	80	22	<1.0	12	60	48	1.5	<0.10	<0.050	25			<30	<10	<10
12-44780	DM-60		20-30	18	70	15	<1.0	<10	49	44	1.2	<0.10	<0.050	25			<30	<10	<10
13-25076	DM-53		0-10	46	63	12	<1.0	19	85	110	2.6	<0.10	<0.050	71			<10	9.8	56
13-25078	DM-53		25-35	25	43	7.7	<1.0	15	53	63	2.4	<0.10	<0.050	19			<10	<4.0	12
13-25104	DM-60		0-10	13	75	11	<1.0	<10	41	39	2	<0.10	<0.050	19			<10	9.7	<9.0
13-25106	DM-60		25-35	16	65	12	<1.0	11	49	41	2	<0.10	<0.050	14			<10	4.1	<9.0
Downgradient:																			
01-18778	18778	2001	0	49	53	13	<1.0	27	94	110	<1.0		<0.1						
01-18646	18649	2001	50	120	110	38	<1.0	30	150	200	<1.0		<0.1						
01-18649	18649	2001	0	46	60	18	<1.0	22	93	110	<1.0		<0.1						
01-18782	18782	2001	0	51	50	13	<1.0	29	130	110	<1.0		0.5						
01-18783	18782	2001	40																
00-24867		2000	0										<0.5						
00-24868		2000	0											<40					
01-18648	18648	2001	0	43	58	16	<1.0	17	91	110	<1.0		<0.1	<40					
01-18785	18785	2001	0	80	64	16	<1.0	14	130	160	2.0		<0.1						
01-18636	18636	2001	0	42	44	13	<1.0	23	100	110	<1.0		<0.1						
01-18637	18636	2001	40											<40					
01-18788	18788	2001	0	69	39	13	<1.0	16	110	140	<1.0		<0.1						
01-18623	18623	2001	0	88	55	20	<1.0	22	150	190	<1.0		<0.1						
00-22453		2000	0	61	54	16	<1.0	<10	110	130	<1.0		<0.1						
01-18626	18626	2001	0	35	37	12	<1.0	14	76	98	<1.0		<0.1						
01-23497		2000	0	32	35	11	<1.0	15	65	81	<1.0		<0.1						
01-18659	18659	2001	0										0.52						
00-23526		2000	0	34	39	13	<1.0	11	70	94	<1.0		<0.1						
01-18629	18629	2001	0	48	50	15	<1.0	17	120	120	<1.0		<0.1						
01-18663	18663	2001	0	47	87	21	<1.0	26	100	100	<1.0		<0.1						
01-18664	18663	2001	50	41	85	19	<1.0	25	77	82	<1.0		<0.1	770					
00-23527		2000	0	49	38	13	<1.0	<10	97	110	<1.0		<0.1						
00-23528		2000	0	44	62	19	<1.0	22	110	110	<1.0		<0.1						

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Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
00-23525		2000	0	41	39	14	<1.0	110	94	110	<1.0		<0.1						
01-18656	18656	2001	0										0.34						
01-18657	18656	2001	50	44	18	6.6	<1.0	16	66	82	<1.0		<0.1						
01-18666	18666	2001	0	63	64	17	<1.0	16	110	100	<1.0		<0.1						
01-18667	18666	2001	50											66					
01-18653	18653	2001	0	41	42	14	<1.0	15	78	99	<1.0		<0.1						
01-18654	18653	2001	50											<40					
00-23524		2000	0	37	50	13	<1.0	28	75	93	<1.0		<0.1						
00-23529		2000	0	54	37	17	1.2	14	110	120	<1.0		<0.1						
00-23530/31		2000	0	60	35	19	1.5	<10	140	160	<1.0		<0.1						
00-23532		2000	0										<0.1	660					
00-23534		2000	0	49	61	22	1.6	14	130	140	<1.0		<0.1						
00-23535		2000	0	82	42	16	1.5	10	160	160	<1.0		<0.1						
01-18669	18669	2001	0	48	56	18	<1.0	130	120	120	<1.0		0.1						
01-18718	18669	2001	50											410					
00-23533		2000	0										<0.1						
01-18720/21	18720	2001	0	53	110	24	<1.0	16	86	90	<1.0		0.2						
00-23516		2000	0	35	71	19	<1.0	20	51	56	<1.0		<0.1						
01-18864	18864	2001	0	39	97	24	<1.0	45	78	89	<1.0		<0.1						
01-18865	18864	2001	50											2400					
01-18752	18752	2001	0	32	60	17	<1.0	67	84	81	<1.0		<0.1						
01-18753	18752	2001	50											140					
00-23512		2000	0	37	110	19	<1.0	17	37	88	<1.0		<0.1						
01-18867	18867	2001	0	39	71	23	<1.0	10	69	69	<1.0		<0.1						
00-23509		2000	0	21	55	11	<1.0	<10	29	33	<1.0		<0.1						
01-18829	18829	2001	0	22	51	14	<1.0	22	67	42	1.5		<0.1						
01-18826	18826	2001	0	29	50	21	<1.0	17	78	57	<1.0		<0.1						
01-18820/21	18820	2001	0	28	48	16	<1.0	12	57	56	<1.0		<0.1						
00-23508		2000	0	12	50	13	<1.0	13	41	30	<1.0		<0.1						
00-23507		2000	0	23	72	13	<1.0	<10	43	45	<1.0		<0.1						
01-18755	18755	2001	0	31	100	19	<1.0	25	63	67	<1.0		<0.1						
01-18756	18755	2001	50											<40					
01-18758	18758	2001	0	31	77	19	<1.0	13	65	58	<1.0		<0.1						
01-18762	18762	2001	0	28	68	33	<1.0	11	87	71	<1.0		<0.1						
01-18763	18762	2001	40											<40					
01-18765	18765	2001	0	30	52	22	<1.0	18	87	47	<1.0		<0.1						
01-18727	18727	2001	0	29	77	19	<1.0	22	81	73	<1.0		<0.1						
01-18728	18727	2001	50	25	76	19	<1.0	21	77	70	<1.0		<0.1						
01-18862	18765	2001	50											<40					
01-18724	18724	2001	0	40	120	23	<1.0	24	80	68	<1.0		<0.1						
01-18725	18724	2001	50											<40					
01-18734	18734	2001	0	22	87	14	<1.0	34	46	44	<1.0		<0.1						
01-18738	18738	2001	0	31	110	20	<1.0	26	71	64	<1.0		<0.1						
01-18742	18742	2001	0	28	96	18	<1.0	15	58	68	1.6		<0.1						
01-18730	18730	2001	0	31	72	22	<1.0	27	84	63	<1.0		<0.1						
01-18731	18730	2001	0										<0.1						
01-18745	18745	2001	0										<0.1						
01-18746	18745	2001	50	26	73	20	<1.0	17	71	59	<1.0		<0.1						
01-18772	18772	2001	0	32	66	15	<1.0	<10	58	44	<1.0		<0.1						
01-18774	18774	2001	0	38	52	15	<1.0	<10	68	37	<1.0		<0.1						
01-5453	5453	2001	0	34	96	17	<1.0	14	97	64	<1.0		<0.1						
00-23488		2000	0											<40					
01-5449	5449	2001	0	24	59	11	<1.0	26	61	44	<1.0		<0.1						
01-5446	5446	2001	0	23	87	14	<1.0	46	53	40	<1.0								
00-24894		2000	0	20	38	11	<1.0	<10	48	29	<1.0		<0.1	1200					
00-23490/91		2000	0	47	45	16	<1.0	<10	56	36	<1.0		<0.1						
00-23489		2000	0	35	110	23	<1.0	<10	55	58	<1.0		<0.1						
00-23275	23275	2000	0										<0.1	<40					
00-23276	23275	2000	30										<0.1	<40					
00-23277	23275	2000	55					G-143					<0.1	<40					

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Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
01-18556	18556	2001	0	23	86	14	<1.0	<10	41	36	<1.0		<0.1						
01-18557	18556	2001	40	23	66	12	<1.0	<10	43	34	<1.0		<0.1						
97-5686		1997	0	26	45	13	<1.0	40	62	31	0.3		<0.5	<40					
01-5443	5443	2001	0	61	87	15	<1.0	12	50	80	<1.0			2000					
01-5444	5443	2001	40											1300					
01-5439	5439	2001	0	27	64	15	<1.0	32	71	51	<1.0		<0.1						
00-23520/21		2000	0	60	59	18	<1.0	31	66	52	<1.0		<0.1						
01-18615	18615	2001	0	29	62	14	<1.0	<10	50	41	<1.0		<0.1						
01-18580/81	18580	2001	0	40	55	17	<1.0	<10	61	37	1.1								
01-18584	18584	2001	0	42	92	19	<1.0	<10	61	53	<1.0		<0.1						
01-18574	18574	2001	0	33	77	16	<1.0	<10	62	53	<1.0		<0.1						
01-18575	18574	2001	40											<40					
01-18577	18577	2001	0	27	120	17	<1.0	<10	48	52	<1.0		<0.1						
01-18578	18577	2001	30											770					
01-18579	18577	2001	50	26	95	16	<1.0	5	54	43	<1.0		<0.1						
01-18609	18609	2001	0	33	91	19	<1.0	5	61	44	<1.0		<0.1						
01-18610/11	18609	2001	30	31	86	19	<1.0	5	61	44	<1.0		<0.1						
01-3623	3623	2001	0	24	60	13	<1.0	10	51	40	<1.0		<0.1						
01-3624	3623	2001	40	22	69	13	<1.0	12	58	37	<1.0		<0.1						
01-3626	3625	2001	25	25	72	14	<1.0	11	58	43	<1.0		<0.1						
01-3614	3614	2001	0	34	88	16	<1.0	5	57	49	<1.0		<0.1						
01-3615	3614	2001	30	31	100	18	<1.0	5	51	47	1.1		<0.1						
01-3628	3628	2001	0	42	80	18	<1.0	5	64	50	<1.0		<0.1						
00-23480/81		2000	0	26	93	18	<1.0	5	47	45	<1.0		<0.1						
01-18606	18606	2001	0	18	42	12	<1.0	5	49	23	<1.0		<0.1						
01-18607	18606	2001	30											65					
01-18617	18617	2001	0	23	83	19	<1.0	11	70	63	<1.0		<0.1						
01-18618	18617	2001	30	19	65	15	<1.0	11	60	48	<1.0		<0.1						
01-18597	18597	2001	0	42	75	18	<1.0	58	68	89	<1.0		<0.1						
97-7847		1997	0										<0.5	1500					
97-7848		1997	0										<0.5	1100					
97-7850/51		1997	0											415					
97-7840/41		1997	0	33	110	18	<1.0	25	68	70	0.25		<0.5	1900					
97-7842		1997	0										<0.5						
97-7843		1997	0	46				110	88				<0.5	120					
97-7845		1997	0											<40					
97-7906		1997	0	32	62	13	<1.0	27	70	58	0.36		< 0.5	<40					
97-7907		1997	0											<40					
97-7908		1997	0	41	63	13	<1.0	35	92	72	0.28		<0.5						
97-7909		1997	0	22				11	73				<0.5						
97-7913		1997	0	44				43	100					<40					
97-7900/01		1997	0	69				24	160				<1	200					
97-5635	7848	1997	25										< 0.5						
97-5636	7848	1997	35										< 0.5	330					
01-18573	18573	2001	0	36	69	16	<1.0	68	110	64	<1.0		<0.1						
01-18598	18573	2001	40											2200					
00-23522		2000	0										0.53	130					
00-23517		2000	0	23	44	11	1	71	260	37	<1.0		<0.1	1600					
01-18590/91	18590	2001	0	18	62	13	<1.0	12	67	50	<1.0		0.1						
01-18592	18590	2001	40											<40					
01-18595	18594	2001	40	100	78	18	<1.0	170	270	63	3		<0.1	1300					
01-18587	18587	2001	0	26	100	15	<1.0	5	57	60	<1.0		<0.1						
01-18600/01	18600	2001	0	28	77	13	<1.0	26	67	55	<1.0		0.27						
01-18602	18600	2001	40											550					
97-7854		1997	0										<0.5	81					
97-7856		1997	0	32	56	14	<1.0	32	130	98	<0.2		<0.5	44					
00-23612		2000	0											<40					
00-23330/31		2000	0	31	83	15	<1.0	42	77	51	<1.0								
01-18749	18748	2001	50										<0.5						
00-23326		2000	0					180	160				0.2						

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Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
00-23320/21		2000	0	59	67	18	<1.0	42	110	110	<1.0		<0.5						
00-23312		2000	0	33	60	15	<1.0	140	120	53	<1.0								
00-23329		2000	0	46	55	15	<1.0	45	150	52	<1.0								
00-23315		2000	0											1400					
00-23307		2000	0										<0.1						
00-23302		2000	0					110					0.1						
97-6177	7878	1997	40	28	100	15	<1.0	20	75	61	0.39			1200					
97-6178	7878	1997	50											630					
00-23001		2000	0										0.3						
00-23026		2000	0										<0.1						
97-7868		1997	0	37				110	89				<0.5	850					
97-5996	7898	1997	30										<0.5						
97-7898		1997	0	56	180	24	<1.0	45	84	98	0.4		0.5						
97-7894		1997	0	45				58	97				<0.5						
97-7902		1997	0					<100					<0.5						
00-23590/91		2000	0											93					
01-20718		2001	0										<0.5						
01-20720/21		2001	0										<0.5						
00-23090/91		2000	0											950					
00-23088		2000	0											340					
00-23089		2000	0											390					
00-23054		2000	0										0.32						
00-23057		2000	0	61	77	21	<1.0	19	110	130	<1.0		0.2						
00-23082		2000	0											140					
00-23086		2000	0											270					
00-23087		2000	0											400					
97-5983	7918	1997	30										0.94	1500					
97-5984	7918	1997	40										<0.5	1200					
00-23039		2000	0										0.69						
00-23037		2000	0										0.3						
00-23038		2000	0										0.4						
00-23030/31		2000	0										0.4						
00-23028		2000	0										0.5						
97-7866		1997	0										0.5	1200	1200				
97-7936		1997	0	53				<10	72				<0.5	<40	<40				
00-23605		2000	0						110				<0.1						
01-18768	18768	2001	0	26	68	16	<1.0	19	69	50	<1.0		<0.1						
97-7838		1997	0	24				19	92					77	77				
97-6191	7830	1997	20	23				18	74					<40	<40				
97-6192	7830	1997	30					19											
97-7830/31		1997	0						140				<0.5	<40	<40				
97-7825		1997	0																
97-7826		1997	0						130					<40	<40				
97-7827		1997	0						270					<40	<40				
97-7828		1997	0	27				22	67										
97-7829		1997	0										<0.5	300	300				
97-6185	7903	1997	30	5.6				<10	66										
97-6186	7903	1997	50	7				18	110					1500	1500				
97-6187	7829	1997	20					<10						<40	<40				
08-11847	DM-55		0-10	30	91	20	<1.0	22	73	65	1.7	<0.10	<0.0030	12			<10	<4.0	<9.0
08-11849/29274	DM-55		30-40	24	74	18	<1.0	19	64	57	1.7	<0.10	<0.0030	12			<10	<4.0	<9.0
08-11839	DM-56		0-10	28	99	18	<1.0	<10	53	66	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0
08-11841	DM-56		30-40	24	61	13	<1.0	10	46	49	1	<0.10	<0.0030	16			<10	<4.0	9
08-11843	DM-57		0-10	30	100	22	<1.0	13	65	66	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0
08-11845	DM-57		30-40	23	110	20	<1.0	<10	47	49	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0
09-21621	DM-58		0-10	27	110	17	<1.0	<10	78	63	<1.0	<0.10	<0.0030	12			<10	<4.0	<9.0
09-21623/24	DM-58		30-40	23	78	15	<1.0	<10	51	51	<1.0	<0.10	<0.0030	26			<10	<4.0	19
09-21625	DM-59		0-10	36	78	16	<1.0	19	58	50	<1.0	<0.10	<0.0030	60			<10	9.1	46
09-21627	DM-59		30-40	39	89	16	<1.0	12	45	48	<1.0	<0.10	<0.0030	931			21	780	130
09-21633	DM-61		0-10	30	63	14	<1.0	<10	43	37	<1.0	<0.10	<0.0030	415			<10	160	250

DYE-M US Pallet Line Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
09-21635	DM-61		30-40	32	61	14	<1.0	<10	42	39	<1.0	<0.10	<0.0030	24			<10	5.1	14
09-21637	DM-62		0-10	21	81	16	<1.0	<10	51	55	<1.0	<0.10	<0.0030	24			<10	14	<9.0
09-21639	DM-62		30-40	25	89	16	<1.0	<10	52	60	2.6	<0.10	<0.0030	17			<10	7	<9.0
11-13074*	DM-55		0-10	23	79	18	<1.0	17	56	58	<1.0	<0.10	<0.050	20			<10	<30	15
11-13076*	DM-55		30-40	21	71	18	<1.0	23	62	59	1.1	<0.10	<0.050	15			<10	<30	9.7
11-13078/79*	DM-56		0-10	24	77	16	<1.0	<10	48	60	<1.0	<0.10	<0.050	10			<10	<30	<9.0
11-13080*	DM-56		30-40	22	95	16	<1.0	<10	45	56	<1.0	<0.10	<0.050	10			<10	<30	<9.0
11-13082*	DM-57		0-10	31	120	22	<1.0	11	57	67	<1.0	<0.10	<0.050	10			<10	<30	<9.0
11-13084*	DM-57		30-40	25	110	20	<1.0	<10	53	61	<1.0	<0.10	<0.050	10			<10	<30	<9.0
12-29429	DM-54		0-10	30	91	16	<1.0	79	79	67	2	<0.10	<0.050	17			<10	<4.0	10
12-29431/32	DM-54		20-30	24	79	14	<1.0	49	60	52	1.6	<0.10	<0.050	25			<10	15.5	<9.0
12-44790	DM-58		0-10	27	130	17	<1.0	14	74	60	<1.0	<0.10	<0.050	12			<10	<4.0	<9.0
12-44792/93	DM-58		20-30	50	110	79	<1.0	18	57	60	1.3	<0.10	<0.050	12			<10	<4.0	<9.0
12-44794	DM-59		0-10	29	130	19	<1.0	18	49	47	1.1	<0.10	<0.050	42			<10	<4.0	35
12-44796	DM-59		20-30	32	120	19	<1.0	11	52	55	1.4	<0.10	<0.050	20			<10	<4.0	13
12-44782/83	DM-61		0-10	25	70	16	<1.0	<10	41	33	<1.0	<0.10	<0.050	25			<30	<10	<10
12-44784	DM-61		20-30	40	70	19	<1.0	<10	65	50	1.2	<0.10	<0.050	25			<30	<10	<10
12-44786/87	DM-62		0-10	67	120	26	<1.0	15	80	76	2.1	0.0061	<0.050	25			<30	<10	<10
12-44788	DM-62		20-30	50	140	25	<1.0	12	66	65	1.4	<0.10	<0.050	25			<30	<10	<10
13-25080/81	DM-54		0-10	29	65	11	<1.0	27	53	47	2.4	<0.10	<0.050	17			<10	7.5	<9.0
13-25082	DM-54		25-35	23	64	9.8	<1.0	21	47	40	2.1	<0.10	<0.050	2111			<10	6.2	2100
13-25084	DM-55		0-10	28	83	12	<1.0	20	54	56	2	<0.10	<0.050	12			<10	<4.0	<9.0
13-25086	DM-55		25-35	27	77	13	<1.0	21	58	56	2.1	<0.10	<0.050	14			<10	4.6	<9.0
13-25088	DM-56		0-10	24	81	10	<1.0	<10	44	52	1.6	<0.10	<0.050	16			<10	6.4	<9.0
13-25090/91	DM-56		25-35	19	57	7.8	<1.0	<10	34	39	1	<0.10	<0.050	12			<10	<4.0	<9.0
13-25092	DM-57		0-10	37	120	18	<1.0	11	62	68	1.7	<0.10	<0.050	12			<10	<4.0	<9.0
13-25094	DM-57		25-35	29	130	17	<1.0	<10	49	63	1.3	<0.10	<0.050	12			<10	<4.0	<9.0
13-25096	DM-58		0-10	24	92	11	<1.0	<10	81	46	1.3	<0.10	<0.050	12			<10	<4.0	<9.0
13-25098	DM-58		25-35	18	71	11	<1.0	<10	52	45	0.7	<0.10	<0.050	21			<10	4.2	12
13-25100/01	DM-59		0-10	31	63	13	<1.0	16	64	44	1.3	<0.10	<0.050	1044			34	840	170
13-25102	DM-59		25-35	22	63	14	<1.0	15	76	45	1.3	<0.10	<0.050	2484			640	1800	44
13-25108	DM-61		0-10	21	67	10	<1.0	<10	42	36	0.7	<0.10	<0.050	12			<10	<4.0	<9.0
13-25110/11	DM-61		25-35	33	69	15	<1.0	<10	61	51	1.2	<0.10	<0.050	12			<10	<4.0	<9.0
13-25112	DM-62		0-10	45	130	18	<1.0	<10	58	68	2	<0.10	<0.050	22			<10	12	<9.0
13-25114	DM-62		25-35	33	120	17	<1.0	<10	53	55	1.1	<0.10	<0.050	18			<10	8.2	<9.0
	N value			188	176	176	176	193	193	176	176	68	215	140			68	68	68
	Baseline Detection Limits			3	5	5	1	10	15	20	1	0.1	0.05	40			30	10	10
	Arithmetic Mean			37	75	17	0.52	21	75	72	0.8	0.049	0.077	324			17	88	66
	Arithmetic Mean Corrected for Detection Limits			37	75	17	1.0	10	75	72	1.0	0.10	0.05	324			30	10	10
	Standard Deviation			17	25	6	0.15	24	33	36	0.6	0.005	0.128	576			77	293	265
	Minimum			6	18	7	0.5	5	27	23	0.1	0.006	0.002	10			5	2	5
	Maximum			120	180	79	1.6	170	270	200	3	0.05	0.94	2484			640	1800	2100
	95% Confidence Limit			2	4	1			4.7	5	0.09	0.001	0.017	95			18	70	63

*F2 fraction TPH results for some Baseline samples from 2011 were reported with elevated detection limits due to interferences. These samples have been removed from the baseline average calculation.

Background Data																			
89-G300	Along the beach, 1 km NW of ravine	1989										<0.5	0.004						
90-G315	2 km downstream BF304	1990										<0.5	0.024						
90-G320	100 m E of S end runway	1990										<0.5	<0.0002						
90-G321	0.5 mi E of S end runway	1990										<0.5	<0.0001						
90-G324	2.8 km from crossroads	1990										<0.5	<0.0002						
90-G325	5 km from crossroads	1990										<0.5	<0.0002						
00-25501	Pallet Line Area - background	2000	0-10	40	41	9.8	<1.0	16	41	73	<1.0								
00-25505	East of West Landfill - background - BU 1	2000	0-10	102	268	34	<1.0	<10	70	223	<1.0								
00-25506	East of West Landfill - background - BU 1	2000	0-10	72	293	29	<1.0	<10	84	214	<1.0								
00-25507	East of West Landfill - background - BU 1	2000	0-10	60	183	24	<1.0	<10	69	132	<1.0								
00-25508	East of West Landfill - background - BU 1	2000	0-10	54	138	25	<1.0	<10	99	118	<1.0								
00-25509	East of West Landfill - background - BU 1	2000	0-10	73	85	24	<1.0	<10	114	128	<1.0								
00-25512	South of Tacan - background - BU 2b	2000	0-10	110	99	22	<1.0	<10	37	27	<1.0								
00-25513	South of Tacan - background - BU 2b	2000	0-10	83	127	26	<1.0	<10	45	33	<1.0								

DYE-M US Pallet Line Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
00-25514	South of Tacan - background - BU 2b	2000	0-10	158	96	25	<1.0	<10	43	24	<1.0								
00-25515	South of Tacan - background - BU 2b	2000	0-10	103	68	22	<1.0	<10	45	<20	<1.0								
00-25516	South of Tacan - background - BU 2b	2000	0-10	191	97	23	<1.0	<10	39	24	<1.0								
03-26130	Upper Site - BU-2	2003	0-10	65	940	69	<1.0	<10	61	118	<1.0								
03-26140	Upper Site - BU 4	2003	0-10	16	53	8.5	<1.0	<10	32	24	<1.0								
03-26150	Upper Site - BU 3	2003	0-10	44	61	13	<1.0	<10	89	115	<1.0								
03-26152	Upper Site - BU 3	2003	0-10	59	60	18	<1.0	10	84	159	<1.0								
03-26153	Upper Site - BU 3	2003	0-10	37	67	13	<1.0	11	75	86	<1.0								
03-26160	Upper Site - BU 1	2003	0-10	37	69	18	<1.0	11	93	86	1.4								
03-26162	Upper Site - BU 1	2003	0-10	70	99	17	<1.0	<10	80	108	1								
03-26163	Upper Site - BU 3	2003	0-10	57	112	17	<1.0	<10	89	106	2.1								
03-26165	Upper Site - BU 3	2003	0-10	65	79	17	<1.0	<10	102	122	<1.0								
03-26166	Upper Site - BU 3	2003	0-10	57	85	20	<1.0	22	99	120	1.6								
03-26167	Upper Site - BU 1	2003	0-10	115	93	19	<1.0	<10	40	121	<1.0								
03-26168	Upper Site - BU 3	2003	0-10	57	41	15	<1.0	<10	76	138	<1.0								
03-26169	Upper Site - BU 3	2003	0-10	38	58	16	<1.0	11	98	109	<1.0								
03-26170	Upper Site - BU 3	2003	0-10	59	28	10	<1.0	<10	100	98	1.8								
03-26172	Upper Site - BU 3	2003	0-10	59	34	7.1	<1.0	<10	89	94	<1.0								
03-26173	Upper Site - BU 3	2003	0-10	21	34	7.2	<1.0	<10	36	46	1.1								
03-26174	Upper Site - BU 3	2003	0-10	71	29	8.0	<1.0	11	106	120	1.4								
03-26175	Upper Site - BU 3	2003	0-10	76	27	8.7	<1.0	<10	117	119	<1.0								
03-26180	Upper Site - BU 4	2003	0-10	12	16	<5.0	<1.0	<10	28	<20	1.1								
03-26182	Upper Site - BU 4	2003	0-10	32	74	15	<1.0	<10	43	39	<1.0								
03-26183	Upper Site - BU 4	2003	0-10	37	47	10	<1.0	20	69	66	1.2								
03-26184	Upper Site - BU 4	2003	0-10	18	51	8.0	<1.0	12	39	33	1.4								
03-26185	Upper Site - BU 4	2003	0-10	17	17	5.3	<1.0	<10	44	<20	<1.0								
03-26186	Upper Site - BU 4	2003	0-10	19	43	8.7	<1.0	<10	46	57	<1.0								
03-26187	Upper Site - BU 4	2003	0-10	40	44	15	<1.0	<10	57	42	1.4								
03-26188	Upper Site - BU 4	2003	0-10	129	46	21	<1.0	<10	44	31	<1.0								
03-26189	Upper Site - BU 4	2003	0-10	107	39	14	<1.0	<10	38	38	<1.0								
03-26190	Upper Site - BU 4	2003	0-10	33	57	12	<1.0	10	64	73	1.5								
03-26192	Upper Site - BU 3	2003	0-10	66	31	8.6	<1.0	<10	125	142	2.1								
03-26193	Upper Site - BU 1	2003	0-10	87	86	19	<1.0	26	186	382	<1.0								
03-26194	Upper Site - BU 1	2003	0-10	131	33	10	<1.0	10	137	177	<1.0								
03-26195	Upper Site - BU 3	2003	0-10	11	16	<5.0	<1.0	<10	23	25	<1.0								
03-26196	Upper Site - BU 3	2003	0-10	49	40	10	<1.0	<10	84	107	<1.0								
03-26197	Upper Site - BU 4	2003	0-10	26	41	11	<1.0	10	61	66	1.1								
03-26198	Upper Site - BU 3	2003	0-10	88	26	14	<1.0	13	138	184	<1.0								
03-26199	Upper Site - BU 3	2003	0-10	58	50	15	<1.0	<10	116	144	<1.0								
03-26200	Upper Site - BU 1	2003	0-10	72	118	32	<1.0	13	150	146	<1.0								
03-26202	Upper Site - BU 4	2003	0-10	28	88	18	<1.0	15	60	46	<1.0								
03-26203	Upper Site - BU 4	2003	0-10	26	108	14	<1.0	<10	43	46	<1.0								
03-26204	Upper Site - BU 4	2003	0-10	29	93	17	<1.0	20	81	46	1.6								
03-26205	Upper Site - BU 3	2003	0-10	108	91	22	<1.0	10	127	147	<1.0								
03-26206	Upper Site - BU 3	2003	0-10	81	85	15	<1.0	<10	108	178	<1.0								
03-26212	Upper Site - BU 4	2003	0-10	22	13	<5.0	<1.0	<10	47	<20	<1.0								
03-26213	Upper Site - BU 4	2003	0-10	15	40	7.8	<1.0	<10	32	24	<1.0								
03-26214	Upper Site - BU 4	2003	0-10	23	250	26	<1.0	12	70	580	<1.0								
03-26215	Upper Site - BU 4	2003	0-10	40	68	20	<1.0	11	77	119	<1.0								
03-26216	Upper Site - BU 3	2003	0-10	62	73	22	<1.0	23	111	115	1.3								
03-26217	Upper Site - BU 4	2003	0-10	21	36	8.3	<1.0	<10	42	35	1.3								
03-26218	Upper Site - BU 3	2003	0-10	124	53	14	<1.0	13	140	167	<1.0								
03-26219	Upper Site - BU 3	2003	0-10	53	48	12	<1.0	<10	90	105	<1.0								
03-26220	Upper Site - BU 3	2003	0-10	44	34	8	<1.0	<10	74	82	<1.0								
03-26222	Upper Site - BU 3	2003	0-10	63	59	14	<1.0	24	84	107	5.9								
03-26223	Upper Site - BU 4	2003	0-10	29	29	24	<1.0	<10	67	41	1.9								
03-26224	Upper Site - BU 4	2003	0-10	21	50	9.0	<1.0	<10	42	39	1.3								
03-26225	Upper Site - BU 4	2003	0-10	17	27	7.7	<1.0	<10	40	23	1.2								
03-26226	Upper Site - BU 4	2003	0-10	23	24	9.3	<1.0	<10	54	27	<1.0								
03-26227	Upper Site - BU 1	2003	0-10	66	56	14	<1.0	<10	64	52	<1.0								
03-26228	Upper Site - BU 3	2003	0-10	42	48	13	<1.0	13	96	106	<1.0								

DYE-M US Pallet Line Landfill - Summary of Baseline and Background Soil Analytical Data

Sample #	Location	Date	Depth (cm)	Cu (mg/kg)	Ni (mg/kg)	Co (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Cr (mg/kg)	As (mg/kg)	Hg (mg/kg)	Total PCB (mg/kg)	Modified TPH - Total C6-C34 (mg/kg)	TPH Identity		F1 C_6-C_{10} (mg/kg)	F2 C_{10}-C_{16} (mg/kg)	F3 C_{16}-C_{34} (mg/kg)
															% Fuel Oil	% Lube Oil			
03-26229	Upper Site - BU 4	2003	0-10	22	23	7.3	<1.0	<10	30	21	<1.0								
03-26230	Upper Site - BU 3	2003	0-10	61	71	15	<1.0	12	88	95	1.4								
03-26232	Upper Site - BU 4	2003	0-10	32	31	11	<1.0	<10	61	26	1								
03-26233	Upper Site - BU 4	2003	0-10	42	40	11	<1.0	<10	50	35	<1.0								
03-26234	Upper Site - BU 4	2003	0-10	29	51	10	<1.0	14	49	43	<1.0								
03-26235	Upper Site - BU 1	2003	0-10	144	77	20	<1.0	<10	48	56	<1.0								
03-26236	Upper Site - BU 1	2003	0-10	56	325	32	<1.0	<10	32	185	<1.0								
03-26237	Upper Site - BU 4	2003	0-10	29	49	8	<1.0	<10	52	53	<1.0								
03-26238	Upper Site - BU 4	2003	0-10	36	93	14	<1.0	<10	57	50	<1.0								
03-26239	Upper Site - BU 2	2003	0-10	147	93	20	<1.0	<10	46	28	<1.0								
03-26240	Upper Site - BU 2	2003	0-10	117	240	31	<1.0	<10	51	67	<1.0								
03-26242	Upper Site - BU 1	2003	0-10	38	101	14	<1.0	<10	53	92	<1.0								
03-26243	Upper Site - BU 2	2003	0-10	42	275	28	<1.0	<10	59	65	<1.0								
03-26244	Upper Site - BU 2	2003	0-10	64	171	22	<1.0	<10	45	62	<1.0								
03-26245	Upper Site - BU 4	2003	0-10	28	42	10	<1.0	<10	50	39	1.7								
03-26246	Upper Site - BU 2	2003	0-10	70	1000	69	<1.0	<10	73	126	<1.0								
03-26250	Upper Site - BU 2	2003	0-10	49	1100	76	<1.0	<10	76	140	<1.0								
03-26251	Upper Site - BU 2	2003	0-10	51	1060	72	<1.0	<10	70	136	<1.0								
03-26252	Upper Site - BU 2	2003	0-10	120	95	18	<1.0	<10	42	25	<1.0								
03-26254	Upper Site - BU 2	2003	0-10	58	1140	76	<1.0	<10	74	141	<1.0								
03-26255	Upper Site - BU 2	2003	0-10	77	720	61	<1.0	<10	72	110	<1.0								
03-26256	Upper Site - BU 2	2003	0-10	84	289	38	<1.0	<10	52	77	<1.0								
03-26257	Upper Site - BU 2	2003	0-10	113	199	34	<1.0	<10	62	103	<1.0								
03-26258	Upper Site - BU 2	2003	0-10	81	284	36	<1.0	<10	54	74	<1.0								
03-26259	Upper Site - BU 2	2003	0-10	103	167	28	<1.0	<10	49	35	<1.0								
03-26260	Upper Site - BU 4	2003	0-10	13	21	<5.0	<1.0	<10	30	<20	1								
03-26262	Upper Site - BU 4	2003	0-10	26	46	9.1	<1.0	11	61	41	1.3								
03-26263	Upper Site - BU 4	2003	0-10	17	43	10	<1.0	<10	51	32	<1.0								
03-26264	Upper Site - BU 4	2003	0-10	15	15	5.1	<1.0	<10	44	<20	<1.0								
03-26265	Upper Site - BU 4	2003	0-10	10	21	<5.0	<1.0	<10	29	20	<1.0								
03-26266	Upper Site - BU 4	2003	0-10	19	55	10	<1.0	<10	42	32	<1.0								
03-26267	Upper Site - BU 4	2003	0-10	22	42	9.0	<1.0	10	63	60	<1.0								
03-26268	Upper Site - BU 3	2003	0-10	79	63	16	<1.0	12	135	186	<1.0								
03-26154	Upper Site - BU 3	2003	0-10	132	168	46	<1.0	21	175	151	<1.0								
03-26155	Upper Site - BU 3	2003	0-10	81	118	21	<1.0	17	100	92	<1.0								
03-26156	Upper Site - BU 3	2003	0-10	86	50	14	<1.0	<10	113	134	<1.0								
03-26157	Upper Site - BU 3	2003	0-10	37	32	8.3	<1.0	<10	74	82	1.1								
03-26158	Upper Site - BU 1	2003	0-10	222	495	60	<1.0	<10	37	134	1.3								
03-26159	Upper Site - BU 1	2003	0-10	53	640	57	<1.0	<10	28	63	1.2								
	N value			108	108	108	108	108	108	108	108	6	6						
	Background Detection Limits			5.0	5.0	5.0	1.0	10	15	20	1.0	0.5	0.002						
	Arithmetic Mean			60	141	20	0.50	7.7	70	90	0.78	0.25	0.0047						
	Arithmetic Mean Corrected for Detection Limits			60	141	20	1.0	10	70	90	1.0	0.5	0.002						
	Standard Deviation			40	230	16	0.0	4.9	33	76	0.65	0.00	0.01						
	Minimum			9.9	13	2.5	0.50	5.0	23	10	0.50	0.25	0.00005						
	Maximum			222	1140	76	0.50	26	186	580	5.9	0.3	0.024						
	95% Confidence Limit			7.6	43	3.0		0.9	6.3	14	0.12		0.01						