Sediment Sampling Investigation Report
Colwood – Middle Columbia Slough
Portland, Oregon

Prepared for:
Oregon Department of Environmental Quality
Task Order No. 20-13-52

December 1, 2016
2277-00/Task 5

APEX

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1.0 Introduction

This report documents sediment characterization conducted within the Middle Columbia Slough (Slough) in the vicinity of Colwood Golf Course and adjacent sections of the Slough not previously included in DEQ Columbia Slough baseline sampling. The primary purpose of this sediment characterization is to obtain ambient baseline chemical concentrations and identify where hazardous substances are present at concentrations significantly exceeding baseline concentrations in the vicinity of the Colwood Golf Course. The results of the site investigation may be used to support future removal and remedial actions within the Columbia Slough. Sediment characterization included chemical analysis for polychlorinated biphenyls (PCBs), polyaromatic hydrocarbons (PAHs), metals, petroleum hydrocarbons, organochlorine pesticides, and at select locations, perfluorinated compounds (PFCs). Sediment sampling activities were completed in accordance with the *Sediment Sampling Work Plan* (Apex Companies, LLC [Apex], 2016) prepared by Apex under Task 3 of Task Order No. 20-13-52.

1.1 Scope of Work

The scope of work as defined in the Work Plan included:

1) Conduct sediment sampling activities;
2) Analyze sediment samples for PCBs, PAHs, metals, petroleum hydrocarbons, organochlorine pesticides, and, at select locations, PFCs;
3) Complete follow-up analysis of archived samples based upon initial sediment analytical results; and
4) Prepare an investigation summary report that describes sediment assessment activities and analytical results.

2.0 Background

This section presents a description of the Site and the anticipated geology.

2.1 Site Location and Description

The Site is located within the Middle Slough section of the Columbia Slough, south of the Airport, in the City of Portland, Multnomah County, Oregon (Figures 1 and 2). This section of Slough runs approximately 1.8 miles, extending from NE 47th Avenue to NE 82nd Avenue, parallel to NE Cornfoot Road. The Site is generally flat and is approximately 15 feet above mean sea level.

The Site is bordered to the north by NE Cornfood Road along the entirety of the Site with the exception of the section east of NE Alderwood Road which is bordered to the north by a business park. Beyond NE

Cornfoot Road is the Boeing paint hangar, FedEx Ship Center, Matheson Flight Extenders, the W.D. Jackson Armory and Portland Air National Guard Station, and the Colwood Golf Course. Residential properties border the Site to the south near NE 47th Avenue. Beyond the residential properties are multiple auto salvage yards. East of the residential properties, the Site is bordered to the south by multiple industries including Equipment Repair Services, Sapa Extrusions, General Implement Distributors, Silver Eagle Manufacturing, and Copart Salvage Auto Auction. East of the industrial area is the Colwood Golf Course, followed by a business park.

The Site is located in the middle portion of the Columbia Slough. The Middle Slough is located from river mile 8.5 to 15.5. This section of the Slough is separated from the Lower Slough by a levee at river mile 8.5 and therefore is not tidally influenced. The Columbia Slough and associated wetlands and bank provide habitat for a variety of birds, mammals, and other wildlife.

The Columbia Slough Watershed drains approximately 32,700 acres of land, including areas in Fairview Lake and Fairview Creek, and portions of Troutdale, Fairview, Gresham, Maywood Park, Wood Village, and unincorporated Multnomah County. Historically the watershed contained channels, streams, lakes, ponds, and wetlands. As a result of urban development, the watershed has been altered, including building levees and draining and filling the wetland areas. The water has been channelized into what is now called the Columbia Slough. Side creeks and channels were filled in or diverted to underground pipes. The area is now an extensively managed surface water system with many water control structures.

2.2 Geology

Characteristic of a lowland, slow-moving water body, the sediments in the Columbia Slough are generally fine, silty, and have a fairly high organic matter content (BES, 2005). Sediments at the Site are comprised primarily of soft gray silt, sometimes containing organic matter or sand.

The primary near-site-vicinity geologic unit underlying the project Site has been mapped as surficial soil deposits of unconsolidated alluvium derived from river and stream deposits at the ground surface. These soils consist of sand and silt of recent age (Holocene Age, within the last 10,000 years) deposited on the flood plains of the Columbia River. Some of the materials are deposits of upstream formations re-worked by the Columbia River. This unit is typically found in thicknesses of less than 50 feet. This unit mantles the eroded surface of Pleistocene-aged, unconsolidated sand and silt alluvium deposits, and the eroded surface of late-Pleistocene lacustrine (lake sediment) deposits.

3.0 Field Activities

The June 2016 sediment sampling was conducted to assess the presence of contamination in the sediment within the vicinity of the Colwood Golf Course in the Middle Columbia Slough. The results of the site investigation will be used to support removal and remedial actions within the Columbia Slough.

3.1 Sediment Exploration Locations

Sediment sampling locations are presented on Figures 3 through 5. A total of three composite samples were collected from within the study area using Incremental Sampling Methodology (ISM). ISM samples consisted of a primary sample (ISM-Primary) in addition to two replicate samples (ISM-Rep 1 and ISM-Rep 2). To collect the samples, the study area was divided into 50 sampling locations (IS-1 through IS-50). Thirty sampling locations were picked at random from the 50 locations along the alignment. Sediment was collected from a depth of 0 to 10 centimeters (cm) below mud line (bml) at the thirty randomly selected locations and composited. This process was repeated twice in order to collect the primary sample and two replicates. The location of the sample within the channel was also randomly selected with samples being either closer to the north bank, in the center of the channel, or closer to the south bank. A summary of the selected increments and channel locations for each ISM sample is provided in Table 1.

In addition to the ISM samples, ten five-point composite samples (AC-1 COMP through AC-10 COMP) were collected at focused locations throughout the sampling area adjacent to significant outfalls and other likely sources of contamination. At each sample location, the five-point composite samples were collected from a depth of 0 to10 cm bml. A portion of each subsample was placed in separate sample containers for archiving; the remaining portion was mixed with other subsamples to make up the composite. A summary of the proposed locations for the composite samples is provided in Table 2. Samples not analyzed have been archived at the lab for possible future analysis.

Composite sediment samples were focused on areas of concern along the Site. The table below describes the reason for the selection of the composite sample locations.

Composite Sample	Nearby Areas of Concern
AC-1	Waste Management property outfall.
AC-2	Port of Portland 48-inch diameter metal outfall.
AC-3	Sapa Extrusions property outfalls
AC-4	Port of Portland 48-inch diameter concrete outfall.
AC-5	Port of Portland 48-inch diameter concrete outfall.
AC-6	Sapa Extrusions property outfalls and City OF 76.
AC-7	Silver Eagle Manufacturing property outfalls.
AC-8	CoPart Auto Salvage Auctions property outfalls.

Composite Sample	Nearby Areas of Concern
AC-9	Approximate location of proposed "Colwood Pipe" outfall from McBride Slough.
AC-10	Port of Portland 48-inch diameter metal outfall ("The Straw") that connects to McBride Slough.

3.2 Deviations from the Work Plan

Sediment samples were collected in accordance with the Work Plan (Apex, 2016). There were no deviations from the sample locations, methods, or analyses set out in the Work Plan.

3.3 Sample Collection

Sediment sampling activities were conducted on June 15 through 17, 2016. Sediment samples were collected in accordance with the Sampling and Analysis Plan (SAP), provided in Appendix B of the Work Plan (Apex, 2016). Sampling was conducted using a Russian peat corer from the sediment surface to a depth of 10 cm bml. Sediment samples were collected at 30 locations for the ISM sample and for each of the two replicates (field logs provided in Appendix A). In addition, five-point composite sediment samples were collected in ten areas of concern throughout the site.

A Trimble GeoXH handheld GPS unit was used for sample location control with pre-determined coordinates presented in the Work Plan. In general, sample collection was consistent with methods described in the Work Plan.

Sample locations were accessed using an inflatable sampling vessel. Composite samples were processed on the vessel by homogenizing portions of each discrete subsample and containerizing a portion of the homogenized sediment in laboratory-provided sample jars. Consistent with the SAP, the samples were stored at a temperature of approximately 4 degrees Celsius before being transferred to Test America laboratory for chemical analysis. Discrete subsamples were also containerized, stored, and transferred to Test America laboratory for potential follow-up analysis.

4.0 Chemical Analyses and Results

Chemical analyses provided data for assessing the presence of contaminants within the Middle Columbia Slough sediment in the vicinity of the Colwood Golf Course.

4.1 Analyses Performed

The ISM and five-point composite samples were analyzed for the following:

- Total Petroleum Hydrocarbons as diesel and oil (TPH-d/o) by Method NWTPH-Dx;

- PCBs by EPA Method 8082;
- PAHs by EPA Method 8270;
- Eight heavy metals (Ag, As, Cd, Cr, Cu, Hg, Pb, Zn) by EPA Method 6020; and
- Organochlorine pesticides by EPA Method 8081

In addition, the 4 five-point composite samples collected near the 48" outfalls that drain Port or Air National Guard properties (AC-2, AC-4, AC-5, AC-10) were analyzed for the following PFCs:

- Perfluorooctane sulfonate (PFOS) and PFOA by Modified EPA 537

Laboratory analytical reports, chain-of-custody documentation, and quality assurance review are provided in Appendix B.

4.2 Chemical Results and Risk Screening

The sections below summarize the analytical results and risk screening. For risk screening, the analytical results were compared to the Columbia Slough Sediment Screening Levels (CSSL; DEQ, 2014), which include values based on a previously determined "baseline value" and the Joint Source Control Strategy (JSCS) screening level values (SLVs) (DEQ/EPA, 2005) to provide a sense of risk-based levels for sediment. Analytical results and risk screening for the ISM samples and five-point composite samples are shown in Tables 3 and 4, respectively.

ISM Samples. In general, the chemical concentrations for the three ISM samples (ISM-Primary, ISM-Rep 1, and ISM-Rep 2) are similar. The range of chemicals detected in one or more samples is listed below. Chemicals that exceeded at least one of the relevant screening levels are underlined.

- Total Petroleum Hydrocarbons (TPH)'
  - TPH-d
  - TPH-o
- PAHs
  - <u>Benzo(a)anthracene</u>
  - <u>Benzo(a)pyrene</u>
  - <u>Benzo(b)fluoranthene</u>
  - Benzo(g,h,i)perylene
  - <u>Benzo(k)fluoranthene</u>
  - Benzofluoranthene
  - <u>Chrysene</u>
  - <u>Fluoranthene</u>

- Indeno(1,2,3-cd)pyrene)
- Phenanthrene
- Pyrene

- Pesticides
  - 4,4-DDE
- PCBs
  - Aroclor 1254
  - Aroclor 1260
  - Total PCBs
- Metals
  - Arsenic
  - Cadmium
  - Chromium
  - Copper
  - Lead
  - Mercury
  - Zinc

In summary, all analyte groups were detected in the ISM samples. Eight of eleven PAHs detected were at concentrations exceeding one or more of the screening levels. 4,4'DDE, total PCBs, copper, lead, and mercury were also detected at concentrations exceeding one or more of the screening levels. The ISM sample results and screening level exceedances are shown in Table 3.

The average concentration and relative standard deviation (RSD) for each analyte between the three ISM replicates is provided in Table 3. The RSD for detected petroleum hydrocarbons, pesticides, PCBs, and metals are within the quality control objective of 30% used in prior Columbia Slough sediment studies conducted by DEQ (DEQ, 2012), with the exception of total PCBs (31%). In contrast, PAHs exceeded 30% in all calculated RSD values with a range of 31-47%

Five-Point Composite Samples. In general, chemicals detected in the five-point composite samples (AC-1 COMP through AC-10 COMP) were similar to those in the ISM samples. Chemicals detected in one or more samples are listed below. Chemicals that exceeded at least one of the relevant screening levels are underlined.

- TPH
  - TPH-d
  - TPH-o

- PAHs
  - Benzo(a)anthracene
  - Benzo(a)pyrene
  - Benzo(b)fluoranthene
  - Benzo(g,h,i)perylene
  - Benzo(k)fluoranthene
  - Benzofluoranthene
  - Benzyl alcohol
  - Bis(2-ethylhexyl)phthalate
  - Chrysene
  - Fluoranthene
  - Indeno(1,2,3-cd)pyrene)
  - Phenanthrene
  - Pyrene
- Pesticides
  - Toxaphene (total)
- PCBs
  - Aroclor 1242
  - Aroclor 1254
  - Aroclor 1260
  - Total PCBs
- PFCs
  - PFOS
- Metals
  - Arsenic
  - Cadmium
  - Chromium
  - Copper
  - Lead
  - Mercury
  - Silver
  - Zinc

In summary, all analyte groups were detected in the composite samples. Nine of thirteen PAHs detected were at concentrations exceeding one or more of the screening levels. Additionally, total PCBs and mercury were detected at concentrations exceeding one or more of the screening levels. While a concentration of PFOS was detected in one sample (AC-10 COMP), there is no established CSSL or JSCS SLV for PFOS. Among the composite samples, a single detected pesticide concentration (toxaphene) occurred in sample AC-9. The five-point composite sample results and screening are presented in Table 4.

A comparison of each composite sample concentration to the average ISM result is presented in Table 4. In general, the concentrations in the composite samples were lower than those observed in the ISM samples. PCBs and metals in the composite samples were detected at concentrations of 50% or less than those of the ISM samples. The exception to this is mercury that was detected at concentrations slightly higher in the composite samples as compared to the average ISM sample result. For 11 of the 17 detected composite sample TPH concentrations, the results were lower than those in the ISM samples. In general, PAHs in composite samples AC-1 through AC-6 were detected at concentrations lower than the average ISM sample concentration. PAHs in composite samples AC-7 through AC-10 show the opposite trend as the other analytes and have consistently higher concentrations than the average ISM sample concentrations.

5.0 Summary

Sediment sampling was conducted within the Middle Columbia Slough in the general vicinity of the Colwood Golf Course. The primary purpose of the work was to characterize baseline chemical concentrations in sediment and to identify where hazardous substances are present at concentrations significantly exceeding baseline values or the established SLVs. The results of the sampling will be used to support future remedial actions within the Columbia Slough.

Multiple PAHs were detected in each of the ISM and composite samples. More than half of the detected concentrations of PAHs exceeded screening levels, with the highest concentrations of PAHs observed in composite sample AC-10. In general, PAH screening level exceedances were above the Columbia Slough Sediment Screening Levels, but below the JSCS SLVs.

Two pesticides, including 4,4'DDE and toxaphene, were detected at concentrations above method detection limits. 4,4'-DDE was detected in each of the three ISM samples, while toxaphene was detected only in composite sample AC-9. The detected 4,4'-DDE concentrations were above the Columbia Slough Sediment Screening Levels and the JSCS bioaccumulation SLV, but were below the JSCS toxicity SLV. Toxaphene does not have an applicable Columbia Slough or JSCS screening level.

Total PCB concentrations exceeded the JSCS toxicity SLV in all composite and ISM samples. Detections of individual Aroclors did not exceed screening levels.

Metals that exceeded screening levels included copper, lead, and mercury. Mercury exceeded the JSCS bioaccumulation SLV in all samples, with the exception of composite samples AC-1 and AC-2. Copper and lead exceeded screening levels only in the ISM samples. Copper exceeded the Columbia Slough Sediment Screening Levels and lead exceeded the JSCS bioaccumulation SLV.

TPH was detected in all ISM and composite samples. PFOS was detected in one of four composite samples analyzed (AC-10), although there are no established CSSL or JSCS SLVs for TPH or PFOS.

Variation between the ISM sample and replicate analytes are generally within an acceptable range and show that the results are representative of the conditions in this section of the Slough. The exception is PAHs, due to the relatively higher concentration of PAHs in sample ISM-Rep 1 as compared to the other two ISM samples. The higher variation in PAH results among the ISM sample and replicates may result in less confidence in the data set for future PAH comparisons in this area.

In general, concentrations in the composite samples are lower than those in the ISM samples, with the exceptions of mercury and PAH concentrations in AC-7 through AC-10 as noted above. Where composite analytical results exceeded ISM results, concentrations generally fell between the Columbia Slough screening criteria and the Joint Source Control screening criteria.

6.0 References

Apex, 2016. *Sediment Sampling Work Plan – Colwood - Middle Columbia Slough*. May 4, 2016.

DEQ/US Environmental Protection Agency (EPA), 2005. Portland Harbor Joint Source Control Strategy. December 2005.

DEQ, 2012. Columbia Slough Sediment Study, Lower Slough between River Mile 5.9 and 8.7. January, 2012 update.

DEQ, 2014. Columbia Slough Sediment Screening Levels. June 3, 2014.

Table 1
ISM Samples Summary
Colwood Sediment Sampling
Oregon Department of Environmental Quality
Portland, Oregon

	Primary Sample			
	Cell Number	Channel Location	Coordinates (ORHP-NIF)	
			Northing (X)	*Easting (Y)*
1	IS-19	Central	702767.815	7664325.773
2	IS-27	Central	702367.461	7665806.083
3	IS-33	South	702367.064	7666983.938
4	IS-4	Central	703482.110	7661529.429
5	IS-38	South	701902.526	7667846.034
6	IS-50	Central	700806.730	7669913.440
7	IS-46	Central	701124.765	7669192.354
8	IS-2	North	703570.219	7661146.843
9	IS-18	North	702836.747	7664141.066
10	IS-1	North	703642.735	7660963.516
11	IS-34	Central	702306.821	7667170.170
12	IS-21	Central	702584.695	7664673.521
13	IS-37	Central	702009.755	7667680.940
14	IS-45	North	701189.053	7669005.981
15	IS-29	Central	702408.400	7666198.232
16	IS-13	Central	703076.466	7663188.340
17	IS-39	South	701777.554	7667998.505
18	IS-31	Central	702407.031	7666591.998
19	IS-23	South	702423.813	7665031.876
20	IS-40	Central	701649.165	7668147.998
21	IS-8	South	703470.146	7662304.640
22	IS-26	South	702346.693	7665610.030
23	IS-7	Central	703527.031	7662118.254
24	IS-24	Central	702367.226	7665220.722
25	IS-3	North	703510.374	7661334.352
26	IS-43	North	701330.375	7668638.050
27	IS-22	South	702490.710	7664846.530
28	IS-16	South	702909.075	7663753.907
29	IS-25	North	702334.748	7665413.721
30	IS-30	Central	702414.865	7666395.103

	Replicate 1			
	Cell Number	Channel Location	Coordinates (ORHP-NIF)	
			Northing (X)	*Easting (Y)*
1	IS-20	South	702689.908	7664506.792
2	IS-44	North	701255.569	7668820.441
3	IS-1	North	703642.735	7660963.516
4	IS-12	Central	703149.419	7663005.185
5	IS-31	North	702407.031	7666591.998
6	IS-17	North	702880.202	7663948.902
7	IS-4	Central	703482.110	7661529.429
8	IS-33	North	702367.064	7666983.938
9	IS-10	North	703245.452	7662624.074
10	IS-25	Central	702334.748	7665413.721
11	IS-32	Central	702391.867	7666788.533
12	IS-38	Central	701902.526	7667846.034
13	IS-2	North	703570.219	7661146.843
14	IS-13	Central	703076.466	7663188.340
15	IS-11	North	703195.036	7662813.510
16	IS-41	South	701512.733	7668289.871
17	IS-24	South	702367.226	7665220.722
18	IS-50	North	700806.730	7669913.440
19	IS-45	South	701189.053	7669005.981
20	IS-37	Central	702009.755	7667680.940
21	IS-7	South	703527.031	7662118.254
22	IS-22	North	702490.710	7664846.530
23	IS-34	Central	702306.821	7667170.170
24	IS-49	South	700876.802	7669729.259
25	IS-40	Central	701649.165	7668147.998
26	IS-3	Central	703510.374	7661334.352
27	IS-16	North	702909.075	7663753.907
28	IS-30	Central	702414.865	7666395.103
29	IS-43	North	701330.375	7668638.050
30	IS-46	South	701124.765	7669192.354

	Replicate 2			
	Cell Number	Channel Location	Coordinates (ORHP-NIF)	
			Northing (X)	*Easting (Y)*
1	IS-31	Central	702407.031	7666591.998
2	IS-10	Central	703245.452	7662624.074
3	IS-20	Central	702689.908	7664506.792
4	IS-15	South	702949.032	7663560.990
5	IS-36	Central	702107.687	7667509.852
6	IS-38	North	701902.526	7667846.034
7	IS-45	Central	701189.053	7669005.981
8	IS-6	North	703506.685	7661922.159
9	IS-2	North	703570.219	7661146.843
10	IS-30	South	702414.865	7666395.103
11	IS-39	Central	701777.554	7667998.505
12	IS-7	Central	703527.031	7662118.254
13	IS-44	Central	701255.569	7668820.441
14	IS-11	North	703195.036	7662813.510
15	IS-34	South	702306.821	7667170.170
16	IS-43	South	701330.375	7668638.050
17	IS-35	North	702210.198	7667341.566
18	IS-37	Central	702009.755	7667680.940
19	IS-29	North	702408.400	7666198.232
20	IS-25	North	702334.748	7665413.721
21	IS-3	Central	703510.374	7661334.352
22	IS-8	Central	703470.146	7662304.640
23	IS-16	Central	702909.075	7663753.907
24	IS-19	North	702767.815	7664325.773
25	IS-41	South	701512.733	7668289.871
26	IS-1	South	703642.735	7660963.516
27	IS-24	Central	702367.226	7665220.722
28	IS-21	Central	702584.695	7664673.521
29	IS-40	North	701649.165	7668147.998
30	IS-28	Central	702388.569	7666002.100

Notes:

1. ORHP-NIF - Oregon State Plane Coordinate System, North Zone (International Feet).

Table 2
Composite Sample Summary
Colwood Sediment Sampling
Oregon Department of Environmental Quality
Portland, Oregon

Sample ID	Sample Location	Coordinates (ORHP-NF)	
		Northing (X)	*Easting (Y)*
AC-1	AC-1a	703459.482	7661600.805
	AC-1b	703459.793	7661625.803
	AC-1c	703460.104	7661650.801
	AC-1d	703460.415	7661675.799
	AC-1e	703460.727	7661700.797
AC-2	AC-2a	703491.744	7661611.303
	AC-2b	703493.502	7661636.242
	AC-2c	703495.260	7661661.180
	AC-2d	703497.018	7661686.118
	AC-2e	703498.776	7661711.056
AC-3	AC-3a	703453.304	7662315.061
	AC-3b	703427.353	7662346.802
	AC-3c	703401.218	7662378.768
	AC-3d	703375.450	7662410.286
	AC-3e	703349.499	7662442.028
AC-4	AC-4a	703268.194	7662612.678
	AC-4b	703258.922	7662635.895
	AC-4c	703249.650	7662659.112
	AC-4d	703240.378	7662682.329
	AC-4e	703231.106	7662705.546
AC-5	AC-5a	703175.378	7663016.332
	AC-5b	703165.853	7663039.447
	AC-5c	703156.328	7663062.561
	AC-5d	703146.803	7663085.675
	AC-5e	703137.278	7663108.790
AC-6	AC-6a	703047.170	7663233.740
	AC-6b	703038.444	7663257.168
	AC-6c	703029.718	7663280.596
	AC-6d	703020.992	7663304.023
	AC-6e	703012.266	7663327.451
AC-7	AC-7a	702886.049	7663774.839
	AC-7b	702881.330	7663799.390
	AC-7c	702876.611	7663823.940
	AC-7d	702870.581	7663848.190
	AC-7e	702864.507	7663872.441
AC-8	AC-8a	702404.304	7666377.703
	AC-8b	702404.249	7666402.703
	AC-8c	702404.194	7666427.703
	AC-8d	702404.139	7666452.703
	AC-8e	702404.084	7666477.703
AC-9	AC-9a	701734.118	7668082.651
	AC-9b	701716.591	7668100.478
	AC-6c	701699.064	7668118.305
	AC-9d	701681.537	7668136.132
	AC-9e	701664.010	7668153.960
AC-10	AC-10a	701275.894	7668822.321
	AC-10b	701267.735	7668845.953
	AC-10c	701259.577	7668869.584
	AC-10d	701251.418	7668893.215
	AC-10e	701243.260	7668916.846

Note:

1. ORHP-NF - Oregon State Plane Coordinate System, North Zone (feet)

Table 3
ISM Sample Results
Colwood Sediment Sampling
Oregon Department of Environmental Quality
Portland, Oregon

Sample Name:	ISM-Primary	ISM-Rep 1	ISM-Rep 2	ISM Sample Average	Relative Standard Deviation	Columbia Slough Sediment Screening Levels	JSCS Sediment Screening Level Values	
Sample Date:	6/15/2016	6/15/2016	6/15/2016				Toxicity	Bioaccumulation
Petroleum Hydrocarbons by NWTPH-Dx (mg/kg)								
Diesel	73	100	93	89	16%	--	--	--
Motor Oil	500	780	740	673	22%	--	--	--
PAHs by EPA 8270D (µg/kg)								
1,2,4-Trichlorobenzene	<160	<170	<170	NA	NA	--	9,200	--
1,2-Dichlorobenzene	<180	<180	<180	NA	NA	--	1,700	--
1,4-Dichlorobenzene	<160	<170	<170	NA	NA	--	300	--
2,4-Dimethylphenol	<330	<330	<330	NA	NA	--	--	--
2-Methylnaphthalene	<65	<66	<66	NA	NA	20	200	--
2-Methylphenol	<330	<330	<330	NA	NA	--	--	--
3+4-Methylphenol(s)	<650	<660	<660	NA	NA	--	--	--
Acenaphthene	<65	<66	<66	NA	NA	290	300	--
Acenaphthylene	<65	<66	<66	NA	NA	160	200	--
Anthracene	<65	<66	<66	NA	NA	57	845	--
Benzo(a)anthracene	100 H	200 H	120 H	140	38%	72	1,050	--
Benzo(a)pyrene	150 H	280 H	190 H	207	32%	9	1,450	--
Benzo(b)fluoranthene	290 H	560 H	350 H	400	35%	104	--	--
Benzo(g,h,i)perylene	120 H	160 H	<120	140	ND	300	300	--
Benzo(k)fluoranthene	<180	210 H	<180	NA	NA	87	13,000	--
Benzofluoranthene	<180	710 H	470 H	590	ND	--	--	--
Benzoic acid	<8,200	<8,300	<8,300	NA	NA	--	--	--
Benzyl alcohol	<330	<300	<330	NA	NA	--	--	--
Bis(2-ethylhexyl)phthalate	<2,000	<2,000	<2,000	NA	NA	1,816	800	330
Butyl benzyl phthalate	<650	<660	<660	NA	NA	--	--	--
Chrysene	170 H	350 H	210 H	243	38%	129	1,290	--
Dibenz(a,h)anthracene	<130	<130	<130	NA	NA	60	1,300	--
Dibenzofuran	<330	<330	<330	NA	NA	5,100	--	--
Diethyl phthalate	<650	<660	<660	NA	NA	--	600	--
Dimethyl phthalate	<330	<330	<330	NA	NA	--	--	--
Di-n-butyl phthalate	<1,600	<1,700	<1,700	NA	NA	--	100	60
Di-n-octyl phthalate	<1,600	<1,700	<1,700	NA	NA	--	--	--
Fluoranthene	220 H	510 H	270 H	333	47%	144	2,230	37,000
Fluorene	<65	<66	<66	NA	NA	77	536	--
Hexachlorobenzene	<160	<170	<170	NA	NA	--	100	19
Hexachlorobutadiene	<160	<170	<170	NA	NA	--	600	--
Hexachloroethane	<330	<330	<330	NA	NA	--	--	--
Indeno(1,2,3-cd)pyrene	140 H	180 H	<130	160	ND	74	100	--
Naphthalene	<65	<66	<66	NA	NA	176	561	--
N-Nitrosodimethylamine	<160	<170	<170	NA	NA	--	--	--
Pentachlorophenol	<820	<830	<830	NA	NA	100	1000	250
Phenanthrene	67 H	110 H	67 H	81	31%	80	1,170	--
Phenol	<330	<330	<330	NA	NA	48	50	--
Pyrene	210 H	410 H	250 H	290	36%	1,900	1,520	1,900
Organochlorine Pesticides by EPA 8081B (µg/kg)								
4,4'-DDD	<6.4	<6.6	<6.5	NA	NA	6.1	31.3	0.33
4,4'-DDE	10	7.8	9.0	8.9	12%	7	28	0.33
4,4'-DDT	<6.4	<6.6	<6.5	NA	NA	2.5	62.9	0.33
Aldrin	<3.2	<3.3	<3.3	NA	NA	1	40	--
alpha-BHC	<3.2	<3.3	<3.3	NA	NA	1	--	--
alpha-Chlordane	<3.2	<3.3	<3.3	NA	NA	--	--	--
beta-BHC	<6.4	<6.6	<6.5	NA	NA	1	--	--
Chlordane (Technical)	<32	<33	<33	NA	NA	1	17.6	0.37
delta-BHC	<3.2	<3.3	<3.3	NA	NA	--	--	--
Dieldrin	<6.4	<6.6	<6.5	NA	NA	1	61.8	0.0081
Endosulfan I	<3.2	<3.3	<3.3	NA	NA	350	--	--
Endosulfan II	<6.4	<6.6	<6.5	NA	NA	350	--	--
Endosulfan sulfate	<6.4	<6.6	<6.5	NA	NA	--	--	--
Endrin	<6.4	<6.6	<6.5	NA	NA	--	207	--
Endrin Aldehyde	<6.4	<6.6	<6.5	NA	NA	3	--	--
Endrin ketone	<6.4	<6.6	<6.5	NA	NA	--	--	--
gamma-BHC (Lindane)	<3.2	<3.3	<3.3	NA	NA	9	4.99	--
gamma-Chlordane	<3.2	<3.3	<3.3	NA	NA	1	--	--
Heptachlor	<6.4	<6.6	<6.5	NA	NA	--	--	--
Heptachlor epoxide	<3.2	<3.3	<3.3	NA	NA	--	--	--
Hexachlorobenzene	<3.2	<3.3	<3.3	NA	NA	--	--	--
Hexachlorobutadiene	<3.2	<3.3	<3.3	NA	NA	--	--	--
Methoxychlor	<32	<33	<33	NA	NA	--	--	--
Toxaphene (Total)	<320	<33	<330	NA	NA	--	--	--

Please see notes at end of table.

Table 3
ISM Sample Results
Colwood Sediment Sampling
Oregon Department of Environmental Quality
Portland, Oregon

Sample Name:	ISM-Primary	ISM-Rep 1	ISM-Rep 2	ISM Sample Average	Relative Standard Deviation	Columbia Slough Sediment Screening Levels	JSCS Sediment Screening Level Values	
Sample Date:	6/15/2016	6/15/2016	6/15/2016				Toxicity	Bioaccumulation
PCBs by 8082A (µg/kg)								
Aroclor 1016	<8.1	<8.3	<8.1	NA	NA	--	530	--
Aroclor 1221	<3.5	<3.6	<3.6	NA	NA	--	--	--
Aroclor 1232	<3.5	<3.6	<3.6	NA	NA	--	--	--
Aroclor 1242	<3.2	<3.3	<3.3	NA	NA	--	--	--
Aroclor 1248	<3.5	<3.6	<3.6	NA	NA	10	1,500	--
Aroclor 1254	15 H	10 H	11 H	12	22%	24	300	--
Aroclor 1260	6.1 H	4.9 H	4.8 H	4.7	16%	10	200	--
Aroclor 1262	<3.2	<3.3	<3.3	NA	NA	--	--	--
Aroclor 1268	<3.2	<3.3	<3.3	NA	NA	--	--	--
Total PCBs	21.1 H	14.9 H	15.8 H	12.3	31%	676	0.39	--
Metals by 6062A (mg/kg)								
Arsenic	5.4	5.2	4.8	5.1	6%	8.8	33	7
Cadmium	0.62	0.62	0.53	0.59	9%	1.9	4.98	1
Chromium	25	25	23	24	5%	76	111	--
Copper	65	67	56	63	9%	54	149	--
Lead	25	25	22	24	7%	90	128	17
Mercury	0.082	0.081	0.084	0.082	2%	0.23	1.06	0.07
Silver	<0.49	<0.49	<0.49	NA	NA	4.5	5	--
Zinc	180	180	160	173	7%	314	459	--

Notes:
1. < = Analyte not detected above the method detection limit
2. **Bold** = analyte detected above method detection limit
3. Shading = analyte detected above one or more screening levels
4. -- = Not available
5. mg/kg = milligrams per kilogram
6. µg/kg = micrograms per kilogram
7. H = Sample was analyzed outside method holding time.
8. Columbia Slough Sediment Screening Levels, Oregon Department of Envionmental Quality (DEQ), June 3, 2014.
9. JSCS = Portland Harbor Joint Source Control Strategy Screening Level Values, DEQ/Environmental Protection Agency, December 2005
10. JSCS Screening Level Values for cadmium, mercury, and lead are based on background concentrations that have been updated for the Portland Basin to 0.63, 0.23, and 73 ppm respectively.
11. NA = Not applicable
12. ND = Not determined, there were not enough concentrations above method detection limits to calculate the relative standard deviation

Table 4
Composite Sample Results
Colwood Sediment Sampling
Oregon Department of Environmental Quality
Portland, Oregon

Sample Name:	AC-1 COMP	ISM Comparison Ratio	AC-2 COMP	ISM Comparison Ratio	AC-3 COMP	ISM Comparison Ratio	AC-4 COMP	ISM Comparison Ratio	AC-5 COMP	ISM Comparison Ratio	Columbia Slough Sediment Screening Levels	JSCS Sediment Screening Level Values	
Sample Date:	6/15/2016		6/15/2016		6/16/2016		6/17/2016		6/16/2016			Toxicity	Bioaccumulation
Petroleum Hydrocarbons by NWTPH-Dx (mg/kg)													
Diesel	170	192%	150	169%	45	51%	<51	NA	<62	NA	--	--	--
Motor Oil	790	117%	430	64%	160	24%	210	31%	360	53%	--	--	--
PAHs by EPA 8270D (µg/kg)													
1,2,4-Trichlorobenzene	<190	NA	<170	NA	<180	NA	<190	NA	<250	NA	--	9,200	--
1,2-Dichlorobenzene	<210	NA	<190	NA	<200	NA	<210	NA	<280	NA	--	1,700	--
1,4-Dichlorobenzene	<190	NA	<170	NA	<180	NA	<190	NA	<250	NA	--	300	--
2,4-Dimethylphenol	<380	NA	<340	NA	<370	NA	<390	NA	<500	NA	--	--	--
2-Methylnaphthalene	<76	NA	<68	NA	<74	NA	<78	NA	<100	NA	20	200	--
2-Methylphenol	<380	NA	<340	NA	<370	NA	<390	NA	<500	NA	--	--	--
3+4-Methylphenol(s)	<760	NA	<680	NA	<740	NA	<780	NA	<1,000	NA	--	--	--
Acenaphthene	<76	NA	<68	NA	<74	NA	<78	NA	<100	NA	290	300	--
Acenaphthylene	<76	NA	<68	NA	<74	NA	<78	NA	<100	NA	160	200	--
Anthracene	<76	NA	<68	NA	<74	NA	<78	NA	<100	NA	57	845	--
Benzo(a)anthracene	<76	NA	<68	NA	<74	NA	78	56%	<100	NA	72	1,050	--
Benzo(a)pyrene	180	87%	120	58%	<130	NA	150	73%	<180	NA	9	1,450	--
Benzo(b)fluoranthene	400	100%	160	40%	250	63%	270	68%	260	65%	104	--	--
Benzo(g,h,i)perylene	190	136%	<120	NA	<130	NA	170	121%	<180	NA	300	300	--
Benzo(k)fluoranthene	<210	NA	<190	NA	<200	NA	<210	NA	<280	NA	87	13,000	--
Benzofluoranthene	440	75%	240	41%	320	54%	350	59%	370	63%	--	--	--
Benzoic acid	<9,500	NA	<8,500	NA	<9,200	NA	<9,700	NA	<13,000	NA	--	--	--
Benzyl alcohol	<380	NA	<340	NA	8500	NA	<390	NA	<500	NA	--	--	--
Bis(2-ethylhexyl)phthalate	<2,300	NA	<2,100	NA	<2,200	NA	<2,300	NA	<3,000	NA	1,816	800	330
Butyl benzyl phthalate	<760	NA	<680	NA	<740	NA	<780	NA	<1,000	NA	--	--	--
Chrysene	190	78%	99	41%	120	49%	140	58%	<130	NA	129	1,290	--
Dibenz(a,h)anthracene	<150	NA	<140	NA	<150	NA	<160	NA	<200	NA	60	1,300	--
Dibenzofuran	<380	NA	<340	NA	<370	NA	<690	NA	<500	NA	5,100	--	--
Diethyl phthalate	<760	NA	<680	NA	<740	NA	<780	NA	<1,000	NA	--	--	--
Dimethyl phthalate	<380	NA	<340	NA	<370	NA	<390	NA	<500	NA	--	--	--
Di-n-butyl phthalate	<1,900	NA	<1,700	NA	<1,800	NA	<1,900	NA	<2,500	NA	--	100	60
Di-n-octyl phthalate	<1,900	NA	<1,700	NA	<1,800	NA	<1,900	NA	<2,500	NA	--	--	--
Fluoranthene	220	66%	100	30%	150	45%	160	48%	150	45%	144	2,230	37,000
Fluorene	<76	NA	<68	NA	<74	NA	<78	NA	<100	NA	77	536	--
Hexachlorobenzene	<190	NA	<170	NA	<180	NA	<190	NA	<250	NA	--	100	19
Hexachlorobutadiene	<190	NA	<170	NA	<180	NA	<190	NA	<250	NA	--	600	--
Hexachloroethane	<380	NA	<340	NA	<370	NA	<390	NA	<500	NA	--	--	--
Indeno(1,2,3-cd)pyrene	240	150%	<140	NA	<150	NA	190	119%	<200	NA	74	100	--
Naphthalene	<76	NA	<68	NA	<74	NA	<78	NA	<100	NA	176	561	--
N-Nitrosodimethylamine	<190	NA	<170	NA	<180	NA	<190	NA	<250	NA	--	--	--
Pentachlorophenol	<950	NA	<850	NA	<920	NA	<970	NA	<1,300	NA	100	1000	250
Phenanthrene	76	93%	<68	NA	<74	NA	<78	NA	<100	NA	80	1,170	--
Phenol	<380	NA	<340	NA	<370	NA	<390	NA	<500	NA	48	50	--
Pyrene	260	90%	<68	NA	190	66%	<78	NA	190	66%	1,900	1,520	1,900
Organochlorine Pesticides by EPA 8081B (µg/kg)													
2,4-DDD	<4.0	NA	<3.3	NA	<3.7	NA	<4.0	NA	<4.9	NA	6.1	31.3	0.33
2,4-DDE	<4.0	NA	<3.3	NA	<3.7	NA	<4.0	NA	<4.9	NA	7	28	0.33
2,4-DDT	<4.0	NA	<3.3	NA	<3.7	NA	<4.0	NA	<4.9	NA	2.5	62.9	0.33
4,4'-DDD	<4.0	NA	<3.3	NA	<3.7	NA	<4.0	NA	<4.9	NA	6.1	31.3	0.33
4,4'-DDE	<4.0	NA	<3.3	NA	<3.7	NA	<4.0	NA	<4.9	NA	7	28	0.33
4,4'-DDT	<4.0	NA	<3.3	NA	<3.7	NA	<4.0	NA	<4.9	NA	2.5	62.9	0.33
Aldrin	<2.0	NA	<1.7	NA	<19	NA	<2.0	NA	<2.4	NA	1	40	--
alpha-BHC	<2.0	NA	<1.7	NA	<1.9	NA	<2.0	NA	<2.4	NA	1	--	--
beta-BHC	<2.0	NA	<1.7	NA	<1.9	NA	<2.0	NA	<2.4	NA	1	--	--
Chlordane (Technical)	<20	NA	<17	NA	<19	NA	<20	NA	<24	NA	1	17.6	0.37
cis-Chlordane	<2.0	NA	<1.7	NA	<1.9	NA	<2.0	NA	<2.4	NA	1	--	--
cis-Nonachlor	<4.0	NA	<3.3	NA	>3.7	NA	<4.0	NA	<4.9	NA	--	--	--
delta-BHC	<2.0	NA	<1.7	NA	<1.9	NA	<2.0	NA	<2.4	NA	--	--	--
Dieldrin	<4.0	NA	<3.3	NA	<3.7	NA	<4.0	NA	<4.9	NA	1	61.8	0.0081
Endosulfan I	<2.0	NA	<1.7	NA	<1.9	NA	<2.0	NA	<2.4	NA	350	--	--
Endosulfan II	<4.0	NA	<3.3	NA	<3.7	NA	<4.0	NA	<4.9	NA	350	--	--

Please see notes at end of table.

Table 4
Composite Sample Results
Colwood Sediment Sampling
Oregon Department of Environmental Quality
Portland, Oregon

Sample Name:	AC-1 COMP	ISM Comparison Ratio	AC-2 COMP	ISM Comparison Ratio	AC-3 COMP	ISM Comparison Ratio	AC-4 COMP	ISM Comparison Ratio	AC-5 COMP	ISM Comparison Ratio	Columbia Slough Sediment Screening Levels	JSCS Sediment Screening Level Values	
Sample Date:	6/15/2016		6/15/2016		6/16/2016		6/17/2016		6/16/2016			Toxicity	Bioaccumulation
Endosulfan sulfate	<4.0	NA	<3.3	NA	<3.7	NA	<4.0	NA	<4.9	NA	--	--	--
Endrin	<4.0	NA	<3.3	NA	<3.7	NA	<4.0	NA	<4.9	NA	--	207	--
Endrin Aldehyde	<4.0	NA	<3.3	NA	<3.7	NA	<4.0	NA	<4.9	NA	3	--	--
Endrin ketone	<4.0	NA	<3.3	NA	<3.7	NA	<4.0	NA	<4.9	NA	--	--	--
gamma-BHC (Lindane)	<2.0	NA	<1.7	NA	<1.9	NA	<2.0	NA	<2.4	NA	9	4.99	--
Heptachlor	<4.0	NA	<3.3	NA	<3.7	NA	<4.0	NA	<4.9	NA	1	10	--
Heptachlor epoxide	<2.0	NA	<1.7	NA	<1.9	NA	<2.0	NA	<2.4	NA	--	16	--
Hexachlorobenzene	<2.0	NA	<1.7	NA	<1.9	NA	<2.0	NA	<2.4	NA	--	--	--
Hexachlorobutadiene	<2.0	NA	<1.7	NA	<1.9	NA	<2.0	NA	<2.4	NA	--	--	--
Methoxychlor	<20	NA	<17	NA	<19	NA	<20	NA	<24	NA	--	--	--
oxy-Chlordane	<4.0	NA	<3.3	NA	<3.7	NA	<4.0	NA	<4.9	NA			
Toxaphene (Total)	<200	NA	<170	NA	<190	NA	<200	NA	<240	NA	--	--	--
trans-Chlordane	<2.0	NA	<1.7	NA	<1.9	NA	<2.0	NA	<2.4	NA	--	--	--
trans-Nonachlor	<4.0	NA	<3.3	NA	<3.7	NA	<4.0	NA	<4.9	NA	--	--	--
PCBs by 8082A (µg/kg)													
Aroclor 1016	<0.96	NA	<0.91	NA	<0.95	NA	<0.95	NA	<0.89	NA	--	530	--
Aroclor 1221	<1.1	NA	<1.0	NA	<1.0	NA	<1.0	NA	<0.98	NA	--	--	--
Aroclor 1232	<1.1	NA	<1.0	NA	<1.0	NA	<1.0	NA	<0.98	NA	--	--	--
Aroclor 1242	<0.96	NA	<0.91	NA	<0.95	NA	<0.95	NA	<0.89	NA	--	--	--
Aroclor 1248	<1.1	NA	<1.0	NA	<1.0	NA	<1.0	NA	<0.98	NA	10	1,500	--
Aroclor 1254	2.6	22%	1.9	16%	2.4	20%	<0.95	NA	2.6	22%	24	300	--
Aroclor 1260	1.5	32%	1.5	32%	1.2	26%	1.1	24%	1.3	28%	10	200	--
Aroclor 1262	<0.96	NA	<0.91	NA	<0.95	NA	<0.95	NA	<0.89	NA	--	--	--
Aroclor 1268	<0.96	NA	<0.91	NA	<0.95	NA	<0.95	NA	<0.89	NA	--	--	--
Total PCBs	4.1	33%	3.4	28%	3.6	29%	1.1	9%	3.9	32%	676	0.39	--
Perfluorinated Hydrocarbons by WS-LC-0025 (µg/kg)													
Perfluorooctanoic acid (PFOA)	--	NA	<3.8	NA	--	NA	<4.0	NA	<4.0	NA	--	--	--
Perfluorooctane Sulfonate (PFOS)	--	NA	<3.8	NA	--	NA	<4.0	NA	<4.0	NA	--	--	--
Metals by 6062A (mg/kg)													
Arsenic	1.8	35%	1.7	33%	1.7	33%	2.0	39%	1.5	29%	8.8	33	7
Cadmium	0.32	54%	0.26	44%	0.26	44%	0.24	41%	0.2	34%	1.9	4.98	1
Chromium	11	45%	12	49%	12	49%	10	41%	8.7	36%	76	111	--
Copper	13	21%	11	18%	12	19%	11	18%	9.1	15%	54	149	--
Lead	8.6	36%	6.5	27%	7.0	29%	8.6	36%	6.2	26%	90	128	17
Mercury	0.056	68%	0.050	61%	0.081	98%	0.097	118%	0.11	134%	0.23	1.06	0.07
Silver	0.070	NA	0.055	NA	0.068	NA	0.075	NA	0.056	NA	4.5	5	--
Zinc	59	34%	49	28%	47	27%	59	34%	42	24%	314	459	--

Please see notes at end of table.

Table 4
Composite Sample Results
Colwood Sediment Sampling
Oregon Department of Environmental Quality
Portland, Oregon

Sample Name:	AC-6 COMP	ISM Comparison Ratio	AC-7 COMP	ISM Comparison Ratio	AC-8 COMP	ISM Comparison Ratio	AC-9 COMP	ISM Comparison Ratio	AC-10 COMP	ISM Comparison Ratio	Columbia Slough Sediment Screening Levels	JSCS Sediment Screening Level Values	
Sample Date:	6/16/2016		6/16/2016		6/13/2016		6/13/2016		6/13/2016			Toxicity	Bioaccumulation
Petroleum Hydrocarbons by NWTPH-Dx (mg/kg)													
Diesel	76	86%	130	147%	50	56%	100	113%	62	70%	--	--	--
Motor Oil	460	68%	890	132%	230	34%	300	45%	180	27%	--	--	--
PAHs by EPA 8270D (µg/kg)													
1,2,4-Trichlorobenzene	<250	NA	<330	NA	<230	NA	<240	NA	<270	NA	--	9,200	--
1,2-Dichlorobenzene	<27	NA	<360	NA	<250	NA	<260	NA	<300	NA	--	1,700	--
1,4-Dichlorobenzene	<250	NA	<330	NA	<230	NA	<240	NA	<270	NA	--	300	--
2,4-Dimethylphenol	<500	NA	<650	NA	<450	NA	<470	NA	<550	NA	--	--	--
2-Methylnaphthalene	<100	NA	<130	NA	<90	NA	<94	NA	<110	NA	20	200	--
2-Methylphenol	<500	NA	<650	NA	<450	NA	<470	NA	<550	NA	--	--	--
3+4-Methylphenol(s)	<1,000	NA	<1,300	NA	<900	NA	<940	NA	<1,100	NA	--	--	--
Acenaphthene	<100	NA	<130	NA	<90	NA	<94	NA	<110	NA	290	300	--
Acenaphthylene	<100	NA	<130	NA	<90	NA	<94	NA	<110	NA	160	200	--
Anthracene	<100	NA	<130	NA	<90	NA	<94	NA	<110	NA	57	845	--
Benzo(a)anthracene	<100	NA	150	107%	180	129%	180	129%	300	214%	72	1,050	--
Benzo(a)pyrene	<170	NA	310	150%	290	140%	260	126%	470	227%	9	1,450	--
Benzo(b)fluoranthene	260	65%	580	145%	560	140%	760	190%	1,200	300%	104	--	--
Benzo(g,h,i)perylene	<170	NA	310	221%	300	214%	500	357%	520	371%	300	300	--
Benzo(k)fluoranthene	<270	NA	<360	NA	<250	NA	350	NA	430	NA	87	13,000	--
Benzofluoranthene	390	66%	680	115%	640	108%	930	158%	1,200	203%	--	--	--
Benzoic acid	<12,000	NA	<16,000	NA	<11,000	NA	<12,000	NA	<14,000	NA	--	--	--
Benzyl alcohol	<500	NA	<650	NA	<450	NA	<470	NA	<550	NA	--	--	--
Bis(2-ethylhexyl)phthalate	<3,000	NA	<3,900	NA	<2,700	NA	2,800	NA	<3,300	NA	1,816	800	330
Butyl benzyl phthalate	<1,000	NA	<1,300	NA	<900	NA	<940	NA	<1,100	NA	--	--	--
Chrysene	150	62%	320	132%	320	132%	460	189%	690	284%	129	1,290	--
Dibenz(a,h)anthracene	<200	NA	<260	NA	<180	NA	<190	NA	<220	NA	60	1,300	--
Dibenzofuran	<500	NA	<650	NA	<450	NA	<470	NA	<550	NA	5,100	--	--
Diethyl phthalate	<1,00	NA	<1,300	NA	<900	NA	<940	NA	<1,100	NA	--	--	--
Dimethyl phthalate	<500	NA	<650	NA	<450	NA	<470	NA	<550	NA	--	--	--
Di-n-butyl phthalate	<2,500	NA	<3,300	NA	<2,300	NA	<2400	NA	<2,700	NA	--	100	60
Di-n-octyl phthalate	<2,500	NA	<3,300	NA	<2,300	NA	<2400	NA	<2,700	NA	--	--	--
Fluoranthene	170	51%	370	111%	420	126%	610	183%	1,100	330%	144	2,230	37,000
Fluorene	<100	NA	<130	NA	<90	NA	<94	NA	<110	NA	77	536	--
Hexachlorobenzene	<250	NA	<330	NA	<230	NA	<240	NA	<270	NA	--	100	19
Hexachlorobutadiene	<250	NA	<330	NA	<230	NA	<240	NA	<270	NA	--	600	--
Hexachloroethane	<500	NA	<650	NA	<450	NA	<470	NA	<550	NA	--	--	--
Indeno(1,2,3-cd)pyrene	<200	NA	260	163%	330	206%	520	325%	640	400%	74	100	--
Naphthalene	<100	NA	<130	NA	<90	NA	<94	NA	<110	NA	176	561	--
N-Nitrosodimethylamine	<250	NA	<330	NA	<230	NA	<240	NA	<270	NA	--	--	--
Pentachlorophenol	<1,200	NA	<1,600	NA	<1,100	NA	<1200	NA	<1,400	NA	100	1000	250
Phenanthrene	<100	NA	<130	NA	160	197%	150	184%	230	283%	80	1,170	--
Phenol	<500	NA	<650	NA	<450	NA	<470	NA	<550	NA	48	50	--
Pyrene	190	66%	380	131%	430	148%	580	200%	1,000	345%	1,900	1,520	1,900
Organochlorine Pesticides by EPA 8081B (µg/kg)													
2,4-DDD	<5.2	NA	<6.0	NA	<4.8	NA	<4.9	NA	<5.0	NA	6.1	31.3	0.33
2,4-DDE	<5.2	NA	<6.0	NA	<4.8	NA	<4.9	NA	<5.0	NA	7	28	0.33
2,4-DDT	<5.2	NA	<6.0	NA	<4.8	NA	<4.9	NA	<5.0	NA	2.5	62.9	0.33
4,4'-DDD	<5.2	NA	<6.0	NA	<4.8	NA	<4.9	NA	<5.0	NA	6.1	31.3	0.33
4,4'-DDE	<5.2	NA	<6.0	NA	<4.8	NA	<4.9	NA	<5.0	NA	7	28	0.33
4,4'-DDT	<5.2	NA	<6.0	NA	<4.8	NA	<4.9	NA	<5.0	NA	2.5	62.9	0.33
Aldrin	<2.6	NA	<3.0	NA	<2.4	NA	<2.5	NA	<2.5	NA	1	40	--
alpha-BHC	<2.6	NA	<3.0	NA	<2.4	NA	<2.5	NA	<2.5	NA	1	--	--
beta-BHC	<26	NA	<3.0	NA	<2.4	NA	<2.5	NA	<2.5	NA	1	--	--
Chlordane (Technical)	<26	NA	<30	NA	<24	NA	<25	NA	<25	NA	1	17.6	0.37
cis-Chlordane	<2.6	NA	<3.0	NA	<2.4	NA	<2.5	NA	<2.5	NA	1	--	--
cis-Nonachlor	<5.2	NA	<6.0	NA	<4.8	NA	<4.9	NA	<5.0	NA	--	--	--
delta-BHC	<2.6	NA	<3.0	NA	<2.4	NA	<2.5	NA	<2.5	NA	--	--	--
Dieldrin	<5.2	NA	<6.0	NA	<4.8	NA	<4.9	NA	<5.0	NA	1	61.8	0.0081
Endosulfan I	<2.6	NA	<3.0	NA	<2.4	NA	<2.5	NA	<2.5	NA	350	--	--
Endosulfan II	<5.2	NA	<6.0	NA	<4.8	NA	<4.9	NA	<5.0	NA	350	--	--

Please see notes at end of table.

Table 4
Composite Sample Results
Colwood Sediment Sampling
Oregon Department of Environmental Quality
Portland, Oregon

Sample Name:	AC-6 COMP	ISM Comparison Ratio	AC-7 COMP	ISM Comparison Ratio	AC-8 COMP	ISM Comparison Ratio	AC-9 COMP	ISM Comparison Ratio	AC-10 COMP	ISM Comparison Ratio	Columbia Slough Sediment Screening Levels	JSCS Sediment Screening Level Values	
Sample Date:	6/16/2016		6/16/2016		6/13/2016		6/13/2016		6/13/2016			Toxicity	Bioaccumulation
Endosulfan sulfate	<5.2	NA	<6.0	NA	<4.8	NA	<4.9	NA	<5.0	NA	--	--	--
Endrin	<5.2	NA	<6.0	NA	<4.8	NA	<4.9	NA	<5.0	NA	--	207	--
Endrin Aldehyde	<5.2	NA	<6.0	NA	<4.8	NA	<4.9	NA	<5.0	NA	3	--	--
Endrin ketone	<5.2	NA	<6.0	NA	<4.8	NA	<4.9	NA	<5.0	NA	--	--	--
gamma-BHC (Lindane)	<2.6	NA	<3.0	NA	<2.4	NA	<2.5	NA	<2.5	NA	9	4.99	--
Heptachlor	<5.2	NA	<6.0	NA	<4.8	NA	<4.9	NA	<5.0	NA	1	10	--
Heptachlor epoxide	<2.6	NA	<3.0	NA	<2.4	NA	<2.5	NA	<2.5	NA	--	16	--
Hexachlorobenzene	<2.6	NA	<3.0	NA	<2.4	NA	<2.5	NA	<2.5	NA	--	--	--
Hexachlorobutadiene	<2.6	NA	<3.0	NA	<2.4	NA	<2.5	NA	<2.5	NA	--	--	--
Methoxychlor	<26	NA	<30	NA	<24	NA	<25	NA	<25	NA	--	--	--
oxy-Chlordane	<5.2	NA	<6.0	NA	<4.8	NA	<4.9	NA	<5.0	NA			
Toxaphene (Total)	<260	NA	<300	NA	<240	NA	1500	NA	<250	NA	--	--	--
trans-Chlordane	<2.6	NA	<3.0	NA	<2.4	NA	<2.5	NA	<2.5	NA	--	--	--
trans-Nonachlor	<5.2	NA	<6.0	NA	<4.8	NA	<4.9	NA	<5.0	NA	--	--	--
PCBs by 8082A (µg/kg)													
Aroclor 1016	<0.99	NA	<0.92	NA	<0.97	NA	<0.98	NA	<0.89	NA	--	530	--
Aroclor 1221	<1.1	NA	<1.0	NA	<1.1	NA	<1.1	NA	<0.98	NA	--	--	--
Aroclor 1232	<1.1	NA	<1.0	NA	<1.1	NA	<1.1	NA	<0.98	NA	--	--	--
Aroclor 1242	<0.99	NA	<0.92	NA	1.5	NA	<0.98	NA	2.8	NA	--	--	--
Aroclor 1248	<1.1	NA	<1.0	NA	<1.1	NA	<1.1	NA	<0.98	NA	10	1,500	--
Aroclor 1254	2.1	18%	1.5	13%	1.6	13%	2.1	18%	2.2	18%	24	300	--
Aroclor 1260	1.3	28%	0.98	21%	<0.97	NA	1.0	21%	1.2	26%	10	200	--
Aroclor 1262	<0.99	NA	<0.92	NA	<0.97	NA	<0.98	NA	<0.89	NA	--	--	--
Aroclor 1268	<0.99	NA	<0.92	NA	<0.97	NA	<0.98	NA	<0.89	NA	--	--	--
Total PCBs	3.4	28%	2.48	20%	3.1	25%	3.1	25%	6.2	50%	676	0.39	--
Perfluorinated Hydrocarbons by WS-LC-0025 (µg/kg)													
Perfluorooctanoic acid (PFOA)	--	NA	--	NA	--	NA	--	NA	<4.0	NA	--	--	--
Perfluorooctane Sulfonate (PFOS)	--	NA	--	NA	--	NA	--	NA	7.2	NA	--	--	--
Metals by 6062A (mg/kg)													
Arsenic	1.6	31%	1.4	27%	1.8	35%	1.8	35%	2.4	47%	8.8	33	7
Cadmium	0.23	39%	0.19	32%	0.25	42%	0.25	42%	0.38	64%	1.9	4.98	1
Chromium	7.3	30%	7.9	32%	9.6	39%	8.6	35%	11	45%	76	111	--
Copper	9.5	15%	10	16%	12	19%	12	19%	20	32%	54	149	--
Lead	7.9	33%	6.9	29%	8.5	35%	8.4	35%	13	54%	90	128	17
Mercury	0.13	158%	0.077	94%	0.10	121%	0.080	97%	0.11	134%	0.23	1.06	0.07
Silver	0.070	NA	0.053	NA	0.074	NA	0.064	NA	0.093	NA	4.5	5	--
Zinc	48	28%	48	28%	57	33%	61	35%	91	53%	314	459	--

Notes:
1. < = Analyte not detected above the method detection limit
2. **Bold** = analyte detected above method detection limit
3. Shading = analyte detected above one or more screening levels
4. -- = Not available
5. mg/kg = milligrams per kilogram
6. µg/kg = micrograms per kilogram
7. H = Sample was analyzed outside method holding time.
8. Columbia Slough Sediment Screening Levels, Oregon Department of Envionmental Quality (DEQ), June 3, 2014.
9. JSCS = Portland Harbor Joint Source Control Strategy Screening Level Values, DEQ/Environmental Protection Agency, December 2005
10. ISM Comparison Ratio is the concentration of the analyte divided by the average concentration from the ISM samples.

Note: Base map prepared from USGS 7.5-minute quadrangle of Mount Tabor, OR, dated 2014 as provided by USGS.gov.

0 2,000 4,000

Scale in Feet

N

Site Location Map

Sediment Sampling - Investigation Report
Task Order No. 20-13-52
Portland, Oregon

APEX Apex Companies, LLC 3015 SW First Avenue Portland, Oregon 97201	Project Number	2277-00	Figure
	October 2016		1

0 600 1,200

Scale in Feet

Note: Base map prepared from files provided by Metro RLIS datasets (2016) and a 2015 Google Earth Pro aerial.

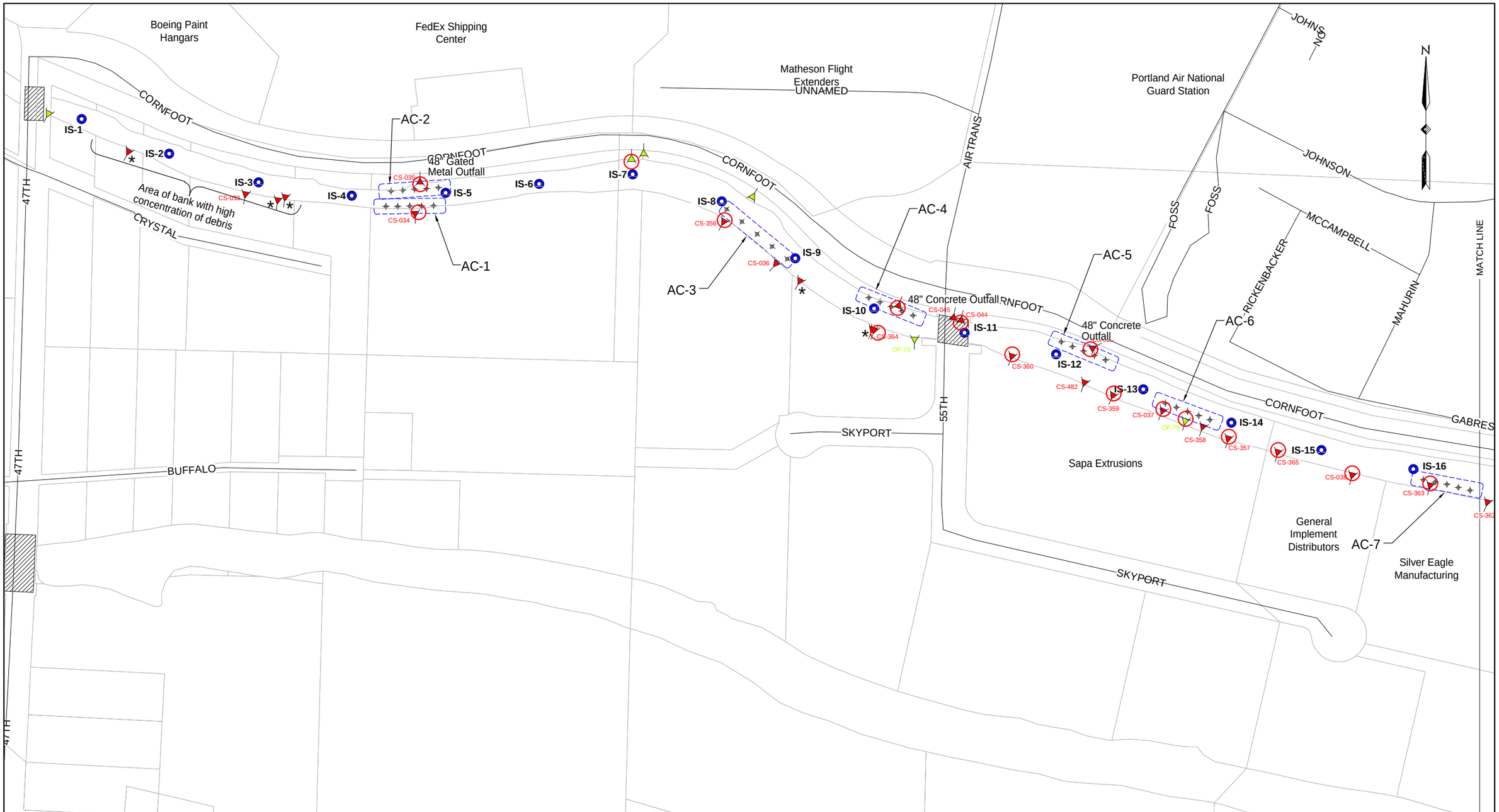
Site Vicinity Plan

Sediment Sampling - Investigation Report
Task Order No. 20-13-52
Portland, Oregon

APEX

Apex Companies, LLC
3015 SW First Avenue
Portland, Oregon 97201

Project Number	2277-00	Figure
October 2016		2



Legend:

- Incremental Sample Location
- Proposed Composite Sediment Sample Location (Five Point Composite Samples to be Collected at 5 Locations [a, b, c, d and e; 0-10 Centimeters])
- Bridge Location
- Approximate Public Outfall Location (Data from City of Portland Bureau of Environmental Services)
- Approximate Non-Public Outfall Location (Data from City of Portland Bureau of Environmental Services)
- Located During Apex 2016 Survey
- * Located Only During Apex 2016 Survey (Assumed to be Non-Public)

Note: Base map prepared from files provided by Metro RLIS datasets (2016).

0 200 400

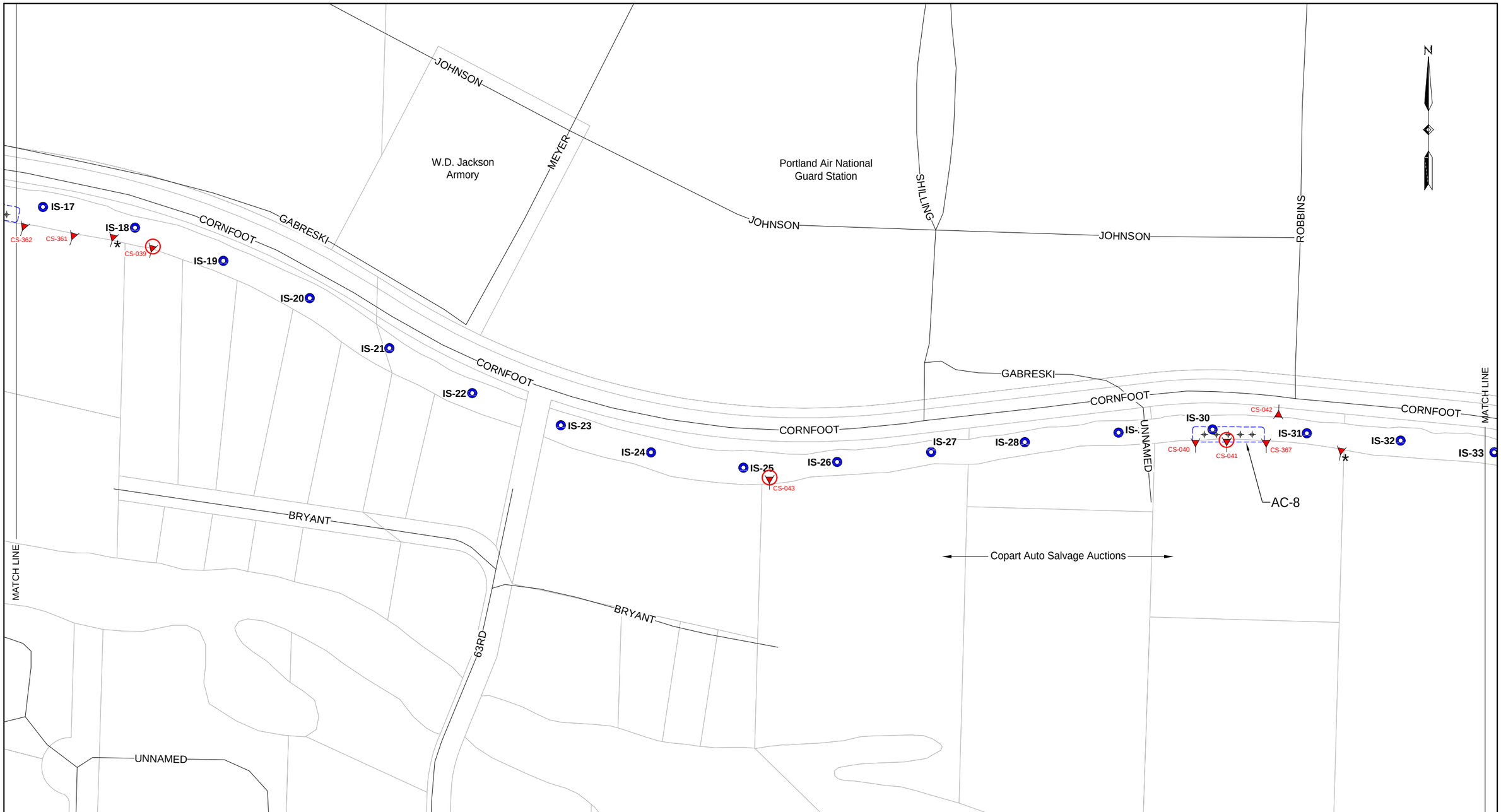
Scale in Feet

Sediment Sampling Locations - West

Sediment Sampling - Investigation Report
Task Order No. 20-13-52
Portland, Oregon

Apex Companies, LLC
3015 SW First Avenue
Portland, Oregon 97201

Project Number	2277-00	Figure
October 2016		3



Legend:

- Incremental Sample Location
- Proposed Composite Sediment Sample Location (Five Point Composite Samples to be Collected at 5 Locations [a, b, c, d and e; 0-10 Centimeters])
- Bridge Location
- Approximate Public Outfall Location (Data from City of Portland Bureau of Environmental Services)
- Approximate Non-Public Outfall Location (Data from City of Portland Bureau of Environmental Services)
- Located During Apex 2016 Survey
- * Located Only During Apex 2016 Survey (Assumed to be Non-Public)

Note: Base map prepared from files provided by Metro RLIS datasets (2016).

0 200 400

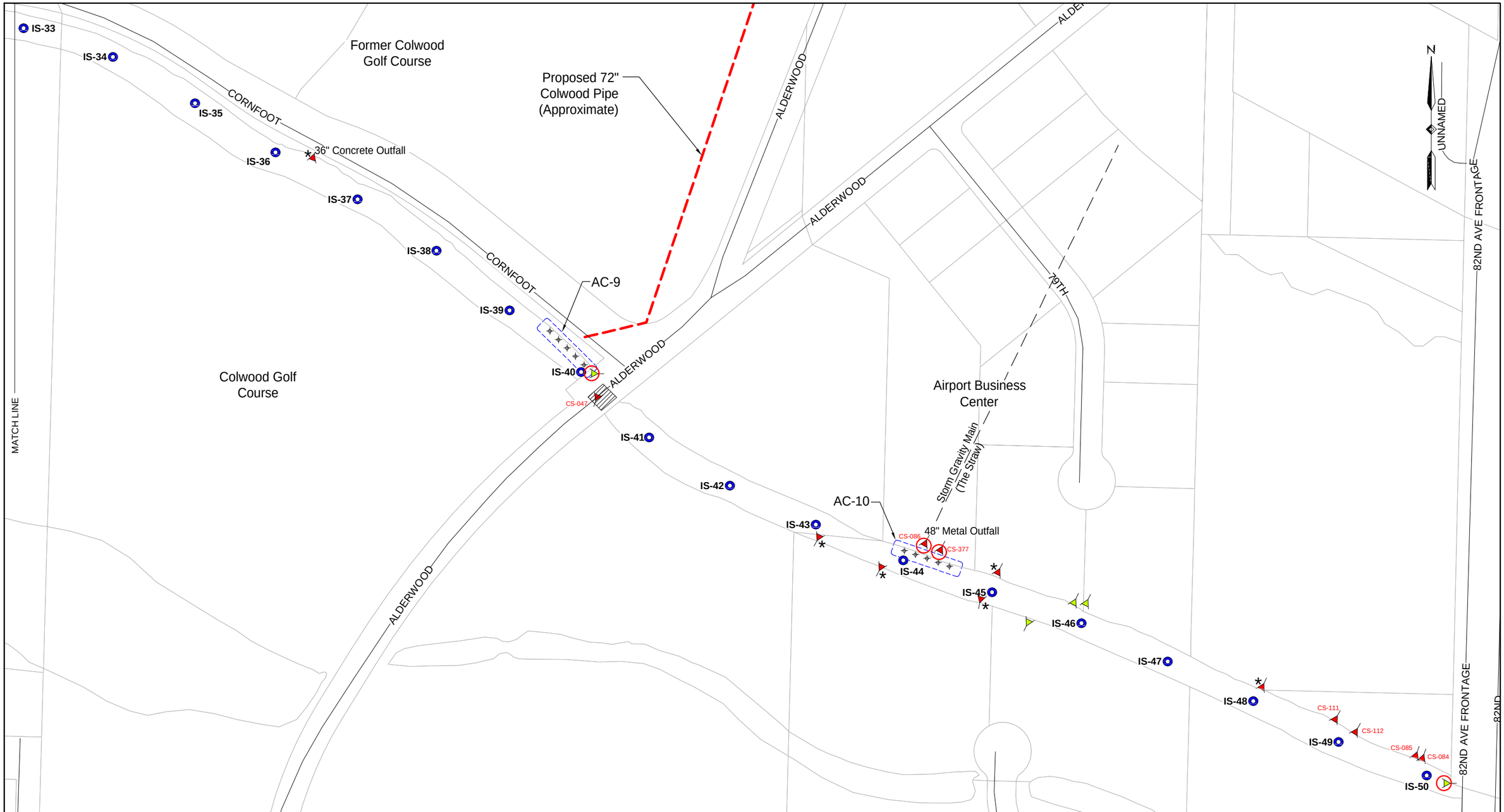
Scale in Feet

Sediment Sampling Locations - Central

Sediment Sampling - Investigation Report
Task Order No. 20-13-52
Portland, Oregon

Apex Companies, LLC
3015 SW First Avenue
Portland, Oregon 97201

Project Number	2277-00	Figure
October 2016		4



Legend:

- Incremental Sample Location
- Proposed Composite Sediment Sample Location (Five Point Composite Samples to be Collected at 5 Locations [a, b, c, d and e; 0-10 Centimeters])
- Bridge Location
- Approximate Public Outfall Location (Data from City of Portland Bureau of Environmental Services)
- Approximate Non-Public Outfall Location (Data from City of Portland Bureau of Environmental Services)
- Located During Apex 2016 Survey
- * Located Only During Apex 2016 Survey (Assumed to be Non-Public)

Note: Base map prepared from files provided by Metro RLIS datasets (2016).

0 200 400
Scale in Feet

Sediment Sampling Locations - East

Sediment Sampling - Investigation Report
Task Order No. 20-13-52
Portland, Oregon

Apex Companies, LLC
3015 SW First Avenue
Portland, Oregon 97201

Project Number	2277-00	Figure
October 2016		5

Appendix A

Field Sample Sheets

Collection Date: 6-15-16
Date/Time Lab Drop Off:

Surface Sediment Field Sample Record

Project Name: Colwood Sediment **Project No:** 2277-00 **Station ID:** AC-1

Sampling Crew: JM / JM
Sampling Vessel: Catara Pt
Sampling Method: Russian Peat
Subcontractor(s):
Station Coordinates: N / Lat.
E / W / Long.
Weather: Rain
Datum:
Zone:

Sample ID:
Analysis:

Grab Number: AC-1A Water Depth: 6' Penetration/Sampled Depth: 10 cm Time: 1205
Bioassay

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	8 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	4x 4oz jars
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Grab Number: AC-1B Water Depth: 4' Penetration/Sampled Depth: 10 cm Time: 1215
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	8 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	4x 4oz jars
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Grab Number: AC-1C Water Depth: 4' Penetration/Sampled Depth: 10 cm Time: 1230
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	8 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	4x 4oz jars
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Grab Number: AC-1D Water Depth: 4' Penetration/Sampled Depth: 10 cm Time: 1245
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	10 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	4x 4oz jars
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Recorded by:

Figure B-1
Sample Collection Form

Collection Date: 6-15-16
Date/Time Lab Drop Off:

Surface Sediment Field Sample Record

Project Name: Colwood Sediment **Project No:** 227-00 **Station ID:** AC-1/2

Sampling Crew: JM/JM
Sampling Vessel: Catacraft
Sampling Method: Russian Peat Corer
Subcontractor(s):
Station Coordinates: N / Lat.
E / W / Long.
Weather: Rain
Datum:
Zone:

Sample ID:
Analysis:

Grab Number: AC-1E Water Depth: 2.5' Penetration/Sampled Depth: 10cm Time: 1250
Bioassay

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	8 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	4 x 4oz jars
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Grab Number: AC-2A Water Depth: 3.5' Penetration/Sampled Depth: 10cm Time: 1310
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	10 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	4 x 4oz jars
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Grab Number: AC-2B Water Depth: 5' Penetration/Sampled Depth: 10cm Time: 1320
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	8 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	4 x 4oz jars
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Grab Number: AC-2C Water Depth: 6' Penetration/Sampled Depth: 10cm Time: 1330
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	8 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	4 x 4oz jars
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Recorded by:

Figure B-1
Sample Collection Form

Collection Date: 6-15/6-16
Date/Time Lab Drop Off:

Surface Sediment Field Sample Record

Project Name: Colwood Sediment Sampling **Project No:** 2277-00 **Station ID:** AC-2/3

Sampling Crew: JM/JM
Sampling Vessel: Catera Pt
Sampling Method: Russian Peat Corer
Subcontractor(s):
Station Coordinates: N / Lat.
E / W / Long.
Weather: Rain
Datum:
Zone:

Sample ID:
Analysis:

Grab Number: AC-2D Water Depth: 4' Penetration/Sampled Depth: 10cm Time: 1345
Bioassay

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	10 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	4 x 4oz jars
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Grab Number: AC-2E Water Depth: 4' Penetration/Sampled Depth: 10cm Time: 1400
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	10 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	4 x 4oz jars
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Grab Number: AC-3A Water Depth: 3.5' Penetration/Sampled Depth: 10cm Time: 0845
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	7 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	4x 4oz jars
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Grab Number: AC-3B Water Depth: 5' Penetration/Sampled Depth: 10cm Time: 0855
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	8 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	4x 4oz jars
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Recorded by:

Figure B-1
Sample Collection Form

Collection Date: 6-16-16
Date/Time Lab Drop Off:

Surface Sediment Field Sample Record

Project Name: Colwood Sediment Sampling **Project No:** 2277-00 **Station ID:** AC3/AC-4

Sampling Crew: JM/JM
Sampling Vessel: Catarraft
Sampling Method: Russian Peat Corer
Subcontractor(s):
Station Coordinates: N / Lat.
E / W / Long.
Weather: Rain
Datum:
Zone:

Sample ID:
Analysis:

Grab Number: AC-3C Water Depth: 3' Penetration/Sampled Depth: 10 cm Time: 0905
Bioassay

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	10 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	4 x 4oz jars
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Grab Number: AC-3D Water Depth: 2' Penetration/Sampled Depth: 10cm Time: 0915
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	8 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	4 x 4 oz jars
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Grab Number: AC-3E Water Depth: 5' Penetration/Sampled Depth: 10 cm Time: 0930
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	10 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	4 x 4oz jars
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Grab Number: AC-4A Water Depth: Penetration/Sampled Depth: 10cm Time: 0950
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	10 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	4 x 4 oz jars
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Recorded by:

Figure B-1
Sample Collection Form

Collection Date: 6-16-16
Date/Time Lab Drop Off:

Surface Sediment Field Sample Record

Project Name: Colwood Sediment Sampling **Project No:** 2277-00 **Station ID:** AC-4

Sampling Crew: JM/JM
Sampling Vessel: Catarafft
Sampling Method: Russian Peat Corer
Subcontractor(s):
Station Coordinates: N / Lat.
E / W / Long.
Weather: Rain
Datum:
Zone:

Sample ID:
Analysis:

Grab Number: AC-4B Water Depth: 1' Penetration/Sampled Depth: 10 cm Time: 1000
Bioassay

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	10 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		4x 4oz jars
organic matter	brown surface	overwhelming		

Grab Number: AC-4C Water Depth: 1.5' Penetration/Sampled Depth: 10 cm Time: 1015
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	6 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		4x 4oz jars
organic matter	brown surface	overwhelming		

Grab Number: AC-4D Water Depth: 4' Penetration/Sampled Depth: 10 cm Time: 1025
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	8 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		4x 4oz jars
organic matter	brown surface	overwhelming		

Grab Number: AC-4E Water Depth: 10' Penetration/Sampled Depth: 10 cm Time: 1040
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	8 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		4x 4oz jars
organic matter	brown surface	overwhelming		

Recorded by:

Figure B-1
Sample Collection Form

Collection Date: 6-16-16
Date/Time Lab Drop Off:

Surface Sediment Field Sample Record

Project Name: Colwood Sediment Sampling **Project No:** 2277-00 **Station ID:** AC-5

Sampling Crew: JM/JM
Sampling Vessel: Cataraft
Sampling Method: Russian Peat Corer
Subcontractor(s):
Station Coordinates: N / Lat.
E / W / Long.
Weather: Rain
Datum:
Zone:

Sample ID:
Analysis:

Grab Number: AC-5A Water Depth: 5' Penetration/Sampled Depth: 10 cm Time: 1100
Bioassay

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	9 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		4 x 4 oz jars
organic matter	brown surface	overwhelming		

Grab Number: AC-5B Water Depth: 5' Penetration/Sampled Depth: 10 cm Time: 1110
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	10 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		4 x 4 oz jars
organic matter	brown surface	overwhelming		

Grab Number: AC-5C Water Depth: 8' Penetration/Sampled Depth: 10 cm Time: 1120
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	8 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		4 x 4 oz jars
organic matter	brown surface	overwhelming		

Grab Number: AC-5D Water Depth: 5' Penetration/Sampled Depth: 10 cm Time: 1135
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	8 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		4 x 4 oz jars
organic matter	brown surface	overwhelming		

Recorded by:

Figure B-1
Sample Collection Form

Collection Date: 6-16-16
Date/Time Lab Drop Off:

Surface Sediment Field Sample Record

Project Name: Colwood Sediment Samp. **Project No:** 2277-00 **Station ID:** AC-5/6

Sampling Crew: JM/JM
Sampling Vessel: Catarafi
Sampling Method: Russian Peat corer
Subcontractor(s):
Station Coordinates: N / Lat.
E / W / Long.
Weather: Rain
Datum:
Zone:

Sample ID:
Analysis:

Grab Number: AC-5E Water Depth: 3' Penetration/Sampled Depth: 10cm Time: 1150
Bioassay

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	8 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		4 x 4oz jars
organic matter	brown surface	overwhelming		

Grab Number: AC-6A Water Depth: 7' Penetration/Sampled Depth: 10cm Time: 1205
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	8 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		4 x 4oz jars
organic matter	brown surface	overwhelming		

Grab Number: AC-6B Water Depth: 5' Penetration/Sampled Depth: 10cm Time: 1215
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	8 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		4 x 4oz jars
organic matter	brown surface	overwhelming		

Grab Number: AC-6C Water Depth: 7' Penetration/Sampled Depth: 10cm Time: 1230
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	8 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		4 x 4oz jars
organic matter	brown surface	overwhelming		

Recorded by:

Figure B-1
Sample Collection Form

Collection Date: 6-16-16
Date/Time Lab Drop Off:

Surface Sediment Field Sample Record

Project Name: Colwood Sediment Sampling **Project No:** 227700 **Station ID:** AC-6/7

Sampling Crew: JM/JM
Sampling Vessel: Cataraft
Sampling Method: Russian Peat Corer
Subcontractor(s):
Station Coordinates: N / Lat.
E / W / Long.
Weather: Rain
Datum:
Zone:

Sample ID:
Analysis:

Grab Number: AC-6D Water Depth: 6' Penetration/Sampled Depth: 10 cm Time: 1230
Bioassay

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	8 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		4 x 4oz jars
organic matter	brown surface	overwhelming		

Grab Number: AC-6E Water Depth: 8' Penetration/Sampled Depth: 10 cm Time: 1240
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	10 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		4 x 4oz jars
organic matter	brown surface	overwhelming		

Grab Number: AC-7A Water Depth: 5' Penetration/Sampled Depth: 10 cm Time: 1300
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	8 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		4 x 4oz jars
organic matter	brown surface	overwhelming		

Grab Number: AC-7B Water Depth: 3' Penetration/Sampled Depth: 10 cm Time: 1310
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	10 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		4 x 4oz jars
organic matter	brown surface	overwhelming		

Recorded by:

Figure B-1
Sample Collection Form

Collection Date: 6-16-16
Date/Time Lab Drop Off:

Surface Sediment Field Sample Record

Project Name: Colwood Sediment Sampling **Project No:** 227700 **Station ID:** AC-7

Sampling Crew: JM/JM
Sampling Vessel: Catdraft
Sampling Method: Russian Peat Corer
Subcontractor(s):
Station Coordinates: N / Lat.
E / W / Long.
Weather: Rain
Datum:
Zone:

Sample ID:
Analysis:

Grab Number: AC-7C Water Depth: 3' Penetration/Sampled Depth: 10cm Time: 1320
Bioassay

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	8 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	4 x 4oz jars
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Grab Number: AC-7D Water Depth: 3' Penetration/Sampled Depth: 10cm Time: 1330
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	8 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	4 x 4oz jars
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Grab Number: AC-7E Water Depth: 2' Penetration/Sampled Depth: 10cm Time: 1345
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	8 pushes
gravel	gray	slight organic	Petroleum	
sand C M F	black	moderate	other:	4 x 4oz jars
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Grab Number: Water Depth: Penetration/Sampled Depth: Time:
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	
gravel	gray	slight	Petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Recorded by:

Figure B-1
Sample Collection Form

Collection Date:
Date/Time Lab Drop Off:

Surface Sediment Field Sample Record

Project Name: Colwood Sediment **Project No:** Colwood **Station ID:** AC-9

AC-9a
6/13/16
1140

Sampling Crew: Jim/Jim
Sampling Vessel: Catarafr
Sampling Method: Russian peat
Subcontractor(s): Arch.
Station Coordinates: N / Lat.
E / W / Long.
Weather: Rain
Datum:
Zone:

Sample ID:
Analysis:

Grab Number: AC-9A Water Depth: 5' Penetration/Sampled Depth: 10cm Time: 1140
Bioassay

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	(10 pushes)
gravel (East)	gray (East)	slight organic	Petroleum	4 x 4oz jars
sand C M F	black	moderate	other:	
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

AC-9B
6/13/16
1200

Grab Number: AC-9B Water Depth: 3.0' Penetration/Sampled Depth: 10 cm Time: 1200
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S –	(10 pushes)
gravel	gray	slight (organic)	Petroleum	4 x 4oz jars
sand C M F	black	moderate	other:	
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

AC-9C
6/13/16
1215

Grab Number: AC-9C Water Depth: 1.5' Penetration/Sampled Depth: 10cm Time: 1215
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	(10 pushes)
gravel	gray	slight (organic)	Petroleum	4 x 4oz Jars
sand C M F	black	moderate	other:	
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

AC-9d
6/13/16
1230

Grab Number: AC-9d Water Depth: 2.5' Penetration/Sampled Depth: 10cm Time: 1230
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	(10 pushes)
gravel	gray	slight organic	Petroleum	4 x 4 oz Jars
sand C M F	black	moderate	other:	
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Recorded by:

Figure D-1
Sample Collection Form

Collection Date:
Date/Time Lab Drop Off:

Surface Sediment Field Sample Record

Project Name: **Project No:** **Station ID:**

Sampling Crew: Jm / Jm
Sampling Vessel: Cataraft
Sampling Method: Peat core
Subcontractor(s): Arch
Station Coordinates: N / Lat.
E / W / Long.
Weather: Overcast
Datum: Zone:

Sample ID: Ac-9e
Analysis:

Grab Number: Ac-9e Water Depth: 2.0' Penetration/Sampled Depth: 10 cm Time: 1300
Bioassay

Ac-9e 6/13/16 1300

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	(10 pushes)
gravel (West)	gray (West)	slight (organic)	Petroleum	4x4oz
sand C M F	black	moderate	other:	Jars
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Grab Number: Ac-10a Water Depth: 7.0' Penetration/Sampled Depth: 10 cm Time: 1345
Chemistry

Ac-10a 6/13/16 1345

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	(8 pushes)
gravel (East)	gray (East)	slight (organic)	Petroleum	4x4oz
sand C M F	black	moderate	other:	Jar
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Grab Number: Ac-10b Water Depth: 7.0' Penetration/Sampled Depth: 10 cm Time: 1400
Chemistry

Ac-10b 1400 6/13/16

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	(8 pushes)
gravel	gray	slight organic	Petroleum	4x4oz
sand C M F	black	moderate	other:	Jars
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Grab Number: Ac-10c Water Depth: 7.50' Penetration/Sampled Depth: 10 cm Time: 1420
Chemistry

Ac-10c 6/13/16 1415

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	(8 pushes)
gravel	gray	slight (organic)	Petroleum	4x4oz
sand C M F	black	moderate	other:	Jrs
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Recorded by:

Figure D-1
Sample Collection Form

Collection Date:
Date/Time Lab Drop Off:

Surface Sediment Field Sample Record

Project Name: Colwood **Project No:** Colwood **Station ID:**

Sampling Crew: Jm/Jm
Sampling Vessel: Cataraft Sampling Method: peat core
Subcontractor(s): ARCL
Station Coordinates: N / Lat. Weather: Rain
E / W / Long.
Datum: Zone:

Sample ID:
Analysis:

Grab Number: Ac-10d Water Depth: 1.9m 6.5' Penetration/Sampled Depth: 10cm Time: 1430
Bioassay

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	(8 pushes)
gravel	gray	slight (organic)	Petroleum	4 x 4 oz
sand C M F	black	moderate	other:	Jars
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Ac-10d 1430 6/13/16

Grab Number: Ac-10e Water Depth: 6.0' Penetration/Sampled Depth: 10cm Time: 1435
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	8 pushes
gravel	gray	slight organic	Petroleum	4 x 4 oz
sand C M F	black	moderate	other:	Jar
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Ac-10e 1445 6/13/16

Grab Number: Ac-8a Water Depth: 4.0' Penetration/Sampled Depth: 10cm Time: 1550
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	4 x 4 oz
gravel	gray	slight organic	Petroleum	8 push
sand C M F	black	moderate	other:	
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Ac-8a 1550 6/13/16

Grab Number: Ac-8B Water Depth: 5.0' Penetration/Sampled Depth: 10cm Time: 1555
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	4 x 4 oz
gravel	gray	slight (organic)	Petroleum	(8 pushes)
sand C M F	black	moderate	other:	
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Ac-8b 1555 6/13/16

Recorded by:

Figure D-1
Sample Collection Form

Collection Date:
Date/Time Lab Drop Off:

Surface Sediment Field Sample Record

Project Name: **Project No:** Colwood **Station ID:**

Sampling Crew:
Sampling Vessel: Sampling Method:
Subcontractor(s): SHA
Station Coordinates: N / Lat. Weather:
E / W / Long.
Datum: Zone:

Sample ID:
Analysis:

Grab Number: AC-8c Water Depth: 6.0' Penetration/Sampled Depth: 10 cm Time: 1605
Bioassay

AC-8c
1605
6/13/16

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	4 x 4oz Jar 8 pushes
gravel	gray	slight Organic	Petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Grab Number: AC-8d Water Depth: 6.0' Penetration/Sampled Depth: 10cm Time: 1615
Chemistry

AC-8d
1615
6/13/16

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	8 pushes 4x4oz
gravel	gray	slight	Petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Grab Number: AC-8e Water Depth: 7.0' Penetration/Sampled Depth: 10 cm Time: 1625
Chemistry

AC-8e
6/13/16
1625

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	4x4oz (8 pushes)
gravel	gray	slight Organic	Petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Grab Number: Water Depth: Penetration/Sampled Depth: Time:
Chemistry

Sediment Type:	Sediment Color:	Sediment Odor:		Comments:
cobble	D.O.	none	H2S	
gravel	gray	slight	Petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Recorded by:

Figure D-1
Sample Collection Form

6/15/16 colwood

			Time	Water Depth	Type
ISM	50	Prim	0834	5'	Gray SILT
ISM	50	Rep 1	0835	5'	SILT / Gravel
ISM	49	Rep 1	0840	7'	SILT with Organics
ISM	46	Rep 1	0847	5'	Gray SILT with Organics
ISM	46	Prim	0849	5'	Gray SILT with Organics
ISM	45	Rep 2	0851	5'	"
ISM	45	Prim	0852	3.5'	"
ISM	45	Rep 1	0853	2.5'	"
ISM	44	Rep 2	0856	6.0'	"
ISM	44	Rep 1	0857	5.0'	" Gray SILT with Organ"
ISM	43	Prim	0859	3.0'	"
ISM	43	Rep 1	0900	3.0'	"
ISM	43	Rep 2	0902	2.0'	"
ISM	41	Rep 1	0906	3.5'	"
ISM	41	Rep 2	0907	3.5'	"
ISM	40	Rep 2	0909	7.'	
ISM	40	Primary	0910	8.'	
ISM	40	Rep 1	0911	8'	Gray SILT with Organics
ISM	39	Prim	0913	6'	"
ISM	39	Rep 2	0914	7'	"
ISM	38	Prim	0916	5'	"
ISM	38	Rep 1	0917	5'	"
ISM	38	Rep 2	0918	2'	"

Rite in the Rain.

Name			Time	Water Depth	Type
ISM	37	Prim	0918	4'	"Gray SILT with Organics"
ISM	37	Rep1	0919	4'	SAA
ISM	37	Rep2	0921	4'	SAA
ISM	36	Rep2	0926	5'	SAA
ISM	35	Rep2	0929	4'	Gray SILT
ISM	34	Prim	0931	5'	SAA
ISM	34	Rep1	0932	5'	SAA
ISM	34	Rep2	0933	5'	SAA
ISM	33	Prim	0934	3'	SAA
ISM	33	Rep1	0935	5'	SAA
ISM	32	Rep1	0939	4'	SAA
ISM	31	Prim	0941	6'	SAA
ISM	31	Rep2	0942	5'	SAA
ISM	31	Rep1	0943	3'	SAA
ISM	30	Prim	0944	4'	SAA
ISM	30	Rep1	0945	4'	SAA
ISM	30	Rep2	0946	2'	SAA
ISM	29	Prim	0948	6'	SAA
ISM	29	Rep2	0948	3'	SAA
ISM	28	Rep2	0950	5'	SAA
ISM	27	Prim	0952	4'	SAA
ISM	26	Prim	0954	3'	SAA
ISM	25	Rep1	0956	4'	SAA

Rite in the Rain

Name			Time	Water Depth	Type
ISM	25	Prim	0957	1'	Gray SILT w Organics
ISM	25	Rep2	0958	1'	SAA
ISM	24	Prim	0959	5'	SAA
ISM	24	Rep2	1000	5'	SAA
ISM	24	Rep1	1002	3'	SAA
ISM	23	Prim	1010	3'	SAA
ISM	22	Prim	1012	4'	SAA
ISM	22	Rep1	1013	4'	SAA
ISM	21	Prim	1016	2.5'	SAA
ISM	21	Rep2	1017	2.5'	SAA
ISM	20	Rep1	1019	5'	SAA
ISM	20	Rep2	1020	5'	SAA
ISM	19	Rep2	1021	2'	SAA
ISM	19	Prim	1022	4'	SAA
ISM	18	Prim	1023	1'	SAA
ISM	17	Rep1	1026	3'	GRay SILT w Trace Gravel
ISM	16	Rep1	1026	2'	GRAY SILT
ISM	16	Rep2	1029	6'	SAA
ISM	16	Prim	1030	2'	SAA
ISM	15	Rep2	1032	2.5'	SAA
ISM	13	Prim	1035	6'	Gray SILT w Organics
ISM	13	Rep1	1036	6'	SAA
ISM	12	Rep1	1037	6'	SAA

Rite in the Rain

Name			Time	Water Depth	
ISM	11	Rep1	1040	7'	SAA
ISM	11	Rep2	1041	8'	SAA
ISM	10	Rep1	1043	3'	SAA
ISM	10	Rep2	1044	6'	SAA
ISM	8	Prim	1046	2'	SAA
ISM	8	Rep2	1047	6'	Dark gray SILT with organ
ISM	7	Rep1	1049	2'	SAA
ISM	7	Prim	1051	7'	gray SILT
ISM	7	Rep2	1052	7'	SAA
ISM	6	Rep2	1055	8'	with organics
ISM	4	Rep1	1058	4'	SAA
ISM	3	Prim	1101	5'	SAA
ISM	3	Rep1	1102	8'	SAA
ISM	3	Rep2	1102	8'	SAA
ISM	2	Prim	1103	2.5'	SAA
ISM	2	Rep1	1104	3'	SAA
ISM	2	Rep2	1105	3'	SAA
ISM	1	Prim	1106	3'	SAA
ISM	1	Rep1	1107	3'	SAA
ISM	1	Rep2	1108	3'	Gray SILT with organics

Rite in the Rain

Appendix B

Laboratory Reports and Quality Assurance Review

Appendix B – Analytical Laboratory Testing Program and Documentation

1.0 Introduction

This appendix documents the results of a quality assurance review of the analytical data for samples collected during recent sediment investigation activities conducted at the Colwood site located within the middle Columbia Slough. Laboratory analysis of groundwater samples was performed by Test America, a state-certified laboratory. Copies of the analytical laboratory reports are included in this appendix.

Overall, the data were reviewed by the project manager and found to be acceptable for its intended purpose.

2.0 Analytical Methods

Chemical analysis of composite and discrete sediment samples consisted of one or more of the following:

- Petroleum hydrocarbons by Method NWTPH-Dx;
- Polychlorinated biphenyls (PCBs) by EPA Method 8082;
- Polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270;
- Heavy metals (Ag, As, Cd, Cr, Cu, Hg, Pb, Zn) by EPA Method 6020;
- Organochlorine pesticides by EPA Method 8081;
- Perfluorinated compounds by Modified EPA 537

3.0 Quality Assurance Review

The following criteria were evaluated in the standard data quality review process:

- Holding times;
- Method and trip blanks;
- Surrogate recoveries;
- Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries;
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries; and
- Laboratory and duplicate relative percent difference (RPD).

3.1 Laboratory Quality Assurance/Quality Control

The following sections describe the laboratory quality assurance/quality control (QA/QC) review that was completed for each analytical report.

Unless otherwise noted, the required holding times were met and no concentrations were detected in the method blanks. Additionally, surrogate recovery, LCS/LCSD, and MS/MSD results were within control limits unless noted below.

Petroleum Hydrocarbons

- Calibration Verification Exceptions: The surrogate o-Terphenyl was below acceptable quality control criteria in the continuing calibration verification (CCV). Since The percent recovery is within the acceptance criteria (50-150%) for the surrogate in the CCV and associated samples, the data is considered acceptable.

PCBs

- Calibration Verification Exceptions: The CCV failed low for surrogate DCB Decachlorobiphenyl. All affect samples had surrogate recoveries within the acceptance limits; therefore, data quality was not affected. The CCV recovery was outside acceptance criteria on the ZB-CLPesticides-2 column for PCB-1262 and PCB-1221. The associated sample results for those analytes were reported from the other column, which met acceptance criteria.
- Matrix Spike/Matrix Spike Duplicate: The matrix spike / matrix spike duplicate (MS/MSD) recoveries were outside quality control limits. Because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits, the data quality was not affected.
- Holding Times: The ISM samples were analyzed outside of holding times for the Method 8082. The standard holding time for this method is 14 days, the samples were analyzed 29 days after the samples were collected. Oak Ridge National Laboratories published a study that examined the effect of holding time on volatile compounds (Oak Ridge, 2001) and found that exceeding holding times by as much as 60 days did not affect the quality of the results. As PCBs are not volatile and would be expected to be stable much longer than most volatile compounds, this holding time exceedance is not expected to affect the data quality. The data are flagged with an "H" qualifier.
- Sample Notes and Discussion: Two Aroclors (Aroclor 1254, and Aroclor 1260) were identified in the ISM samples and composite samples AC-1, AC-2, AC-3, AC-5, AC-6, AC-7, AC-9, and AC-10 When mixtures of PCB Aroclors are present in a sample, correct identification and quantitative analysis of the individual Aroclors can be subjective. In particular, when mixtures are present, differentiating Aroclor 1254 from Aroclor 1260 can be difficult.

  A review of the sample chromatograms indicated the presence of PCB patterns that spanned the entire elution range from Aroclor 1254 through the end of Aroclor 1260. Based on individual PCB

peaks in the early portion of the chromatogram, Aroclor 1254 was identified and quantitated. Aroclor 1260 was identified based on the presence of late eluting PCB peaks in the chromatogram.

When Aroclor mixtures are present in a sample, care is taken to minimize the possibility of double-counting PCBs. Analytical peaks are selected based on the best resolution possible for that particular sample. However, when a mixture of Aroclors 1254 and 1260 are present in a sample, the potential exists for a high bias from contribution of one Aroclor to another due to common peaks or peaks that cannot be completely resolved.

PAHs

- Calibration Verification Exceptions: The CCV associated with the ISM samples recovered above the upper control limit for Butyl benzyl phthalate. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data quality was not affected.

  The CCV associated with laboratory control sample (LCS) and method blank were recovered above the upper control limit for Di-n-butylphthalate. The method blank associated with this CCV was non-detect for the affected analyte, and associated LCS and laboratory control sample duplicate (LCSD) were within control limits; therefore, the data quality were not affected

  The CCV associated with AC-3 COMP was recovered below acceptance criteria for Benzyl Alcohol, Benzoic Acid and Butylbenzyl phthalate. Benzoic Acid and Butylbenzyl phthalate are below the reporting for these analytes and these data are reported without concern for low bias. Benzyl Alcohol was detected above the reporting limit. A subsequent CCV had passing recovery for this target, therefore the data is considered acceptable.

- Laboratory Control Sample/Laboratory Control Sample Duplicate: Benzoic acid was recovered outside control limits for the LCS/LCSD. The samples were non-detect for this analyte. Data quality was not affected.

  The percent relative difference (RPD) between the LCS and LCSD was outside control limits for surrogates 1,4-Dichlorobenzene and Di-n-octylphthalate. The other analytes in the LCS/LCSD as well as the analytes and surrogates for the associated MS/MSD were within control limits. Therefore, the data is considered acceptable.

- Matrix Spike/Matrix Spike Duplicate: Multiple analytes in the MS/MSD recovered above the upper control limit. The samples associated with this MS/MSD were non-detects for the affected analytes; therefore, the data quality was not affected.

- Holding Times: The ISM samples were analyzed outside of holding times for the Method 8270D. The standard holding time for this method is 14 days, the samples were analyzed 29 days after the samples were collected. Oak Ridge National Laboratories published a study that examined the effect

of holding time on volatile compounds (Oak Ridge, 2001) and found that exceeding holding times by as much as 60 days did not affect the quality of the results. As PCBs are not volatile and would be expected to be stable much longer than most volatile compounds, this holding time exceedance is not expected to affect the data quality. The data are flagged with an "H" qualifier.

- Elevated Detection Limits: All samples associated with this method were diluted due to the nature of the sample matrix. Elevated reporting limits (RLs) are provided.
- Internal Standard: Internal standard response for AC-2 COMP was outside of acceptance limits. The high internal standard is due to a documented lab error in which analyst added double the amount of spike (20uL per 1mL instead of standard 10uL per 1mL). The doubled spike volume is accounted for in all calculations, therefore the data quality was not affected.

Metals

- Matrix Spike/Matrix Spike Duplicate: MS/MSD recoveries for metals were outside control limits. The LCS/LCSD surrogate recoveries and RPD are within acceptance limits, therefore the data are considered acceptable.

Organochlorine Pesticides

- Elevated Detection Limits: Composite samples associated with this method were diluted due to the nature of the sample matrix. Elevated reporting limits (RLs) are provided.
- Calibration Verification Exceptions: The CCV standard failed to meet acceptance limits. Passing CCVs are not required for this method since internal standard is used; therefore, the data quality was not affected.

  The CCV for the first column was recovered outside acceptance criteria for 4,4'-DDE. The associated sample results for those analytes were reported from the other column, which met acceptance criteria. Data quality was not affected.

  The CCV recovered above the upper control limit for beta-BHC, Endosulfan I, Endrin aldehyde and Chlordane (technical),. These analytes were not detected above the reporting limit; therefore, the data quality was not affected
- Surrogate Recoveries: Surrogate DCB Decachlorobiphenyl for samples AC-10 COMP, AC-8 COMP, AC-6 COMP, and AC-7 COMP and Tetrachloro-m-xylene and DCB Decachlorobiphenyl for the sample ISM-Primary were recovered outside quality control limits. The LCS/LCSD and MS/MSD were within all quality control criteria for these samples, therefore the data is considered acceptable.

Perfluorinated Compounds

- Elevated Detection Limits: Samples associated with this method were diluted due to the nature of the sample matrix. Elevated reporting limits (RLs) are provided.
- Matrix Spike/Matrix Spike Duplicate: The MS/MSD recoveries were outside control limits. The associated laboratory control sample (LCS) recovery was within acceptance limits, therefore data quality was not affected.

The data was found to be acceptable for its intended use.

4.0 References

Oak Ridge National Laboratories (Oak Ridge), 2001. *Evaluation of the Impact of Post-Holding time Analyte Degradation on Regulatory Decision Making – VOCs in Water.* May 2001.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-60394-1
Client Project/Site: DEQ Colwood

For:
Apex Companies LLC
3015 SW 1st Avenue
Portland, Oregon 97201

Attn: Carmen Owens

Authorized for release by:
7/27/2016 12:50:25 PM

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LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 580-60394-1

Laboratory: TestAmerica Seattle

Narrative

Receipt

The samples were received on 6/17/2016 1:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 1.0º C, 2.2º C, 2.4º C and 2.6º C.

GC/MS Semi VOA

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 580-221612 recovered above the upper control limit for Butyl benzyl phthalate. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: ISM-Primary (580-60394-19), ISM-Rep 1 (580-60394-20), ISM-Rep 2 (580-60394-21) and (CCVIS 580-221612/3).

Method(s) 8270D: The following analyte(s) recovered outside control limits for the LCS/LCSD associated with preparation batch 580-220928 and 580-221574 and analytical batch 580-221612: Benzoic acid. The samples were non-detects for the affected analyte. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) with batch 221612 recovered above the upper control limit. The samples associated with this MS/MSD were non-detects for the affected analytes; therefore, the data have been reported. (580-60394-A-19-C MS) and (580-60394-A-19-D MSD)

Method(s) 8270D: The following samples was analyzed outside of analytical holding time : ISM-Rep 1 (580-60394-20), ISM-Rep 2 (580-60394-21) and (580-60394-A-19-D MSD).

Method(s) 8270D: The following samples was diluted due to the nature of the sample matrix: ISM-Primary (580-60394-19), ISM-Rep 1 (580-60394-20), ISM-Rep 2 (580-60394-21), (580-60394-A-19-C MS) and (580-60394-A-19-D MSD). Elevated reporting limits (RLs) are provided.

Method(s) 8270D: Benzoic Acid recovered outside control limits for the LCS/LCSD associated with preparation batch 580-220606 and analytical batch 580-221214. This random marginal exceedance is not indicative of a systematic control problem. Qualified results have been reported.

Method(s) 8270D: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 580-220606 recovered outside control limits for 1,4-Dichlorobenzene and Di-n-octylphthalate.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 580-221266 recovered above the upper control limit for Di-n-butylphthalate. The method blank (MB) associated with this CCV was non-detect for the affected analyte, and associated laboratory control sample and laboratory control sample duplicate (LCS/LCSD) were within control limits; therefore, the data have been reported. The following samples are impacted: (CCVIS 580-221266/3), (LCS 580-220606/2-A), (LCSD 580-220606/3-A) and (MB 580-220606/1-A).

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 580-221214 recovered outside acceptance criteria, low biased, for Benzyl Alcohol, Benzoic Acid and Butylbenzyl phthalate. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Associated samples that are non-detect (ND) for the affected targets are qualified and reported without concern for low bias. Sample 580-60394-39 had a hit above the RL for Benzyl Alcohol, and subsequent CCVC had passing recovery for this target; data is qualifed and reported.

Method(s) 8270D: The following samples were diluted due to the nature of the sample matrix: AC-9 COMP (580-60394-6), AC-10 COMP (580-60394-12), AC-8 COMP (580-60394-18), AC-1 COMP (580-60394-27), AC-2 COMP (580-60394-33), AC-3 (580-60394-39), AC-4 (580-60394-45), AC-5 (580-60394-51), AC-6 (580-60394-57), AC-7 (580-60394-63), (580-60394-B-6-B MS) and (580-60394-B-6-C MSD). Elevated reporting limits (RLs) are provided.

Method(s) 8270D: Surrogate recovery for the following samples was outside control limits: AC-9 COMP (580-60394-6), AC-10 COMP (580-60394-12), AC-8 COMP (580-60394-18), AC-1 COMP (580-60394-27), AC-2 COMP (580-60394-33), AC-3 (580-60394-39), AC-4 (580-60394-45), AC-5 (580-60394-51), AC-6 (580-60394-57), AC-7 (580-60394-63), (580-60394-B-6-B MS) and (580-60394-B-6-C MSD). Chromatographic evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Job ID: 580-60394-1 (Continued)

Laboratory: TestAmerica Seattle (Continued)

Method(s) 8270D: Internal standard (ISTD) response for the following sample was outside of acceptance limits: AC-2 COMP (580-60394-33). The high ISTD is due to a documented lab error in which analyst added double the amount of ISTD spike (20uL per 1mL instead of standard 10uL per 1mL). The doubled spike volume is accounted for in all calculations for 580-60394-33, data is qualified and reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method(s) 8081B: The following samples was diluted due to the nature of the sample matrix: AC-9 COMP (580-60394-6), AC-10 COMP (580-60394-12), AC-8 COMP (580-60394-18), ISM-Primary (580-60394-19), ISM-Rep 1 (580-60394-20), ISM-Rep 2 (580-60394-21), AC-1 COMP (580-60394-27), AC-2 COMP (580-60394-33), AC-3 (580-60394-39), AC-4 (580-60394-45), AC-5 (580-60394-51), AC-6 (580-60394-57), AC-7 (580-60394-63), (580-60394-C-6-B MS), (580-60394-C-6-C MSD), (580-60394-A-19-N MS) and (580-60394-A-19-O MSD). Elevated reporting limits (RLs) are provided.

Method(s) 8081B: The following closing continuing calibration verification (CCV) standard associated with batch 580-222437 failed to meet acceptance limits. Passing closing CCVs are not required for this method since internal standard is used; therefore, the data has been reported.

(CCV 580-222437/49), (CCV 580-222437/50), (CCV 580-222437/51) and (CCV 580-222437/52)

Method(s) 8081B: The following continuing calibration verification (CCV) recovered outside acceptance criteria on the ZB-CLPesticides-1 column for 4,4'-DDE. The associated sample results for those analytes were reported from the other column, which met acceptance criteria.

(CCV 580-222437/14)

Method(s) 8081B: The following continuing calibration verification (CCV) associated with batch 580-222437 recovered above the upper control limit for beta-BHC, Endosulfan I, Endrin aldehyde and Chlordane (technical),. The samples associated with this CCV were not detected above the reporting limit for the affected analytes; therefore, the data have been reported.

(CCV 580-222437/14) and (CCVIS 580-222437/17).

Method(s) 8081B: Surrogate DCB Decachlorobiphenyl recovery for the following samples was outside control limits: AC-10 COMP (580-60394-12), AC-8 COMP (580-60394-18), AC-6 (580-60394-57) and AC-7 (580-60394-63). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8081B: Surrogate Tetrachloro-m-xylene and DCB Decachlorobiphenyl recovery for the following samples was outside control limits: ISM-Primary (580-60394-19). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8081B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 580-220892 and analytical batch 580-222437 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8082A: Te following CCv failed low for surrogate DCB Decachlorobiphenyl on column ZB-CLPesticides-1 only. All affect samples had surrogate recoveries within the acceptance limits; therefor the data has been reported.

(CCV 580-221658/49), (CCV 580-221658/70) and (CCVIS 580-221658/31)

Method(s) 8082A: The following continuing calibration verification (CCV) recovered outside acceptance criteria on the ZB-CLPesticides-2 column for PCB-1262 and PCB-1221. The associated sample results for those analytes were reported from the other column, which met acceptance criteria.

(CCV 580-221658/66) and (CCV 580-221658/69)

Job ID: 580-60394-1 (Continued)

Laboratory: TestAmerica Seattle (Continued)

Method(s) 8082A: The following sample(s) contained more than one Aroclor with insufficient separation to quantify individually. The PCBs present are quantified as the predominant Aroclor: AC-9 COMP (580-60394-6), AC-10 COMP (580-60394-12), AC-8 COMP (580-60394-18), AC-1 COMP (580-60394-27), AC-2 COMP (580-60394-33), AC-3 (580-60394-39), AC-4 (580-60394-45), AC-5 (580-60394-51), AC-6 (580-60394-57), AC-7 (580-60394-63), (580-60394-C-6-D MS) and (580-60394-C-6-E MSD). Due to peak overlap and heavy sample matrix the PCBs in the sample do not exactly match any of the laboratory's Aroclor standards used for instrument calibration. Due to the poor match with the Aroclor standard(s), there is increased qualitative and quantitative uncertainty associated with this result.

Method(s) 8082A: The following samples required a copper clean-up to reduce matrix interferences caused by sulfur: AC-9 COMP (580-60394-6), AC-10 COMP (580-60394-12), AC-8 COMP (580-60394-18), AC-1 COMP (580-60394-27), AC-2 COMP (580-60394-33), AC-3 (580-60394-39), AC-4 (580-60394-45), AC-5 (580-60394-51), AC-6 (580-60394-57), AC-7 (580-60394-63), (LCS 580-220892/4-A), (LCSD 580-220892/5-A), (MB 580-220892/1-A), (580-60394-C-6-D MS) and (580-60394-C-6-E MSD).

Method(s) 8082A: Surrogate Tetrachloro-m-xylene and DCB Decachlorobiphenyl recovery for the following samples was outside control limits: (580-60394-A-19-P MS) and (580-60394-A-19-Q MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8082A: The following sample(s) contained more than one Aroclor with insufficient separation to quantify individually. The PCBs present are quantified as the predominant Aroclor: ISM-Primary (580-60394-19), ISM-Rep 1 (580-60394-20), ISM-Rep 2 (580-60394-21), (580-60394-A-19-P MS) and (580-60394-A-19-Q MSD). Due to peak overlap and heavy sample matrix the PCBs in the sample do not exactly match any of the laboratory's Aroclor standards used for instrument calibration. Due to the poor match with the Aroclor standard(s), there is increased qualitative and quantitative uncertainty associated with this result.

Method(s) 8082A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 580-220928 and 580-221799 and analytical batch 580-222116 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method(s) 8082A: The matrix spike (MS) recoveries for preparation batch 580-220892 and analytical batch 580-221658 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8082A: The following samples was received outside of holding time: ISM-Primary (580-60394-19), ISM-Rep 1 (580-60394-20) and ISM-Rep 2 (580-60394-21).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: AC-1 COMP (580-60394-27), AC-2 COMP (580-60394-33), (580-60297-B-8-D) and (580-60297-B-8-E DU).

Method(s) NWTPH-Dx: The following CCVs recovered outside acceptance criteria for the %D, low biased, for surrogate o-Terphenyl. Since the %Rec is within the acceptance criteria (50-150%) for the surrogate in the CCV and associated samples, the data have been reported.

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: AC-9 COMP (580-60394-6), AC-10 COMP (580-60394-12), AC-8 COMP (580-60394-18) and (580-60394-B-6-E DU).

Job ID: 580-60394-1 (Continued)

Laboratory: TestAmerica Seattle (Continued)

Method(s) NWTPH-Dx: The surrogate o-Terphenyl recovery for the following samples was outside control limit. Samples were re-prepped twice. Both times the solvent evaporated and the samples dried out in the microwave.

Method(s) NWTPH-Dx: The sample duplicate (DUP) precision for #2 Diesel (C10-C24) for preparation batch 580-220769 and analytical batch 580-220830 was outside control limits. Sample non-homogeneity is suspected.

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: AC-3 (580-60394-39), AC-6 (580-60394-57) and AC-7 (580-60394-63).

Method(s) NWTPH-Dx: The following samples was prepared outside of preparation holding time. (580-60394-A-19-ADU, A-21-A, A-19-A, and A-20-A)

Method(s) NWTPH-Dx: The sample duplicate (DUP) precision for preparation batch 580-220928 and 580-221627 and analytical batch 580-221738 was outside control limits. Sample non-homogeneity is suspected.

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: ISM-Primary (580-60394-19), ISM-Rep 1 (580-60394-20), ISM-Rep 2 (580-60394-21) and (580-60394-A-19-L DU).

LCMS
Method(s) WS-LC-0025: The following sample were diluted due to the nature of the sample matrix. The extracts were highly colored: AC-10 COMP (580-60394-12), AC-2 COMP (580-60394-33), AC-4 (580-60394-45), AC-5 (580-60394-51), (580-60394-A-33-C MS) and (580-60394-A-33-D MSD). Elevated reporting limits (RLs) are provided.

Method(s) WS-LC-0025: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for prep batch 115224 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method(s) 6020A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 320-117250 and analytical batch 320-118058 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method(s) Moisture: The reference method does not list a specific holding time for this procedure; therefore, the laboratory defaults to an in-house holding time of <14 days from sampling>. The following samples were prepared and/or analyzed outside this time period: AC-10 COMP (580-60394-12), AC-8 COMP (580-60394-18), AC-1 COMP (580-60394-27), AC-3 (580-60394-39), AC-6 (580-60394-57), AC-7 (580-60394-63), (720-71963-A-8) and (720-71963-A-8 DU).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method(s) 3546: The following samples was received outside of holding time: ISM-Primary (580-60394-19), ISM-Rep 1 (580-60394-20), ISM-Rep 2 (580-60394-21) and (580-60394-A-19-A DU).

Method(s) 3546: The following samples was prepared outside of preparation holding time due to receiving the ISM samples when they were already out of hold : ISM-Primary (580-60394-19), ISM-Rep 1 (580-60394-20), ISM-Rep 2 (580-60394-21), (580-60394-A-19-A MS) and (580-60394-A-19-A MSD).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
X	Surrogate is outside control limits
*	LCS or LCSD is outside acceptance limits.
H	Sample was prepped or analyzed beyond the specified holding time
F1	MS and/or MSD Recovery is outside acceptance limits.
*	ISTD response or retention time outside acceptable limits
F2	MS/MSD RPD exceeds control limits
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
*	LCS or LCSD is outside acceptance limits.
H	Sample was prepped or analyzed beyond the specified holding time
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
F3	Duplicate RPD exceeds the control limit
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL. The data are considered valid because the absolute difference is less than the RL.

LCMS

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-9 COMP

Lab Sample ID: 580-60394-6
Date Collected: 06/13/16 13:10
Matrix: Solid
Date Received: 06/17/16 13:45
Percent Solids: 33.7

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	100		65		mg/Kg	☼	06/24/16 13:25	06/26/16 01:03	1
Motor Oil (>C24-C36)	300		130		mg/Kg	☼	06/24/16 13:25	06/26/16 01:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*17*	*X*	*50 - 150*	*06/24/16 13:25*	*06/26/16 01:03*	*1*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-9 COMP

Date Collected: 06/13/16 13:10
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-6

Matrix: Solid
Percent Solids: 39.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		240		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
1,2-Dichlorobenzene	ND		260		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
1,4-Dichlorobenzene	ND	*	240		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
2,4-Dimethylphenol	ND	F2	470		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
2-Methylnaphthalene	ND		94		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
2-Methylphenol	ND		470		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
3 & 4 Methylphenol	ND	F1 F2	940		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Acenaphthene	ND		94		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Acenaphthylene	ND		94		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Anthracene	ND		94		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Benzo[a]anthracene	**180**	**F1**	94		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Benzo[a]pyrene	**260**	**F1**	160		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Benzo[b]fluoranthene	**760**		94		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Benzo[g,h,i]perylene	**500**		160		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Benzo[k]fluoranthene	**350**	**F1**	260		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Benzofluoranthene	**930**	**F1**	260		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Benzoic acid	ND	*	12000		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Benzyl alcohol	ND	F1	470		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Bis(2-ethylhexyl) phthalate	**2800**		2800		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Butyl benzyl phthalate	ND	F1	940		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Chrysene	**460**	**F1**	120		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Dibenz(a,h)anthracene	ND	F1	190		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Dibenzofuran	ND		470		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Diethyl phthalate	ND		940		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Dimethyl phthalate	ND		470		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Di-n-butyl phthalate	ND	F1	2400		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Di-n-octyl phthalate	ND	F1 *	2400		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Fluoranthene	**610**	**F1**	94		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Fluorene	ND		94		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Hexachlorobenzene	ND		240		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Hexachlorobutadiene	ND	F1	240		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Hexachloroethane	ND		470		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Indeno[1,2,3-cd]pyrene	**520**	**F1**	190		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Naphthalene	ND		94		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
N-Nitrosodiphenylamine	ND		240		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Pentachlorophenol	ND	F1	1200		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Phenanthrene	**150**	**F1**	94		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Phenol	ND	F1 F2	470		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20
Pyrene	**580**	**F1**	94		ug/Kg	☼	06/23/16 08:18	06/30/16 15:11	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*89*		*59 - 128*	*06/23/16 08:18*	*06/30/16 15:11*	*20*
2-Fluorobiphenyl	*83*		*67 - 115*	*06/23/16 08:18*	*06/30/16 15:11*	*20*
2-Fluorophenol	*50*	*X*	*65 - 125*	*06/23/16 08:18*	*06/30/16 15:11*	*20*
Nitrobenzene-d5	*49*	*X*	*66 - 120*	*06/23/16 08:18*	*06/30/16 15:11*	*20*
Phenol-d5	*55*	*X*	*69 - 118*	*06/23/16 08:18*	*06/30/16 15:11*	*20*
Terphenyl-d14	*121*		*78 - 136*	*06/23/16 08:18*	*06/30/16 15:11*	*20*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-9 COMP

Date Collected: 06/13/16 13:10
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-6

Matrix: Solid
Percent Solids: 39.8

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
2,4'-DDE	ND		4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
2,4'-DDT	ND		4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
4,4'-DDD	ND	F1 F2	4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
4,4'-DDE	ND	F1	4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
4,4'-DDT	ND	*	4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
Aldrin	ND	F1 F2	2.5		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
alpha-BHC	ND		2.5		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
beta-BHC	ND	*	2.5		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
Chlordane (technical)	ND		25		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
cis-Chlordane	ND	F2	2.5		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
cis-Nonachlor	ND		4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
delta-BHC	ND	F1	2.5		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
Dieldrin	ND		4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
Endosulfan I	ND	F2	2.5		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
Endosulfan II	ND		4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
Endosulfan sulfate	ND	F2	4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
Endrin	ND	*	4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
Endrin aldehyde	ND	*	4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
Endrin ketone	ND	F2	4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
gamma-BHC (Lindane)	ND		2.5		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
Heptachlor	ND		4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
Heptachlor epoxide	ND	F1	2.5		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
Hexachlorobenzene	ND	F1	2.5		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
Hexachlorobutadiene	ND		2.5		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
Methoxychlor	ND	F1	25		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
oxy-Chlordane	ND		4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
Toxaphene	**1500**		250		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
trans-Chlordane	ND	F2	2.5		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10
trans-Nonachlor	ND		4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 02:05	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*68*		*27 - 118*	*06/27/16 12:23*	*07/15/16 02:05*	*10*
Tetrachloro-m-xylene	*85*		*23 - 133*	*06/27/16 12:23*	*07/15/16 02:05*	*10*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.00098		mg/Kg		06/27/16 12:23	07/07/16 04:23	1
PCB-1221	ND		0.0011		mg/Kg		06/27/16 12:23	07/07/16 04:23	1
PCB-1232	ND		0.0011		mg/Kg		06/27/16 12:23	07/07/16 04:23	1
PCB-1242	ND		0.00098		mg/Kg		06/27/16 12:23	07/07/16 04:23	1
PCB-1248	ND		0.0011		mg/Kg		06/27/16 12:23	07/07/16 04:23	1
PCB-1254	**0.0021**		0.00098		mg/Kg		06/27/16 12:23	07/07/16 04:23	1
PCB-1260	**0.0010**	**F1**	0.00098		mg/Kg		06/27/16 12:23	07/07/16 04:23	1
PCB-1262	ND		0.00098		mg/Kg		06/27/16 12:23	07/07/16 04:23	1
PCB-1268	ND		0.00098		mg/Kg		06/27/16 12:23	07/07/16 04:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*53*		*37 - 140*	*06/27/16 12:23*	*07/07/16 04:23*	*1*
Tetrachloro-m-xylene	*69*		*45 - 135*	*06/27/16 12:23*	*07/07/16 04:23*	*1*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-9 COMP

Date Collected: 06/13/16 13:10
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-6

Matrix: Solid
Percent Solids: 39.8

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.8		0.11		mg/Kg		07/07/16 06:45	07/12/16 12:28	1
Cadmium	0.25		0.053		mg/Kg		07/07/16 06:45	07/12/16 12:28	1
Chromium	8.6		0.11		mg/Kg		07/07/16 06:45	07/12/16 12:28	1
Copper	12		0.11		mg/Kg		07/07/16 06:45	07/12/16 12:28	1
Lead	8.4		0.053		mg/Kg		07/07/16 06:45	07/12/16 12:28	1
Silver	0.064		0.053		mg/Kg		07/07/16 06:45	07/12/16 12:28	1
Zinc	61		0.53		mg/Kg		07/07/16 06:45	07/12/16 12:28	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080		0.044		mg/Kg	☼	06/28/16 16:57	06/29/16 11:46	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	39.8		0.1		%			07/01/16 13:18	1
Percent Moisture	60.2		0.1		%			07/01/16 13:18	1

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-10 COMP

Date Collected: 06/13/16 14:45
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-12

Matrix: Solid
Percent Solids: 35.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		270		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
1,2-Dichlorobenzene	ND		300		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
1,4-Dichlorobenzene	ND	*	270		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
2,4-Dimethylphenol	ND		550		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
2-Methylnaphthalene	ND		110		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
2-Methylphenol	ND		550		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
3 & 4 Methylphenol	ND		1100		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Acenaphthene	ND		110		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Acenaphthylene	ND		110		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Anthracene	ND		110		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Benzo[a]anthracene	**300**		110		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Benzo[a]pyrene	**470**		190		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Benzo[b]fluoranthene	**1200**		110		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Benzo[g,h,i]perylene	**520**		190		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Benzo[k]fluoranthene	**430**		300		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Benzofluoranthene	**1200**		300		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Benzoic acid	ND	*	14000		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Benzyl alcohol	ND		550		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Bis(2-ethylhexyl) phthalate	ND		3300		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Butyl benzyl phthalate	ND		1100		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Chrysene	**690**		140		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Dibenz(a,h)anthracene	ND		220		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Dibenzofuran	ND		550		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Diethyl phthalate	ND		1100		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Dimethyl phthalate	ND		550		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Di-n-butyl phthalate	ND		2700		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Di-n-octyl phthalate	ND	*	2700		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Fluoranthene	**1100**		110		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Fluorene	ND		110		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Hexachlorobenzene	ND		270		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Hexachlorobutadiene	ND		270		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Hexachloroethane	ND		550		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Indeno[1,2,3-cd]pyrene	**640**		220		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Naphthalene	ND		110		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
N-Nitrosodiphenylamine	ND		270		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Pentachlorophenol	ND		1400		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Phenanthrene	**230**		110		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Phenol	ND		550		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20
Pyrene	**1000**		110		ug/Kg	☼	06/23/16 08:18	06/30/16 16:27	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*104*		*59 - 128*	*06/23/16 08:18*	*06/30/16 16:27*	*20*
2-Fluorobiphenyl	*77*		*67 - 115*	*06/23/16 08:18*	*06/30/16 16:27*	*20*
2-Fluorophenol	*59*	*X*	*65 - 125*	*06/23/16 08:18*	*06/30/16 16:27*	*20*
Nitrobenzene-d5	*65*	*X*	*66 - 120*	*06/23/16 08:18*	*06/30/16 16:27*	*20*
Phenol-d5	*61*	*X*	*69 - 118*	*06/23/16 08:18*	*06/30/16 16:27*	*20*
Terphenyl-d14	*115*		*78 - 136*	*06/23/16 08:18*	*06/30/16 16:27*	*20*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-10 COMP

Date Collected: 06/13/16 14:45
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-12

Matrix: Solid
Percent Solids: 35.9

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		5.0		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
2,4'-DDE	ND		5.0		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
2,4'-DDT	ND		5.0		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
4,4'-DDD	ND		5.0		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
4,4'-DDE	ND		5.0		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
4,4'-DDT	ND	*	5.0		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
Aldrin	ND		2.5		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
alpha-BHC	ND		2.5		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
beta-BHC	ND		2.5		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
Chlordane (technical)	ND		25		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
cis-Chlordane	ND		2.5		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
cis-Nonachlor	ND		5.0		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
delta-BHC	ND		2.5		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
Dieldrin	ND		5.0		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
Endosulfan I	ND		2.5		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
Endosulfan II	ND		5.0		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
Endosulfan sulfate	ND		5.0		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
Endrin	ND	*	5.0		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
Endrin aldehyde	ND	*	5.0		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
Endrin ketone	ND		5.0		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
gamma-BHC (Lindane)	ND		2.5		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
Heptachlor	ND		5.0		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
Heptachlor epoxide	ND		2.5		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
Hexachlorobenzene	ND		2.5		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
Hexachlorobutadiene	ND		2.5		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
Methoxychlor	ND		25		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
oxy-Chlordane	ND		5.0		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
Toxaphene	ND		250		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
trans-Chlordane	ND		2.5		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10
trans-Nonachlor	ND		5.0		ug/Kg	☼	06/27/16 12:23	07/15/16 02:58	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*643*	*X*	*27 - 118*	*06/27/16 12:23*	*07/15/16 02:58*	*10*
Tetrachloro-m-xylene	*70*		*23 - 133*	*06/27/16 12:23*	*07/15/16 02:58*	*10*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.00089		mg/Kg		06/27/16 12:23	07/07/16 05:12	1
PCB-1221	ND		0.00098		mg/Kg		06/27/16 12:23	07/07/16 05:12	1
PCB-1232	ND		0.00098		mg/Kg		06/27/16 12:23	07/07/16 05:12	1
PCB-1242	**0.0028**		0.00089		mg/Kg		06/27/16 12:23	07/07/16 05:12	1
PCB-1248	ND		0.00098		mg/Kg		06/27/16 12:23	07/07/16 05:12	1
PCB-1254	**0.0022**		0.00089		mg/Kg		06/27/16 12:23	07/07/16 05:12	1
PCB-1260	**0.0012**		0.00089		mg/Kg		06/27/16 12:23	07/07/16 05:12	1
PCB-1262	ND		0.00089		mg/Kg		06/27/16 12:23	07/07/16 05:12	1
PCB-1268	ND		0.00089		mg/Kg		06/27/16 12:23	07/07/16 05:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*44*		*37 - 140*	*06/27/16 12:23*	*07/07/16 05:12*	*1*
Tetrachloro-m-xylene	*58*		*45 - 135*	*06/27/16 12:23*	*07/07/16 05:12*	*1*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-10 COMP

Date Collected: 06/13/16 14:45
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-12

Matrix: Solid
Percent Solids: 35.9

Method: WS-LC-0025 - Perfluorinated Hydrocarbons

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	ND		4.0		ug/Kg		06/24/16 16:29	07/18/16 02:20	20
Perfluorooctane Sulfonate (PFOS)	**7.2**		4.0		ug/Kg		06/24/16 16:29	07/18/16 02:20	20

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*128*		*25 - 150*	*06/24/16 16:29*	*07/18/16 02:20*	*20*
13C4 PFOA	*132*		*25 - 150*	*06/24/16 16:29*	*07/18/16 02:20*	*20*

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**2.4**		0.10		mg/Kg		07/07/16 06:45	07/12/16 12:59	1
Cadmium	**0.38**		0.052		mg/Kg		07/07/16 06:45	07/12/16 12:59	1
Chromium	**11**		0.10		mg/Kg		07/07/16 06:45	07/12/16 12:59	1
Copper	**20**		0.10		mg/Kg		07/07/16 06:45	07/12/16 12:59	1
Lead	**13**		0.052		mg/Kg		07/07/16 06:45	07/12/16 12:59	1
Silver	**0.093**		0.052		mg/Kg		07/07/16 06:45	07/12/16 12:59	1
Zinc	**91**		0.52		mg/Kg		07/07/16 06:45	07/12/16 12:59	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.11**		0.044		mg/Kg	☼	06/28/16 16:57	06/29/16 11:48	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**35.9**		0.1		%			07/01/16 13:18	1
Percent Moisture	**64.1**		0.1		%			07/01/16 13:18	1

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-10 COMP

Date Collected: 06/13/16 14:45
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-12

Matrix: Solid
Percent Solids: 38.2

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	62		59		mg/Kg	☼	06/24/16 13:25	06/26/16 01:44	1
Motor Oil (>C24-C36)	180		120		mg/Kg	☼	06/24/16 13:25	06/26/16 01:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*18*	*X*	*50 - 150*	*06/24/16 13:25*	*06/26/16 01:44*	*1*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-8 COMP

Date Collected: 06/13/16 16:30
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-18

Matrix: Solid
Percent Solids: 41.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		230		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
1,2-Dichlorobenzene	ND		250		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
1,4-Dichlorobenzene	ND	*	230		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
2,4-Dimethylphenol	ND		450		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
2-Methylnaphthalene	ND		90		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
2-Methylphenol	ND		450		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
3 & 4 Methylphenol	ND		900		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Acenaphthene	ND		90		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Acenaphthylene	ND		90		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Anthracene	ND		90		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Benzo[a]anthracene	**180**		90		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Benzo[a]pyrene	**290**		160		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Benzo[b]fluoranthene	**560**		90		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Benzo[g,h,i]perylene	**300**		160		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Benzo[k]fluoranthene	ND		250		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Benzofluoranthene	**640**		250		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Benzoic acid	ND	*	11000		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Benzyl alcohol	ND		450		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Bis(2-ethylhexyl) phthalate	ND		2700		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Butyl benzyl phthalate	ND		900		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Chrysene	**320**		110		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Dibenz(a,h)anthracene	ND		180		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Dibenzofuran	ND		450		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Diethyl phthalate	ND		900		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Dimethyl phthalate	ND		450		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Di-n-butyl phthalate	ND		2300		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Di-n-octyl phthalate	ND	*	2300		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Fluoranthene	**420**		90		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Fluorene	ND		90		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Hexachlorobenzene	ND		230		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Hexachlorobutadiene	ND		230		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Hexachloroethane	ND		450		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Indeno[1,2,3-cd]pyrene	**330**		180		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Naphthalene	ND		90		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
N-Nitrosodiphenylamine	ND		230		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Pentachlorophenol	ND		1100		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Phenanthrene	**160**		90		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Phenol	ND		450		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20
Pyrene	**430**		90		ug/Kg	☼	06/23/16 08:18	06/30/16 16:53	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*75*		*59 - 128*	*06/23/16 08:18*	*06/30/16 16:53*	*20*
2-Fluorobiphenyl	*75*		*67 - 115*	*06/23/16 08:18*	*06/30/16 16:53*	*20*
2-Fluorophenol	*55*	*X*	*65 - 125*	*06/23/16 08:18*	*06/30/16 16:53*	*20*
Nitrobenzene-d5	*61*	*X*	*66 - 120*	*06/23/16 08:18*	*06/30/16 16:53*	*20*
Phenol-d5	*65*	*X*	*69 - 118*	*06/23/16 08:18*	*06/30/16 16:53*	*20*
Terphenyl-d14	*127*		*78 - 136*	*06/23/16 08:18*	*06/30/16 16:53*	*20*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-8 COMP

Date Collected: 06/13/16 16:30
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-18

Matrix: Solid
Percent Solids: 41.0

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		4.8		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
2,4'-DDE	ND		4.8		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
2,4'-DDT	ND		4.8		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
4,4'-DDD	ND		4.8		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
4,4'-DDE	ND		4.8		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
4,4'-DDT	ND	*	4.8		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
Aldrin	ND		2.4		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
alpha-BHC	ND		2.4		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
beta-BHC	ND		2.4		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
Chlordane (technical)	ND		24		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
cis-Chlordane	ND		2.4		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
cis-Nonachlor	ND		4.8		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
delta-BHC	ND		2.4		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
Dieldrin	ND		4.8		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
Endosulfan I	ND		2.4		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
Endosulfan II	ND		4.8		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
Endosulfan sulfate	ND		4.8		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
Endrin	ND	*	4.8		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
Endrin aldehyde	ND	*	4.8		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
Endrin ketone	ND		4.8		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
gamma-BHC (Lindane)	ND		2.4		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
Heptachlor	ND		4.8		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
Heptachlor epoxide	ND		2.4		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
Hexachlorobenzene	ND		2.4		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
Hexachlorobutadiene	ND		2.4		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
Methoxychlor	ND		24		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
oxy-Chlordane	ND		4.8		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
Toxaphene	ND		240		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
trans-Chlordane	ND		2.4		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10
trans-Nonachlor	ND		4.8		ug/Kg	☼	06/27/16 12:23	07/15/16 03:16	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*157*	*X*	*27 - 118*	*06/27/16 12:23*	*07/15/16 03:16*	*10*
Tetrachloro-m-xylene	*79*		*23 - 133*	*06/27/16 12:23*	*07/15/16 03:16*	*10*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.00097		mg/Kg		06/27/16 12:23	07/07/16 05:28	1
PCB-1221	ND		0.0011		mg/Kg		06/27/16 12:23	07/07/16 05:28	1
PCB-1232	ND		0.0011		mg/Kg		06/27/16 12:23	07/07/16 05:28	1
PCB-1242	**0.0015**		0.00097		mg/Kg		06/27/16 12:23	07/07/16 05:28	1
PCB-1248	ND		0.0011		mg/Kg		06/27/16 12:23	07/07/16 05:28	1
PCB-1254	**0.0016**		0.00097		mg/Kg		06/27/16 12:23	07/07/16 05:28	1
PCB-1260	ND		0.00097		mg/Kg		06/27/16 12:23	07/07/16 05:28	1
PCB-1262	ND		0.00097		mg/Kg		06/27/16 12:23	07/07/16 05:28	1
PCB-1268	ND		0.00097		mg/Kg		06/27/16 12:23	07/07/16 05:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*43*		*37 - 140*	*06/27/16 12:23*	*07/07/16 05:28*	*1*
Tetrachloro-m-xylene	*56*		*45 - 135*	*06/27/16 12:23*	*07/07/16 05:28*	*1*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-8 COMP

Date Collected: 06/13/16 16:30
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-18

Matrix: Solid
Percent Solids: 41.0

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.8		0.099		mg/Kg		07/07/16 06:45	07/12/16 13:02	1
Cadmium	0.25		0.050		mg/Kg		07/07/16 06:45	07/12/16 13:02	1
Chromium	9.6		0.099		mg/Kg		07/07/16 06:45	07/12/16 13:02	1
Copper	12		0.099		mg/Kg		07/07/16 06:45	07/12/16 13:02	1
Lead	8.5		0.050		mg/Kg		07/07/16 06:45	07/12/16 13:02	1
Silver	0.074		0.050		mg/Kg		07/07/16 06:45	07/12/16 13:02	1
Zinc	57		0.50		mg/Kg		07/07/16 06:45	07/12/16 13:02	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.10		0.040		mg/Kg	☼	06/28/16 16:57	06/29/16 11:55	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	41.0		0.1		%			07/01/16 13:18	1
Percent Moisture	59.0		0.1		%			07/01/16 13:18	1

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-8 COMP

Lab Sample ID: 580-60394-18

Date Collected: 06/13/16 16:30
Matrix: Solid
Date Received: 06/17/16 13:45
Percent Solids: 50.1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	50		49		mg/Kg	☼	06/24/16 13:25	06/26/16 02:04	1
Motor Oil (>C24-C36)	230		98		mg/Kg	☼	06/24/16 13:25	06/26/16 02:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*64*		*50 - 150*	*06/24/16 13:25*	*06/26/16 02:04*	*1*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: ISM-Primary

Date Collected: 06/15/16 11:20
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-19

Matrix: Solid

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND	H	330		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
1,4-Dichlorobenzene	ND	H	160		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Benzyl alcohol	ND	H	330		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
1,2-Dichlorobenzene	ND	H	180		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
2-Methylphenol	ND	H	330		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
3 & 4 Methylphenol	ND	H F1	650		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Hexachloroethane	ND	H F1	330		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
2,4-Dimethylphenol	ND	H	330		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Benzoic acid	ND	H * F1	8200		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
1,2,4-Trichlorobenzene	ND	H	160		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Naphthalene	ND	H	65		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Hexachlorobutadiene	ND	H	160		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
2-Methylnaphthalene	ND	H	65		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Dimethyl phthalate	ND	H	330		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Acenaphthylene	ND	H	65		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Acenaphthene	ND	H	65		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Dibenzofuran	ND	H	330		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Diethyl phthalate	ND	H	650		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Fluorene	ND	H	65		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
N-Nitrosodiphenylamine	ND	H F1	160		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Hexachlorobenzene	ND	H F1	160		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Pentachlorophenol	ND	H	820		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Phenanthrene	**67**	**H**	65		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Anthracene	ND	H	65		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Di-n-butyl phthalate	ND	H	1600		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Fluoranthene	**220**	**H**	65		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Pyrene	**210**	**H**	65		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Butyl benzyl phthalate	ND	H	650		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Benzo[a]anthracene	**100**	**H**	65		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Chrysene	**170**	**H**	82		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Bis(2-ethylhexyl) phthalate	ND	H	2000		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Di-n-octyl phthalate	ND	H F1	1600		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Benzofluoranthene	ND	H F1	180		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Benzo[b]fluoranthene	**290**	**H**	65		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Benzo[k]fluoranthene	ND	H	180		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Benzo[a]pyrene	**150**	**H**	110		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Indeno[1,2,3-cd]pyrene	**140**	**H F1**	130		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Dibenz(a,h)anthracene	ND	H	130		ug/Kg		07/05/16 15:25	07/06/16 22:16	10
Benzo[g,h,i]perylene	**120**	**H F1**	110		ug/Kg		07/05/16 15:25	07/06/16 22:16	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*83*		*65 - 125*	*07/05/16 15:25*	*07/06/16 22:16*	*10*
Phenol-d5	*82*		*69 - 118*	*07/05/16 15:25*	*07/06/16 22:16*	*10*
2,4,6-Tribromophenol	*78*		*59 - 128*	*07/05/16 15:25*	*07/06/16 22:16*	*10*
Nitrobenzene-d5	*87*		*66 - 120*	*07/05/16 15:25*	*07/06/16 22:16*	*10*
2-Fluorobiphenyl	*91*		*67 - 115*	*07/05/16 15:25*	*07/06/16 22:16*	*10*
Terphenyl-d14	*99*		*78 - 136*	*07/05/16 15:25*	*07/06/16 22:16*	*10*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: ISM-Primary

Date Collected: 06/15/16 11:20
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-19

Matrix: Solid

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND	H F2 F1	3.2		ug/Kg		07/07/16 15:34	07/15/16 00:36	10
gamma-BHC (Lindane)	ND	H F2 F1	3.2		ug/Kg		07/07/16 15:34	07/15/16 00:36	10
beta-BHC	ND	H F1	6.4		ug/Kg		07/07/16 15:34	07/15/16 00:36	10
delta-BHC	ND	H F1	3.2		ug/Kg		07/07/16 15:34	07/15/16 00:36	10
Heptachlor	ND	H F1	6.4		ug/Kg		07/07/16 15:34	07/15/16 00:36	10
Aldrin	ND	H F1	3.2		ug/Kg		07/07/16 15:34	07/15/16 00:36	10
Heptachlor epoxide	ND	H F1	3.2		ug/Kg		07/07/16 15:34	07/15/16 00:36	10
gamma-Chlordane	ND	H F2 F1	3.2		ug/Kg		07/07/16 15:34	07/15/16 00:36	10
alpha-Chlordane	ND	H F2 F1	3.2		ug/Kg		07/07/16 15:34	07/15/16 00:36	10
Endosulfan I	ND	H F1	3.2		ug/Kg		07/07/16 15:34	07/15/16 00:36	10
4,4'-DDE	**10**	**H F1**	6.4		ug/Kg		07/07/16 15:34	07/15/16 00:36	10
Dieldrin	ND	H F1	6.4		ug/Kg		07/07/16 15:34	07/15/16 00:36	10
Endrin	ND	H F2 F1	6.4		ug/Kg		07/07/16 15:34	07/15/16 00:36	10
4,4'-DDD	ND	H F1	6.4		ug/Kg		07/07/16 15:34	07/15/16 00:36	10
Endosulfan II	ND	H F1	6.4		ug/Kg		07/07/16 15:34	07/15/16 00:36	10
4,4'-DDT	ND	H F1	6.4		ug/Kg		07/07/16 15:34	07/15/16 00:36	10
Endrin aldehyde	ND	H F1	6.4		ug/Kg		07/07/16 15:34	07/15/16 00:36	10
Endosulfan sulfate	ND	H F1	6.4		ug/Kg		07/07/16 15:34	07/15/16 00:36	10
Methoxychlor	ND	H F1	32		ug/Kg		07/07/16 15:34	07/15/16 00:36	10
Endrin ketone	ND	H F1	6.4		ug/Kg		07/07/16 15:34	07/15/16 00:36	10
Hexachlorobutadiene	ND	H F2 F1	3.2		ug/Kg		07/07/16 15:34	07/15/16 00:36	10
Hexachlorobenzene	ND	H F2	3.2		ug/Kg		07/07/16 15:34	07/15/16 00:36	10
Toxaphene	ND	H	320		ug/Kg		07/07/16 15:34	07/15/16 00:36	10
Chlordane (technical)	ND	H	32		ug/Kg		07/07/16 15:34	07/15/16 00:36	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*143*	*X*	*23 - 133*	*07/07/16 15:34*	*07/15/16 00:36*	*10*
DCB Decachlorobiphenyl	*131*	*X*	*27 - 118*	*07/07/16 15:34*	*07/15/16 00:36*	*10*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND	H F1	0.0081		mg/Kg		07/07/16 15:34	07/12/16 02:40	1
PCB-1221	ND	H	0.0035		mg/Kg		07/07/16 15:34	07/12/16 02:40	1
PCB-1232	ND	H	0.0035		mg/Kg		07/07/16 15:34	07/12/16 02:40	1
PCB-1242	ND	H	0.0032		mg/Kg		07/07/16 15:34	07/12/16 02:40	1
PCB-1248	ND	H	0.0035		mg/Kg		07/07/16 15:34	07/12/16 02:40	1
PCB-1254	**0.015**	**H**	0.0032		mg/Kg		07/07/16 15:34	07/12/16 02:40	1
PCB-1260	**0.0061**	**H F1**	0.0032		mg/Kg		07/07/16 15:34	07/12/16 02:40	1
PCB-1262	ND	H	0.0032		mg/Kg		07/07/16 15:34	07/12/16 02:40	1
PCB-1268	ND	H	0.0032		mg/Kg		07/07/16 15:34	07/12/16 02:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*53*		*37 - 140*	*07/07/16 15:34*	*07/12/16 02:40*	*1*
Tetrachloro-m-xylene	*63*		*45 - 135*	*07/07/16 15:34*	*07/12/16 02:40*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**73**	**H**	8.1		mg/Kg		07/06/16 09:03	07/07/16 17:07	1
Motor Oil (>C24-C36)	**500**	**H**	16		mg/Kg		07/06/16 09:03	07/07/16 17:07	1

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: ISM-Primary

Lab Sample ID: 580-60394-19

Date Collected: 06/15/16 11:20

Matrix: Solid

Date Received: 06/17/16 13:45

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*57*		*50 - 150*	*07/06/16 09:03*	*07/07/16 17:07*	*1*

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**5.4**		1.2		mg/Kg		07/05/16 17:39	07/07/16 04:48	50
Cadmium	**0.62**		0.49		mg/Kg		07/05/16 17:39	07/07/16 04:48	50
Chromium	**25**		1.2		mg/Kg		07/05/16 17:39	07/07/16 04:48	50
Copper	**65**		0.98		mg/Kg		07/05/16 17:39	07/07/16 04:48	50
Lead	**25**		1.2		mg/Kg		07/05/16 17:39	07/07/16 04:48	50
Silver	ND		0.49		mg/Kg		07/05/16 17:39	07/07/16 04:48	50
Zinc	**180**		12		mg/Kg		07/05/16 17:39	07/07/16 04:48	50

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.082**		0.011		mg/Kg		07/05/16 17:21	07/06/16 11:04	1

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: ISM-Rep 1

Date Collected: 06/15/16 11:21
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-20

Matrix: Solid

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND	H	330		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
1,4-Dichlorobenzene	ND	H	170		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Benzyl alcohol	ND	H	330		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
1,2-Dichlorobenzene	ND	H	180		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
2-Methylphenol	ND	H	330		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
3 & 4 Methylphenol	ND	H	660		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Hexachloroethane	ND	H	330		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
2,4-Dimethylphenol	ND	H	330		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Benzoic acid	ND	H *	8300		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
1,2,4-Trichlorobenzene	ND	H	170		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Naphthalene	ND	H	66		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Hexachlorobutadiene	ND	H	170		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
2-Methylnaphthalene	ND	H	66		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Dimethyl phthalate	ND	H	330		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Acenaphthylene	ND	H	66		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Acenaphthene	ND	H	66		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Dibenzofuran	ND	H	330		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Diethyl phthalate	ND	H	660		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Fluorene	ND	H	66		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
N-Nitrosodiphenylamine	ND	H	170		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Hexachlorobenzene	ND	H	170		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Pentachlorophenol	ND	H	830		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Phenanthrene	**110**	**H**	66		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Anthracene	ND	H	66		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Di-n-butyl phthalate	ND	H	1700		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Fluoranthene	**510**	**H**	66		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Pyrene	**410**	**H**	66		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Butyl benzyl phthalate	ND	H	660		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Benzo[a]anthracene	**200**	**H**	66		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Chrysene	**350**	**H**	83		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Bis(2-ethylhexyl) phthalate	ND	H	2000		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Di-n-octyl phthalate	ND	H	1700		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Benzofluoranthene	**710**	**H**	180		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Benzo[b]fluoranthene	**560**	**H**	66		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Benzo[k]fluoranthene	**210**	**H**	180		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Benzo[a]pyrene	**280**	**H**	120		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Indeno[1,2,3-cd]pyrene	**180**	**H**	130		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Dibenz(a,h)anthracene	ND	H	130		ug/Kg		07/05/16 15:25	07/06/16 23:34	10
Benzo[g,h,i]perylene	**160**	**H**	120		ug/Kg		07/05/16 15:25	07/06/16 23:34	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*100*		*65 - 125*	*07/05/16 15:25*	*07/06/16 23:34*	*10*
Phenol-d5	*104*		*69 - 118*	*07/05/16 15:25*	*07/06/16 23:34*	*10*
2,4,6-Tribromophenol	*97*		*59 - 128*	*07/05/16 15:25*	*07/06/16 23:34*	*10*
Nitrobenzene-d5	*108*		*66 - 120*	*07/05/16 15:25*	*07/06/16 23:34*	*10*
2-Fluorobiphenyl	*109*		*67 - 115*	*07/05/16 15:25*	*07/06/16 23:34*	*10*
Terphenyl-d14	*119*		*78 - 136*	*07/05/16 15:25*	*07/06/16 23:34*	*10*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: ISM-Rep 1

Date Collected: 06/15/16 11:21
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-20

Matrix: Solid

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND	H	3.3		ug/Kg		07/07/16 15:34	07/15/16 01:29	10
gamma-BHC (Lindane)	ND	H	3.3		ug/Kg		07/07/16 15:34	07/15/16 01:29	10
beta-BHC	ND	H	6.6		ug/Kg		07/07/16 15:34	07/15/16 01:29	10
delta-BHC	ND	H	3.3		ug/Kg		07/07/16 15:34	07/15/16 01:29	10
Heptachlor	ND	H	6.6		ug/Kg		07/07/16 15:34	07/15/16 01:29	10
Aldrin	ND	H	3.3		ug/Kg		07/07/16 15:34	07/15/16 01:29	10
Heptachlor epoxide	ND	H	3.3		ug/Kg		07/07/16 15:34	07/15/16 01:29	10
gamma-Chlordane	ND	H	3.3		ug/Kg		07/07/16 15:34	07/15/16 01:29	10
alpha-Chlordane	ND	H	3.3		ug/Kg		07/07/16 15:34	07/15/16 01:29	10
Endosulfan I	ND	H	3.3		ug/Kg		07/07/16 15:34	07/15/16 01:29	10
4,4'-DDE	**7.8**	**H**	6.6		ug/Kg		07/07/16 15:34	07/15/16 01:29	10
Dieldrin	ND	H	6.6		ug/Kg		07/07/16 15:34	07/15/16 01:29	10
Endrin	ND	H	6.6		ug/Kg		07/07/16 15:34	07/15/16 01:29	10
4,4'-DDD	ND	H	6.6		ug/Kg		07/07/16 15:34	07/15/16 01:29	10
Endosulfan II	ND	H	6.6		ug/Kg		07/07/16 15:34	07/15/16 01:29	10
4,4'-DDT	ND	H	6.6		ug/Kg		07/07/16 15:34	07/15/16 01:29	10
Endrin aldehyde	ND	H	6.6		ug/Kg		07/07/16 15:34	07/15/16 01:29	10
Endosulfan sulfate	ND	H	6.6		ug/Kg		07/07/16 15:34	07/15/16 01:29	10
Methoxychlor	ND	H	33		ug/Kg		07/07/16 15:34	07/15/16 01:29	10
Endrin ketone	ND	H	6.6		ug/Kg		07/07/16 15:34	07/15/16 01:29	10
Hexachlorobutadiene	ND	H	3.3		ug/Kg		07/07/16 15:34	07/15/16 01:29	10
Hexachlorobenzene	ND	H	3.3		ug/Kg		07/07/16 15:34	07/15/16 01:29	10
Toxaphene	ND	H	330		ug/Kg		07/07/16 15:34	07/15/16 01:29	10
Chlordane (technical)	ND	H	33		ug/Kg		07/07/16 15:34	07/15/16 01:29	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*96*		*23 - 133*	*07/07/16 15:34*	*07/15/16 01:29*	*10*
DCB Decachlorobiphenyl	*85*		*27 - 118*	*07/07/16 15:34*	*07/15/16 01:29*	*10*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND	H	0.0083		mg/Kg		07/07/16 15:34	07/12/16 03:28	1
PCB-1221	ND	H	0.0036		mg/Kg		07/07/16 15:34	07/12/16 03:28	1
PCB-1232	ND	H	0.0036		mg/Kg		07/07/16 15:34	07/12/16 03:28	1
PCB-1242	ND	H	0.0033		mg/Kg		07/07/16 15:34	07/12/16 03:28	1
PCB-1248	ND	H	0.0036		mg/Kg		07/07/16 15:34	07/12/16 03:28	1
PCB-1254	**0.010**	**H**	0.0033		mg/Kg		07/07/16 15:34	07/12/16 03:28	1
PCB-1260	**0.0049**	**H**	0.0033		mg/Kg		07/07/16 15:34	07/12/16 03:28	1
PCB-1262	ND	H	0.0033		mg/Kg		07/07/16 15:34	07/12/16 03:28	1
PCB-1268	ND	H	0.0033		mg/Kg		07/07/16 15:34	07/12/16 03:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*41*		*37 - 140*	*07/07/16 15:34*	*07/12/16 03:28*	*1*
Tetrachloro-m-xylene	*51*		*45 - 135*	*07/07/16 15:34*	*07/12/16 03:28*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**100**	**H**	8.1		mg/Kg		07/06/16 09:03	07/07/16 17:50	1
Motor Oil (>C24-C36)	**780**	**H**	16		mg/Kg		07/06/16 09:03	07/07/16 17:50	1

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: ISM-Rep 1

Date Collected: 06/15/16 11:21
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-20

Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*64*		*50 - 150*	*07/06/16 09:03*	*07/07/16 17:50*	*1*

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**5.2**		1.2		mg/Kg		07/05/16 17:39	07/07/16 05:06	50
Cadmium	**0.62**		0.49		mg/Kg		07/05/16 17:39	07/07/16 05:06	50
Chromium	**25**		1.2		mg/Kg		07/05/16 17:39	07/07/16 05:06	50
Copper	**67**		0.98		mg/Kg		07/05/16 17:39	07/07/16 05:06	50
Lead	**25**		1.2		mg/Kg		07/05/16 17:39	07/07/16 05:06	50
Silver	ND		0.49		mg/Kg		07/05/16 17:39	07/07/16 05:06	50
Zinc	**180**		12		mg/Kg		07/05/16 17:39	07/07/16 05:06	50

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.081**		0.012		mg/Kg		07/05/16 17:21	07/06/16 11:11	1

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: ISM-Rep 2

Date Collected: 06/15/16 11:22
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-21

Matrix: Solid

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND	H	330		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
1,4-Dichlorobenzene	ND	H	170		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Benzyl alcohol	ND	H	330		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
1,2-Dichlorobenzene	ND	H	180		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
2-Methylphenol	ND	H	330		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
3 & 4 Methylphenol	ND	H	660		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Hexachloroethane	ND	H	330		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
2,4-Dimethylphenol	ND	H	330		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Benzoic acid	ND	H *	8300		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
1,2,4-Trichlorobenzene	ND	H	170		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Naphthalene	ND	H	66		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Hexachlorobutadiene	ND	H	170		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
2-Methylnaphthalene	ND	H	66		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Dimethyl phthalate	ND	H	330		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Acenaphthylene	ND	H	66		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Acenaphthene	ND	H	66		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Dibenzofuran	ND	H	330		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Diethyl phthalate	ND	H	660		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Fluorene	ND	H	66		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
N-Nitrosodiphenylamine	ND	H	170		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Hexachlorobenzene	ND	H	170		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Pentachlorophenol	ND	H	830		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Phenanthrene	**67**	**H**	66		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Anthracene	ND	H	66		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Di-n-butyl phthalate	ND	H	1700		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Fluoranthene	**270**	**H**	66		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Pyrene	**250**	**H**	66		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Butyl benzyl phthalate	ND	H	660		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Benzo[a]anthracene	**120**	**H**	66		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Chrysene	**210**	**H**	83		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Bis(2-ethylhexyl) phthalate	ND	H	2000		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Di-n-octyl phthalate	ND	H	1700		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Benzofluoranthene	**470**	**H**	180		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Benzo[b]fluoranthene	**350**	**H**	66		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Benzo[k]fluoranthene	ND	H	180		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Benzo[a]pyrene	**190**	**H**	120		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Indeno[1,2,3-cd]pyrene	ND	H	130		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Dibenz(a,h)anthracene	ND	H	130		ug/Kg		07/05/16 15:25	07/07/16 00:00	10
Benzo[g,h,i]perylene	ND	H	120		ug/Kg		07/05/16 15:25	07/07/16 00:00	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*89*		*65 - 125*	*07/05/16 15:25*	*07/07/16 00:00*	*10*
Phenol-d5	*88*		*69 - 118*	*07/05/16 15:25*	*07/07/16 00:00*	*10*
2,4,6-Tribromophenol	*80*		*59 - 128*	*07/05/16 15:25*	*07/07/16 00:00*	*10*
Nitrobenzene-d5	*90*		*66 - 120*	*07/05/16 15:25*	*07/07/16 00:00*	*10*
2-Fluorobiphenyl	*95*		*67 - 115*	*07/05/16 15:25*	*07/07/16 00:00*	*10*
Terphenyl-d14	*99*		*78 - 136*	*07/05/16 15:25*	*07/07/16 00:00*	*10*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: ISM-Rep 2

Date Collected: 06/15/16 11:22
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-21

Matrix: Solid

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND	H	3.3		ug/Kg		07/07/16 15:34	07/15/16 01:47	10
gamma-BHC (Lindane)	ND	H	3.3		ug/Kg		07/07/16 15:34	07/15/16 01:47	10
beta-BHC	ND	H	6.5		ug/Kg		07/07/16 15:34	07/15/16 01:47	10
delta-BHC	ND	H	3.3		ug/Kg		07/07/16 15:34	07/15/16 01:47	10
Heptachlor	ND	H	6.5		ug/Kg		07/07/16 15:34	07/15/16 01:47	10
Aldrin	ND	H	3.3		ug/Kg		07/07/16 15:34	07/15/16 01:47	10
Heptachlor epoxide	ND	H	3.3		ug/Kg		07/07/16 15:34	07/15/16 01:47	10
gamma-Chlordane	ND	H	3.3		ug/Kg		07/07/16 15:34	07/15/16 01:47	10
alpha-Chlordane	ND	H	3.3		ug/Kg		07/07/16 15:34	07/15/16 01:47	10
Endosulfan I	ND	H	3.3		ug/Kg		07/07/16 15:34	07/15/16 01:47	10
4,4'-DDE	**9.0**	**H**	6.5		ug/Kg		07/07/16 15:34	07/15/16 01:47	10
Dieldrin	ND	H	6.5		ug/Kg		07/07/16 15:34	07/15/16 01:47	10
Endrin	ND	H	6.5		ug/Kg		07/07/16 15:34	07/15/16 01:47	10
4,4'-DDD	ND	H	6.5		ug/Kg		07/07/16 15:34	07/15/16 01:47	10
Endosulfan II	ND	H	6.5		ug/Kg		07/07/16 15:34	07/15/16 01:47	10
4,4'-DDT	ND	H	6.5		ug/Kg		07/07/16 15:34	07/15/16 01:47	10
Endrin aldehyde	ND	H	6.5		ug/Kg		07/07/16 15:34	07/15/16 01:47	10
Endosulfan sulfate	ND	H	6.5		ug/Kg		07/07/16 15:34	07/15/16 01:47	10
Methoxychlor	ND	H	33		ug/Kg		07/07/16 15:34	07/15/16 01:47	10
Endrin ketone	ND	H	6.5		ug/Kg		07/07/16 15:34	07/15/16 01:47	10
Hexachlorobutadiene	ND	H	3.3		ug/Kg		07/07/16 15:34	07/15/16 01:47	10
Hexachlorobenzene	ND	H	3.3		ug/Kg		07/07/16 15:34	07/15/16 01:47	10
Toxaphene	ND	H	330		ug/Kg		07/07/16 15:34	07/15/16 01:47	10
Chlordane (technical)	ND	H	33		ug/Kg		07/07/16 15:34	07/15/16 01:47	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*107*		*23 - 133*	*07/07/16 15:34*	*07/15/16 01:47*	*10*
DCB Decachlorobiphenyl	*85*		*27 - 118*	*07/07/16 15:34*	*07/15/16 01:47*	*10*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND	H	0.0081		mg/Kg		07/07/16 15:34	07/12/16 03:45	1
PCB-1221	ND	H	0.0036		mg/Kg		07/07/16 15:34	07/12/16 03:45	1
PCB-1232	ND	H	0.0036		mg/Kg		07/07/16 15:34	07/12/16 03:45	1
PCB-1242	ND	H	0.0033		mg/Kg		07/07/16 15:34	07/12/16 03:45	1
PCB-1248	ND	H	0.0036		mg/Kg		07/07/16 15:34	07/12/16 03:45	1
PCB-1254	**0.011**	**H**	0.0033		mg/Kg		07/07/16 15:34	07/12/16 03:45	1
PCB-1260	**0.0048**	**H**	0.0033		mg/Kg		07/07/16 15:34	07/12/16 03:45	1
PCB-1262	ND	H	0.0033		mg/Kg		07/07/16 15:34	07/12/16 03:45	1
PCB-1268	ND	H	0.0033		mg/Kg		07/07/16 15:34	07/12/16 03:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*49*		*37 - 140*	*07/07/16 15:34*	*07/12/16 03:45*	*1*
Tetrachloro-m-xylene	*63*		*45 - 135*	*07/07/16 15:34*	*07/12/16 03:45*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**93**	**H**	8.1		mg/Kg		07/06/16 09:03	07/07/16 18:11	1
Motor Oil (>C24-C36)	**740**	**H**	16		mg/Kg		07/06/16 09:03	07/07/16 18:11	1

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: ISM-Rep 2

Date Collected: 06/15/16 11:22
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-21

Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*84*		*50 - 150*	*07/06/16 09:03*	*07/07/16 18:11*	*1*

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**4.8**		1.2		mg/Kg		07/05/16 17:39	07/07/16 05:10	50
Cadmium	**0.53**		0.49		mg/Kg		07/05/16 17:39	07/07/16 05:10	50
Chromium	**23**		1.2		mg/Kg		07/05/16 17:39	07/07/16 05:10	50
Copper	**56**		0.99		mg/Kg		07/05/16 17:39	07/07/16 05:10	50
Lead	**22**		1.2		mg/Kg		07/05/16 17:39	07/07/16 05:10	50
Silver	ND		0.49		mg/Kg		07/05/16 17:39	07/07/16 05:10	50
Zinc	**160**		12		mg/Kg		07/05/16 17:39	07/07/16 05:10	50

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.084**		0.011		mg/Kg		07/05/16 17:21	07/06/16 11:14	1

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-1 COMP

Date Collected: 06/15/16 12:55
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-27

Matrix: Solid
Percent Solids: 48.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		190		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
1,2-Dichlorobenzene	ND		210		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
1,4-Dichlorobenzene	ND	*	190		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
2,4-Dimethylphenol	ND		380		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
2-Methylnaphthalene	ND		76		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
2-Methylphenol	ND		380		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
3 & 4 Methylphenol	ND		760		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Acenaphthene	ND		76		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Acenaphthylene	ND		76		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Anthracene	ND		76		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Benzo[a]anthracene	ND		76		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Benzo[a]pyrene	**180**		130		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Benzo[b]fluoranthene	**400**		76		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Benzo[g,h,i]perylene	**190**		130		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Benzo[k]fluoranthene	ND		210		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Benzofluoranthene	**440**		210		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Benzoic acid	ND	*	9500		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Benzyl alcohol	ND		380		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Bis(2-ethylhexyl) phthalate	ND		2300		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Butyl benzyl phthalate	ND		760		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Chrysene	**190**		95		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Dibenz(a,h)anthracene	ND		150		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Dibenzofuran	ND		380		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Diethyl phthalate	ND		760		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Dimethyl phthalate	ND		380		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Di-n-butyl phthalate	ND		1900		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Di-n-octyl phthalate	ND	*	1900		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Fluoranthene	**220**		76		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Fluorene	ND		76		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Hexachlorobenzene	ND		190		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Hexachlorobutadiene	ND		190		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Hexachloroethane	ND		380		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Indeno[1,2,3-cd]pyrene	**240**		150		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Naphthalene	ND		76		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
N-Nitrosodiphenylamine	ND		190		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Pentachlorophenol	ND		950		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Phenanthrene	**76**		76		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Phenol	ND		380		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20
Pyrene	**260**		76		ug/Kg	☼	06/23/16 08:18	06/30/16 18:35	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*98*		*59 - 128*	*06/23/16 08:18*	*06/30/16 18:35*	*20*
2-Fluorobiphenyl	*72*		*67 - 115*	*06/23/16 08:18*	*06/30/16 18:35*	*20*
2-Fluorophenol	*46*	*X*	*65 - 125*	*06/23/16 08:18*	*06/30/16 18:35*	*20*
Nitrobenzene-d5	*49*	*X*	*66 - 120*	*06/23/16 08:18*	*06/30/16 18:35*	*20*
Phenol-d5	*49*	*X*	*69 - 118*	*06/23/16 08:18*	*06/30/16 18:35*	*20*
Terphenyl-d14	*108*		*78 - 136*	*06/23/16 08:18*	*06/30/16 18:35*	*20*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-1 COMP

Date Collected: 06/15/16 12:55
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-27
Matrix: Solid
Percent Solids: 48.6

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
2,4'-DDE	ND		4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
2,4'-DDT	ND		4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
4,4'-DDD	ND		4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
4,4'-DDE	ND		4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
4,4'-DDT	ND	*	4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
Aldrin	ND		2.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
alpha-BHC	ND		2.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
beta-BHC	ND	*	2.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
Chlordane (technical)	ND		20		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
cis-Chlordane	ND		2.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
cis-Nonachlor	ND		4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
delta-BHC	ND		2.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
Dieldrin	ND		4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
Endosulfan I	ND		2.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
Endosulfan II	ND		4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
Endosulfan sulfate	ND		4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
Endrin	ND	*	4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
Endrin aldehyde	ND	*	4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
Endrin ketone	ND		4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
gamma-BHC (Lindane)	ND		2.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
Heptachlor	ND		4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
Heptachlor epoxide	ND		2.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
Hexachlorobenzene	ND		2.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
Hexachlorobutadiene	ND		2.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
Methoxychlor	ND		20		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
oxy-Chlordane	ND		4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
Toxaphene	ND		200		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
trans-Chlordane	ND		2.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10
trans-Nonachlor	ND		4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 03:34	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*68*		*27 - 118*	*06/27/16 12:23*	*07/15/16 03:34*	*10*
Tetrachloro-m-xylene	*64*		*23 - 133*	*06/27/16 12:23*	*07/15/16 03:34*	*10*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.00096		mg/Kg		06/27/16 12:23	07/07/16 05:45	1
PCB-1221	ND		0.0011		mg/Kg		06/27/16 12:23	07/07/16 05:45	1
PCB-1232	ND		0.0011		mg/Kg		06/27/16 12:23	07/07/16 05:45	1
PCB-1242	ND		0.00096		mg/Kg		06/27/16 12:23	07/07/16 05:45	1
PCB-1248	ND		0.0011		mg/Kg		06/27/16 12:23	07/07/16 05:45	1
PCB-1254	**0.0026**		0.00096		mg/Kg		06/27/16 12:23	07/07/16 05:45	1
PCB-1260	**0.0015**		0.00096		mg/Kg		06/27/16 12:23	07/07/16 05:45	1
PCB-1262	ND		0.00096		mg/Kg		06/27/16 12:23	07/07/16 05:45	1
PCB-1268	ND		0.00096		mg/Kg		06/27/16 12:23	07/07/16 05:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*48*		*37 - 140*	*06/27/16 12:23*	*07/07/16 05:45*	*1*
Tetrachloro-m-xylene	*59*		*45 - 135*	*06/27/16 12:23*	*07/07/16 05:45*	*1*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-1 COMP

Date Collected: 06/15/16 12:55
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-27

Matrix: Solid
Percent Solids: 48.6

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	170		51		mg/Kg	☼	06/25/16 11:15	06/27/16 16:27	1
Motor Oil (>C24-C36)	790		100		mg/Kg	☼	06/25/16 11:15	06/27/16 16:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*54*		*50 - 150*	*06/25/16 11:15*	*06/27/16 16:27*	*1*

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.8		0.12		mg/Kg		07/07/16 06:45	07/12/16 13:06	1
Cadmium	0.32		0.059		mg/Kg		07/07/16 06:45	07/12/16 13:06	1
Chromium	11		0.12		mg/Kg		07/07/16 06:45	07/12/16 13:06	1
Copper	13		0.12		mg/Kg		07/07/16 06:45	07/12/16 13:06	1
Lead	8.6		0.059		mg/Kg		07/07/16 06:45	07/12/16 13:06	1
Silver	0.070		0.059		mg/Kg		07/07/16 06:45	07/12/16 13:06	1
Zinc	59		0.59		mg/Kg		07/07/16 06:45	07/12/16 13:06	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.056		0.032		mg/Kg	☼	06/28/16 18:53	06/29/16 12:31	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	48.6		0.1		%			07/06/16 15:23	1
Percent Moisture	51.4		0.1		%			07/06/16 15:23	1

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-2 COMP

Date Collected: 06/15/16 14:05
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-33

Matrix: Solid
Percent Solids: 54.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	*	170		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
1,2-Dichlorobenzene	ND		190		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
1,4-Dichlorobenzene	ND	*	170		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
2,4-Dimethylphenol	ND	*	340		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
2-Methylnaphthalene	ND	*	68		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
2-Methylphenol	ND		340		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
3 & 4 Methylphenol	ND		680		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Acenaphthene	ND		68		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Acenaphthylene	ND		68		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Anthracene	ND	*	68		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Benzo[a]anthracene	ND	*	68		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Benzo[a]pyrene	**120**	*	120		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Benzo[b]fluoranthene	**160**	*	68		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Benzo[g,h,i]perylene	ND	*	120		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Benzo[k]fluoranthene	ND	*	190		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Benzofluoranthene	**240**	*	190		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Benzoic acid	ND	*	8500		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Benzyl alcohol	ND		340		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Bis(2-ethylhexyl) phthalate	ND	*	2100		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Butyl benzyl phthalate	ND	*	680		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Chrysene	**99**	*	85		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Dibenz(a,h)anthracene	ND	*	140		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Dibenzofuran	ND		340		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Diethyl phthalate	ND		680		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Dimethyl phthalate	ND		340		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Di-n-butyl phthalate	ND	*	1700		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Di-n-octyl phthalate	ND	*	1700		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Fluoranthene	**100**	*	68		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Fluorene	ND		68		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Hexachlorobenzene	ND	*	170		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Hexachlorobutadiene	ND	*	170		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Hexachloroethane	ND		340		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Indeno[1,2,3-cd]pyrene	ND	*	140		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Naphthalene	ND	*	68		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
N-Nitrosodiphenylamine	ND	*	170		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Pentachlorophenol	ND	*	850		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Phenanthrene	ND	*	68		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Phenol	ND		340		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20
Pyrene	**140**	*	68		ug/Kg	☼	06/23/16 08:18	06/30/16 19:01	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*73*	*	*59 - 128*	*06/23/16 08:18*	*06/30/16 19:01*	*20*
2-Fluorobiphenyl	*66*	*X*	*67 - 115*	*06/23/16 08:18*	*06/30/16 19:01*	*20*
2-Fluorophenol	*55*	*X*	*65 - 125*	*06/23/16 08:18*	*06/30/16 19:01*	*20*
Nitrobenzene-d5	*55*	**X*	*66 - 120*	*06/23/16 08:18*	*06/30/16 19:01*	*20*
Phenol-d5	*51*	*X*	*69 - 118*	*06/23/16 08:18*	*06/30/16 19:01*	*20*
Terphenyl-d14	*115*	*	*78 - 136*	*06/23/16 08:18*	*06/30/16 19:01*	*20*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-2 COMP

Date Collected: 06/15/16 14:05
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-33
Matrix: Solid
Percent Solids: 54.6

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		3.3		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
2,4'-DDE	ND		3.3		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
2,4'-DDT	ND		3.3		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
4,4'-DDD	ND		3.3		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
4,4'-DDE	ND		3.3		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
4,4'-DDT	ND	*	3.3		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
Aldrin	ND		1.7		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
alpha-BHC	ND		1.7		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
beta-BHC	ND	*	1.7		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
Chlordane (technical)	ND		17		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
cis-Chlordane	ND		1.7		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
cis-Nonachlor	ND		3.3		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
delta-BHC	ND		1.7		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
Dieldrin	ND		3.3		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
Endosulfan I	ND		1.7		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
Endosulfan II	ND		3.3		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
Endosulfan sulfate	ND		3.3		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
Endrin	ND	*	3.3		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
Endrin aldehyde	ND	*	3.3		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
Endrin ketone	ND		3.3		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
gamma-BHC (Lindane)	ND		1.7		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
Heptachlor	ND		3.3		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
Heptachlor epoxide	ND		1.7		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
Hexachlorobenzene	ND		1.7		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
Hexachlorobutadiene	ND		1.7		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
Methoxychlor	ND		17		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
oxy-Chlordane	ND		3.3		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
Toxaphene	ND		170		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
trans-Chlordane	ND		1.7		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10
trans-Nonachlor	ND		3.3		ug/Kg	☼	06/27/16 12:23	07/15/16 03:52	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*85*		*27 - 118*	*06/27/16 12:23*	*07/15/16 03:52*	*10*
Tetrachloro-m-xylene	*87*		*23 - 133*	*06/27/16 12:23*	*07/15/16 03:52*	*10*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.00091		mg/Kg		06/27/16 12:23	07/07/16 06:01	1
PCB-1221	ND		0.0010		mg/Kg		06/27/16 12:23	07/07/16 06:01	1
PCB-1232	ND		0.0010		mg/Kg		06/27/16 12:23	07/07/16 06:01	1
PCB-1242	ND		0.00091		mg/Kg		06/27/16 12:23	07/07/16 06:01	1
PCB-1248	ND		0.0010		mg/Kg		06/27/16 12:23	07/07/16 06:01	1
PCB-1254	**0.0019**		0.00091		mg/Kg		06/27/16 12:23	07/07/16 06:01	1
PCB-1260	**0.0015**		0.00091		mg/Kg		06/27/16 12:23	07/07/16 06:01	1
PCB-1262	ND		0.00091		mg/Kg		06/27/16 12:23	07/07/16 06:01	1
PCB-1268	ND		0.00091		mg/Kg		06/27/16 12:23	07/07/16 06:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*56*		*37 - 140*	*06/27/16 12:23*	*07/07/16 06:01*	*1*
Tetrachloro-m-xylene	*63*		*45 - 135*	*06/27/16 12:23*	*07/07/16 06:01*	*1*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-2 COMP

Date Collected: 06/15/16 14:05
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-33

Matrix: Solid
Percent Solids: 54.6

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	150		44		mg/Kg	☼	06/25/16 11:15	06/27/16 16:48	1
Motor Oil (>C24-C36)	430		88		mg/Kg	☼	06/25/16 11:15	06/27/16 16:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*65*		*50 - 150*	*06/25/16 11:15*	*06/27/16 16:48*	*1*

Method: WS-LC-0025 - Perfluorinated Hydrocarbons

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	ND		3.8		ug/Kg		06/24/16 12:37	07/17/16 23:51	20
Perfluorooctane Sulfonate (PFOS)	ND	F1	3.8		ug/Kg		06/24/16 12:37	07/17/16 23:51	20

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*112*		*25 - 150*	*06/24/16 12:37*	*07/17/16 23:51*	*20*
13C4 PFOA	*111*		*25 - 150*	*06/24/16 12:37*	*07/17/16 23:51*	*20*

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.7	F1	0.098		mg/Kg		07/11/16 06:45	07/14/16 12:35	1
Cadmium	0.26	F1	0.049		mg/Kg		07/11/16 06:45	07/14/16 12:35	1
Chromium	12	F1	0.098		mg/Kg		07/11/16 06:45	07/14/16 12:35	1
Copper	11	F1	0.098		mg/Kg		07/11/16 06:45	07/14/16 12:35	1
Lead	6.5	F1	0.049		mg/Kg		07/11/16 06:45	07/14/16 12:35	1
Silver	0.055	F1	0.049		mg/Kg		07/11/16 06:45	07/14/16 12:35	1
Zinc	49		0.49		mg/Kg		07/11/16 06:45	07/14/16 12:35	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.050		0.035		mg/Kg	☼	06/28/16 18:53	06/29/16 12:39	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	54.6		0.1		%			07/01/16 13:18	1
Percent Moisture	45.4		0.1		%			07/01/16 13:18	1

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-3

Date Collected: 06/16/16 09:35
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-39

Matrix: Solid
Percent Solids: 50.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		180		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
1,2-Dichlorobenzene	ND		200		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
1,4-Dichlorobenzene	ND	*	180		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
2,4-Dimethylphenol	ND		370		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
2-Methylnaphthalene	ND		74		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
2-Methylphenol	ND		370		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
3 & 4 Methylphenol	ND		740		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Acenaphthene	ND		74		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Acenaphthylene	ND		74		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Anthracene	ND		74		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Benzo[a]anthracene	ND		74		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Benzo[a]pyrene	ND		130		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Benzo[b]fluoranthene	**250**		74		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Benzo[g,h,i]perylene	ND		130		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Benzo[k]fluoranthene	ND		200		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Benzofluoranthene	**320**		200		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Benzoic acid	ND	*	9200		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Benzyl alcohol	**8500**		370		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Bis(2-ethylhexyl) phthalate	ND		2200		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Butyl benzyl phthalate	ND		740		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Chrysene	**120**		92		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Dibenz(a,h)anthracene	ND		150		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Dibenzofuran	ND		370		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Diethyl phthalate	ND		740		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Dimethyl phthalate	ND		370		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Di-n-butyl phthalate	ND		1800		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Di-n-octyl phthalate	ND	*	1800		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Fluoranthene	**150**		74		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Fluorene	ND		74		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Hexachlorobenzene	ND		180		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Hexachlorobutadiene	ND		180		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Hexachloroethane	ND		370		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Indeno[1,2,3-cd]pyrene	ND		150		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Naphthalene	ND		74		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
N-Nitrosodiphenylamine	ND		180		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Pentachlorophenol	ND		920		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Phenanthrene	ND		74		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Phenol	ND		370		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20
Pyrene	**190**		74		ug/Kg	☼	06/23/16 08:18	06/30/16 19:27	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*97*		*59 - 128*	*06/23/16 08:18*	*06/30/16 19:27*	*20*
2-Fluorobiphenyl	*76*		*67 - 115*	*06/23/16 08:18*	*06/30/16 19:27*	*20*
2-Fluorophenol	*56*	*X*	*65 - 125*	*06/23/16 08:18*	*06/30/16 19:27*	*20*
Nitrobenzene-d5	*54*	*X*	*66 - 120*	*06/23/16 08:18*	*06/30/16 19:27*	*20*
Phenol-d5	*77*		*69 - 118*	*06/23/16 08:18*	*06/30/16 19:27*	*20*
Terphenyl-d14	*107*		*78 - 136*	*06/23/16 08:18*	*06/30/16 19:27*	*20*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-3

Date Collected: 06/16/16 09:35
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-39

Matrix: Solid
Percent Solids: 50.7

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		3.7		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
2,4'-DDE	ND		3.7		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
2,4'-DDT	ND		3.7		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
4,4'-DDD	ND		3.7		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
4,4'-DDE	ND		3.7		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
4,4'-DDT	ND	*	3.7		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
Aldrin	ND		1.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
alpha-BHC	ND		1.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
beta-BHC	ND		1.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
Chlordane (technical)	ND		19		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
cis-Chlordane	ND		1.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
cis-Nonachlor	ND		3.7		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
delta-BHC	ND		1.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
Dieldrin	ND		3.7		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
Endosulfan I	ND		1.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
Endosulfan II	ND		3.7		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
Endosulfan sulfate	ND		3.7		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
Endrin	ND	*	3.7		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
Endrin aldehyde	ND	*	3.7		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
Endrin ketone	ND		3.7		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
gamma-BHC (Lindane)	ND		1.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
Heptachlor	ND		3.7		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
Heptachlor epoxide	ND		1.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
Hexachlorobenzene	ND		1.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
Hexachlorobutadiene	ND		1.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
Methoxychlor	ND		19		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
oxy-Chlordane	ND		3.7		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
Toxaphene	ND		190		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
trans-Chlordane	ND		1.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10
trans-Nonachlor	ND		3.7		ug/Kg	☼	06/27/16 12:23	07/15/16 04:10	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*91*		*27 - 118*	*06/27/16 12:23*	*07/15/16 04:10*	*10*
Tetrachloro-m-xylene	*89*		*23 - 133*	*06/27/16 12:23*	*07/15/16 04:10*	*10*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.00095		mg/Kg		06/27/16 12:23	07/07/16 06:17	1
PCB-1221	ND		0.0010		mg/Kg		06/27/16 12:23	07/07/16 06:17	1
PCB-1232	ND		0.0010		mg/Kg		06/27/16 12:23	07/07/16 06:17	1
PCB-1242	ND		0.00095		mg/Kg		06/27/16 12:23	07/07/16 06:17	1
PCB-1248	ND		0.0010		mg/Kg		06/27/16 12:23	07/07/16 06:17	1
PCB-1254	**0.0024**		0.00095		mg/Kg		06/27/16 12:23	07/07/16 06:17	1
PCB-1260	**0.0012**		0.00095		mg/Kg		06/27/16 12:23	07/07/16 06:17	1
PCB-1262	ND		0.00095		mg/Kg		06/27/16 12:23	07/07/16 06:17	1
PCB-1268	ND		0.00095		mg/Kg		06/27/16 12:23	07/07/16 06:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*54*		*37 - 140*	*06/27/16 12:23*	*07/07/16 06:17*	*1*
Tetrachloro-m-xylene	*67*		*45 - 135*	*06/27/16 12:23*	*07/07/16 06:17*	*1*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-3

Date Collected: 06/16/16 09:35
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-39

Matrix: Solid
Percent Solids: 50.7

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.7		0.10		mg/Kg		07/07/16 06:45	07/12/16 13:09	1
Cadmium	0.26		0.051		mg/Kg		07/07/16 06:45	07/12/16 13:09	1
Chromium	12		0.10		mg/Kg		07/07/16 06:45	07/12/16 13:09	1
Copper	12		0.10		mg/Kg		07/07/16 06:45	07/12/16 13:09	1
Lead	7.0		0.051		mg/Kg		07/07/16 06:45	07/12/16 13:09	1
Silver	0.068		0.051		mg/Kg		07/07/16 06:45	07/12/16 13:09	1
Zinc	47		0.51		mg/Kg		07/07/16 06:45	07/12/16 13:09	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.081		0.035		mg/Kg	☼	06/28/16 18:53	06/29/16 12:41	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	50.7		0.1		%			07/01/16 13:18	1
Percent Moisture	49.3		0.1		%			07/01/16 13:18	1

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-3

Date Collected: 06/16/16 09:35
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-39

Matrix: Solid
Percent Solids: 52.7

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	45		43		mg/Kg	☼	06/27/16 13:55	06/28/16 05:12	1
Motor Oil (>C24-C36)	160		86		mg/Kg	☼	06/27/16 13:55	06/28/16 05:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*75*		*50 - 150*	*06/27/16 13:55*	*06/28/16 05:12*	*1*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-4

Date Collected: 06/16/16 11:00
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-45

Matrix: Solid
Percent Solids: 47.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		190		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
1,2-Dichlorobenzene	ND		210		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
1,4-Dichlorobenzene	ND	*	190		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
2,4-Dimethylphenol	ND		390		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
2-Methylnaphthalene	ND		78		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
2-Methylphenol	ND		390		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
3 & 4 Methylphenol	ND		780		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Acenaphthene	ND		78		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Acenaphthylene	ND		78		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Anthracene	ND		78		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Benzo[a]anthracene	**78**		78		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Benzo[a]pyrene	**150**		140		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Benzo[b]fluoranthene	**270**		78		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Benzo[g,h,i]perylene	**170**		140		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Benzo[k]fluoranthene	ND		210		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Benzofluoranthene	**350**		210		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Benzoic acid	ND	*	9700		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Benzyl alcohol	ND		390		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Bis(2-ethylhexyl) phthalate	ND		2300		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Butyl benzyl phthalate	ND		780		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Chrysene	**140**		97		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Dibenz(a,h)anthracene	ND		160		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Dibenzofuran	ND		390		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Diethyl phthalate	ND		780		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Dimethyl phthalate	ND		390		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Di-n-butyl phthalate	ND		1900		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Di-n-octyl phthalate	ND	*	1900		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Fluoranthene	**160**		78		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Fluorene	ND		78		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Hexachlorobenzene	ND		190		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Hexachlorobutadiene	ND		190		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Hexachloroethane	ND		390		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Indeno[1,2,3-cd]pyrene	**190**		160		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Naphthalene	ND		78		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
N-Nitrosodiphenylamine	ND		190		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Pentachlorophenol	ND		970		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Phenanthrene	ND		78		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Phenol	ND		390		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20
Pyrene	**180**		78		ug/Kg	☼	06/23/16 08:18	06/30/16 19:52	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*90*		*59 - 128*	*06/23/16 08:18*	*06/30/16 19:52*	*20*
2-Fluorobiphenyl	*70*		*67 - 115*	*06/23/16 08:18*	*06/30/16 19:52*	*20*
2-Fluorophenol	*45*	*X*	*65 - 125*	*06/23/16 08:18*	*06/30/16 19:52*	*20*
Nitrobenzene-d5	*49*	*X*	*66 - 120*	*06/23/16 08:18*	*06/30/16 19:52*	*20*
Phenol-d5	*58*	*X*	*69 - 118*	*06/23/16 08:18*	*06/30/16 19:52*	*20*
Terphenyl-d14	*108*		*78 - 136*	*06/23/16 08:18*	*06/30/16 19:52*	*20*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-4

Date Collected: 06/16/16 11:00
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-45

Matrix: Solid
Percent Solids: 47.3

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
2,4'-DDE	ND		4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
2,4'-DDT	ND		4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
4,4'-DDD	ND		4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
4,4'-DDE	ND		4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
4,4'-DDT	ND	*	4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
Aldrin	ND		2.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
alpha-BHC	ND		2.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
beta-BHC	ND	*	2.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
Chlordane (technical)	ND		20		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
cis-Chlordane	ND		2.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
cis-Nonachlor	ND		4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
delta-BHC	ND		2.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
Dieldrin	ND		4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
Endosulfan I	ND		2.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
Endosulfan II	ND		4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
Endosulfan sulfate	ND		4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
Endrin	ND	*	4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
Endrin aldehyde	ND	*	4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
Endrin ketone	ND		4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
gamma-BHC (Lindane)	ND		2.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
Heptachlor	ND		4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
Heptachlor epoxide	ND		2.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
Hexachlorobenzene	ND		2.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
Hexachlorobutadiene	ND		2.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
Methoxychlor	ND		20		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
oxy-Chlordane	ND		4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
Toxaphene	ND		200		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
trans-Chlordane	ND		2.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10
trans-Nonachlor	ND		4.0		ug/Kg	☼	06/27/16 12:23	07/15/16 04:27	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*77*		*27 - 118*	*06/27/16 12:23*	*07/15/16 04:27*	*10*
Tetrachloro-m-xylene	*78*		*23 - 133*	*06/27/16 12:23*	*07/15/16 04:27*	*10*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.00095		mg/Kg		06/27/16 12:23	07/07/16 06:33	1
PCB-1221	ND		0.0010		mg/Kg		06/27/16 12:23	07/07/16 06:33	1
PCB-1232	ND		0.0010		mg/Kg		06/27/16 12:23	07/07/16 06:33	1
PCB-1242	ND		0.00095		mg/Kg		06/27/16 12:23	07/07/16 06:33	1
PCB-1248	ND		0.0010		mg/Kg		06/27/16 12:23	07/07/16 06:33	1
PCB-1254	ND		0.00095		mg/Kg		06/27/16 12:23	07/07/16 06:33	1
PCB-1260	**0.0011**		0.00095		mg/Kg		06/27/16 12:23	07/07/16 06:33	1
PCB-1262	ND		0.00095		mg/Kg		06/27/16 12:23	07/07/16 06:33	1
PCB-1268	ND		0.00095		mg/Kg		06/27/16 12:23	07/07/16 06:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*55*		*37 - 140*	*06/27/16 12:23*	*07/07/16 06:33*	*1*
Tetrachloro-m-xylene	*67*		*45 - 135*	*06/27/16 12:23*	*07/07/16 06:33*	*1*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-4

Date Collected: 06/16/16 11:00
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-45

Matrix: Solid
Percent Solids: 47.3

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		51		mg/Kg	☼	06/27/16 13:55	06/28/16 05:34	1
Motor Oil (>C24-C36)	**210**		100		mg/Kg	☼	06/27/16 13:55	06/28/16 05:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*82*		*50 - 150*	*06/27/16 13:55*	*06/28/16 05:34*	*1*

Method: WS-LC-0025 - Perfluorinated Hydrocarbons

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	ND		4.0		ug/Kg		06/24/16 12:37	07/18/16 00:55	20
Perfluorooctane Sulfonate (PFOS)	ND		4.0		ug/Kg		06/24/16 12:37	07/18/16 00:55	20

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*100*		*25 - 150*	*06/24/16 12:37*	*07/18/16 00:55*	*20*
13C4 PFOA	*108*		*25 - 150*	*06/24/16 12:37*	*07/18/16 00:55*	*20*

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**2.0**		0.10		mg/Kg		07/11/16 06:45	07/14/16 13:05	1
Cadmium	**0.24**		0.050		mg/Kg		07/11/16 06:45	07/14/16 13:05	1
Chromium	**10**		0.10		mg/Kg		07/11/16 06:45	07/14/16 13:05	1
Copper	**11**		0.10		mg/Kg		07/11/16 06:45	07/14/16 13:05	1
Lead	**8.6**		0.050		mg/Kg		07/11/16 06:45	07/14/16 13:05	1
Silver	**0.075**		0.050		mg/Kg		07/11/16 06:45	07/14/16 13:05	1
Zinc	**59**		0.50		mg/Kg		07/11/16 06:45	07/14/16 13:05	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.097**		0.029		mg/Kg	☼	06/28/16 18:53	06/29/16 12:44	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**47.3**		0.1		%			07/01/16 13:18	1
Percent Moisture	**52.7**		0.1		%			07/01/16 13:18	1

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-5

Date Collected: 06/16/16 12:00
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-51

Matrix: Solid
Percent Solids: 36.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		250		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
1,2-Dichlorobenzene	ND		280		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
1,4-Dichlorobenzene	ND	*	250		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
2,4-Dimethylphenol	ND		500		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
2-Methylnaphthalene	ND		100		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
2-Methylphenol	ND		500		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
3 & 4 Methylphenol	ND		1000		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Acenaphthene	ND		100		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Acenaphthylene	ND		100		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Anthracene	ND		100		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Benzo[a]anthracene	ND		100		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Benzo[a]pyrene	ND		180		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Benzo[b]fluoranthene	**260**		100		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Benzo[g,h,i]perylene	ND		180		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Benzo[k]fluoranthene	ND		280		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Benzofluoranthene	**370**		280		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Benzoic acid	ND	*	13000		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Benzyl alcohol	ND		500		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Bis(2-ethylhexyl) phthalate	ND		3000		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Butyl benzyl phthalate	ND		1000		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Chrysene	ND		130		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Dibenz(a,h)anthracene	ND		200		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Dibenzofuran	ND		500		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Diethyl phthalate	ND		1000		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Dimethyl phthalate	ND		500		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Di-n-butyl phthalate	ND		2500		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Di-n-octyl phthalate	ND	*	2500		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Fluoranthene	**150**		100		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Fluorene	ND		100		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Hexachlorobenzene	ND		250		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Hexachlorobutadiene	ND		250		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Hexachloroethane	ND		500		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Indeno[1,2,3-cd]pyrene	ND		200		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Naphthalene	ND		100		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
N-Nitrosodiphenylamine	ND		250		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Pentachlorophenol	ND		1300		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Phenanthrene	ND		100		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Phenol	ND		500		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20
Pyrene	**190**		100		ug/Kg	☼	06/23/16 08:18	06/30/16 20:18	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*69*		*59 - 128*	*06/23/16 08:18*	*06/30/16 20:18*	*20*
2-Fluorobiphenyl	*54*	*X*	*67 - 115*	*06/23/16 08:18*	*06/30/16 20:18*	*20*
2-Fluorophenol	*44*	*X*	*65 - 125*	*06/23/16 08:18*	*06/30/16 20:18*	*20*
Nitrobenzene-d5	*29*	*X*	*66 - 120*	*06/23/16 08:18*	*06/30/16 20:18*	*20*
Phenol-d5	*49*	*X*	*69 - 118*	*06/23/16 08:18*	*06/30/16 20:18*	*20*
Terphenyl-d14	*69*	*X*	*78 - 136*	*06/23/16 08:18*	*06/30/16 20:18*	*20*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-5

Date Collected: 06/16/16 12:00
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-51

Matrix: Solid
Percent Solids: 36.7

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
2,4'-DDE	ND		4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
2,4'-DDT	ND		4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
4,4'-DDD	ND		4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
4,4'-DDE	ND		4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
4,4'-DDT	ND	*	4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
Aldrin	ND		2.4		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
alpha-BHC	ND		2.4		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
beta-BHC	ND	*	2.4		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
Chlordane (technical)	ND		24		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
cis-Chlordane	ND		2.4		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
cis-Nonachlor	ND		4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
delta-BHC	ND		2.4		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
Dieldrin	ND		4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
Endosulfan I	ND		2.4		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
Endosulfan II	ND		4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
Endosulfan sulfate	ND		4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
Endrin	ND	*	4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
Endrin aldehyde	ND	*	4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
Endrin ketone	ND		4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
gamma-BHC (Lindane)	ND		2.4		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
Heptachlor	ND		4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
Heptachlor epoxide	ND		2.4		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
Hexachlorobenzene	ND		2.4		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
Hexachlorobutadiene	ND		2.4		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
Methoxychlor	ND		24		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
oxy-Chlordane	ND		4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
Toxaphene	ND		240		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
trans-Chlordane	ND		2.4		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10
trans-Nonachlor	ND		4.9		ug/Kg	☼	06/27/16 12:23	07/15/16 04:45	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*111*		*27 - 118*	*06/27/16 12:23*	*07/15/16 04:45*	*10*
Tetrachloro-m-xylene	*75*		*23 - 133*	*06/27/16 12:23*	*07/15/16 04:45*	*10*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.00089		mg/Kg		06/27/16 12:23	07/07/16 06:50	1
PCB-1221	ND		0.00098		mg/Kg		06/27/16 12:23	07/07/16 06:50	1
PCB-1232	ND		0.00098		mg/Kg		06/27/16 12:23	07/07/16 06:50	1
PCB-1242	ND		0.00089		mg/Kg		06/27/16 12:23	07/07/16 06:50	1
PCB-1248	ND		0.00098		mg/Kg		06/27/16 12:23	07/07/16 06:50	1
PCB-1254	**0.0026**		0.00089		mg/Kg		06/27/16 12:23	07/07/16 06:50	1
PCB-1260	**0.0013**		0.00089		mg/Kg		06/27/16 12:23	07/07/16 06:50	1
PCB-1262	ND		0.00089		mg/Kg		06/27/16 12:23	07/07/16 06:50	1
PCB-1268	ND		0.00089		mg/Kg		06/27/16 12:23	07/07/16 06:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*43*		*37 - 140*	*06/27/16 12:23*	*07/07/16 06:50*	*1*
Tetrachloro-m-xylene	*60*		*45 - 135*	*06/27/16 12:23*	*07/07/16 06:50*	*1*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-5

Date Collected: 06/16/16 12:00
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-51

Matrix: Solid
Percent Solids: 36.7

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		62		mg/Kg	☼	06/27/16 13:55	06/28/16 05:56	1
Motor Oil (>C24-C36)	**360**		120		mg/Kg	☼	06/27/16 13:55	06/28/16 05:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*75*		*50 - 150*	*06/27/16 13:55*	*06/28/16 05:56*	*1*

Method: WS-LC-0025 - Perfluorinated Hydrocarbons

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	ND		4.0		ug/Kg		06/24/16 12:37	07/18/16 01:16	20
Perfluorooctane Sulfonate (PFOS)	ND		4.0		ug/Kg		06/24/16 12:37	07/18/16 01:16	20

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*123*		*25 - 150*	*06/24/16 12:37*	*07/18/16 01:16*	*20*
13C4 PFOA	*113*		*25 - 150*	*06/24/16 12:37*	*07/18/16 01:16*	*20*

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**1.5**		0.10		mg/Kg		07/11/16 06:45	07/14/16 13:09	1
Cadmium	**0.20**		0.050		mg/Kg		07/11/16 06:45	07/14/16 13:09	1
Chromium	**8.7**		0.10		mg/Kg		07/11/16 06:45	07/14/16 13:09	1
Copper	**9.1**		0.10		mg/Kg		07/11/16 06:45	07/14/16 13:09	1
Lead	**6.2**		0.050		mg/Kg		07/11/16 06:45	07/14/16 13:09	1
Silver	**0.056**		0.050		mg/Kg		07/11/16 06:45	07/14/16 13:09	1
Zinc	**42**		0.50		mg/Kg		07/11/16 06:45	07/14/16 13:09	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.11**		0.051		mg/Kg	☼	06/28/16 18:53	06/29/16 12:46	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**36.7**		0.1		%			07/01/16 13:18	1
Percent Moisture	**63.3**		0.1		%			07/01/16 13:18	1

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-6

Date Collected: 06/16/16 12:50
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-57

Matrix: Solid
Percent Solids: 38.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		250		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
1,2-Dichlorobenzene	ND		270		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
1,4-Dichlorobenzene	ND	*	250		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
2,4-Dimethylphenol	ND		500		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
2-Methylnaphthalene	ND		100		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
2-Methylphenol	ND		500		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
3 & 4 Methylphenol	ND		1000		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Acenaphthene	ND		100		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Acenaphthylene	ND		100		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Anthracene	ND		100		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Benzo[a]anthracene	ND		100		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Benzo[a]pyrene	ND		170		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Benzo[b]fluoranthene	**260**		100		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Benzo[g,h,i]perylene	ND		170		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Benzo[k]fluoranthene	ND		270		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Benzofluoranthene	**390**		270		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Benzoic acid	ND	*	12000		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Benzyl alcohol	ND		500		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Bis(2-ethylhexyl) phthalate	ND		3000		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Butyl benzyl phthalate	ND		1000		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Chrysene	**150**		120		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Dibenz(a,h)anthracene	ND		200		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Dibenzofuran	ND		500		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Diethyl phthalate	ND		1000		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Dimethyl phthalate	ND		500		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Di-n-butyl phthalate	ND		2500		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Di-n-octyl phthalate	ND	*	2500		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Fluoranthene	**170**		100		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Fluorene	ND		100		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Hexachlorobenzene	ND		250		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Hexachlorobutadiene	ND		250		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Hexachloroethane	ND		500		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Indeno[1,2,3-cd]pyrene	ND		200		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Naphthalene	ND		100		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
N-Nitrosodiphenylamine	ND		250		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Pentachlorophenol	ND		1200		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Phenanthrene	ND		100		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Phenol	ND		500		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20
Pyrene	**190**		100		ug/Kg	☼	06/23/16 08:18	06/30/16 20:44	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*55*	*X*	*59 - 128*	*06/23/16 08:18*	*06/30/16 20:44*	*20*
2-Fluorobiphenyl	*52*	*X*	*67 - 115*	*06/23/16 08:18*	*06/30/16 20:44*	*20*
2-Fluorophenol	*32*	*X*	*65 - 125*	*06/23/16 08:18*	*06/30/16 20:44*	*20*
Nitrobenzene-d5	*30*	*X*	*66 - 120*	*06/23/16 08:18*	*06/30/16 20:44*	*20*
Phenol-d5	*35*	*X*	*69 - 118*	*06/23/16 08:18*	*06/30/16 20:44*	*20*
Terphenyl-d14	*60*	*X*	*78 - 136*	*06/23/16 08:18*	*06/30/16 20:44*	*20*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-6

Date Collected: 06/16/16 12:50
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-57

Matrix: Solid
Percent Solids: 38.0

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		5.2		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
2,4'-DDE	ND		5.2		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
2,4'-DDT	ND		5.2		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
4,4'-DDD	ND		5.2		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
4,4'-DDE	ND		5.2		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
4,4'-DDT	ND	*	5.2		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
Aldrin	ND		2.6		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
alpha-BHC	ND		2.6		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
beta-BHC	ND		2.6		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
Chlordane (technical)	ND		26		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
cis-Chlordane	ND		2.6		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
cis-Nonachlor	ND		5.2		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
delta-BHC	ND		2.6		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
Dieldrin	ND		5.2		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
Endosulfan I	ND		2.6		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
Endosulfan II	ND		5.2		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
Endosulfan sulfate	ND		5.2		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
Endrin	ND	*	5.2		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
Endrin aldehyde	ND	*	5.2		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
Endrin ketone	ND		5.2		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
gamma-BHC (Lindane)	ND		2.6		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
Heptachlor	ND		5.2		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
Heptachlor epoxide	ND		2.6		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
Hexachlorobenzene	ND		2.6		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
Hexachlorobutadiene	ND		2.6		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
Methoxychlor	ND		26		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
oxy-Chlordane	ND		5.2		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
Toxaphene	ND		260		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
trans-Chlordane	ND		2.6		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10
trans-Nonachlor	ND		5.2		ug/Kg	☼	06/27/16 12:23	07/15/16 05:03	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*179*	*X*	*27 - 118*	*06/27/16 12:23*	*07/15/16 05:03*	*10*
Tetrachloro-m-xylene	*83*		*23 - 133*	*06/27/16 12:23*	*07/15/16 05:03*	*10*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.00099		mg/Kg		06/27/16 12:23	07/07/16 07:06	1
PCB-1221	ND		0.0011		mg/Kg		06/27/16 12:23	07/07/16 07:06	1
PCB-1232	ND		0.0011		mg/Kg		06/27/16 12:23	07/07/16 07:06	1
PCB-1242	ND		0.00099		mg/Kg		06/27/16 12:23	07/07/16 07:06	1
PCB-1248	ND		0.0011		mg/Kg		06/27/16 12:23	07/07/16 07:06	1
PCB-1254	**0.0021**		0.00099		mg/Kg		06/27/16 12:23	07/07/16 07:06	1
PCB-1260	**0.0013**		0.00099		mg/Kg		06/27/16 12:23	07/07/16 07:06	1
PCB-1262	ND		0.00099		mg/Kg		06/27/16 12:23	07/07/16 07:06	1
PCB-1268	ND		0.00099		mg/Kg		06/27/16 12:23	07/07/16 07:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*40*		*37 - 140*	*06/27/16 12:23*	*07/07/16 07:06*	*1*
Tetrachloro-m-xylene	*55*		*45 - 135*	*06/27/16 12:23*	*07/07/16 07:06*	*1*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-6

Date Collected: 06/16/16 12:50
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-57

Matrix: Solid
Percent Solids: 38.0

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.6		0.11		mg/Kg		07/07/16 06:45	07/12/16 13:12	1
Cadmium	0.23		0.057		mg/Kg		07/07/16 06:45	07/12/16 13:12	1
Chromium	7.3		0.11		mg/Kg		07/07/16 06:45	07/12/16 13:12	1
Copper	9.5		0.11		mg/Kg		07/07/16 06:45	07/12/16 13:12	1
Lead	7.9		0.057		mg/Kg		07/07/16 06:45	07/12/16 13:12	1
Silver	0.070		0.057		mg/Kg		07/07/16 06:45	07/12/16 13:12	1
Zinc	48		0.57		mg/Kg		07/07/16 06:45	07/12/16 13:12	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.13		0.053		mg/Kg	☼	06/28/16 18:53	06/29/16 12:48	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	38.0		0.1		%			07/01/16 13:18	1
Percent Moisture	62.0		0.1		%			07/01/16 13:18	1

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-6

Date Collected: 06/16/16 12:50
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-57

Matrix: Solid
Percent Solids: 41.1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	76		59		mg/Kg	☼	06/27/16 13:55	06/28/16 06:18	1
Motor Oil (>C24-C36)	460		120		mg/Kg	☼	06/27/16 13:55	06/28/16 06:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*75*		*50 - 150*	*06/27/16 13:55*	*06/28/16 06:18*	*1*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-7

Date Collected: 06/16/16 14:00
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-63

Matrix: Solid
Percent Solids: 30.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		330		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
1,2-Dichlorobenzene	ND		360		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
1,4-Dichlorobenzene	ND	*	330		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
2,4-Dimethylphenol	ND		650		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
2-Methylnaphthalene	ND		130		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
2-Methylphenol	ND		650		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
3 & 4 Methylphenol	ND		1300		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Acenaphthene	ND		130		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Acenaphthylene	ND		130		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Anthracene	ND		130		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Benzo[a]anthracene	**150**		130		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Benzo[a]pyrene	**310**		230		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Benzo[b]fluoranthene	**580**		130		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Benzo[g,h,i]perylene	**310**		230		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Benzo[k]fluoranthene	ND		360		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Benzofluoranthene	**680**		360		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Benzoic acid	ND	*	16000		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Benzyl alcohol	ND		650		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Bis(2-ethylhexyl) phthalate	ND		3900		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Butyl benzyl phthalate	ND		1300		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Chrysene	**320**		160		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Dibenz(a,h)anthracene	ND		260		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Dibenzofuran	ND		650		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Diethyl phthalate	ND		1300		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Dimethyl phthalate	ND		650		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Di-n-butyl phthalate	ND		3300		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Di-n-octyl phthalate	ND	*	3300		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Fluoranthene	**370**		130		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Fluorene	ND		130		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Hexachlorobenzene	ND		330		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Hexachlorobutadiene	ND		330		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Hexachloroethane	ND		650		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Indeno[1,2,3-cd]pyrene	**260**		260		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Naphthalene	ND		130		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
N-Nitrosodiphenylamine	ND		330		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Pentachlorophenol	ND		1600		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Phenanthrene	ND		130		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Phenol	ND		650		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20
Pyrene	**380**		130		ug/Kg	☼	06/23/16 08:18	06/30/16 21:10	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*83*		*59 - 128*	*06/23/16 08:18*	*06/30/16 21:10*	*20*
2-Fluorobiphenyl	*55*	*X*	*67 - 115*	*06/23/16 08:18*	*06/30/16 21:10*	*20*
2-Fluorophenol	*44*	*X*	*65 - 125*	*06/23/16 08:18*	*06/30/16 21:10*	*20*
Nitrobenzene-d5	*36*	*X*	*66 - 120*	*06/23/16 08:18*	*06/30/16 21:10*	*20*
Phenol-d5	*46*	*X*	*69 - 118*	*06/23/16 08:18*	*06/30/16 21:10*	*20*
Terphenyl-d14	*105*		*78 - 136*	*06/23/16 08:18*	*06/30/16 21:10*	*20*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-7

Date Collected: 06/16/16 14:00
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-63

Matrix: Solid
Percent Solids: 30.6

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		6.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
2,4'-DDE	ND		6.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
2,4'-DDT	ND		6.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
4,4'-DDD	ND		6.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
4,4'-DDE	ND		6.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
4,4'-DDT	ND	*	6.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
Aldrin	ND		3.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
alpha-BHC	ND		3.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
beta-BHC	ND	*	3.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
Chlordane (technical)	ND		30		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
cis-Chlordane	ND		3.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
cis-Nonachlor	ND		6.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
delta-BHC	ND		3.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
Dieldrin	ND		6.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
Endosulfan I	ND		3.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
Endosulfan II	ND		6.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
Endosulfan sulfate	ND		6.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
Endrin	ND	*	6.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
Endrin aldehyde	ND	*	6.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
Endrin ketone	ND		6.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
gamma-BHC (Lindane)	ND		3.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
Heptachlor	ND		6.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
Heptachlor epoxide	ND		3.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
Hexachlorobenzene	ND		3.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
Hexachlorobutadiene	ND		3.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
Methoxychlor	ND		30		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
oxy-Chlordane	ND		6.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
Toxaphene	ND		300		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
trans-Chlordane	ND		3.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10
trans-Nonachlor	ND		6.0		ug/Kg	☼	06/27/16 12:23	07/15/16 05:21	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*248*	*X*	*27 - 118*	*06/27/16 12:23*	*07/15/16 05:21*	*10*
Tetrachloro-m-xylene	*64*		*23 - 133*	*06/27/16 12:23*	*07/15/16 05:21*	*10*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.00092		mg/Kg		06/27/16 12:23	07/07/16 07:22	1
PCB-1221	ND		0.0010		mg/Kg		06/27/16 12:23	07/07/16 07:22	1
PCB-1232	ND		0.0010		mg/Kg		06/27/16 12:23	07/07/16 07:22	1
PCB-1242	ND		0.00092		mg/Kg		06/27/16 12:23	07/07/16 07:22	1
PCB-1248	ND		0.0010		mg/Kg		06/27/16 12:23	07/07/16 07:22	1
PCB-1254	**0.0015**		0.00092		mg/Kg		06/27/16 12:23	07/07/16 07:22	1
PCB-1260	**0.00098**		0.00092		mg/Kg		06/27/16 12:23	07/07/16 07:22	1
PCB-1262	ND		0.00092		mg/Kg		06/27/16 12:23	07/07/16 07:22	1
PCB-1268	ND		0.00092		mg/Kg		06/27/16 12:23	07/07/16 07:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*47*		*37 - 140*	*06/27/16 12:23*	*07/07/16 07:22*	*1*
Tetrachloro-m-xylene	*58*		*45 - 135*	*06/27/16 12:23*	*07/07/16 07:22*	*1*

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-7

Date Collected: 06/16/16 14:00
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-63

Matrix: Solid
Percent Solids: 30.6

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.4		0.10		mg/Kg		07/07/16 06:45	07/12/16 13:16	1
Cadmium	0.19		0.052		mg/Kg		07/07/16 06:45	07/12/16 13:16	1
Chromium	7.9		0.10		mg/Kg		07/07/16 06:45	07/12/16 13:16	1
Copper	10		0.10		mg/Kg		07/07/16 06:45	07/12/16 13:16	1
Lead	6.9		0.052		mg/Kg		07/07/16 06:45	07/12/16 13:16	1
Silver	0.053		0.052		mg/Kg		07/07/16 06:45	07/12/16 13:16	1
Zinc	48		0.52		mg/Kg		07/07/16 06:45	07/12/16 13:16	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.077		0.059		mg/Kg	☼	06/28/16 18:53	06/29/16 12:51	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	30.6		0.1		%			07/01/16 13:18	1
Percent Moisture	69.4		0.1		%			07/01/16 13:18	1

Client Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-7

Date Collected: 06/16/16 14:00
Date Received: 06/17/16 13:45

Lab Sample ID: 580-60394-63

Matrix: Solid
Percent Solids: 32.1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	130		70		mg/Kg	☼	06/27/16 13:55	06/28/16 06:40	1
Motor Oil (>C24-C36)	890		140		mg/Kg	☼	06/27/16 13:55	06/28/16 06:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*69*		*50 - 150*	*06/27/16 13:55*	*06/28/16 06:40*	*1*

QC Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-220606/1-A
Matrix: Solid
Analysis Batch: 221266

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 220606

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		5.0		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
1,2-Dichlorobenzene	ND		5.5		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
2-Methylphenol	ND		10		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
3 & 4 Methylphenol	ND		20		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
2,4-Dimethylphenol	ND		10		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
1,2,4-Trichlorobenzene	ND		5.0		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
2-Methylnaphthalene	ND		2.0		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Benzoic acid	ND		250		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Acenaphthylene	ND		2.0		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Benzyl alcohol	ND		10		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Acenaphthene	ND		2.0		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Dibenzofuran	ND		10		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Diethyl phthalate	ND		20		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Dimethyl phthalate	ND		10		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Anthracene	ND		2.0		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Di-n-butyl phthalate	ND		50		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Fluoranthene	ND		2.0		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Fluorene	ND		2.0		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Hexachlorobenzene	ND		5.0		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Butyl benzyl phthalate	ND		20		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Hexachlorobutadiene	ND		5.0		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Benzo[a]anthracene	ND		2.0		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Hexachloroethane	ND		10		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Chrysene	ND		2.5		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Bis(2-ethylhexyl) phthalate	ND		60		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Naphthalene	ND		2.0		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Di-n-octyl phthalate	ND		50		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Benzofluoranthene	ND		5.5		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
N-Nitrosodiphenylamine	ND		5.0		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Benzo[b]fluoranthene	ND		2.0		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Pentachlorophenol	ND		25		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Benzo[k]fluoranthene	ND		5.5		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Phenanthrene	ND		2.0		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Benzo[a]pyrene	ND		3.5		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Phenol	ND		10		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Indeno[1,2,3-cd]pyrene	ND		4.0		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Dibenz(a,h)anthracene	ND		4.0		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Pyrene	ND		2.0		ug/Kg		06/23/16 08:18	06/30/16 13:43	1
Benzo[g,h,i]perylene	ND		3.5		ug/Kg		06/23/16 08:18	06/30/16 13:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*59*		*59 - 128*	*06/23/16 08:18*	*06/30/16 13:43*	*1*
2-Fluorobiphenyl	*78*		*67 - 115*	*06/23/16 08:18*	*06/30/16 13:43*	*1*
2-Fluorophenol	*88*		*65 - 125*	*06/23/16 08:18*	*06/30/16 13:43*	*1*
Nitrobenzene-d5	*84*		*66 - 120*	*06/23/16 08:18*	*06/30/16 13:43*	*1*
Phenol-d5	*91*		*69 - 118*	*06/23/16 08:18*	*06/30/16 13:43*	*1*
Terphenyl-d14	*94*		*78 - 136*	*06/23/16 08:18*	*06/30/16 13:43*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-220606/2-A
Matrix: Solid
Analysis Batch: 221266

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 220606

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	100	72.2		ug/Kg		72	65 - 110
1,2-Dichlorobenzene	100	72.1		ug/Kg		72	64 - 112
2-Methylphenol	100	80.6		ug/Kg		81	64 - 124
3 & 4 Methylphenol	100	78.0		ug/Kg		78	70 - 116
2,4-Dimethylphenol	100	50.0		ug/Kg		50	32 - 145
1,2,4-Trichlorobenzene	100	77.4		ug/Kg		77	66 - 115
2-Methylnaphthalene	100	77.7		ug/Kg		78	71 - 119
Benzoic acid	200	ND	*	ug/Kg		0	20 - 150
Acenaphthylene	100	77.4		ug/Kg		77	68 - 120
Benzyl alcohol	100	75.3		ug/Kg		75	36 - 137
Acenaphthene	100	78.4		ug/Kg		78	68 - 116
Dibenzofuran	100	74.5		ug/Kg		74	72 - 119
Diethyl phthalate	100	91.8		ug/Kg		92	66 - 122
Dimethyl phthalate	100	83.3		ug/Kg		83	78 - 117
Anthracene	100	74.8		ug/Kg		75	73 - 123
Di-n-butyl phthalate	100	111		ug/Kg		111	66 - 129
Fluoranthene	100	90.5		ug/Kg		90	73 - 125
Fluorene	100	82.4		ug/Kg		82	70 - 121
Hexachlorobenzene	100	69.1		ug/Kg		69	66 - 117
Butyl benzyl phthalate	100	122		ug/Kg		122	62 - 142
Hexachlorobutadiene	100	65.3		ug/Kg		65	65 - 116
Benzo[a]anthracene	100	83.1		ug/Kg		83	69 - 125
Hexachloroethane	100	75.7		ug/Kg		76	62 - 120
Chrysene	100	80.0		ug/Kg		80	75 - 114
Bis(2-ethylhexyl) phthalate	100	102		ug/Kg		102	55 - 144
Naphthalene	100	77.8		ug/Kg		78	62 - 112
Di-n-octyl phthalate	100	112		ug/Kg		112	47 - 150
Benzofluoranthene	200	172		ug/Kg		86	63 - 126
N-Nitrosodiphenylamine	200	161		ug/Kg		81	73 - 127
Benzo[b]fluoranthene	100	83.2		ug/Kg		83	63 - 132
Pentachlorophenol	200	111		ug/Kg		56	20 - 128
Benzo[k]fluoranthene	100	95.6		ug/Kg		96	63 - 130
Phenanthrene	100	81.4		ug/Kg		81	73 - 112
Benzo[a]pyrene	100	73.5		ug/Kg		74	66 - 117
Phenol	100	87.6		ug/Kg		88	63 - 120
Indeno[1,2,3-cd]pyrene	100	82.5		ug/Kg		83	56 - 145
Dibenz(a,h)anthracene	100	83.4		ug/Kg		83	56 - 134
Pyrene	100	80.5		ug/Kg		81	70 - 120
Benzo[g,h,i]perylene	100	88.3		ug/Kg		88	60 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol	*66*		*59 - 128*
2-Fluorobiphenyl	*75*		*67 - 115*
2-Fluorophenol	*83*		*65 - 125*
Nitrobenzene-d5	*84*		*66 - 120*
Phenol-d5	*82*		*69 - 118*
Terphenyl-d14	*82*		*78 - 136*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-220606/3-A
Matrix: Solid
Analysis Batch: 221266

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 220606

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dichlorobenzene	100	89.4	*	ug/Kg		89	65 - 110	21	19
1,2-Dichlorobenzene	100	86.5		ug/Kg		87	64 - 112	18	20
2-Methylphenol	100	98.1		ug/Kg		98	64 - 124	19	25
3 & 4 Methylphenol	100	99.2		ug/Kg		99	70 - 116	24	27
2,4-Dimethylphenol	100	56.4		ug/Kg		56	32 - 145	12	40
1,2,4-Trichlorobenzene	100	84.7		ug/Kg		85	66 - 115	9	18
2-Methylnaphthalene	100	90.8		ug/Kg		91	71 - 119	16	18
Benzoic acid	200	ND	*	ug/Kg		0	20 - 150	NC	40
Acenaphthylene	100	85.7		ug/Kg		86	68 - 120	10	17
Benzyl alcohol	100	83.4		ug/Kg		83	36 - 137	10	26
Acenaphthene	100	84.0		ug/Kg		84	68 - 116	7	17
Dibenzofuran	100	84.5		ug/Kg		84	72 - 119	13	19
Diethyl phthalate	100	102		ug/Kg		102	66 - 122	10	13
Dimethyl phthalate	100	97.0		ug/Kg		97	78 - 117	15	18
Anthracene	100	83.7		ug/Kg		84	73 - 123	11	16
Di-n-butyl phthalate	100	127		ug/Kg		127	66 - 129	14	18
Fluoranthene	100	103		ug/Kg		103	73 - 125	13	15
Fluorene	100	92.7		ug/Kg		93	70 - 121	12	17
Hexachlorobenzene	100	76.6		ug/Kg		77	66 - 117	10	17
Butyl benzyl phthalate	100	140		ug/Kg		140	62 - 142	14	18
Hexachlorobutadiene	100	75.2		ug/Kg		75	65 - 116	14	21
Benzo[a]anthracene	100	93.0		ug/Kg		93	69 - 125	11	17
Hexachloroethane	100	90.0		ug/Kg		90	62 - 120	17	21
Chrysene	100	87.9		ug/Kg		88	75 - 114	9	17
Bis(2-ethylhexyl) phthalate	100	121		ug/Kg		121	55 - 144	17	19
Naphthalene	100	88.0		ug/Kg		88	62 - 112	12	18
Di-n-octyl phthalate	100	136	*	ug/Kg		136	47 - 150	20	18
Benzofluoranthene	200	206		ug/Kg		103	63 - 126	18	34
N-Nitrosodiphenylamine	200	187		ug/Kg		94	73 - 127	15	16
Benzo[b]fluoranthene	100	99.8		ug/Kg		100	63 - 132	18	20
Pentachlorophenol	200	108		ug/Kg		54	20 - 128	3	40
Benzo[k]fluoranthene	100	115		ug/Kg		115	63 - 130	18	19
Phenanthrene	100	92.0		ug/Kg		92	73 - 112	12	15
Benzo[a]pyrene	100	86.9		ug/Kg		87	66 - 117	17	18
Phenol	100	105		ug/Kg		105	63 - 120	18	19
Indeno[1,2,3-cd]pyrene	100	99.5		ug/Kg		100	56 - 145	19	21
Dibenz(a,h)anthracene	100	89.4		ug/Kg		89	56 - 134	7	21
Pyrene	100	90.0		ug/Kg		90	70 - 120	11	18
Benzo[g,h,i]perylene	100	106		ug/Kg		106	60 - 130	18	22

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol	*74*		*59 - 128*
2-Fluorobiphenyl	*85*		*67 - 115*
2-Fluorophenol	*99*		*65 - 125*
Nitrobenzene-d5	*94*		*66 - 120*
Phenol-d5	*100*		*69 - 118*
Terphenyl-d14	*93*		*78 - 136*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-60394-6 MS
Matrix: Solid
Analysis Batch: 221214

Client Sample ID: AC-9 COMP
Prep Type: Total/NA
Prep Batch: 220606

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	ND	*	241	ND		ug/Kg	☼	85	65 - 110
1,2-Dichlorobenzene	ND		241	ND		ug/Kg	☼	82	64 - 112
2-Methylphenol	ND		241	ND		ug/Kg	☼	93	64 - 124
3 & 4 Methylphenol	ND	F1 F2	241	ND	F1	ug/Kg	☼	125	70 - 116
2,4-Dimethylphenol	ND	F2	241	ND		ug/Kg	☼	100	32 - 145
1,2,4-Trichlorobenzene	ND		241	ND		ug/Kg	☼	95	66 - 115
2-Methylnaphthalene	ND		241	229		ug/Kg	☼	95	71 - 119
Benzoic acid	ND	*	483	ND		ug/Kg	☼	NC	20 - 150
Acenaphthylene	ND		241	249		ug/Kg	☼	103	68 - 120
Benzyl alcohol	ND	F1	241	ND	F1	ug/Kg	☼	0	36 - 137
Acenaphthene	ND		241	241		ug/Kg	☼	100	68 - 116
Dibenzofuran	ND		241	ND		ug/Kg	☼	90	72 - 119
Diethyl phthalate	ND		241	ND		ug/Kg	☼	NC	66 - 122
Dimethyl phthalate	ND		241	ND		ug/Kg	☼	115	78 - 117
Anthracene	ND		241	290		ug/Kg	☼	120	73 - 123
Di-n-butyl phthalate	ND	F1	241	ND	F1	ug/Kg	☼	141	66 - 129
Fluoranthene	610	F1	241	900		ug/Kg	☼	118	73 - 125
Fluorene	ND		241	264		ug/Kg	☼	109	70 - 121
Hexachlorobenzene	ND		241	240		ug/Kg	☼	99	66 - 117
Butyl benzyl phthalate	ND	F1	241	ND	F1	ug/Kg	☼	216	62 - 142
Hexachlorobutadiene	ND	F1	241	270		ug/Kg	☼	112	65 - 116
Benzo[a]anthracene	180	F1	241	487	F1	ug/Kg	☼	127	69 - 125
Hexachloroethane	ND		241	ND		ug/Kg	☼	73	62 - 120
Chrysene	460	F1	241	794	F1	ug/Kg	☼	140	75 - 114
Bis(2-ethylhexyl) phthalate	2800		241	3450	4	ug/Kg	☼	280	55 - 144
Naphthalene	ND		241	235		ug/Kg	☼	97	62 - 112
Di-n-octyl phthalate	ND	F1 *	241	ND	F1	ug/Kg	☼	222	47 - 150
Benzofluoranthene	930	F1	483	1430		ug/Kg	☼	104	63 - 126
N-Nitrosodiphenylamine	ND		483	383		ug/Kg	☼	79	73 - 127
Benzo[b]fluoranthene	760		241	1070		ug/Kg	☼	127	63 - 132
Pentachlorophenol	ND	F1	483	ND	F1	ug/Kg	☼	161	20 - 128
Benzo[k]fluoranthene	350	F1	241	555		ug/Kg	☼	87	63 - 130
Phenanthrene	150	F1	241	389		ug/Kg	☼	98	73 - 112
Benzo[a]pyrene	260	F1	241	665	F1	ug/Kg	☼	168	66 - 117
Phenol	ND	F1 F2	241	ND		ug/Kg	☼	80	63 - 120
Indeno[1,2,3-cd]pyrene	520	F1	241	817		ug/Kg	☼	122	56 - 145
Dibenz(a,h)anthracene	ND	F1	241	342	F1	ug/Kg	☼	142	56 - 134
Pyrene	580	F1	241	929	F1	ug/Kg	☼	144	70 - 120
Benzo[g,h,i]perylene	500		241	741		ug/Kg	☼	98	60 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2,4,6-Tribromophenol	*83*		*59 - 128*
2-Fluorobiphenyl	*87*		*67 - 115*
2-Fluorophenol	*50*	*X*	*65 - 125*
Nitrobenzene-d5	*51*	*X*	*66 - 120*
Phenol-d5	*64*	*X*	*69 - 118*
Terphenyl-d14	*110*		*78 - 136*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-60394-6 MSD
Matrix: Solid
Analysis Batch: 221214

Client Sample ID: AC-9 COMP
Prep Type: Total/NA
Prep Batch: 220606

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dichlorobenzene	ND	*	238	ND		ug/Kg	☼	87	65 - 110	1	40
1,2-Dichlorobenzene	ND		238	ND		ug/Kg	☼	75	64 - 112	11	40
2-Methylphenol	ND		238	ND		ug/Kg	☼	66	64 - 124	35	40
3 & 4 Methylphenol	ND	F1 F2	238	ND	F1 F2	ug/Kg	☼	59	70 - 116	73	40
2,4-Dimethylphenol	ND	F2	238	ND	F2	ug/Kg	☼	51	32 - 145	66	40
1,2,4-Trichlorobenzene	ND		238	ND		ug/Kg	☼	81	66 - 115	18	40
2-Methylnaphthalene	ND		238	217		ug/Kg	☼	91	71 - 119	5	40
Benzoic acid	ND	*	477	ND		ug/Kg	☼	NC	20 - 150	38	40
Acenaphthylene	ND		238	247		ug/Kg	☼	104	68 - 120	1	40
Benzyl alcohol	ND	F1	238	ND	F1	ug/Kg	☼	0	36 - 137	NC	40
Acenaphthene	ND		238	253		ug/Kg	☼	106	68 - 116	5	40
Dibenzofuran	ND		238	ND		ug/Kg	☼	92	72 - 119	2	40
Diethyl phthalate	ND		238	ND		ug/Kg	☼	NC	66 - 122	10	40
Dimethyl phthalate	ND		238	ND		ug/Kg	☼	110	78 - 117	5	40
Anthracene	ND		238	248		ug/Kg	☼	104	73 - 123	16	40
Di-n-butyl phthalate	ND	F1	238	ND		ug/Kg	☼	NC	66 - 129	2	40
Fluoranthene	610	F1	238	741	F1	ug/Kg	☼	53	73 - 125	19	40
Fluorene	ND		238	239		ug/Kg	☼	100	70 - 121	10	40
Hexachlorobenzene	ND		238	ND		ug/Kg	☼	89	66 - 117	13	40
Butyl benzyl phthalate	ND	F1	238	ND		ug/Kg	☼	NC	62 - 142	8	40
Hexachlorobutadiene	ND	F1	238	284	F1	ug/Kg	☼	119	65 - 116	5	40
Benzo[a]anthracene	180	F1	238	464		ug/Kg	☼	119	69 - 125	5	40
Hexachloroethane	ND		238	ND		ug/Kg	☼	90	62 - 120	20	40
Chrysene	460	F1	238	580	F1	ug/Kg	☼	52	75 - 114	31	40
Bis(2-ethylhexyl) phthalate	2800		238	ND	4	ug/Kg	☼	-17	55 - 144	23	40
Naphthalene	ND		238	210		ug/Kg	☼	88	62 - 112	11	40
Di-n-octyl phthalate	ND	F1 *	238	ND	F1	ug/Kg	☼	195	47 - 150	14	40
Benzofluoranthene	930	F1	477	1220	F1	ug/Kg	☼	59	63 - 126	16	40
N-Nitrosodiphenylamine	ND		477	434		ug/Kg	☼	91	73 - 127	12	40
Benzo[b]fluoranthene	760		238	1050		ug/Kg	☼	122	63 - 132	2	40
Pentachlorophenol	ND	F1	477	ND	F1	ug/Kg	☼	162	20 - 128	0	40
Benzo[k]fluoranthene	350	F1	238	431	F1	ug/Kg	☼	36	63 - 130	25	40
Phenanthrene	150	F1	238	317	F1	ug/Kg	☼	69	73 - 112	20	40
Benzo[a]pyrene	260	F1	238	597	F1	ug/Kg	☼	141	66 - 117	11	40
Phenol	ND	F1 F2	238	ND	F1 F2	ug/Kg	☼	50	63 - 120	48	40
Indeno[1,2,3-cd]pyrene	520	F1	238	951	F1	ug/Kg	☼	180	56 - 145	15	40
Dibenz(a,h)anthracene	ND	F1	238	436	F1	ug/Kg	☼	183	56 - 134	24	40
Pyrene	580	F1	238	767		ug/Kg	☼	78	70 - 120	19	40
Benzo[g,h,i]perylene	500		238	672		ug/Kg	☼	71	60 - 130	10	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2,4,6-Tribromophenol	*90*		*59 - 128*
2-Fluorobiphenyl	*76*		*67 - 115*
2-Fluorophenol	*57*	*X*	*65 - 125*
Nitrobenzene-d5	*63*	*X*	*66 - 120*
Phenol-d5	*62*	*X*	*69 - 118*
Terphenyl-d14	*108*		*78 - 136*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-221574/1-A
Matrix: Solid
Analysis Batch: 221612

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 221574

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		17		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
1,2-Dichlorobenzene	ND		18		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
2-Methylphenol	ND		33		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
3 & 4 Methylphenol	ND		67		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
2,4-Dimethylphenol	ND		33		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
1,2,4-Trichlorobenzene	ND		17		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
2-Methylnaphthalene	ND		6.7		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Benzoic acid	ND		830		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Acenaphthylene	ND		6.7		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Benzyl alcohol	ND		33		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Acenaphthene	ND		6.7		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Dibenzofuran	ND		33		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Diethyl phthalate	ND		67		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Dimethyl phthalate	ND		33		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Anthracene	ND		6.7		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Di-n-butyl phthalate	ND		170		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Fluoranthene	ND		6.7		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Fluorene	ND		6.7		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Hexachlorobenzene	ND		17		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Butyl benzyl phthalate	ND		67		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Hexachlorobutadiene	ND		17		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Benzo[a]anthracene	ND		6.7		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Hexachloroethane	ND		33		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Chrysene	ND		8.3		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Bis(2-ethylhexyl) phthalate	ND		200		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Naphthalene	ND		6.7		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Di-n-octyl phthalate	ND		170		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Benzofluoranthene	ND		18		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
N-Nitrosodiphenylamine	ND		17		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Benzo[b]fluoranthene	ND		6.7		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Pentachlorophenol	ND		83		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Benzo[k]fluoranthene	ND		18		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Phenanthrene	ND		6.7		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Benzo[a]pyrene	ND		12		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Phenol	ND		33		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Indeno[1,2,3-cd]pyrene	ND		13		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Dibenz(a,h)anthracene	ND		13		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Pyrene	ND		6.7		ug/Kg		07/05/16 15:25	07/06/16 16:36	1
Benzo[g,h,i]perylene	ND		12		ug/Kg		07/05/16 15:25	07/06/16 16:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*59*		*59 - 128*	*07/05/16 15:25*	*07/06/16 16:36*	*1*
2-Fluorobiphenyl	*87*		*67 - 115*	*07/05/16 15:25*	*07/06/16 16:36*	*1*
2-Fluorophenol	*83*		*65 - 125*	*07/05/16 15:25*	*07/06/16 16:36*	*1*
Nitrobenzene-d5	*89*		*66 - 120*	*07/05/16 15:25*	*07/06/16 16:36*	*1*
Phenol-d5	*84*		*69 - 118*	*07/05/16 15:25*	*07/06/16 16:36*	*1*
Terphenyl-d14	*95*		*78 - 136*	*07/05/16 15:25*	*07/06/16 16:36*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-221574/2-A
Matrix: Solid
Analysis Batch: 221612

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 221574

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	333	282		ug/Kg		85	65 - 110
1,2-Dichlorobenzene	333	305		ug/Kg		91	64 - 112
2-Methylphenol	333	282		ug/Kg		85	64 - 124
3 & 4 Methylphenol	333	303		ug/Kg		91	70 - 116
2,4-Dimethylphenol	333	309		ug/Kg		93	32 - 145
1,2,4-Trichlorobenzene	333	305		ug/Kg		91	66 - 115
2-Methylnaphthalene	333	295		ug/Kg		88	71 - 119
Benzoic acid	667	ND	*	ug/Kg		0	20 - 150
Acenaphthylene	333	316		ug/Kg		95	68 - 120
Benzyl alcohol	333	289		ug/Kg		87	36 - 137
Acenaphthene	333	290		ug/Kg		87	68 - 116
Dibenzofuran	333	297		ug/Kg		89	72 - 119
Diethyl phthalate	333	302		ug/Kg		91	66 - 122
Dimethyl phthalate	333	315		ug/Kg		94	78 - 117
Anthracene	333	305		ug/Kg		92	73 - 123
Di-n-butyl phthalate	333	347		ug/Kg		104	66 - 129
Fluoranthene	333	338		ug/Kg		101	73 - 125
Fluorene	333	288		ug/Kg		86	70 - 121
Hexachlorobenzene	333	264		ug/Kg		79	66 - 117
Butyl benzyl phthalate	333	382		ug/Kg		115	62 - 142
Hexachlorobutadiene	333	280		ug/Kg		84	65 - 116
Benzo[a]anthracene	333	299		ug/Kg		90	69 - 125
Hexachloroethane	333	291		ug/Kg		87	62 - 120
Chrysene	333	281		ug/Kg		84	75 - 114
Bis(2-ethylhexyl) phthalate	333	344		ug/Kg		103	55 - 144
Naphthalene	333	300		ug/Kg		90	62 - 112
Di-n-octyl phthalate	333	345		ug/Kg		104	47 - 150
Benzofluoranthene	667	601		ug/Kg		90	63 - 126
N-Nitrosodiphenylamine	333	290		ug/Kg		87	73 - 127
Benzo[b]fluoranthene	333	312		ug/Kg		94	63 - 132
Pentachlorophenol	667	327		ug/Kg		49	20 - 128
Benzo[k]fluoranthene	333	292		ug/Kg		88	63 - 130
Phenanthrene	333	296		ug/Kg		89	73 - 112
Benzo[a]pyrene	333	328		ug/Kg		98	66 - 117
Phenol	333	316		ug/Kg		95	63 - 120
Indeno[1,2,3-cd]pyrene	333	310		ug/Kg		93	56 - 145
Dibenz(a,h)anthracene	333	281		ug/Kg		84	56 - 134
Pyrene	333	295		ug/Kg		89	70 - 120
Benzo[g,h,i]perylene	333	316		ug/Kg		95	60 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol	*78*		*59 - 128*
2-Fluorobiphenyl	*89*		*67 - 115*
2-Fluorophenol	*88*		*65 - 125*
Nitrobenzene-d5	*93*		*66 - 120*
Phenol-d5	*89*		*69 - 118*
Terphenyl-d14	*99*		*78 - 136*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-221574/3-A
Matrix: Solid
Analysis Batch: 221612

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 221574

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dichlorobenzene	333	278		ug/Kg		83	65 - 110	2	19
1,2-Dichlorobenzene	333	291		ug/Kg		87	64 - 112	4	20
2-Methylphenol	333	282		ug/Kg		85	64 - 124	0	25
3 & 4 Methylphenol	333	298		ug/Kg		89	70 - 116	2	27
2,4-Dimethylphenol	333	302		ug/Kg		91	32 - 145	2	40
1,2,4-Trichlorobenzene	333	304		ug/Kg		91	66 - 115	0	18
2-Methylnaphthalene	333	288		ug/Kg		87	71 - 119	2	18
Benzoic acid	667	ND	*	ug/Kg		0	20 - 150	NC	40
Acenaphthylene	333	310		ug/Kg		93	68 - 120	2	17
Benzyl alcohol	333	274		ug/Kg		82	36 - 137	5	26
Acenaphthene	333	284		ug/Kg		85	68 - 116	2	17
Dibenzofuran	333	301		ug/Kg		90	72 - 119	1	19
Diethyl phthalate	333	304		ug/Kg		91	66 - 122	1	13
Dimethyl phthalate	333	316		ug/Kg		95	78 - 117	0	18
Anthracene	333	299		ug/Kg		90	73 - 123	2	16
Di-n-butyl phthalate	333	332		ug/Kg		100	66 - 129	4	18
Fluoranthene	333	332		ug/Kg		100	73 - 125	2	15
Fluorene	333	287		ug/Kg		86	70 - 121	0	17
Hexachlorobenzene	333	256		ug/Kg		77	66 - 117	3	17
Butyl benzyl phthalate	333	386		ug/Kg		116	62 - 142	1	18
Hexachlorobutadiene	333	260		ug/Kg		78	65 - 116	7	21
Benzo[a]anthracene	333	305		ug/Kg		91	69 - 125	2	17
Hexachloroethane	333	286		ug/Kg		86	62 - 120	1	21
Chrysene	333	296		ug/Kg		89	75 - 114	5	17
Bis(2-ethylhexyl) phthalate	333	347		ug/Kg		104	55 - 144	1	19
Naphthalene	333	289		ug/Kg		87	62 - 112	4	18
Di-n-octyl phthalate	333	342		ug/Kg		103	47 - 150	1	18
Benzofluoranthene	667	609		ug/Kg		91	63 - 126	1	34
N-Nitrosodiphenylamine	333	293		ug/Kg		88	73 - 127	1	16
Benzo[b]fluoranthene	333	307		ug/Kg		92	63 - 132	2	20
Pentachlorophenol	667	310		ug/Kg		47	20 - 128	5	40
Benzo[k]fluoranthene	333	296		ug/Kg		89	63 - 130	1	19
Phenanthrene	333	291		ug/Kg		87	73 - 112	2	15
Benzo[a]pyrene	333	330		ug/Kg		99	66 - 117	1	18
Phenol	333	314		ug/Kg		94	63 - 120	0	19
Indeno[1,2,3-cd]pyrene	333	308		ug/Kg		92	56 - 145	1	21
Dibenz(a,h)anthracene	333	318		ug/Kg		95	56 - 134	12	21
Pyrene	333	287		ug/Kg		86	70 - 120	3	18
Benzo[g,h,i]perylene	333	303		ug/Kg		91	60 - 130	4	22

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol	*75*		*59 - 128*
2-Fluorobiphenyl	*89*		*67 - 115*
2-Fluorophenol	*88*		*65 - 125*
Nitrobenzene-d5	*95*		*66 - 120*
Phenol-d5	*87*		*69 - 118*
Terphenyl-d14	*95*		*78 - 136*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-60394-19 MS
Matrix: Solid
Analysis Batch: 221612

Client Sample ID: ISM-Primary
Prep Type: Total/NA
Prep Batch: 221574

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	ND	H	328	216		ug/Kg		66	65 - 110
1,2-Dichlorobenzene	ND	H	328	238		ug/Kg		72	64 - 112
2-Methylphenol	ND	H	328	ND		ug/Kg		64	64 - 124
3 & 4 Methylphenol	ND	H F1	328	ND	F1	ug/Kg		64	70 - 116
2,4-Dimethylphenol	ND	H	328	ND		ug/Kg		75	32 - 145
1,2,4-Trichlorobenzene	ND	H	328	233		ug/Kg		71	66 - 115
2-Methylnaphthalene	ND	H	328	236		ug/Kg		72	71 - 119
Benzoic acid	ND	H * F1	657	ND		ug/Kg		66	20 - 150
Acenaphthylene	ND	H	328	270		ug/Kg		82	68 - 120
Benzyl alcohol	ND	H	328	ND		ug/Kg		72	36 - 137
Acenaphthene	ND	H	328	245		ug/Kg		75	68 - 116
Dibenzofuran	ND	H	328	ND		ug/Kg		74	72 - 119
Diethyl phthalate	ND	H	328	ND		ug/Kg		72	66 - 122
Dimethyl phthalate	ND	H	328	ND		ug/Kg		83	78 - 117
Anthracene	ND	H	328	263		ug/Kg		80	73 - 123
Di-n-butyl phthalate	ND	H	328	ND		ug/Kg		117	66 - 129
Fluoranthene	220	H	328	551		ug/Kg		101	73 - 125
Fluorene	ND	H	328	244		ug/Kg		74	70 - 121
Hexachlorobenzene	ND	H F1	328	215	F1	ug/Kg		65	66 - 117
Butyl benzyl phthalate	ND	H	328	ND		ug/Kg		131	62 - 142
Hexachlorobutadiene	ND	H	328	227		ug/Kg		69	65 - 116
Benzo[a]anthracene	100	H	328	369		ug/Kg		80	69 - 125
Hexachloroethane	ND	H F1	328	ND	F1	ug/Kg		52	62 - 120
Chrysene	170	H	328	423		ug/Kg		78	75 - 114
Bis(2-ethylhexyl) phthalate	ND	H	328	ND		ug/Kg		66	55 - 144
Naphthalene	ND	H	328	247		ug/Kg		75	62 - 112
Di-n-octyl phthalate	ND	H F1	328	ND		ug/Kg		149	47 - 150
Benzofluoranthene	ND	H F1	657	861	F1	ug/Kg		131	63 - 126
N-Nitrosodiphenylamine	ND	H F1	328	ND	F1	ug/Kg		39	73 - 127
Benzo[b]fluoranthene	290	H	328	549		ug/Kg		78	63 - 132
Pentachlorophenol	ND	H	657	ND		ug/Kg		85	20 - 128
Benzo[k]fluoranthene	ND	H	328	359		ug/Kg		71	63 - 130
Phenanthrene	67	H	328	314		ug/Kg		75	73 - 112
Benzo[a]pyrene	150	H	328	420		ug/Kg		82	66 - 117
Phenol	ND	H	328	ND		ug/Kg		71	63 - 120
Indeno[1,2,3-cd]pyrene	140	H F1	328	279	F1	ug/Kg		42	56 - 145
Dibenz(a,h)anthracene	ND	H	328	209		ug/Kg		64	56 - 134
Pyrene	210	H	328	493		ug/Kg		85	70 - 120
Benzo[g,h,i]perylene	120	H F1	328	236	F1	ug/Kg		36	60 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2,4,6-Tribromophenol	*66*		*59 - 128*
2-Fluorobiphenyl	*85*		*67 - 115*
2-Fluorophenol	*74*		*65 - 125*
Nitrobenzene-d5	*78*		*66 - 120*
Phenol-d5	*72*		*69 - 118*
Terphenyl-d14	*91*		*78 - 136*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-60394-19 MSD
Matrix: Solid
Analysis Batch: 221612

Client Sample ID: ISM-Primary
Prep Type: Total/NA
Prep Batch: 221574

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dichlorobenzene	ND	H	326	261		ug/Kg		80	65 - 110	19	40
1,2-Dichlorobenzene	ND	H	326	255		ug/Kg		78	64 - 112	7	40
2-Methylphenol	ND	H	326	ND		ug/Kg		78	64 - 124	19	40
3 & 4 Methylphenol	ND	H F1	326	ND		ug/Kg		78	70 - 116	20	40
2,4-Dimethylphenol	ND	H	326	ND		ug/Kg		85	32 - 145	12	40
1,2,4-Trichlorobenzene	ND	H	326	283		ug/Kg		87	66 - 115	19	40
2-Methylnaphthalene	ND	H	326	272		ug/Kg		83	71 - 119	14	40
Benzoic acid	ND	H * F1	653	ND	F1	ug/Kg		0	20 - 150	NC	40
Acenaphthylene	ND	H	326	286		ug/Kg		88	68 - 120	6	40
Benzyl alcohol	ND	H	326	ND		ug/Kg		72	36 - 137	0	40
Acenaphthene	ND	H	326	272		ug/Kg		83	68 - 116	10	40
Dibenzofuran	ND	H	326	ND		ug/Kg		81	72 - 119	9	40
Diethyl phthalate	ND	H	326	ND		ug/Kg		79	66 - 122	8	40
Dimethyl phthalate	ND	H	326	ND		ug/Kg		91	78 - 117	8	40
Anthracene	ND	H	326	293		ug/Kg		90	73 - 123	11	40
Di-n-butyl phthalate	ND	H	326	ND		ug/Kg		120	66 - 129	2	40
Fluoranthene	220	H	326	564		ug/Kg		106	73 - 125	2	40
Fluorene	ND	H	326	274		ug/Kg		84	70 - 121	12	40
Hexachlorobenzene	ND	H F1	326	254		ug/Kg		78	66 - 117	17	40
Butyl benzyl phthalate	ND	H	326	ND		ug/Kg		142	62 - 142	8	40
Hexachlorobutadiene	ND	H	326	252		ug/Kg		77	65 - 116	10	40
Benzo[a]anthracene	100	H	326	390		ug/Kg		87	69 - 125	6	40
Hexachloroethane	ND	H F1	326	ND	F1	ug/Kg		56	62 - 120	7	40
Chrysene	170	H	326	469		ug/Kg		93	75 - 114	10	40
Bis(2-ethylhexyl) phthalate	ND	H	326	ND		ug/Kg		133	55 - 144	15	40
Naphthalene	ND	H	326	279		ug/Kg		86	62 - 112	12	40
Di-n-octyl phthalate	ND	H F1	326	ND	F1	ug/Kg		161	47 - 150	7	40
Benzofluoranthene	ND	H F1	653	967	F1	ug/Kg		148	63 - 126	12	40
N-Nitrosodiphenylamine	ND	H F1	326	ND	F1	ug/Kg		46	73 - 127	16	40
Benzo[b]fluoranthene	290	H	326	605		ug/Kg		96	63 - 132	10	40
Pentachlorophenol	ND	H	653	ND		ug/Kg		89	20 - 128	4	40
Benzo[k]fluoranthene	ND	H	326	393		ug/Kg		82	63 - 130	9	40
Phenanthrene	67	H	326	337		ug/Kg		83	73 - 112	7	40
Benzo[a]pyrene	150	H	326	465		ug/Kg		96	66 - 117	10	40
Phenol	ND	H	326	ND		ug/Kg		79	63 - 120	10	40
Indeno[1,2,3-cd]pyrene	140	H F1	326	277	F1	ug/Kg		42	56 - 145	0	40
Dibenz(a,h)anthracene	ND	H	326	200		ug/Kg		61	56 - 134	4	40
Pyrene	210	H	326	513		ug/Kg		91	70 - 120	4	40
Benzo[g,h,i]perylene	120	H F1	326	213	F1	ug/Kg		29	60 - 130	10	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2,4,6-Tribromophenol	*76*		*59 - 128*
2-Fluorobiphenyl	*88*		*67 - 115*
2-Fluorophenol	*77*		*65 - 125*
Nitrobenzene-d5	*85*		*66 - 120*
Phenol-d5	*82*		*69 - 118*
Terphenyl-d14	*92*		*78 - 136*

QC Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 580-220892/1-A
Matrix: Solid
Analysis Batch: 222437

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 220892

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.20		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
2,4'-DDE	ND		0.20		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
2,4'-DDT	ND		0.20		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
Aldrin	ND		0.10		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
alpha-BHC	ND		0.10		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
beta-BHC	ND		0.10		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
4,4'-DDE	ND		0.20		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
4,4'-DDD	ND		0.20		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
cis-Chlordane	ND		0.10		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
cis-Nonachlor	ND		0.20		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
4,4'-DDT	ND		0.20		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
delta-BHC	ND		0.10		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
Dieldrin	ND		0.20		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
Endosulfan I	ND		0.10		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
Endosulfan II	ND		0.20		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
Endosulfan sulfate	ND		0.20		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
Endrin	ND		0.20		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
Endrin aldehyde	ND		0.20		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
Chlordane (technical)	ND		1.0		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
Endrin ketone	ND		0.20		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
gamma-BHC (Lindane)	ND		0.10		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
Heptachlor	ND		0.20		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
Heptachlor epoxide	ND		0.10		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
Hexachlorobenzene	ND		0.10		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
Hexachlorobutadiene	ND		0.10		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
Methoxychlor	ND		1.0		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
oxy-Chlordane	ND		0.20		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
Toxaphene	ND		10		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
trans-Chlordane	ND		0.10		ug/Kg		06/27/16 12:23	07/14/16 21:55	1
trans-Nonachlor	ND		0.20		ug/Kg		06/27/16 12:23	07/14/16 21:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*104*		*27 - 118*	*06/27/16 12:23*	*07/14/16 21:55*	*1*
Tetrachloro-m-xylene	*83*		*23 - 133*	*06/27/16 12:23*	*07/14/16 21:55*	*1*

Lab Sample ID: LCS 580-220892/2-A
Matrix: Solid
Analysis Batch: 222437

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 220892

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	2.50	2.02		ug/Kg		81	41 - 117
alpha-BHC	2.50	2.13		ug/Kg		85	40 - 110
beta-BHC	2.50	2.26		ug/Kg		91	35 - 109
4,4'-DDE	2.50	1.70		ug/Kg		68	42 - 118
4,4'-DDD	2.50	2.44		ug/Kg		98	41 - 118
cis-Chlordane	2.50	2.09		ug/Kg		84	43 - 117
4,4'-DDT	2.50	2.63		ug/Kg		105	36 - 122
delta-BHC	2.50	1.56		ug/Kg		62	22 - 120

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 580-220892/2-A
Matrix: Solid
Analysis Batch: 222437

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 220892

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dieldrin	2.50	2.28		ug/Kg		91	42 - 121
Endosulfan I	2.50	2.24		ug/Kg		90	35 - 120
Endosulfan II	2.50	2.39		ug/Kg		95	30 - 123
Endosulfan sulfate	2.50	2.33		ug/Kg		93	40 - 116
Endrin	2.50	2.52		ug/Kg		101	41 - 127
Endrin aldehyde	2.50	3.00		ug/Kg		120	20 - 127
Endrin ketone	2.50	2.19		ug/Kg		88	35 - 119
gamma-BHC (Lindane)	2.50	2.01		ug/Kg		80	40 - 107
Heptachlor	2.50	2.03		ug/Kg		81	40 - 124
Heptachlor epoxide	2.50	2.05		ug/Kg		82	41 - 117
Hexachlorobenzene	2.50	2.52		ug/Kg		101	20 - 150
Hexachlorobutadiene	2.50	1.87		ug/Kg		75	37 - 119
Methoxychlor	2.50	2.59		ug/Kg		103	40 - 128
trans-Chlordane	2.50	2.19		ug/Kg		87	43 - 119

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*100*		*27 - 118*
Tetrachloro-m-xylene	*82*		*23 - 133*

Lab Sample ID: LCSD 580-220892/3-A
Matrix: Solid
Analysis Batch: 222437

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 220892

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aldrin	2.50	2.40		ug/Kg		96	41 - 117	17	31
alpha-BHC	2.50	2.38		ug/Kg		95	40 - 110	11	22
beta-BHC	2.50	2.80	*	ug/Kg		112	35 - 109	21	26
4,4'-DDE	2.50	1.97		ug/Kg		79	42 - 118	14	26
4,4'-DDD	2.50	2.96		ug/Kg		118	41 - 118	19	28
cis-Chlordane	2.50	2.61		ug/Kg		104	43 - 117	22	24
4,4'-DDT	2.50	3.14	*	ug/Kg		125	36 - 122	18	37
delta-BHC	2.50	1.93		ug/Kg		77	22 - 120	21	22
Dieldrin	2.50	2.80		ug/Kg		112	42 - 121	21	25
Endosulfan I	2.50	2.83		ug/Kg		113	35 - 120	23	26
Endosulfan II	2.50	2.86		ug/Kg		115	30 - 123	18	23
Endosulfan sulfate	2.50	2.80		ug/Kg		112	40 - 116	18	28
Endrin	2.50	3.19	*	ug/Kg		128	41 - 127	23	24
Endrin aldehyde	2.50	3.71	*	ug/Kg		149	20 - 127	21	34
Endrin ketone	2.50	2.63		ug/Kg		105	35 - 119	18	26
gamma-BHC (Lindane)	2.50	2.41		ug/Kg		96	40 - 107	18	20
Heptachlor	2.50	2.41		ug/Kg		96	40 - 124	17	24
Heptachlor epoxide	2.50	2.49		ug/Kg		99	41 - 117	19	23
Hexachlorobenzene	2.50	2.68		ug/Kg		107	20 - 150	6	37
Hexachlorobutadiene	2.50	2.02		ug/Kg		81	37 - 119	8	39
Methoxychlor	2.50	3.08		ug/Kg		123	40 - 128	18	25
trans-Chlordane	2.50	2.69		ug/Kg		108	43 - 119	21	25

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCSD 580-220892/3-A
Matrix: Solid
Analysis Batch: 222437

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 220892

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl	*118*		*27 - 118*
Tetrachloro-m-xylene	*87*		*23 - 133*

Lab Sample ID: 580-60394-6 MS
Matrix: Solid
Analysis Batch: 222437

Client Sample ID: AC-9 COMP
Prep Type: Total/NA
Prep Batch: 220892

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	ND	F1 F2	6.12	ND	F1	ug/Kg	☼	35	41 - 117
alpha-BHC	ND		6.12	3.83		ug/Kg	☼	43	40 - 110
beta-BHC	ND	*	6.12	4.60		ug/Kg	☼	43	35 - 109
4,4'-DDE	ND	F1	6.12	7.36		ug/Kg	☼	50	42 - 118
4,4'-DDD	ND	F1 F2	6.12	11.4	F1	ug/Kg	☼	162	41 - 118
cis-Chlordane	ND	F2	6.12	6.89		ug/Kg	☼	113	43 - 117
4,4'-DDT	ND	*	6.12	ND		ug/Kg	☼	60	36 - 122
delta-BHC	ND	F1	6.12	3.00		ug/Kg	☼	28	22 - 120
Dieldrin	ND		6.12	ND		ug/Kg	☼	71	42 - 121
Endosulfan I	ND	F2	6.12	2.51		ug/Kg	☼	41	35 - 120
Endosulfan II	ND		6.12	ND	F1	ug/Kg	☼	-24	30 - 123
Endosulfan sulfate	ND	F2	6.12	ND	F1	ug/Kg	☼	33	40 - 116
Endrin	ND	*	6.12	ND		ug/Kg	☼	62	41 - 127
Endrin aldehyde	ND	*	6.12	ND		ug/Kg	☼	54	20 - 127
Endrin ketone	ND	F2	6.12	ND	F1	ug/Kg	☼	26	35 - 119
gamma-BHC (Lindane)	ND		6.12	4.17		ug/Kg	☼	53	40 - 107
Heptachlor	ND		6.12	ND		ug/Kg	☼	77	40 - 124
Heptachlor epoxide	ND	F1	6.12	4.31	F1	ug/Kg	☼	33	41 - 117
Hexachlorobenzene	ND	F1	6.12	17.8	F1	ug/Kg	☼	291	20 - 150
Hexachlorobutadiene	ND		6.12	3.79		ug/Kg	☼	62	37 - 119
Methoxychlor	ND	F1	6.12	ND	F1	ug/Kg	☼	31	40 - 128
trans-Chlordane	ND	F2	6.12	4.40		ug/Kg	☼	55	43 - 119

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*105*		*27 - 118*
Tetrachloro-m-xylene	*67*		*23 - 133*

Lab Sample ID: 580-60394-6 MSD
Matrix: Solid
Analysis Batch: 222437

Client Sample ID: AC-9 COMP
Prep Type: Total/NA
Prep Batch: 220892

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aldrin	ND	F1 F2	6.24	ND	F1	ug/Kg	☼	37	41 - 117	9	31
alpha-BHC	ND		6.24	4.26		ug/Kg	☼	49	40 - 110	10	22
beta-BHC	ND	*	6.24	4.94		ug/Kg	☼	48	35 - 109	7	26
4,4'-DDE	ND	F1	6.24	6.64	F1	ug/Kg	☼	38	42 - 118	10	26
4,4'-DDD	ND	F1 F2	6.24	ND	F2	ug/Kg	☼	46	41 - 118	89	28
cis-Chlordane	ND	F2	6.24	5.26	F2	ug/Kg	☼	84	43 - 117	27	24
4,4'-DDT	ND	*	6.24	ND		ug/Kg	☼	55	36 - 122	6	37
delta-BHC	ND	F1	6.24	3.43		ug/Kg	☼	35	22 - 120	13	22

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 580-60394-6 MSD
Matrix: Solid
Analysis Batch: 222437

Client Sample ID: AC-9 COMP
Prep Type: Total/NA
Prep Batch: 220892

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dieldrin	ND		6.24	ND		ug/Kg	☼	63	42 - 121	9	25
Endosulfan I	ND	F2	6.24	3.41	F2	ug/Kg	☼	55	35 - 120	30	26
Endosulfan II	ND		6.24	ND	F1	ug/Kg	☼	-23	30 - 123	1	23
Endosulfan sulfate	ND	F2	6.24	ND	F2	ug/Kg	☼	58	40 - 116	58	28
Endrin	ND	*	6.24	ND		ug/Kg	☼	67	41 - 127	9	24
Endrin aldehyde	ND	*	6.24	ND		ug/Kg	☼	52	20 - 127	1	34
Endrin ketone	ND	F2	6.24	ND	F1	ug/Kg	☼	28	35 - 119	9	26
gamma-BHC (Lindane)	ND		6.24	4.00		ug/Kg	☼	49	40 - 107	4	20
Heptachlor	ND		6.24	ND		ug/Kg	☼	61	40 - 124	20	24
Heptachlor epoxide	ND	F1	6.24	5.13		ug/Kg	☼	45	41 - 117	17	23
Hexachlorobenzene	ND	F1	6.24	17.9	F1	ug/Kg	☼	287	20 - 150	0	37
Hexachlorobutadiene	ND		6.24	3.53		ug/Kg	☼	57	37 - 119	7	39
Methoxychlor	ND	F1	6.24	ND	F1	ug/Kg	☼	0	40 - 128	NC	25
trans-Chlordane	ND	F2	6.24	5.92	F2	ug/Kg	☼	78	43 - 119	29	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
DCB Decachlorobiphenyl	*91*		*27 - 118*
Tetrachloro-m-xylene	*77*		*23 - 133*

Lab Sample ID: MB 580-221799/1-A
Matrix: Solid
Analysis Batch: 222437

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 221799

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.33		ug/Kg		07/07/16 15:34	07/14/16 21:01	1
alpha-BHC	ND		0.33		ug/Kg		07/07/16 15:34	07/14/16 21:01	1
beta-BHC	ND		0.67		ug/Kg		07/07/16 15:34	07/14/16 21:01	1
4,4'-DDE	ND		0.67		ug/Kg		07/07/16 15:34	07/14/16 21:01	1
4,4'-DDD	ND		0.67		ug/Kg		07/07/16 15:34	07/14/16 21:01	1
alpha-Chlordane	ND		0.33		ug/Kg		07/07/16 15:34	07/14/16 21:01	1
4,4'-DDT	ND		0.67		ug/Kg		07/07/16 15:34	07/14/16 21:01	1
delta-BHC	ND		0.33		ug/Kg		07/07/16 15:34	07/14/16 21:01	1
Dieldrin	ND		0.67		ug/Kg		07/07/16 15:34	07/14/16 21:01	1
Endosulfan I	ND		0.33		ug/Kg		07/07/16 15:34	07/14/16 21:01	1
Endosulfan II	ND		0.67		ug/Kg		07/07/16 15:34	07/14/16 21:01	1
Endosulfan sulfate	ND		0.67		ug/Kg		07/07/16 15:34	07/14/16 21:01	1
Endrin	ND		0.67		ug/Kg		07/07/16 15:34	07/14/16 21:01	1
Endrin aldehyde	ND		0.67		ug/Kg		07/07/16 15:34	07/14/16 21:01	1
Chlordane (technical)	ND		3.3		ug/Kg		07/07/16 15:34	07/14/16 21:01	1
Endrin ketone	ND		0.67		ug/Kg		07/07/16 15:34	07/14/16 21:01	1
gamma-BHC (Lindane)	ND		0.33		ug/Kg		07/07/16 15:34	07/14/16 21:01	1
Heptachlor	ND		0.67		ug/Kg		07/07/16 15:34	07/14/16 21:01	1
Heptachlor epoxide	ND		0.33		ug/Kg		07/07/16 15:34	07/14/16 21:01	1
Hexachlorobenzene	ND		0.33		ug/Kg		07/07/16 15:34	07/14/16 21:01	1
Hexachlorobutadiene	ND		0.33		ug/Kg		07/07/16 15:34	07/14/16 21:01	1
Methoxychlor	ND		3.3		ug/Kg		07/07/16 15:34	07/14/16 21:01	1
Toxaphene	ND		33		ug/Kg		07/07/16 15:34	07/14/16 21:01	1
gamma-Chlordane	ND		0.33		ug/Kg		07/07/16 15:34	07/14/16 21:01	1

QC Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	105		27 - 118	07/07/16 15:34	07/14/16 21:01	1
Tetrachloro-m-xylene	99		23 - 133	07/07/16 15:34	07/14/16 21:01	1

Lab Sample ID: LCS 580-221799/2-A
Matrix: Solid
Analysis Batch: 222437

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 221799

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	6.67	6.11		ug/Kg		92	41 - 117
alpha-BHC	6.67	5.96		ug/Kg		89	40 - 110
beta-BHC	6.67	6.63		ug/Kg		99	35 - 109
4,4'-DDE	6.67	5.41		ug/Kg		81	42 - 118
4,4'-DDD	6.67	6.19		ug/Kg		93	41 - 118
alpha-Chlordane	6.67	5.97		ug/Kg		89	43 - 117
4,4'-DDT	6.67	6.87		ug/Kg		103	36 - 122
delta-BHC	6.67	5.57		ug/Kg		84	22 - 120
Dieldrin	6.67	6.70		ug/Kg		100	42 - 121
Endosulfan I	6.67	6.86		ug/Kg		103	35 - 120
Endosulfan II	6.67	3.96		ug/Kg		59	30 - 123
Endosulfan sulfate	6.67	6.29		ug/Kg		94	40 - 116
Endrin	6.67	6.88		ug/Kg		103	41 - 127
Endrin aldehyde	6.67	5.56		ug/Kg		83	20 - 127
Endrin ketone	6.67	5.91		ug/Kg		89	35 - 119
gamma-BHC (Lindane)	6.67	5.95		ug/Kg		89	40 - 107
Heptachlor	6.67	5.31		ug/Kg		80	40 - 124
Heptachlor epoxide	6.67	5.99		ug/Kg		90	41 - 117
Hexachlorobenzene	6.67	6.96		ug/Kg		104	20 - 150
Hexachlorobutadiene	6.67	6.23		ug/Kg		93	37 - 119
Methoxychlor	6.67	6.28		ug/Kg		94	40 - 128
gamma-Chlordane	6.67	6.41		ug/Kg		96	43 - 119

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	94		27 - 118
Tetrachloro-m-xylene	91		23 - 133

Lab Sample ID: LCSD 580-221799/3-A
Matrix: Solid
Analysis Batch: 222437

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 221799

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aldrin	6.67	6.48		ug/Kg		97	41 - 117	6	31
alpha-BHC	6.67	6.51		ug/Kg		98	40 - 110	9	22
beta-BHC	6.67	6.91		ug/Kg		104	35 - 109	4	26
4,4'-DDE	6.67	5.69		ug/Kg		85	42 - 118	5	26
4,4'-DDD	6.67	6.79		ug/Kg		102	41 - 118	9	28
alpha-Chlordane	6.67	6.28		ug/Kg		94	43 - 117	5	24
4,4'-DDT	6.67	7.78		ug/Kg		117	36 - 122	12	37
delta-BHC	6.67	5.54		ug/Kg		83	22 - 120	1	22
Dieldrin	6.67	7.16		ug/Kg		107	42 - 121	7	25
Endosulfan I	6.67	7.21		ug/Kg		108	35 - 120	5	26
Endosulfan II	6.67	4.16		ug/Kg		62	30 - 123	5	23
Endosulfan sulfate	6.67	6.75		ug/Kg		101	40 - 116	7	28
Endrin	6.67	7.53		ug/Kg		113	41 - 127	9	24

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCSD 580-221799/3-A
Matrix: Solid
Analysis Batch: 222437

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 221799

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Endrin aldehyde			6.67	7.60		ug/Kg		114	20 - 127	31	34
Endrin ketone			6.67	6.28		ug/Kg		94	35 - 119	6	26
gamma-BHC (Lindane)			6.67	6.32		ug/Kg		95	40 - 107	6	20
Heptachlor			6.67	5.73		ug/Kg		86	40 - 124	8	24
Heptachlor epoxide			6.67	6.36		ug/Kg		95	41 - 117	6	23
Hexachlorobenzene			6.67	7.42		ug/Kg		111	20 - 150	6	37
Hexachlorobutadiene			6.67	6.37		ug/Kg		95	37 - 119	2	39
Methoxychlor			6.67	7.31		ug/Kg		110	40 - 128	15	25
gamma-Chlordane			6.67	6.82		ug/Kg		102	43 - 119	6	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl	*106*		*27 - 118*
Tetrachloro-m-xylene	*96*		*23 - 133*

Lab Sample ID: 580-60394-19 MS
Matrix: Solid
Analysis Batch: 222437

Client Sample ID: ISM-Primary
Prep Type: Total/NA
Prep Batch: 221799

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aldrin	ND	H F1	6.39	ND	F1	ug/Kg		34	41 - 117		
alpha-BHC	ND	H F2 F1	6.39	ND	F1	ug/Kg		20	40 - 110		
beta-BHC	ND	H F1	6.39	ND	F1	ug/Kg		21	35 - 109		
4,4'-DDE	10	H F1	6.39	ND	F1	ug/Kg		-61	42 - 118		
4,4'-DDD	ND	H F1	6.39	ND	F1	ug/Kg		7	41 - 118		
alpha-Chlordane	ND	H F2 F1	6.39	ND	F1	ug/Kg		25	43 - 117		
4,4'-DDT	ND	H F1	6.39	ND	F1	ug/Kg		0	36 - 122		
delta-BHC	ND	H F1	6.39	ND	F1	ug/Kg		11	22 - 120		
Dieldrin	ND	H F1	6.39	ND	F1	ug/Kg		35	42 - 121		
Endosulfan I	ND	H F1	6.39	ND	F1	ug/Kg		27	35 - 120		
Endosulfan II	ND	H F1	6.39	ND	F1	ug/Kg		0	30 - 123		
Endosulfan sulfate	ND	H F1	6.39	ND	F1	ug/Kg		0	40 - 116		
Endrin	ND	H F2 F1	6.39	ND		ug/Kg		67	41 - 127		
Endrin aldehyde	ND	H F1	6.39	ND		ug/Kg		32	20 - 127		
Endrin ketone	ND	H F1	6.39	ND		ug/Kg		72	35 - 119		
gamma-BHC (Lindane)	ND	H F2 F1	6.39	ND	F1	ug/Kg		28	40 - 107		
Heptachlor	ND	H F1	6.39	ND	F1	ug/Kg		9	40 - 124		
Heptachlor epoxide	ND	H F1	6.39	ND	F1	ug/Kg		38	41 - 117		
Hexachlorobenzene	ND	H F2	6.39	ND		ug/Kg		31	20 - 150		
Hexachlorobutadiene	ND	H F2 F1	6.39	4.91		ug/Kg		77	37 - 119		
Methoxychlor	ND	H F1	6.39	ND	F1	ug/Kg		0	40 - 128		
gamma-Chlordane	ND	H F2 F1	6.39	ND	F1	ug/Kg		30	43 - 119		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*36*		*27 - 118*
Tetrachloro-m-xylene	*67*		*23 - 133*

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 580-60394-19 MSD
Matrix: Solid
Analysis Batch: 222437

Client Sample ID: ISM-Primary
Prep Type: Total/NA
Prep Batch: 221799

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aldrin	ND	H F1	6.40	ND	F1	ug/Kg		27	41 - 117	23	31
alpha-BHC	ND	H F2 F1	6.40	3.53	F1 F2	ug/Kg		36	40 - 110	34	22
beta-BHC	ND	H F1	6.40	ND	F1	ug/Kg		0	35 - 109	NC	26
4,4'-DDE	10	H F1	6.40	7.91	F1	ug/Kg		-33	42 - 118	25	26
4,4'-DDD	ND	H F1	6.40	ND	F1	ug/Kg		-5	41 - 118	27	28
alpha-Chlordane	ND	H F2 F1	6.40	ND	F1 F2	ug/Kg		16	43 - 117	43	24
4,4'-DDT	ND	H F1	6.40	ND	F1	ug/Kg		0	36 - 122	NC	37
delta-BHC	ND	H F1	6.40	ND	F1	ug/Kg		5	22 - 120	20	22
Dieldrin	ND	H F1	6.40	ND	F1	ug/Kg		30	42 - 121	14	25
Endosulfan I	ND	H F1	6.40	ND	F1	ug/Kg		0	35 - 120	NC	26
Endosulfan II	ND	H F1	6.40	ND	F1	ug/Kg		0	30 - 123	NC	23
Endosulfan sulfate	ND	H F1	6.40	ND	F1	ug/Kg		0	40 - 116	NC	28
Endrin	ND	H F2 F1	6.40	ND	F1 F2	ug/Kg		0.3	41 - 127	157	24
Endrin aldehyde	ND	H F1	6.40	ND	F1	ug/Kg		0	20 - 127	NC	34
Endrin ketone	ND	H F1	6.40	ND	F1	ug/Kg		0	35 - 119	NC	26
gamma-BHC (Lindane)	ND	H F2 F1	6.40	ND	F1 F2	ug/Kg		15	40 - 107	58	20
Heptachlor	ND	H F1	6.40	ND	F1	ug/Kg		11	40 - 124	16	24
Heptachlor epoxide	ND	H F1	6.40	ND	F1	ug/Kg		36	41 - 117	4	23
Hexachlorobenzene	ND	H F2	6.40	5.38	F2	ug/Kg		72	20 - 150	64	37
Hexachlorobutadiene	ND	H F2 F1	6.40	9.52	F1 F2	ug/Kg		149	37 - 119	64	39
Methoxychlor	ND	H F1	6.40	ND	F1	ug/Kg		0	40 - 128	NC	25
gamma-Chlordane	ND	H F2 F1	6.40	ND	F1 F2	ug/Kg		19	43 - 119	46	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
DCB Decachlorobiphenyl	*43*		*27 - 118*
Tetrachloro-m-xylene	*97*		*23 - 133*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 580-220892/1-A
Matrix: Solid
Analysis Batch: 221658

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 220892

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0010		mg/Kg		06/27/16 12:23	07/07/16 03:35	1
PCB-1221	ND		0.0011		mg/Kg		06/27/16 12:23	07/07/16 03:35	1
PCB-1232	ND		0.0011		mg/Kg		06/27/16 12:23	07/07/16 03:35	1
PCB-1242	ND		0.0010		mg/Kg		06/27/16 12:23	07/07/16 03:35	1
PCB-1248	ND		0.0011		mg/Kg		06/27/16 12:23	07/07/16 03:35	1
PCB-1254	ND		0.0010		mg/Kg		06/27/16 12:23	07/07/16 03:35	1
PCB-1260	ND		0.0010		mg/Kg		06/27/16 12:23	07/07/16 03:35	1
PCB-1262	ND		0.0010		mg/Kg		06/27/16 12:23	07/07/16 03:35	1
PCB-1268	ND		0.0010		mg/Kg		06/27/16 12:23	07/07/16 03:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*49*		*37 - 140*	*06/27/16 12:23*	*07/07/16 03:35*	*1*
Tetrachloro-m-xylene	*53*		*45 - 135*	*06/27/16 12:23*	*07/07/16 03:35*	*1*

QC Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Lab Sample ID: LCS 580-220892/4-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221658 — **Prep Batch: 220892**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
PCB-1016			0.0125	0.00881		mg/Kg		70	51 - 129		
PCB-1260			0.0125	0.00975		mg/Kg		78	45 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*66*		*37 - 140*
Tetrachloro-m-xylene	*70*		*45 - 135*

Lab Sample ID: LCSD 580-220892/5-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221658 — **Prep Batch: 220892**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016			0.0125	0.00917		mg/Kg		73	51 - 129	4	25
PCB-1260			0.0125	0.00965		mg/Kg		77	45 - 130	1	40

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl	*62*		*37 - 140*
Tetrachloro-m-xylene	*67*		*45 - 135*

Lab Sample ID: 580-60394-6 MS — **Client Sample ID: AC-9 COMP**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221658 — **Prep Batch: 220892**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
PCB-1016	ND		0.0116	0.00757		mg/Kg		65	51 - 129		
PCB-1260	0.0010	F1	0.0116	0.00599	F1	mg/Kg		43	45 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*46*		*37 - 140*
Tetrachloro-m-xylene	*61*		*45 - 135*

Lab Sample ID: 580-60394-6 MSD — **Client Sample ID: AC-9 COMP**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221658 — **Prep Batch: 220892**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016	ND		0.0119	0.00836		mg/Kg		70	51 - 129	10	25
PCB-1260	0.0010	F1	0.0119	0.00690		mg/Kg		49	45 - 130	14	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
DCB Decachlorobiphenyl	*48*		*37 - 140*
Tetrachloro-m-xylene	*66*		*45 - 135*

Lab Sample ID: MB 580-221799/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 222116 — **Prep Batch: 221799**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0083		mg/Kg		07/07/16 15:34	07/12/16 01:51	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: MB 580-221799/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 222116 — **Prep Batch: 221799**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1221	ND		0.0037		mg/Kg		07/07/16 15:34	07/12/16 01:51	1
PCB-1232	ND		0.0037		mg/Kg		07/07/16 15:34	07/12/16 01:51	1
PCB-1242	ND		0.0033		mg/Kg		07/07/16 15:34	07/12/16 01:51	1
PCB-1248	ND		0.0037		mg/Kg		07/07/16 15:34	07/12/16 01:51	1
PCB-1254	ND		0.0033		mg/Kg		07/07/16 15:34	07/12/16 01:51	1
PCB-1260	ND		0.0033		mg/Kg		07/07/16 15:34	07/12/16 01:51	1
PCB-1262	ND		0.0033		mg/Kg		07/07/16 15:34	07/12/16 01:51	1
PCB-1268	ND		0.0033		mg/Kg		07/07/16 15:34	07/12/16 01:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*79*		*37 - 140*	*07/07/16 15:34*	*07/12/16 01:51*	*1*
Tetrachloro-m-xylene	*76*		*45 - 135*	*07/07/16 15:34*	*07/12/16 01:51*	*1*

Lab Sample ID: LCS 580-221799/4-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 222116 — **Prep Batch: 221799**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	0.0333	0.0260		mg/Kg		78	51 - 129
PCB-1260	0.0334	0.0296		mg/Kg		89	45 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*76*		*37 - 140*
Tetrachloro-m-xylene	*75*		*45 - 135*

Lab Sample ID: LCSD 580-221799/5-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 222116 — **Prep Batch: 221799**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016	0.0333	0.0270		mg/Kg		81	51 - 129	4	25
PCB-1260	0.0334	0.0307		mg/Kg		92	45 - 130	4	40

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl	*82*		*37 - 140*
Tetrachloro-m-xylene	*76*		*45 - 135*

Lab Sample ID: 580-60394-19 MS — **Client Sample ID: ISM-Primary**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 222116 — **Prep Batch: 221799**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	ND	H F1	0.0326	0.0302		mg/Kg		92	51 - 129
PCB-1260	0.0061	H F1	0.0327	0.0157	F1	mg/Kg		29	45 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*33*	*X*	*37 - 140*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: 580-60394-19 MS — **Client Sample ID: ISM-Primary**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 222116 — **Prep Batch: 221799**

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene	*42*	*X*	*45 - 135*

Lab Sample ID: 580-60394-19 MSD — **Client Sample ID: ISM-Primary**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 222116 — **Prep Batch: 221799**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016	ND	H F1	0.0321	0.0264		mg/Kg		82	51 - 129	14	25
PCB-1260	0.0061	H F1	0.0321	0.0154	F1	mg/Kg		29	45 - 130	2	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
DCB Decachlorobiphenyl	*28*	*X*	*37 - 140*
Tetrachloro-m-xylene	*38*	*X*	*45 - 135*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-220769/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 220830 — **Prep Batch: 220769**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		25		mg/Kg		06/24/16 13:25	06/26/16 00:03	1
Motor Oil (>C24-C36)	ND		50		mg/Kg		06/24/16 13:25	06/26/16 00:03	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	*68*		*50 - 150*	*06/24/16 13:25*	*06/26/16 00:03*	*1*

Lab Sample ID: LCS 580-220769/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 220830 — **Prep Batch: 220769**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	503	392		mg/Kg		78	70 - 125
Motor Oil (>C24-C36)	503	413		mg/Kg		82	64 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	*77*		*50 - 150*

Lab Sample ID: LCSD 580-220769/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 220830 — **Prep Batch: 220769**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	503	407		mg/Kg		81	70 - 125	4	16
Motor Oil (>C24-C36)	503	433		mg/Kg		86	64 - 127	5	17

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 580-220769/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 220830 — **Prep Batch: 220769**

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
o-Terphenyl	81		50 - 150

Lab Sample ID: 580-60394-6 DU — **Client Sample ID: AC-9 COMP**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 220830 — **Prep Batch: 220769**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
#2 Diesel (C10-C24)	100			ND	F5	mg/Kg	☼			47	35
Motor Oil (>C24-C36)	300			298		mg/Kg	☼			0.4	35

Surrogate	DU %Recovery	DU Qualifier	Limits
o-Terphenyl	54		50 - 150

Lab Sample ID: MB 580-220823/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 220895 — **Prep Batch: 220823**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		25		mg/Kg		06/25/16 11:15	06/27/16 13:59	1
Motor Oil (>C24-C36)	ND		50		mg/Kg		06/25/16 11:15	06/27/16 13:59	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	73		50 - 150	06/25/16 11:15	06/27/16 13:59	1

Lab Sample ID: LCS 580-220823/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 220895 — **Prep Batch: 220823**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
#2 Diesel (C10-C24)			503	383		mg/Kg		76	70 - 125		
Motor Oil (>C24-C36)			503	404		mg/Kg		80	64 - 127		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	75		50 - 150

Lab Sample ID: LCSD 580-220823/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 220895 — **Prep Batch: 220823**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)			503	369		mg/Kg		73	70 - 125	4	16
Motor Oil (>C24-C36)			503	383		mg/Kg		76	64 - 127	5	17

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
o-Terphenyl	71		50 - 150

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 580-60297-B-8-E DU — **Client Sample ID: Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 220895 — **Prep Batch: 220823**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
#2 Diesel (C10-C24)	140			133		mg/Kg	☼			2	35
Motor Oil (>C24-C36)	480			517		mg/Kg	☼			7	35

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o-Terphenyl	*60*		*50 - 150*

Lab Sample ID: MB 580-220910/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 220958 — **Prep Batch: 220910**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		25		mg/Kg		06/27/16 13:55	06/28/16 00:22	1
Motor Oil (>C24-C36)	ND		50		mg/Kg		06/27/16 13:55	06/28/16 00:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*80*		*50 - 150*	*06/27/16 13:55*	*06/28/16 00:22*	*1*

Lab Sample ID: LCS 580-220910/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 220958 — **Prep Batch: 220910**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
#2 Diesel (C10-C24)			503	415		mg/Kg		82	70 - 125		
Motor Oil (>C24-C36)			503	449		mg/Kg		89	64 - 127		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*89*		*50 - 150*

Lab Sample ID: LCSD 580-220910/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 220958 — **Prep Batch: 220910**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)			503	443		mg/Kg		88	70 - 125	7	16
Motor Oil (>C24-C36)			503	485		mg/Kg		96	64 - 127	8	17

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*79*		*50 - 150*

Lab Sample ID: 580-60396-F-1-D DU — **Client Sample ID: Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 220958 — **Prep Batch: 220910**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
#2 Diesel (C10-C24)	ND			ND		mg/Kg	☼			NC	35
Motor Oil (>C24-C36)	ND			ND		mg/Kg	☼			35	35

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 580-60396-F-1-D DU — **Client Sample ID: Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 220958 — **Prep Batch: 220910**

Surrogate	DU %Recovery	DU Qualifier	Limits
o-Terphenyl	83		50 - 150

Lab Sample ID: MB 580-221627/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221738 — **Prep Batch: 221627**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		8.3		mg/Kg		07/06/16 09:03	07/07/16 16:02	1
Motor Oil (>C24-C36)	ND		17		mg/Kg		07/06/16 09:03	07/07/16 16:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	80		50 - 150	07/06/16 09:03	07/07/16 16:02	1

Lab Sample ID: LCS 580-221627/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221738 — **Prep Batch: 221627**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
#2 Diesel (C10-C24)			168	135		mg/Kg		81	70 - 125		
Motor Oil (>C24-C36)			168	129		mg/Kg		77	64 - 127		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	82		50 - 150

Lab Sample ID: LCSD 580-221627/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221738 — **Prep Batch: 221627**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)			168	144		mg/Kg		86	70 - 125	6	16
Motor Oil (>C24-C36)			168	139		mg/Kg		83	64 - 127	7	17

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
o-Terphenyl	85		50 - 150

Lab Sample ID: 580-60394-19 DU — **Client Sample ID: ISM-Primary**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221738 — **Prep Batch: 221627**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
#2 Diesel (C10-C24)	73	H		108	F3	mg/Kg				38	35
Motor Oil (>C24-C36)	500	H		840	F3	mg/Kg				51	35

Surrogate	DU %Recovery	DU Qualifier	Limits
o-Terphenyl	80		50 - 150

Method: WS-LC-0025 - Perfluorinated Hydrocarbons

Lab Sample ID: MB 320-115224/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 118317 — **Prep Batch: 115224**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	ND		0.20		ug/Kg		06/24/16 12:37	07/17/16 23:08	1
Perfluorooctane Sulfonate (PFOS)	ND		0.20		ug/Kg		06/24/16 12:37	07/17/16 23:08	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*91*		*25 - 150*	*06/24/16 12:37*	*07/17/16 23:08*	*1*
13C4 PFOA	*88*		*25 - 150*	*06/24/16 12:37*	*07/17/16 23:08*	*1*

Lab Sample ID: LCS 320-115224/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 118317 — **Prep Batch: 115224**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanoic acid (PFOA)	4.02	5.21		ug/Kg		130	54 - 144
Perfluorooctane Sulfonate (PFOS)	3.73	4.35		ug/Kg		117	47 - 154

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFOS	*83*		*25 - 150*
13C4 PFOA	*93*		*25 - 150*

Lab Sample ID: 580-60394-33 MS — **Client Sample ID: AC-2 COMP**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 118317 — **Prep Batch: 115224**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanoic acid (PFOA)	ND		3.95	4.99		ug/Kg		126	54 - 144
Perfluorooctane Sulfonate (PFOS)	ND	F1	3.67	5.30		ug/Kg		144	47 - 154

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C4 PFOS	*114*		*25 - 150*
13C4 PFOA	*113*		*25 - 150*

Lab Sample ID: 580-60394-33 MSD — **Client Sample ID: AC-2 COMP**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 118317 — **Prep Batch: 115224**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanoic acid (PFOA)	ND		4.07	5.59		ug/Kg		137	54 - 144	11	30
Perfluorooctane Sulfonate (PFOS)	ND	F1	3.77	6.21	F1	ug/Kg		165	47 - 154	16	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C4 PFOS	*96*		*25 - 150*
13C4 PFOA	*108*		*25 - 150*

QC Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 320-116868/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 117626 — **Prep Batch: 116868**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.20		mg/Kg		07/07/16 06:45	07/12/16 11:02	1
Cadmium	ND		0.10		mg/Kg		07/07/16 06:45	07/12/16 11:02	1
Chromium	ND		0.20		mg/Kg		07/07/16 06:45	07/12/16 11:02	1
Copper	ND		0.20		mg/Kg		07/07/16 06:45	07/12/16 11:02	1
Lead	ND		0.10		mg/Kg		07/07/16 06:45	07/12/16 11:02	1
Silver	ND		0.10		mg/Kg		07/07/16 06:45	07/12/16 11:02	1
Zinc	ND		1.0		mg/Kg		07/07/16 06:45	07/12/16 11:02	1

Lab Sample ID: LCS 320-116868/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 117626 — **Prep Batch: 116868**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	20.0	18.5		mg/Kg		92	80 - 120
Cadmium	20.0	19.7		mg/Kg		99	80 - 120
Chromium	20.0	20.4		mg/Kg		102	80 - 120
Copper	20.0	20.5		mg/Kg		103	80 - 120
Lead	20.0	20.5		mg/Kg		103	80 - 120
Silver	5.00	4.96		mg/Kg		99	80 - 120
Zinc	20.0	18.3		mg/Kg		91	80 - 120

Lab Sample ID: 580-60394-6 MS — **Client Sample ID: AC-9 COMP**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 117626 — **Prep Batch: 116868**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.8		11.4	11.7		mg/Kg		87	80 - 120
Cadmium	0.25		11.4	10.6		mg/Kg		91	80 - 120
Chromium	8.6		11.4	20.7		mg/Kg		107	80 - 120
Copper	12		11.4	25.9		mg/Kg		120	80 - 120
Lead	8.4		11.4	20.9		mg/Kg		110	80 - 120
Silver	0.064		2.84	2.73		mg/Kg		94	80 - 120
Zinc	61		11.4	79.8	4	mg/Kg		162	80 - 120

Lab Sample ID: 580-60394-6 MSD — **Client Sample ID: AC-9 COMP**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 117626 — **Prep Batch: 116868**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.8		11.0	11.7		mg/Kg		90	80 - 120	0	20
Cadmium	0.25		11.0	10.5		mg/Kg		93	80 - 120	1	20
Chromium	8.6		11.0	19.8		mg/Kg		102	80 - 120	4	20
Copper	12		11.0	25.1		mg/Kg		116	80 - 120	3	20
Lead	8.4		11.0	20.0		mg/Kg		105	80 - 120	4	20
Silver	0.064		2.76	2.71		mg/Kg		96	80 - 120	1	47
Zinc	61		11.0	77.3	4	mg/Kg		144	80 - 120	3	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 320-117250/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 118058 — **Prep Batch: 117250**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.20		mg/Kg		07/11/16 06:45	07/14/16 10:35	1
Cadmium	ND		0.10		mg/Kg		07/11/16 06:45	07/14/16 10:35	1
Chromium	ND		0.20		mg/Kg		07/11/16 06:45	07/14/16 10:35	1
Copper	ND		0.20		mg/Kg		07/11/16 06:45	07/14/16 10:35	1
Lead	ND		0.10		mg/Kg		07/11/16 06:45	07/14/16 10:35	1
Silver	ND		0.10		mg/Kg		07/11/16 06:45	07/14/16 10:35	1
Zinc	ND		1.0		mg/Kg		07/11/16 06:45	07/14/16 10:35	1

Lab Sample ID: LCS 320-117250/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 118058 — **Prep Batch: 117250**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	20.0	20.0		mg/Kg		100	80 - 120
Cadmium	20.0	19.7		mg/Kg		99	80 - 120
Chromium	20.0	20.6		mg/Kg		103	80 - 120
Copper	20.0	20.8		mg/Kg		104	80 - 120
Lead	20.0	20.1		mg/Kg		101	80 - 120
Silver	5.00	4.91		mg/Kg		98	80 - 120
Zinc	20.0	20.3		mg/Kg		102	80 - 120

Lab Sample ID: 580-60394-33 MS — **Client Sample ID: AC-2 COMP**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 118058 — **Prep Batch: 117250**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.7	F1	9.95	9.33	F1	mg/Kg		76	80 - 120
Cadmium	0.26	F1	9.95	7.78	F1	mg/Kg		76	80 - 120
Chromium	12	F1	9.95	19.4	F1	mg/Kg		78	80 - 120
Copper	11	F1	9.95	19.0	F1	mg/Kg		77	80 - 120
Lead	6.5	F1	9.95	14.4	F1	mg/Kg		79	80 - 120
Silver	0.055	F1	2.49	1.94	F1	mg/Kg		76	80 - 120
Zinc	49		9.95	53.6	4	mg/Kg		43	80 - 120

Lab Sample ID: 580-60394-33 MSD — **Client Sample ID: AC-2 COMP**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 118058 — **Prep Batch: 117250**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.7	F1	9.95	9.58	F1	mg/Kg		79	80 - 120	3	20
Cadmium	0.26	F1	9.95	7.97	F1	mg/Kg		77	80 - 120	2	20
Chromium	12	F1	9.95	17.3	F1	mg/Kg		57	80 - 120	12	20
Copper	11	F1	9.95	17.2	F1	mg/Kg		59	80 - 120	10	20
Lead	6.5	F1	9.95	13.1	F1	mg/Kg		67	80 - 120	9	20
Silver	0.055	F1	2.49	1.99	F1	mg/Kg		78	80 - 120	3	47
Zinc	49		9.95	47.9	4	mg/Kg		-14	80 - 120	11	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 580-221594/6-A
Matrix: Solid
Analysis Batch: 221754

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 221594

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.5		mg/Kg		07/05/16 17:39	07/07/16 04:35	50
Cadmium	ND		1.0		mg/Kg		07/05/16 17:39	07/07/16 04:35	50
Chromium	ND		2.5		mg/Kg		07/05/16 17:39	07/07/16 04:35	50
Copper	ND		2.0		mg/Kg		07/05/16 17:39	07/07/16 04:35	50
Lead	ND		2.5		mg/Kg		07/05/16 17:39	07/07/16 04:35	50
Silver	ND		1.0		mg/Kg		07/05/16 17:39	07/07/16 04:35	50
Zinc	ND		25		mg/Kg		07/05/16 17:39	07/07/16 04:35	50

Lab Sample ID: LCS 580-221594/7-A
Matrix: Solid
Analysis Batch: 221754

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 221594

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	200	205		mg/Kg		103	80 - 120
Cadmium	5.00	5.03		mg/Kg		101	80 - 120
Chromium	20.0	20.5		mg/Kg		103	80 - 120
Copper	25.0	25.2		mg/Kg		101	80 - 120
Lead	50.0	51.8		mg/Kg		104	80 - 120
Silver	30.0	31.5		mg/Kg		105	80 - 120
Zinc	200	200		mg/Kg		100	80 - 120

Lab Sample ID: LCSD 580-221594/8-A
Matrix: Solid
Analysis Batch: 221754

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 221594

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	200	205		mg/Kg		103	80 - 120	0	20
Cadmium	5.00	4.72		mg/Kg		94	80 - 120	6	20
Chromium	20.0	20.8		mg/Kg		104	80 - 120	1	20
Copper	25.0	25.0		mg/Kg		100	80 - 120	1	20
Lead	50.0	52.2		mg/Kg		104	80 - 120	1	20
Silver	30.0	31.5		mg/Kg		105	80 - 120	0	20
Zinc	200	202		mg/Kg		101	80 - 120	1	20

Lab Sample ID: 580-60394-19 MS
Matrix: Solid
Analysis Batch: 221754

Client Sample ID: ISM-Primary
Prep Type: Total/NA
Prep Batch: 221594

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	5.4		96.4	100		mg/Kg		98	80 - 120
Cadmium	0.62		2.41	2.80		mg/Kg		91	80 - 120
Chromium	25		9.64	35.5		mg/Kg		108	80 - 120
Copper	65		12.0	76.8	4	mg/Kg		101	80 - 120
Lead	25		24.1	48.2		mg/Kg		98	80 - 120
Silver	ND		14.5	14.7		mg/Kg		100	80 - 120
Zinc	180		96.4	271		mg/Kg		95	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 580-60394-19 MSD — **Client Sample ID: ISM-Primary**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221754 — **Prep Batch: 221594**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	5.4		96.1	99.2		mg/Kg		98	80 - 120	1	20
Cadmium	0.62		2.40	2.81		mg/Kg		91	80 - 120	0	20
Chromium	25		9.61	35.5		mg/Kg		108	80 - 120	0	20
Copper	65		12.0	73.7	4	mg/Kg		75	80 - 120	4	20
Lead	25		24.0	48.0		mg/Kg		98	80 - 120	0	20
Silver	ND		14.4	14.7		mg/Kg		101	80 - 120	0	20
Zinc	180		96.1	269		mg/Kg		93	80 - 120	1	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-221054/18-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221149 — **Prep Batch: 221054**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		06/28/16 16:57	06/29/16 10:58	1

Lab Sample ID: LCS 580-221054/19-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221149 — **Prep Batch: 221054**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.167	0.165		mg/Kg		99	80 - 120

Lab Sample ID: LCSD 580-221054/20-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221149 — **Prep Batch: 221054**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.167	0.159		mg/Kg		96	80 - 120	3	20

Lab Sample ID: LCSSRM 580-221054/21-A ^10 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221149 — **Prep Batch: 221054**

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	12.9	16.3		mg/Kg		126.2	51.2 - 148.1

Lab Sample ID: 580-60301-B-1-E MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221149 — **Prep Batch: 221054**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.024		0.137	0.173		mg/Kg	☼	109	80 - 120

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: 580-60301-B-1-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221149 — **Prep Batch: 221054**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.024		0.166	0.210		mg/Kg	☼	112	80 - 120	19	20

Lab Sample ID: 580-60301-B-1-D DU — **Client Sample ID: Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221149 — **Prep Batch: 221054**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Mercury	0.024			ND		mg/Kg	☼			NC	20

Lab Sample ID: MB 580-221065/19-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221149 — **Prep Batch: 221065**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		06/28/16 18:53	06/29/16 11:58	1

Lab Sample ID: LCS 580-221065/20-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221149 — **Prep Batch: 221065**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.167	0.157		mg/Kg		94	80 - 120		

Lab Sample ID: LCSD 580-221065/21-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221149 — **Prep Batch: 221065**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			0.167	0.155		mg/Kg		93	80 - 120	1	20

Lab Sample ID: 580-60563-A-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221149 — **Prep Batch: 221065**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	ND		0.157	0.183		mg/Kg	☼	109	80 - 120		

Lab Sample ID: 580-60563-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221149 — **Prep Batch: 221065**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.160	0.192		mg/Kg	☼	113	80 - 120	5	20

Lab Sample ID: 580-60563-A-1-B DU — **Client Sample ID: Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221149 — **Prep Batch: 221065**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Mercury	ND			ND		mg/Kg	☼			NC	20

QC Sample Results

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Lab Sample ID: MB 580-221592/6-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221651 — **Prep Batch: 221592**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.012		mg/Kg		07/05/16 17:21	07/06/16 10:56	1

Lab Sample ID: LCS 580-221592/7-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221651 — **Prep Batch: 221592**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.100	0.0909		mg/Kg		91	80 - 120

Lab Sample ID: LCSD 580-221592/8-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221651 — **Prep Batch: 221592**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.100	0.0984		mg/Kg		98	80 - 120	8	20

Lab Sample ID: 580-60394-19 MS — **Client Sample ID: ISM-Primary**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221651 — **Prep Batch: 221592**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.082		0.0939	0.178		mg/Kg		102	80 - 120

Lab Sample ID: 580-60394-19 MSD — **Client Sample ID: ISM-Primary**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221651 — **Prep Batch: 221592**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.082		0.0973	0.189		mg/Kg		110	80 - 120	6	20

Method: D 2216 - Percent Moisture

Lab Sample ID: 580-60658-A-9 DU — **Client Sample ID: Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221388

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	89.3		89.3		%		0.05	20
Percent Moisture	10.7		10.7		%		0.4	20

Lab Sample ID: 580-60742-A-2 DU — **Client Sample ID: Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 221679

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	89.6		88.0		%		2	20
Percent Moisture	10.4		12.0		%		14	20

Lab Chronicle

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-9 COMP — Lab Sample ID: 580-60394-6

Date Collected: 06/13/16 13:10 — **Matrix: Solid**
Date Received: 06/17/16 13:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			220892	06/27/16 12:23	J1J	TAL SEA
Total/NA	Analysis	8082A		1	221658	07/07/16 04:23	DCV	TAL SEA
Total/NA	Prep	3050B			116868	07/07/16 06:45	NIM	TAL SAC
Total/NA	Analysis	6020A		1	117626	07/12/16 12:28	LW1	TAL SAC
Total/NA	Analysis	D 2216		1	221388	07/01/16 13:18	L1I	TAL SEA

Client Sample ID: AC-9 COMP — Lab Sample ID: 580-60394-6

Date Collected: 06/13/16 13:10 — **Matrix: Solid**
Date Received: 06/17/16 13:45 — **Percent Solids: 33.7**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			220769	06/24/16 13:25	CBS	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	220830	06/26/16 01:03	CJ	TAL SEA

Client Sample ID: AC-9 COMP — Lab Sample ID: 580-60394-6

Date Collected: 06/13/16 13:10 — **Matrix: Solid**
Date Received: 06/17/16 13:45 — **Percent Solids: 39.8**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			220606	06/23/16 08:18	CJZ	TAL SEA
Total/NA	Analysis	8270D		20	221214	06/30/16 15:11	D1R	TAL SEA
Total/NA	Prep	3550B			220892	06/27/16 12:23	J1J	TAL SEA
Total/NA	Analysis	8081B		10	222437	07/15/16 02:05	JCP	TAL SEA
Total/NA	Prep	7471A			221054	06/28/16 16:57	PAB	TAL SEA
Total/NA	Analysis	7471A		1	221149	06/29/16 11:46	FCW	TAL SEA

Client Sample ID: AC-10 COMP — Lab Sample ID: 580-60394-12

Date Collected: 06/13/16 14:45 — **Matrix: Solid**
Date Received: 06/17/16 13:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			220892	06/27/16 12:23	J1J	TAL SEA
Total/NA	Analysis	8082A		1	221658	07/07/16 05:12	DCV	TAL SEA
Total/NA	Prep	SHAKE			115224	06/24/16 16:29	ERW	TAL SAC
Total/NA	Analysis	WS-LC-0025		20	118317	07/18/16 02:20	JRB	TAL SAC
Total/NA	Prep	3050B			116868	07/07/16 06:45	NIM	TAL SAC
Total/NA	Analysis	6020A		1	117626	07/12/16 12:59	LW1	TAL SAC
Total/NA	Analysis	D 2216		1	221388	07/01/16 13:18	L1I	TAL SEA

Lab Chronicle

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-10 COMP — Lab Sample ID: 580-60394-12

Date Collected: 06/13/16 14:45 — **Matrix: Solid**
Date Received: 06/17/16 13:45 — **Percent Solids: 35.9**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			220606	06/23/16 08:18	CJZ	TAL SEA
Total/NA	Analysis	8270D		20	221214	06/30/16 16:27	D1R	TAL SEA
Total/NA	Prep	3550B			220892	06/27/16 12:23	J1J	TAL SEA
Total/NA	Analysis	8081B		10	222437	07/15/16 02:58	JCP	TAL SEA
Total/NA	Prep	7471A			221054	06/28/16 16:57	PAB	TAL SEA
Total/NA	Analysis	7471A		1	221149	06/29/16 11:48	FCW	TAL SEA

Client Sample ID: AC-10 COMP — Lab Sample ID: 580-60394-12

Date Collected: 06/13/16 14:45 — **Matrix: Solid**
Date Received: 06/17/16 13:45 — **Percent Solids: 38.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			220769	06/24/16 13:25	CBS	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	220830	06/26/16 01:44	CJ	TAL SEA

Client Sample ID: AC-8 COMP — Lab Sample ID: 580-60394-18

Date Collected: 06/13/16 16:30 — **Matrix: Solid**
Date Received: 06/17/16 13:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			220892	06/27/16 12:23	J1J	TAL SEA
Total/NA	Analysis	8082A		1	221658	07/07/16 05:28	DCV	TAL SEA
Total/NA	Prep	3050B			116868	07/07/16 06:45	NIM	TAL SAC
Total/NA	Analysis	6020A		1	117626	07/12/16 13:02	LW1	TAL SAC
Total/NA	Analysis	D 2216		1	221388	07/01/16 13:18	L1I	TAL SEA

Client Sample ID: AC-8 COMP — Lab Sample ID: 580-60394-18

Date Collected: 06/13/16 16:30 — **Matrix: Solid**
Date Received: 06/17/16 13:45 — **Percent Solids: 41.0**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			220606	06/23/16 08:18	CJZ	TAL SEA
Total/NA	Analysis	8270D		20	221214	06/30/16 16:53	D1R	TAL SEA
Total/NA	Prep	3550B			220892	06/27/16 12:23	J1J	TAL SEA
Total/NA	Analysis	8081B		10	222437	07/15/16 03:16	JCP	TAL SEA
Total/NA	Prep	7471A			221054	06/28/16 16:57	PAB	TAL SEA
Total/NA	Analysis	7471A		1	221149	06/29/16 11:55	FCW	TAL SEA

Client Sample ID: AC-8 COMP — Lab Sample ID: 580-60394-18

Date Collected: 06/13/16 16:30 — **Matrix: Solid**
Date Received: 06/17/16 13:45 — **Percent Solids: 50.1**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			220769	06/24/16 13:25	CBS	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	220830	06/26/16 02:04	CJ	TAL SEA

Client Sample ID: ISM-Primary — Lab Sample ID: 580-60394-19

Date Collected: 06/15/16 11:20 — **Matrix: Solid**
Date Received: 06/17/16 13:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	ISM Prep	Increment, prep			220928	06/27/16 15:45	HJM	TAL SEA
Total/NA	Prep	3550B			221574	07/05/16 15:25	CJZ	TAL SEA
Total/NA	Analysis	8270D		10	221612	07/06/16 22:16	D1R	TAL SEA
Total/NA	ISM Prep	Increment, prep			220928	06/27/16 15:45	HJM	TAL SEA
Total/NA	Prep	3546			221799	07/07/16 15:34	CBS	TAL SEA
Total/NA	Analysis	8081B		10	222437	07/15/16 00:36	JCP	TAL SEA
Total/NA	ISM Prep	Increment, prep			220928	06/27/16 15:45	HJM	TAL SEA
Total/NA	Prep	3546			221799	07/07/16 15:34	CBS	TAL SEA
Total/NA	Analysis	8082A		1	222116	07/12/16 02:40	DCV	TAL SEA
Total/NA	ISM Prep	Increment, prep			220928	06/27/16 15:45	HJM	TAL SEA
Total/NA	Prep	3546			221627	07/06/16 09:03	CBS	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	221738	07/07/16 17:07	JCP	TAL SEA
Total/NA	ISM Prep	Increment, prep			220928	06/27/16 15:45	HJM	TAL SEA
Total/NA	Prep	3050B			221594	07/05/16 17:39	PAB	TAL SEA
Total/NA	Analysis	6020A		50	221754	07/07/16 04:48	FCW	TAL SEA
Total/NA	ISM Prep	Increment, prep			220928	06/27/16 15:45	HJM	TAL SEA
Total/NA	Prep	7471A			221592	07/05/16 17:21	PAB	TAL SEA
Total/NA	Analysis	7471A		1	221651	07/06/16 11:04	FCW	TAL SEA

Client Sample ID: ISM-Rep 1 — Lab Sample ID: 580-60394-20

Date Collected: 06/15/16 11:21 — **Matrix: Solid**
Date Received: 06/17/16 13:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	ISM Prep	Increment, prep			220928	06/27/16 15:45	HJM	TAL SEA
Total/NA	Prep	3550B			221574	07/05/16 15:25	CJZ	TAL SEA
Total/NA	Analysis	8270D		10	221612	07/06/16 23:34	D1R	TAL SEA
Total/NA	ISM Prep	Increment, prep			220928	06/27/16 15:45	HJM	TAL SEA
Total/NA	Prep	3546			221799	07/07/16 15:34	CBS	TAL SEA
Total/NA	Analysis	8081B		10	222437	07/15/16 01:29	JCP	TAL SEA
Total/NA	ISM Prep	Increment, prep			220928	06/27/16 15:45	HJM	TAL SEA
Total/NA	Prep	3546			221799	07/07/16 15:34	CBS	TAL SEA
Total/NA	Analysis	8082A		1	222116	07/12/16 03:28	DCV	TAL SEA
Total/NA	ISM Prep	Increment, prep			220928	06/27/16 15:45	HJM	TAL SEA
Total/NA	Prep	3546			221627	07/06/16 09:03	CBS	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	221738	07/07/16 17:50	JCP	TAL SEA

Lab Chronicle

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: ISM-Rep 1

Lab Sample ID: 580-60394-20
Date Collected: 06/15/16 11:21
Matrix: Solid
Date Received: 06/17/16 13:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	ISM Prep	Increment, prep			220928	06/27/16 15:45	HJM	TAL SEA
Total/NA	Prep	3050B			221594	07/05/16 17:39	PAB	TAL SEA
Total/NA	Analysis	6020A		50	221754	07/07/16 05:06	FCW	TAL SEA
Total/NA	ISM Prep	Increment, prep			220928	06/27/16 15:45	HJM	TAL SEA
Total/NA	Prep	7471A			221592	07/05/16 17:21	PAB	TAL SEA
Total/NA	Analysis	7471A		1	221651	07/06/16 11:11	FCW	TAL SEA

Client Sample ID: ISM-Rep 2

Lab Sample ID: 580-60394-21
Date Collected: 06/15/16 11:22
Matrix: Solid
Date Received: 06/17/16 13:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	ISM Prep	Increment, prep			220928	06/27/16 15:45	HJM	TAL SEA
Total/NA	Prep	3550B			221574	07/05/16 15:25	CJZ	TAL SEA
Total/NA	Analysis	8270D		10	221612	07/07/16 00:00	D1R	TAL SEA
Total/NA	ISM Prep	Increment, prep			220928	06/27/16 15:45	HJM	TAL SEA
Total/NA	Prep	3546			221799	07/07/16 15:34	CBS	TAL SEA
Total/NA	Analysis	8081B		10	222437	07/15/16 01:47	JCP	TAL SEA
Total/NA	ISM Prep	Increment, prep			220928	06/27/16 15:45	HJM	TAL SEA
Total/NA	Prep	3546			221799	07/07/16 15:34	CBS	TAL SEA
Total/NA	Analysis	8082A		1	222116	07/12/16 03:45	DCV	TAL SEA
Total/NA	ISM Prep	Increment, prep			220928	06/27/16 15:45	HJM	TAL SEA
Total/NA	Prep	3546			221627	07/06/16 09:03	CBS	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	221738	07/07/16 18:11	JCP	TAL SEA
Total/NA	ISM Prep	Increment, prep			220928	06/27/16 15:45	HJM	TAL SEA
Total/NA	Prep	3050B			221594	07/05/16 17:39	PAB	TAL SEA
Total/NA	Analysis	6020A		50	221754	07/07/16 05:10	FCW	TAL SEA
Total/NA	ISM Prep	Increment, prep			220928	06/27/16 15:45	HJM	TAL SEA
Total/NA	Prep	7471A			221592	07/05/16 17:21	PAB	TAL SEA
Total/NA	Analysis	7471A		1	221651	07/06/16 11:14	FCW	TAL SEA

Client Sample ID: AC-1 COMP

Lab Sample ID: 580-60394-27
Date Collected: 06/15/16 12:55
Matrix: Solid
Date Received: 06/17/16 13:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			220892	06/27/16 12:23	J1J	TAL SEA
Total/NA	Analysis	8082A		1	221658	07/07/16 05:45	DCV	TAL SEA
Total/NA	Prep	3050B			116868	07/07/16 06:45	NIM	TAL SAC
Total/NA	Analysis	6020A		1	117626	07/12/16 13:06	LW1	TAL SAC
Total/NA	Analysis	D 2216		1	221679	07/06/16 15:23	L1I	TAL SEA

Lab Chronicle

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-1 COMP — Lab Sample ID: 580-60394-27

Date Collected: 06/15/16 12:55 — **Matrix: Solid**
Date Received: 06/17/16 13:45 — **Percent Solids: 48.6**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			220606	06/23/16 08:18	CJZ	TAL SEA
Total/NA	Analysis	8270D		20	221214	06/30/16 18:35	D1R	TAL SEA
Total/NA	Prep	3550B			220892	06/27/16 12:23	J1J	TAL SEA
Total/NA	Analysis	8081B		10	222437	07/15/16 03:34	JCP	TAL SEA
Total/NA	Prep	3546			220823	06/25/16 11:15	KZ1	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	220895	06/27/16 16:27	CJ	TAL SEA
Total/NA	Prep	7471A			221065	06/28/16 18:53	PAB	TAL SEA
Total/NA	Analysis	7471A		1	221149	06/29/16 12:31	FCW	TAL SEA

Client Sample ID: AC-2 COMP — Lab Sample ID: 580-60394-33

Date Collected: 06/15/16 14:05 — **Matrix: Solid**
Date Received: 06/17/16 13:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			220892	06/27/16 12:23	J1J	TAL SEA
Total/NA	Analysis	8082A		1	221658	07/07/16 06:01	DCV	TAL SEA
Total/NA	Prep	SHAKE			115224	06/24/16 12:37	ERW	TAL SAC
Total/NA	Analysis	WS-LC-0025		20	118317	07/17/16 23:51	JRB	TAL SAC
Total/NA	Prep	3050B			117250	07/11/16 06:45	NIM	TAL SAC
Total/NA	Analysis	6020A		1	118058	07/14/16 12:35	LW1	TAL SAC
Total/NA	Analysis	D 2216		1	221388	07/01/16 13:18	L1I	TAL SEA

Client Sample ID: AC-2 COMP — Lab Sample ID: 580-60394-33

Date Collected: 06/15/16 14:05 — **Matrix: Solid**
Date Received: 06/17/16 13:45 — **Percent Solids: 54.6**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			220606	06/23/16 08:18	CJZ	TAL SEA
Total/NA	Analysis	8270D		20	221214	06/30/16 19:01	D1R	TAL SEA
Total/NA	Prep	3550B			220892	06/27/16 12:23	J1J	TAL SEA
Total/NA	Analysis	8081B		10	222437	07/15/16 03:52	JCP	TAL SEA
Total/NA	Prep	3546			220823	06/25/16 11:15	KZ1	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	220895	06/27/16 16:48	CJ	TAL SEA
Total/NA	Prep	7471A			221065	06/28/16 18:53	PAB	TAL SEA
Total/NA	Analysis	7471A		1	221149	06/29/16 12:39	FCW	TAL SEA

Client Sample ID: AC-3 — Lab Sample ID: 580-60394-39

Date Collected: 06/16/16 09:35 — **Matrix: Solid**
Date Received: 06/17/16 13:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			220892	06/27/16 12:23	J1J	TAL SEA
Total/NA	Analysis	8082A		1	221658	07/07/16 06:17	DCV	TAL SEA

Lab Chronicle

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-3 — Lab Sample ID: 580-60394-39

Date Collected: 06/16/16 09:35 — **Matrix: Solid**
Date Received: 06/17/16 13:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			116868	07/07/16 06:45	NIM	TAL SAC
Total/NA	Analysis	6020A		1	117626	07/12/16 13:09	LW1	TAL SAC
Total/NA	Analysis	D 2216		1	221388	07/01/16 13:18	L1I	TAL SEA

Client Sample ID: AC-3 — Lab Sample ID: 580-60394-39

Date Collected: 06/16/16 09:35 — **Matrix: Solid**
Date Received: 06/17/16 13:45 — **Percent Solids: 50.7**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			220606	06/23/16 08:18	CJZ	TAL SEA
Total/NA	Analysis	8270D		20	221214	06/30/16 19:27	D1R	TAL SEA
Total/NA	Prep	3550B			220892	06/27/16 12:23	J1J	TAL SEA
Total/NA	Analysis	8081B		10	222437	07/15/16 04:10	JCP	TAL SEA
Total/NA	Prep	7471A			221065	06/28/16 18:53	PAB	TAL SEA
Total/NA	Analysis	7471A		1	221149	06/29/16 12:41	FCW	TAL SEA

Client Sample ID: AC-3 — Lab Sample ID: 580-60394-39

Date Collected: 06/16/16 09:35 — **Matrix: Solid**
Date Received: 06/17/16 13:45 — **Percent Solids: 52.7**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			220910	06/27/16 13:55	CBS	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	220958	06/28/16 05:12	CJ	TAL SEA

Client Sample ID: AC-4 — Lab Sample ID: 580-60394-45

Date Collected: 06/16/16 11:00 — **Matrix: Solid**
Date Received: 06/17/16 13:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			220892	06/27/16 12:23	J1J	TAL SEA
Total/NA	Analysis	8082A		1	221658	07/07/16 06:33	DCV	TAL SEA
Total/NA	Prep	SHAKE			115224	06/24/16 12:37	ERW	TAL SAC
Total/NA	Analysis	WS-LC-0025		20	118317	07/18/16 00:55	JRB	TAL SAC
Total/NA	Prep	3050B			117250	07/11/16 06:45	NIM	TAL SAC
Total/NA	Analysis	6020A		1	118058	07/14/16 13:05	LW1	TAL SAC
Total/NA	Analysis	D 2216		1	221388	07/01/16 13:18	L1I	TAL SEA

Client Sample ID: AC-4 — Lab Sample ID: 580-60394-45

Date Collected: 06/16/16 11:00 — **Matrix: Solid**
Date Received: 06/17/16 13:45 — **Percent Solids: 47.3**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			220606	06/23/16 08:18	CJZ	TAL SEA

Lab Chronicle

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-4
Lab Sample ID: 580-60394-45
Date Collected: 06/16/16 11:00
Matrix: Solid
Date Received: 06/17/16 13:45
Percent Solids: 47.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8270D		20	221214	06/30/16 19:52	D1R	TAL SEA
Total/NA	Prep	3550B			220892	06/27/16 12:23	J1J	TAL SEA
Total/NA	Analysis	8081B		10	222437	07/15/16 04:27	JCP	TAL SEA
Total/NA	Prep	3546			220910	06/27/16 13:55	CBS	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	220958	06/28/16 05:34	CJ	TAL SEA
Total/NA	Prep	7471A			221065	06/28/16 18:53	PAB	TAL SEA
Total/NA	Analysis	7471A		1	221149	06/29/16 12:44	FCW	TAL SEA

Client Sample ID: AC-5
Lab Sample ID: 580-60394-51
Date Collected: 06/16/16 12:00
Matrix: Solid
Date Received: 06/17/16 13:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			220892	06/27/16 12:23	J1J	TAL SEA
Total/NA	Analysis	8082A		1	221658	07/07/16 06:50	DCV	TAL SEA
Total/NA	Prep	SHAKE			115224	06/24/16 12:37	ERW	TAL SAC
Total/NA	Analysis	WS-LC-0025		20	118317	07/18/16 01:16	JRB	TAL SAC
Total/NA	Prep	3050B			117250	07/11/16 06:45	NIM	TAL SAC
Total/NA	Analysis	6020A		1	118058	07/14/16 13:09	LW1	TAL SAC
Total/NA	Analysis	D 2216		1	221388	07/01/16 13:18	L1I	TAL SEA

Client Sample ID: AC-5
Lab Sample ID: 580-60394-51
Date Collected: 06/16/16 12:00
Matrix: Solid
Date Received: 06/17/16 13:45
Percent Solids: 36.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			220606	06/23/16 08:18	CJZ	TAL SEA
Total/NA	Analysis	8270D		20	221214	06/30/16 20:18	D1R	TAL SEA
Total/NA	Prep	3550B			220892	06/27/16 12:23	J1J	TAL SEA
Total/NA	Analysis	8081B		10	222437	07/15/16 04:45	JCP	TAL SEA
Total/NA	Prep	3546			220910	06/27/16 13:55	CBS	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	220958	06/28/16 05:56	CJ	TAL SEA
Total/NA	Prep	7471A			221065	06/28/16 18:53	PAB	TAL SEA
Total/NA	Analysis	7471A		1	221149	06/29/16 12:46	FCW	TAL SEA

Client Sample ID: AC-6
Lab Sample ID: 580-60394-57
Date Collected: 06/16/16 12:50
Matrix: Solid
Date Received: 06/17/16 13:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			220892	06/27/16 12:23	J1J	TAL SEA
Total/NA	Analysis	8082A		1	221658	07/07/16 07:06	DCV	TAL SEA
Total/NA	Prep	3050B			116868	07/07/16 06:45	NIM	TAL SAC

Lab Chronicle

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Client Sample ID: AC-6
Lab Sample ID: 580-60394-57
Date Collected: 06/16/16 12:50
Matrix: Solid
Date Received: 06/17/16 13:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	6020A		1	117626	07/12/16 13:12	LW1	TAL SAC
Total/NA	Analysis	D 2216		1	221388	07/01/16 13:18	L1I	TAL SEA

Client Sample ID: AC-6
Lab Sample ID: 580-60394-57
Date Collected: 06/16/16 12:50
Matrix: Solid
Date Received: 06/17/16 13:45
Percent Solids: 38.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			220606	06/23/16 08:18	CJZ	TAL SEA
Total/NA	Analysis	8270D		20	221214	06/30/16 20:44	D1R	TAL SEA
Total/NA	Prep	3550B			220892	06/27/16 12:23	J1J	TAL SEA
Total/NA	Analysis	8081B		10	222437	07/15/16 05:03	JCP	TAL SEA
Total/NA	Prep	7471A			221065	06/28/16 18:53	PAB	TAL SEA
Total/NA	Analysis	7471A		1	221149	06/29/16 12:48	FCW	TAL SEA

Client Sample ID: AC-6
Lab Sample ID: 580-60394-57
Date Collected: 06/16/16 12:50
Matrix: Solid
Date Received: 06/17/16 13:45
Percent Solids: 41.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			220910	06/27/16 13:55	CBS	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	220958	06/28/16 06:18	CJ	TAL SEA

Client Sample ID: AC-7
Lab Sample ID: 580-60394-63
Date Collected: 06/16/16 14:00
Matrix: Solid
Date Received: 06/17/16 13:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			220892	06/27/16 12:23	J1J	TAL SEA
Total/NA	Analysis	8082A		1	221658	07/07/16 07:22	DCV	TAL SEA
Total/NA	Prep	3050B			116868	07/07/16 06:45	NIM	TAL SAC
Total/NA	Analysis	6020A		1	117626	07/12/16 13:16	LW1	TAL SAC
Total/NA	Analysis	D 2216		1	221388	07/01/16 13:18	L1I	TAL SEA

Client Sample ID: AC-7
Lab Sample ID: 580-60394-63
Date Collected: 06/16/16 14:00
Matrix: Solid
Date Received: 06/17/16 13:45
Percent Solids: 30.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			220606	06/23/16 08:18	CJZ	TAL SEA
Total/NA	Analysis	8270D		20	221214	06/30/16 21:10	D1R	TAL SEA
Total/NA	Prep	3550B			220892	06/27/16 12:23	J1J	TAL SEA
Total/NA	Analysis	8081B		10	222437	07/15/16 05:21	JCP	TAL SEA

Lab Chronicle

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			221065	06/28/16 18:53	PAB	TAL SEA
Total/NA	Analysis	7471A		1	221149	06/29/16 12:51	FCW	TAL SEA

Client Sample ID: AC-7

Lab Sample ID: 580-60394-63

Date Collected: 06/16/16 14:00

Matrix: Solid

Date Received: 06/17/16 13:45

Percent Solids: 32.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			220910	06/27/16 13:55	CBS	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	220958	06/28/16 06:40	CJ	TAL SEA

Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Oregon	NELAP	10	WA100007	11-06-16

The following analytes are included in this report, but are not certified under this certification:

Analysis Method	Prep Method	Matrix	Analyte
6020A	3050B	Solid	Chromium
8081B	3550B	Solid	2,4'-DDD
8081B	3550B	Solid	2,4'-DDE
8081B	3550B	Solid	2,4'-DDT
8081B	3550B	Solid	cis-Nonachlor
8081B	3550B	Solid	oxy-Chlordane
8081B	3550B	Solid	trans-Nonachlor
8270D	3550B	Solid	1,2,4-Trichlorobenzene
8270D	3550B	Solid	Benzofluoranthene

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

Laboratory: TestAmerica Sacramento

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2928-01	01-31-17
Alaska (UST)	State Program	10	UST-055	12-18-16
Arizona	State Program	9	AZ0708	08-11-16 *
Arkansas DEQ	State Program	6	88-0691	06-17-17
California	State Program	9	2897	01-31-18
Colorado	State Program	8	CA00044	08-31-16
Connecticut	State Program	1	PH-0691	06-30-17
Florida	NELAP	4	E87570	06-30-17
Hawaii	State Program	9	N/A	01-31-17
Illinois	NELAP	5	200060	03-17-17
Kansas	NELAP	7	E-10375	07-31-16 *
Louisiana	NELAP	6	30612	06-30-17
Maine	State Program	1	CA0004	04-18-18
Michigan	State Program	5	9947	01-31-18
Nevada	State Program	9	CA00044	07-31-17
New Jersey	NELAP	2	CA005	06-30-17
New York	NELAP	2	11666	04-01-17
Oregon	NELAP	10	4040	01-29-17
Pennsylvania	NELAP	3	68-01272	03-31-17
Texas	NELAP	6	T104704399	07-31-17
US Fish & Wildlife	Federal		LE148388-0	10-31-16
USDA	Federal		P330-11-00436	12-30-17
USEPA UCMR	Federal	1	CA00044	11-06-16
Utah	NELAP	8	CA00044	02-28-17
Virginia	NELAP	3	460278	03-14-17
Washington	State Program	10	C581	05-05-17
West Virginia (DW)	State Program	3	9930C	12-31-16
Wyoming	State Program	8	8TMS-L	01-29-17

* Certification renewal pending - certification considered valid.

Sample Summary

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-60394-6	AC-9 COMP	Solid	06/13/16 13:10	06/17/16 13:45
580-60394-12	AC-10 COMP	Solid	06/13/16 14:45	06/17/16 13:45
580-60394-18	AC-8 COMP	Solid	06/13/16 16:30	06/17/16 13:45
580-60394-19	ISM-Primary	Solid	06/15/16 11:20	06/17/16 13:45
580-60394-20	ISM-Rep 1	Solid	06/15/16 11:21	06/17/16 13:45
580-60394-21	ISM-Rep 2	Solid	06/15/16 11:22	06/17/16 13:45
580-60394-27	AC-1 COMP	Solid	06/15/16 12:55	06/17/16 13:45
580-60394-33	AC-2 COMP	Solid	06/15/16 14:05	06/17/16 13:45
580-60394-39	AC-3	Solid	06/16/16 09:35	06/17/16 13:45
580-60394-45	AC-4	Solid	06/16/16 11:00	06/17/16 13:45
580-60394-51	AC-5	Solid	06/16/16 12:00	06/17/16 13:45
580-60394-57	AC-6	Solid	06/16/16 12:50	06/17/16 13:45
580-60394-63	AC-7	Solid	06/16/16 14:00	06/17/16 13:45

580-60394 Chain of Custody

OREGONDEQ State of Oregon Sample Chain of Custody OREGONDEQ

r Agent: Oregon DEQ

Send Lab Report To: Jennifer Sutter
Address: 700 NE Multnomah St., Suite #600,
Portland, OR. 97232
Tel. #: 503-229-6148
E-mail: SUTTER.Jennifer@deq.state.or.us

Contract Laboratory Name: Test America

Lab Batch #:

Invoice To: ODEQ/Business Office
Address: 811 SW 6th Ave.
Portland, OR 97204
Tel. #: (800) 452-4011

Lab Selection Criteria:
- ☐ Proximity (if TAT < 48 hrs)
- ☐ Prior work on same project
- ☒ Cost (for anticipated analyses)
- ☐ Other labs disqualified or unable to perform requested services
- ☐ Emergency work

Turn Around Time:
- ☒ 10 days (std.)
- ☐ 5 days
- ☐ 72 hours
- ☐ 48 hours
- ☐ 24 hours
- ☐ Other

Project Name: DEQ Colwood Sediment Sampling
Project #: 2277-00
Sampler Name: Joel Mattecheck and Jake Munsey

Sample ID#	Collection Date/Time	Matrix	Number of Contain-ers	N?WTPH-Dx	PCBs (EPA 8082)	PAHs (EPA 8270)	Metals (EPA 6020) SEE NOTES)	Organochlorine Pesticides (EPA 8081)	*HOLD*	PFCs (Modified EPA 537)				Comments
				Sample Preservative										
				Requested Analyses										
AC-9A	6/13/16,1140	Sed.	4						X					HOLD
AC-9B	6/13/16, 1200	Sed.	4						X					HOLD
AC-9C	6/13/16, 1215	Sed.	4						X					HOLD
AC-9D	6/13/16,1230	Sed.	4						X					HOLD
AC-9E	6/13/16, 1300	Sed.	4						X					HOLD
AC-9 COMP	6/13/16, 1310	Sed.	3	X	X	X	X	X						
AC-10A	6/13/16, 1345	Sed.	4						X					HOLD
AC-10B	6/13/16, 1400	Sed.	4						X					HOLD
AC-10C	6/13/16, 1415	Sed.	4						X					HOLD
AC-10D	6/13/16, 1430	Sed.	4						X					HOLD
AC-10E	6/13/16, 1445	Sed.	4						X					HOLD
AC-10 COMP	6/13/16, 1445	Sed.	3	X	X	X	X	X		X				

Notes: *HOLD*: Hold Samples for potential follow up analysis
Analyze for the following Metals: Ag, As, Cd, Cr, Cu, Hg, Pb, and Zn
Report Analytical Results to: Cowens@apexcos.com; AReeses@apexcos.com; sutter.jennifer@deq.state.or.us

THIS PURCHASE IS SUBMITTED PURSUANT TO STATE OF OREGON SOLICITATION **#102-1098-07** AND PRICE AGREEMENT # **[8903]**. THE PRICE AGREEMENT INCLUDING CONTRACT TERMS AND CONDITIONS AND SPECIAL CONTRACT TERMS AND CONDITIONS (T'S &C'S) CONTAINED IN THE PRICE AGREEMENT ARE HEREBY INCORPORATED BY REFERENCE AND SHALL APPLY TO THIS PURCHASE AND SHALL TAKE PRECEDENCE OVER ALL OTHER CONFLICTING T'S AND C'S, EXPRESS OR IMPLIED.

Version: 4/4/2008

OREGONDEQ State of Oregon Sample Chain of Custody OREGONDEQ

Agency, Authorized Purchaser or Agent: Oregon DEQ

Send Lab Report To:
Address: SAME AS ABOVE
Tel. #:
E-mail:

Contract Laboratory Name: SAME AS ABOVE
Lab Batch #:
Invoice To:
Address: SAME AS ABOVE
Tel. #:

Lab Selection Criteria:
- ☐ Proximity (if TAT < 48 hrs)
- ☐ Prior work on same project
- ☒ Cost (for anticipated analyses)
- ☐ Other labs disqualified or unable to perform requested services
- ☐ Emergency work

Turn Around Time:
- ☒ 10 days (std.)
- ☐ 5 days
- ☐ 72 hours
- ☐ 48 hours
- ☐ 24 hours
- ☐ Other _____

Project Name:
Project #: SAME AS ABOVE
Sampler Name:

Sample ID#	Collection Date/Time	Matrix	Number of Contain-ers	N?WTPH -Dx	PCBs (EPA 8082)	PAHs (EPA 8270)	Metals (EPA 6020)	Organochlorine Pesticide	*HOLD*	PFCs (Modified EPA 537)				Comments
				Sample Preservative										
				Requested Analyses										
AC-8A	6/13/16, 1550	Sed.	4						X					HOLD
AC-8B	6/13/16, 1555	Sed.	4						X					HOLD
AC-8C	6/13/16,1605	Sed.	4						X					HOLD
AC-8D	6/13/16,1615	Sed.	4						X					HOLD
AC-8E	6/13/16,1625	Sed.	4						X					HOLD
AC-8 COMP	6/13/16,1630	Sed.	3	X	X	X	X	X						
ISM-Primary	6/15/16,1120	Sed.	3	X	X	X	X	X						
ISM-Rep 1	6/15/16, 1121	Sed.	3	X	X	X	X	X						
ISM Rep 2	6/15/16, 1122	Sed.	3	X	X	X	X	X						HOLD
AC-1A	6/15/16, 1205	Sed.	4						X					HOLD
AC-1B	6/15/16,1215	Sed.	4						X					HOLD
AC-1C	6/15/16,1230	Sed.	4						X					HOLD

Notes: *HOLD*: Hold Samples for potential follow up analysis
Analyze for the following Metals: Ag, As, Cd, Cr, Cu, Hg, Pb, and Zn
Report Analytical Results to: Cowens@apexcos.com; AReeses@apexcos.com; sutter.jennifer@deq.state.or.us

THIS PURCHASE IS SUBMITTED PURSUANT TO STATE OF OREGON SOLICITATION #**102-1098-07** AND PRICE AGREEMENT # **[8903]**. THE PRICE AGREEMENT INCLUDING CONTRACT TERMS AND CONDITIONS AND SPECIAL CONTRACT TERMS AND CONDITIONS (T'S &C'S) CONTAINED IN THE PRICE AGREEMENT ARE HEREBY INCORPORATED BY REFERENCE AND SHALL APPLY TO THIS PURCHASE AND SHALL TAKE PRECEDENCE OVER ALL OTHER CONFLICTING T'S AND C'S, EXPRESS OR IMPLIED.

Version: 4/4/2008

OREGONDEQ State of Oregon Sample Chain of Custody OREGONDEQ

Agency, Authorized Purchaser or Agent: SAME AS ABOVE

Send Lab Report To:
Address: SAME AS ABOVE
Tel. #:
E-mail:

Contract Laboratory Name: SAME AS ABOVE

Lab Batch #:

Invoice To:
Address: SAME AS ABOVE
Tel. #:

Lab Selection Criteria:
- ☐ Proximity (if TAT < 48 hrs)
- ☐ Prior work on same project
- ☒ Cost (for anticipated analyses)
- ☐ Other labs disqualified or unable to perform requested services
- ☐ Emergency work

Turn Around Time:
- ☒ 10 days (std.)
- ☐ 5 days
- ☐ 72 hours
- ☐ 48 hours
- ☐ 24 hours
- ☐ Other _____

Project Name:
Project #:SAME AS ABOVE
Sampler Name:

Sample ID#	Collection Date/Time	Matrix	Number of Contain-ers	N?WTPH-Dx	PCBs (EPA 8082)	PAHs (EPA 8270)	Metals (EPA 6020)	Organochlorine Pesticide	*HOLD*	PFCs (Modified EPA 537)				Comments
				Sample Preservative										
				Requested Analyses										
AC-1D	6/15/16,1245	Sed.	4						X					HOLD
AC-1E	6/15/16,1250	Sed.	4						X					HOLD
AC-1 COMP	6/15/16, 1255	Sed.	3	X	X	X	X	X						
AC-2A	6/15/16, 1310	Sed.	4						X					HOLD
AC-2B	6/15/16, 1320	Sed.	4						X					HOLD
AC-2C	6/15/16,1330	Sed.	4						X					HOLD
AC-2D	6/15/16,1345	Sed.	4						X					HOLD
AC-2E	6/15/16, 1400	Sed.	4						X					HOLD
AC-2 COMP	6/15/16, 1405	Sed.	3	X	X	X	X	X		X				
AC-3A	6/16/16,0845	Sed.	4						X					HOLD
AC-3B	6/16/16, 0855	Sed.	4						X					HOLD
AC-3C	6/16/16,0905	Sed.	4						X					HOLD

Notes: *HOLD*: Hold Samples for potential follow up analysis
Analyze for the following Metals: Ag, As, Cd, Cr, Cu, Hg, Pb, and Zn
Report Analytical Results to: Cowens@apexcos.com; AReeses@apexcos.com; sutter.jennifer@deq.state.or.us

THIS PURCHASE IS SUBMITTED PURSUANT TO STATE OF OREGON SOLICITATION #**102-1098-07** AND PRICE AGREEMENT # **[8903]**. THE PRICE AGREEMENT INCLUDING CONTRACT TERMS AND CONDITIONS AND SPECIAL CONTRACT TERMS AND CONDITIONS (T'S &C'S) CONTAINED IN THE PRICE AGREEMENT ARE HEREBY INCORPORATED BY REFERENCE AND SHALL APPLY TO THIS PURCHASE AND SHALL TAKE PRECEDENCE OVER ALL OTHER CONFLICTING T'S AND C'S, EXPRESS OR IMPLIED.

OREGONDEQ State of Oregon Sample Chain of Custody OREGONDEQ

Agency, Authorized Purchaser or Agent: SAME AS ABOVE

Send Lab Report To:
Address: SAME AS ABOVE

Tel. #:
E-mail:

Contract Laboratory Name: SAME AS ABOVE

Lab Batch #:

Invoice To:
Address: SAME AS ABOVE

Tel. #:

Lab Selection Criteria:
- ☐ Proximity (if TAT < 48 hrs)
- ☐ Prior work on same project
- ☒ Cost (for anticipated analyses)
- ☐ Other labs disqualified or unable to perform requested services
- ☐ Emergency work

Turn Around Time:
- ☒ 10 days (std.)
- ☐ 5 days
- ☐ 72 hours
- ☐ 48 hours
- ☐ 24 hours
- ☐ Other _____

Project Name:
Project #:SAME AS ABOVE

Sampler Name:

Sample ID#	Collection Date/Time	Matrix	Number of Contain-ers	N?WTPH-Dx	PCBs (EPA 8082)	PAHs (EPA 8270)	Metals (EPA 6020)	Organochlorine Pesticide	*HOLD*	PFCs (Modified EPA 537)				Comments
				Sample Preservative										
				Requested Analyses										
AC-3D	6/16/16,0915	Sed.	4						X					HOLD
AC-3E	6/16/16,0930	Sed.	4						X					HOLD
AC-3	6/16/16, 0935	Sed.	3	X	X	X	X	X						
AC-4A	6/16/16, 0950	Sed.	4						X					HOLD
AC-4B	6/16/16, 1000	Sed.	4						X					HOLD
AC-4C	6/16/16, 1015	Sed.	4						X					HOLD
AC-4D	6/16/16, 1025	Sed.	4						X					HOLD
AC-4E	6/16/16, 1040	Sed.	4						X					HOLD
AC-4	6/16/16, 1100	Sed.	3	X	X	X	X	X		X				
AC-5A	6/16/16, 1100	Sed.	4						X					HOLD
AC-5B	6/16/16, 1110	Sed.	4						X					HOLD
AC-5C	6/16/16, 1120	Sed.	4						X					HOLD

Notes: *HOLD*: Hold Samples for potential follow up analysis
Analyze for the following Metals: Ag, As, Cd, Cr, Cu, Hg, Pb, and Zn
Report Analytical Results to: Cowens@apexcos.com; AReeses@apexcos.com; sutter.jennifer@deq.state.or.us

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Version: 4/4/2008

OREGONDEQ State of Oregon Sample Chain of Custody OREGONDEQ

Agency, Authorized Purchaser or Agent: SAME AS ABOVE

Send Lab Report To:
Address: SAME AS ABOVE

Tel. #:
E-mail:

Contract Laboratory Name: SAME AS ABOVE

Lab Batch #:

Invoice To:
Address: SAME AS ABOVE

Tel. #:

Lab Selection Criteria:
- ☐ Proximity (if TAT < 48 hrs)
- ☐ Prior work on same project
- ☒ Cost (for anticipated analyses)
- ☐ Other labs disqualified or unable to perform requested services
- ☐ Emergency work

Turn Around Time:
- ☒ 10 days (std.)
- ☐ 5 days
- ☐ 72 hours
- ☐ 48 hours
- ☐ 24 hours
- ☐ Other _____

Project Name:
Project #: SAME AS ABOVE

Sampler Name:

Sample ID#	Collection Date/Time	Matrix	Number of Contain-ers	N?WTPH -Dx	PCBs (EPA 8082)	PAHs (EPA 8270)	Metals (EPA 6020)	Organochlorine Pesticide	*HOLD*	PFCs (Modified EPA 537)				Comments
				Sample Preservative										
				Requested Analyses										
AC-5D	6/16/16, 1135	Sed.	4						X					HOLD
AC-5E	6/16/16, 1150	Sed.	4						X					HOLD
AC-5	6/16/16, 1200	Sed.	3	X	X	X	X	X		X				
AC-6A	6/16/16, 1205	Sed.	4						X					HOLD
AC-6B	6/16/16, 1215	Sed.	4						X					HOLD
AC-6C	6/16/16, 1220	Sed.	4						X					HOLD
AC-6D	6/16/16, 1230	Sed.	4						X					HOLD
AC-6E	6/16/16, 1240	Sed.	4						X					HOLD
AC-6	6/16/16, 1250	Sed.	3	X	X	X	X	X						
AC-7A	6/16/16, 1300	Sed.	4						X					HOLD
AC-7B	6/16/16, 1310	Sed.	4						X					HOLD
AC-7C	6/16/16, 1320	Sed.	4						X					HOLD

Notes: *HOLD*: Hold Samples for potential follow up analysis
Analyze for the following Metals: Ag, As, Cd, Cr, Cu, Hg, Pb, and Zn
Report Analytical Results to: Cowens@apexcos.com; AReeses@apexcos.com; sutter.jennifer@deq.state.or.us

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Version: 4/4/2008

OREGONDEQ State of Oregon Sample Chain of Custody OREGONDEQ

Agency, Authorized Purchaser or Agent: SAME AS ABOVE	**Contract Laboratory Name:** SAME AS ABOVE	**Lab Selection Criteria:**	**Turn Around Time:**
Send Lab Report To: Address: SAME AS ABOVE	**Lab Batch #:**	☐ Proximity (if TAT < 48 hrs)	☒ 10 days (std.)
Tel. #:	**Invoice To:** Address: SAME AS ABOVE	☐ Prior work on same project	☐ 5 days
E-mail:	Tel. #:	☒ Cost (for anticipated analyses)	☐ 72 hours
		☐ Other labs disqualified or unable to perform requested services	☐ 48 hours
			☐ 24 hours
		☐ Emergency work	☐ Other _____

Project Name:
Project #: SAME AS ABOVE
Sampler Name:

Sample ID#	Collection Date/Time	Matrix	Number of Contain-ers	N?WTPH -Dx	PCBs (EPA 8082)	PAHs (EPA 8270)	Metals (EPA 6020)	Organochlorine Pesticide	*HOLD*	PFCs (Modified EPA 537)				Comments
				Sample Preservative										
AC-7D	6/16/16, 1330	Sed.	4						X					HOLD
AC-7E	6/16/16, 1345	Sed.	4						X					HOLD
AC-7	6/16/16, 1400	Sed.	3	X	X	X	X	X						

Notes: *HOLD*: Hold Samples for potential follow up analysis
Analyze for the following Metals: Ag, As, Cd, Cr, Cu, Hg, Pb, and Zn
Report Analytical Results to: Cowens@apexcos.com; AReeses@apexcos.com; sutter.jennifer@deq.state.or.us

Relinquished By: Jake Munsey	Agency/Agent: Apex	Received By:	Agency/Agent: Apex
Signature:	Time & Date:	Signature: Curtis Lee	Time & Date: 6/17/16
Relinquished By: Curtis Lee	Agency/Agent: Apex	Received By:	Agency/Agent: TA.P
Signature:	Time & Date: 6/17/16 1345	Signature: Steve Gonzales	Time & Date: 6/17/16 1345

THIS PURCHASE IS SUBMITTED PURSUANT TO STATE OF OREGON SOLICITATION #**102-1098-07** AND PRICE AGREEMENT # **[8903]**. THE PRICE AGREEMENT INCLUDING CONTRACT TERMS AND CONDITIONS AND SPECIAL CONTRACT TERMS AND CONDITIONS (T'S &C'S) CONTAINED IN THE PRICE AGREEMENT ARE HEREBY INCORPORATED BY REFERENCE AND SHALL APPLY TO THIS PURCHASE AND SHALL TAKE PRECEDENCE OVER ALL OTHER CONFLICTING T'S AND C'S, EXPRESS OR IMPLIED.

2.6, 2.4, 1.0, 2.2 IR/GL

Version: 4/4/2008

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Jonas, Wendy L	Carrier Tracking No(s):	COC No: 580-39178.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: wendy.jonas@testamericainc.com		Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.				Job #: 580-60394-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 7/6/2016			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: DEQ Colwood	Project #: 58009936			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A/3050B (MOD) Template for building analyte list	PFC_IDA/Shake_Bath_14D PFOA/PFOS Only	6020A/ISM_DD_SI_SS (MOD) Template for building analyte list	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
AC-9 COMP (580-60394-6)	6/13/16	13:10 Pacific		Solid			X			1	
AC-10 COMP (580-60394-12)	6/13/16	14:45 Pacific		Solid			X	X		1	, Client specifies 14 day holding time
AC-8 COMP (580-60394-18)	6/13/16	16:30 Pacific		Solid			X			1	
ISM-Primary (580-60394-19)	6/15/16	11:20 Pacific		Solid			X		X	1	
ISM-Rep 1 (580-60394-20)	6/15/16	11:21 Pacific		Solid			X		X	1	
ISM-Rep 2 (580-60394-21)	6/15/16	11:22 Pacific		Solid			X		X	1	
AC-1 COMP (580-60394-27)	6/15/16	12:55 Pacific		Solid			X			1	
AC-2 COMP (580-60394-33)	6/15/16	14:05 Pacific		Solid			X	X		1	, Client specifies 14 day holding time
AC-3 (580-60394-39)	6/16/16	09:35 Pacific		Solid			X			1	
AC-4 (580-60394-45)	6/16/16	11:00 Pacific		Solid			X	X		1	, Client specifies 14 day holding time
AC-5 (580-60394-51)	6/16/16	12:00 Pacific		Solid			X	X		1	Client specifies 14 day holding time

Possible Hazard Identification

Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	6/17/16 1700	TAP		6-18-16 905	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.3

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Jonas, Wendy L	Carrier Tracking No(s):	COC No: 580-39178.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: wendy.jonas@testamericainc.com		Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.				Job #: 580-60394-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 7/6/2016			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: DEQ Colwood	Project #: 58009936			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A/3050B (MOD) Template for building analyte list	PFC_IDA/Shake_Bath_14D PFOA/PFOS Only	6020A/ISM_DD_SI_SS (MOD) Template for building analyte list	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
AC-6 (580-60394-57)	6/16/16	12:50 Pacific		Solid			X			1	
AC-7 (580-60394-63)	6/16/16	14:00 Pacific		Solid			X			1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	6/17/16 1700	TAP	[signature]	6-18-16 905	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: Apex Companies LLC

Job Number: 580-60394-1

Login Number: 60394
List Number: 1
Creator: Gonzales, Steve

List Source: TestAmerica Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Apex Companies LLC

Job Number: 580-60394-1

Login Number: 60394
List Number: 2
Creator: Hytrek, Cheryl

List Source: TestAmerica Sacramento
List Creation: 06/18/16 06:23 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Isotope Dilution Summary

Client: Apex Companies LLC
Project/Site: DEQ Colwood

TestAmerica Job ID: 580-60394-1

Method: WS-LC-0025 - Perfluorinated Hydrocarbons

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		3C4 PFOS	3C4 PFOA						
Lab Sample ID	**Client Sample ID**	**(25-150)**	**(25-150)**						
580-60394-12	AC-10 COMP	128	132						
580-60394-33	AC-2 COMP	112	111						
580-60394-33 MS	AC-2 COMP	114	113						
580-60394-33 MSD	AC-2 COMP	96	108						
580-60394-45	AC-4	100	108						
580-60394-51	AC-5	123	113						
LCS 320-115224/2-A	Lab Control Sample	83	93						
MB 320-115224/1-A	Method Blank	91	88						

Surrogate Legend

13C4 PFOS = 13C4 PFOS
13C4 PFOA = 13C4 PFOA