

Phase II Environmental Site Assessment

Large Aircraft Parking Site
7277 Perimeter Road South
Seattle, Washington

Prepared for
King County International Airport

November 15, 2018
19282-10



HARTCROWSER

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Phase II Environmental Site Assessment

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1.0 INTRODUCTION

This report presents a Phase II Environmental Site Assessment (Phase II ESA) completed for the Large Aircraft Parking site (the Site) at King County International Airport (KCIA) in Seattle, Washington (Figure 1). The objective of the work was to evaluate the current soil and groundwater conditions at the Site before KCIA redevelops the area south and east of the main terminal building located at 7277 Perimeter Road South in Seattle, Washington. The intent is to reconfigure the site to accommodate airside parking of large, heavy aircraft and landside vehicular parking, along with safe access to Airport Way South that borders the east side of the airport. The Phase II ESA was prepared in general accordance with requirements of the Washington State Model Toxics Control Act (MTCA; Chapter 173-340).

2.0 SITE BACKGROUND

2.1 Site Description and Location

The Site consists of an approximately 3.4-acre rectangular area along the central eastern boundary of King County International Airport, immediately south and east of the main terminal building. The site is generally flat with a slight slope to the south. The northwestern portion of the site is currently used as a paved parking area. The southeastern portion of the site currently consists of a fenced outside storage area for materials and equipment.

The site is bounded to the north by the KCIA main terminal building; to the east by Perimeter Road South; to the south by additional outside storage area; and to the west by the airport runway.

2.2 Previous Environmental Investigations

In 2012, a Phase I environmental site assessment (Phase I ESA) was conducted for properties on and near the Site. The Phase I identified the former Boeing Electronic Manufacturing Facility (EMF), half of which was located on the Site as a recognized environmental concerns (REC). Historical documentation identified a groundwater plume containing volatile organic compounds (VOCs) originating from the Boeing EMF, with trichloroethene (TCE) as the main VOC detected in the plume. Numerous historical investigations and remedial activities and monitoring have occurred in the location of this building (Hart Crowser 2012). Groundwater sampling for PCB congeners and aroclors performed in 2017 indicated PCB concentrations well below MTCA Method A cleanup levels for groundwater. An aboveground storage tank (AST) was also noted in the Phase I report, but no associated RECs were reported.

Historical gas stations near the Site were also noted in the 2012 Phase I ESA. Investigations at two of the gas stations closest to the Site are described in more detail below.

Boeing Electronic Manufacturing Facility

A historical data report was prepared for Boeing in 2008 summarizing previous investigations of hazardous materials released at the site. A release of hazardous substances at the EMF property was identified and reported in 1982, indicating trichloroethylene (TCE) and hexavalent chromium as detected compounds in groundwater. Removal actions started in 1982 and groundwater sampling indicated that hexavalent chromium and TCE were below ambient water quality criteria with the exception of one location where TCE was present in groundwater above 1982 regulation levels. Construction in the fall of 1985 exposed an abandoned 10-inch pipe associated with chromic acid plating. Surrounding soil was found to be impacted and was subsequently removed. An expanded site characterization was implemented in 1985 with monitoring through 1993. In 1996 and 1997, a MTCA RI/FS was conducted under the MTCA Voluntary Cleanup Program. During this RI/FS, lab results indicated that hexavalent chromium was present in the soil at concentrations below 0.3 milligram/kilogram (mg/kg). TCE was detected in soil at concentrations up to 20 mg/kg from 8 to 25 feet below ground surface (bgs). Additional investigation data was collected and remedial actions were implemented between 1997 and 2007 to characterize the site conditions and the down-gradient TCE plume in groundwater (CALIBRE, 2008).

In 2018, CALIBRE prepared a report summarizing groundwater monitoring of the EMF VOC plume following the implementation of enhanced reductive dechlorination (ERD) as a remedial action. Results indicated that chlorinated VOC concentrations in groundwater near the building showed up to 99.9 percent reduction from historical concentrations (CALIBRE 2018).

Neighboring KCIA Standard Gas Station Site

A Phase I ESA and Phase II ESA were conducted at the KCIA Standard Gas Station Site to the north in 2012. Gasoline-range petroleum hydrocarbons (TPH-G), benzene, toluene, ethylbenzene, and xylenes (BTEX) were detected in soil samples at concentrations exceeding the MTCA Method A cleanup levels. Gasoline-, diesel-, and heavy-oil range petroleum hydrocarbons (TPH-D), total iron, dissolved lead, benzene, and 1-methylnaphthalene were detected in groundwater samples at concentrations exceeding MTCA Method A or B cleanup levels (URS 2012 and Madison 2012).

From 2013 to 2014, petroleum-impacted soil was excavated and disposed of offsite. Verification soil samples indicated that TPH-G was still present in soil at some locations at concentrations exceeding MTCA Method A cleanup levels. Due to proximity of nearby roads, overexcavation was not feasible and the area was backfilled and oxygen release compound (ORC)-Advanced pellets were mixed with backfill to enhance biodegradation of petroleum hydrocarbons the site (URS 2014a).

Baseline groundwater sampling was conducted in October 2013 and March 2014, and TPH-G, TPH-D, and benzene were not detected at concentrations above MTCA Method A Cleanup levels. Iron, lead, and 1-methylnaphthalene were not analyzed at the time (URS 2014a). Quarterly groundwater sampling was also conducted from May 2014 through February 2015. None of the constituents analyzed had

concentrations exceeding MTCA Method A and B cleanup levels, but iron and TPH-D were not analyzed (Greylock 2015).

Neighboring Standard Oil Site

A Phase I ESA and Phase II ESA were conducted at the adjacent Standard Oil Site to the southeast in 2012 and 2013, respectively. The Phase II ESA identified TPH-G, trichloroethylene (TCE), and BTEX in soil samples at concentrations exceeding MTCA Method A cleanup levels. None of the constituents in grab groundwater samples had concentrations exceeding MTCA Method A cleanup levels (Hart Crowser 2013).

A remedial action investigation in 2014 detected TPH-G in soil and groundwater at concentrations exceeding MTCA Method A cleanup levels (URS 2014b), and in late 2014, petroleum-impacted soil was excavated and disposed of off-site. Verification soil samples indicated that diesel-range petroleum hydrocarbons (TPH-D) and benzene were still present in soil at concentrations exceeding MTCA Method A cleanup levels. Due to proximity of nearby roads, overexcavation was not feasible and the area was backfilled and injected with ORC-Advanced (URS 2015).

Groundwater sampling conducted in 2015 detected TPH-G and TPH-D at concentrations exceeding MTCA Method A cleanup levels, but quarterly groundwater sampling in 2017 detected TPH-G and TPH-D at concentrations below MTCA Method A cleanup levels (Hart Crowser 2017).

2.3 Geology and Hydrogeology

The Site is generally flat and covered with asphalt. A description of regional and site subsurface geology and hydrogeology is provided below.

2.3.1 Geology

The City of Seattle is in the Puget Sound lowland, characterized by north–south trending ridges capped by Vashon till. The Seattle area is typically underlain by glacial till, which ranges from a gray, gravelly, sandy silt to a silty sand and is typically very dense. The site is also located within the Duwamish River Valley, which includes surficial fill material from land reclamation and dredging.

Soil borings from the New Fuel Farm field investigation activities consisted of generally uniform silty sand underlain by coarse grained sand below.

2.3.2 Hydrogeology

Groundwater at the Site was encountered from 8 to 11.5 feet bgs. Observed groundwater depths and previous investigations indicate that groundwater in the area flows southwest towards the Duwamish Waterway.

3.0 SOIL AND GROUNDWATER SAMPLING AND RESULTS

3.1 Field Investigation Activities and Observations

On August 27, 28, and September 5, 2018, 20 push-probe borings (HC-1 through HC-20) were advanced to depths of 15 feet at the site (Figure 2). Soil samples were collected in 2.5-foot intervals and groundwater samples from 12 borings (HC-1, HC-4, HC-5, HC-6, HC-8, HC-10, HC-12, HC-13, HC-15, HC-18, HC-19, and HC-20).

Soil samples were field screened using sheen tests, visual and olfactory observations, and/or a photoionization detector (PID) to detect VOCs in the head space. Headspace volatile detections were noted in borings HC-1 through HC-16, HC-19, and HC-20; headspace volatiles were detected at low concentrations, up to 4.0 parts per million (ppm). Additionally, soil samples from borings HC-1 through HC-7, HC-9 through HC-12, HC-14, HC-16, and HC-18 through HC-20 had sheen noted. One sample from boring HC-10, taken from a depth of 0 to 2.5 feet bgs, had an odor noted. Non-aqueous phase liquid (NAPL) was not observed in any of the borings. Field screening results are shown on the exploration logs in Appendix A.

3.2 Soil Sample Chemical Analysis and Results

The soil samples were submitted to qualified laboratories (AM Test and Advanced Analytical) and analyzed for one or more of: TPH-G, TPH-D, TPH-O, polychlorinated biphenyls (PCBs), semivolatile organics (SVOCs), polyaromatic hydrocarbons (PAHs), total metals (arsenic, cadmium, chromium, lead, mercury), and volatile organics (VOCs). We selected 49 samples for analysis based on field screening results and sample location and depth. The soil sample analytical results are summarized in Table 1, and the laboratory report is in Attachment B.

We compared the results with MTCA Method A soil cleanup levels for unrestricted land use. Analytical results were:

- Twenty-nine samples were analyzed for VOCs, eight of which had detected concentrations of one or more VOCs. Trichloroethene was detected in five (HC11-S1, HC11-S4, HC14-S5, HC14-S6, and HC20-S4) of those eight samples at concentrations ranging from 0.044 mg/kg to 0.083 mg/kg, all above the MTCA Method A cleanup level of 0.03 mg/kg. The remaining three samples had VOC detections that either do not have cleanup levels, or concentrations were below MTCA Method A cleanup levels.
- Twenty-one samples were analyzed for total metals. Arsenic was detected in all twenty-one samples at concentrations up to 12.8 mg/kg, below the MTCA Method A cleanup level of 20 mg/kg. Cadmium was detected in ten samples. Only one sample (HC16-S2 from 2.5 to 5.0 feet bgs) had a cadmium concentration of 2.85 mg/kg that exceeds the MTCA Method A cleanup level of 2 mg/kg. Chromium was detected in all twenty-one samples at concentrations up to 234 mg/kg, below the MTCA Method A cleanup levels of 2,000 mg/kg for chromium III. However, fifteen of the twenty-one samples with chromium detections were above the MTCA Method A cleanup level of 19 mg/kg for chromium IV which has been encountered previously at the site. Lead was detected in twenty samples at

concentrations up to 12 mg/kg, well below the MTCA cleanup level of 250 mg/kg. Mercury was detected in fourteen samples at concentrations up to 0.091 mg/kg, well below the MTCA Method A cleanup level of 2 mg/kg.

- Forty-six samples were analyzed for TPH-D and TPH-O. TPH-D was detected in nine samples (at concentrations of up to 43 milligrams per kilogram [mg/kg]) and TPH-O was detected in twenty-one samples (at concentrations up to 710 mg/kg). Detected TPH-D and TPH-O concentrations were well below the MTCA Method A cleanup level of 2,000 mg/kg.
- Twenty-three samples were analyzed for TPH-G. TPH-G was detected in one sample at a concentration of 0.358 mg/kg, well below the MTCA Method A cleanup levels of 30 mg/kg with benzene present and 100 mg/kg without benzene.
- Twenty-three samples were analyzed for BTEX. Benzene was not detected at or above laboratory reporting limits. Ethyl benzene was detected in one sample at a concentration of 0.0016 mg/kg, well below the MTCA Method A cleanup level of 6 mg/kg. Toluene was detected in four samples at concentrations up to 0.0048 mg/kg, well below the MTCA Method A cleanup level of 7 mg/kg. Xylenes were detected in five samples at concentrations of up to 0.0079 mg/kg, well below the MTCA Method A cleanup level of 9 mg/kg.
- Sixteen samples were analyzed for PCBs. PCBs were estimated in to be present in two samples at concentrations up to 0.00599 mg/kg, well below MTCA Method A cleanup level of 1 mg/kg.
- Sixteen samples were analyzed for SVOCs, ten of which had detected concentrations of one or more SVOCs at concentrations up to 0.0892 mg/kg. There are currently no MTCA Method A cleanup levels for these detected SVOCs. However, these detections are considered low.
- Sixteen samples were analyzed for PAHs, six of which had detected concentrations of one or more PAHs. Carcinogenic PAHs (cPAHs) were detected in five of the six samples at total concentrations up to 0.004159 mg/kg, well below the MTCA Method A cleanup level of 0.1 mg/kg.

3.3 Groundwater Sample Chemical Analysis and Results

Groundwater samples were collected and analyzed from 12 borings (HC-1, HC-4, HC-5, HC-6, HC-8, HC-10, HC-12, HC-13, HC-15, HC-18, HC-19, and HC-20). The groundwater samples were submitted to a qualified laboratory (AM Test) and analyzed for one or more of: TPH-G, TPH-D, TPH-O, PCBs, SVOCs, PAHs, total metals (arsenic, cadmium, chromium, lead, mercury), and VOCs. The groundwater sample analytical results are summarized in Table 2, and the laboratory report is in Attachment B.

We compared results with MTCA Method A groundwater cleanup levels. Analytical results were:

- Twelve samples were analyzed for VOCs, seven of which had detected concentrations of one or more VOCs. Trichloroethylene was detected in four samples. One sample (HC10-GW) had an estimated concentration of 32.4 ug/L which exceeds the MTCA Method A cleanup level of 5 ug/L. One sample (HC20-GW) had a detected concentration of 23.3 ug/L which exceeds the MTCA Method A cleanup

level of 5 ug/L. Vinyl chloride was detected in four samples (HC5-GW, HC10-GW, HC15-GW, and HC20-GW) at concentrations from 1.4 ug/L to 810 ug/L, all exceeding the MTCA Method A cleanup level of 0.2 ug/L.

- Twelve samples were analyzed for total metals. Arsenic was detected in all twelve samples up to a concentration of 4.88 ug/L, below the MTCA Method A cleanup level of 5 ug/L. Cadmium was detected in two samples up to a concentration of 0.07 ug/L, well below the MTCA Method A cleanup level of 5 ug/L. Chromium was detected in all twelve samples. Only one sample (HC20-GW) had a chromium concentration of 183 ug/L that exceeds the MTCA Method A cleanup level of 50 ug/L. Lead was detected in all twelve samples up to a concentration of 1.17 ug/L, well below the MTCA Method A cleanup level of 15 ug/L. Mercury was detected in ten samples up to a concentration of 0.28 ug/L, well below the MTCA Method A cleanup level of 2 ug/L.
- Twelve samples were analyzed for TPH-D and TPH-O. TPH-D was detected in two samples at concentrations up to 88 micrograms per liter (ug/L), well below the MTCA Method A cleanup level of 500 ug/L. TPH-O was detected in one sample at a concentration of 160 ug/L, below the MTCA Method A cleanup level of 500 ug/L.
- Twelve samples were analyzed for TPH-G. TPH-G was estimated to be present in one sample at a concentration of 274 ug/L, below the MTCA cleanup levels of 800 ug/L with benzene present and 1,000 ug/L without benzene.
- Twelve samples were analyzed for BTEX. Benzene was not detected at or above laboratory detection limits. Ethylbenzene was detected in one sample at a concentration of 0.52 ug/L, well below the MTCA Method A cleanup level of 700 ug/L. Toluene was detected in two samples at concentrations up to 8.5 ug/L, well below the MTCA Method A cleanup level of 1,000 mg/L. Xylenes were detected in one sample at a concentration of 1.73 ug/L, well below the MTCA Method A cleanup level of 1,000 ug/L.
- Eleven samples were analyzed for PCBs. PCBs were not detected at or above laboratory reporting limits in any of the samples.
- Ten samples were analyzed for SVOCs, three of which had detected concentrations of one or more SVOCs at concentrations up to 1.11 ug/L. There are currently no MTCA Method A cleanup levels for these SVOCs detected.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The soil and groundwater results from sampling conducted at the Site indicate the presence of trichloroethylene (TCE) in soil and groundwater at concentrations above cleanup levels primarily in the southeastern quadrant of the Site and within the former Boeing EMF building footprint with known TCE impacts; the presence of vinyl chloride in groundwater at concentrations above cleanup levels across the Site, and an exceedance of cadmium in soil at one location also next to the former Boeing facility on site. Two soil samples with TCE exceedances (HC11-S4 and HC20-S4) were from the 7.5 - 10.0 feet bgs depth range, one soil sample with TCE exceedance (HC11-S1) was from the 0.0 - 2.5 feet bgs depth range, one

soil sample with TCE exceedance (HC14-S5) was from the 10.0 -12.5 feet bgs depth range, and one soil sample with exceedance (HC14-S6) was from the 12.5-15.0 feet bgs depth range. The vertical extent of the elevated TCE in several of these soil samples needs to be determined. In addition, the horizontal extent in the soil and groundwater needs further assessment.

One soil sample with a cadmium concentration above the MTCA Method A cleanup level needs to be further delineated. In addition, although no soil samples had a total chromium concentration above 2,000 mg/kg (MTCA Method A cleanup level for the more common chromium III), there was one soil sample (HC-14-S6) from a boring located within the former Boeing EMF building footprint that had a total chromium concentration of 234 mg/kg, above the hexavalent (chrome VI) MTCA Method A cleanup level of 19 mg/kg. Since there was a known soil cleanup of chromium VI east of the former Boeing EMF building, further characterization for chrome VI should be conducted.

Based on these results, a site characterization of approximately twelve to fourteen borings is recommended to further delineate the horizontal and vertical extent of trichloroethylene and cadmium impacts in the soil and assess for hexavalent chromium in the soil in the vicinity of the former Boeing EMF building. Further characterization of the TCE and vinyl chloride in the groundwater should also be conducted as part of the additional characterization.

5.0 LIMITATIONS

Work for this project was performed, and this report prepared, in accordance with generally accepted professional practices for the nature and conditions of the work completed in the same or similar localities, at the time the work was performed. This report is intended for the exclusive use of Burns & McDonnell Engineering Co. and King County International Airport for specific application to the referenced property. This report is not meant to represent a legal opinion. No other warranty, express or implied, is made.

The MTCA cleanup levels in this memorandum are provided for comparison only and are based on our understanding of cleanup levels required by Ecology for similar projects. They are not MTCA interpretations. By using them for comparison, we are not implying that remedial actions at the Site are required under MTCA. Specific MTCA interpretations may involve separate calculations and determinations upon which Ecology may establish a range of cleanup standards.

6.0 REFERENCES

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URS 2014b. Remedial Action Work Plan, Former Standard Oil Site, 7400 Perimeter Road South, Seattle, Washington. Prepared by URS for King County International Airport, July 9, 2014.

URS 2015. Independent Remedial Action, Former Standard Oil Site, 7490 Perimeter Road South, Seattle, Washington. Prepared by URS for King County International Airport, April 1, 2015.

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Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC-1-S1	HC-1-S6	HC-2-S1	HC-2-S4	HC-2-S6
Sampling Date	Method A	9/5/2018	9/5/2018	9/5/2018	9/5/2018	9/5/2018
Depth in Feet	Cleanup Level ^a					
Total Solids in %						
TPH in mg/kg						
Diesel	2000	17 UJ	2 UJ	3 J	2 UJ	7 J
Heavy Oil	2000	140 J	4 UJ	9 J	4 UJ	19 J
Gasoline	30/100 ^b	217 UJ		219 UJ		196 UJ
Metals in mg/kg						
Arsenic	20	3.46		2.98		
Cadmium	2	0.358 U		0.463		
Chromium	19/2000 ^c	19.6		17.7		
Lead	250	3.94		2.54		
Mercury	2	0.0162 J		0.0241 J		
PCBs in µg/kg						
PCB-1016		17.1 U		17.4 U		
PCB-1221		17.1 U		17.4 U		
PCB-1232		17.1 U		17.4 U		
PCB-1242		17.1 U		17.4 U		
PCB-1248		17.1 U		17.4 U		
PCB-1254		17.1 U		17.4 U		
PCB-1260		17.1 U		17.4 U		
Total PCBs	1000/10000 ^d	17.1 U		17.4 U		
PAHs (SIM) in µg/kg						
1-Methylnaphthalene		3.48 UJ		3.53 UJ		
2-Methylnaphthalene		3.48 UJ		3.53 UJ		
Acenaphthene		3.48 UJ		3.53 UJ		
Acenaphthylene		3.48 U		3.53 U		
Anthracene		3.48 U		3.53 U		
Benzo(a)anthracene		3.48 U		3.53 U		
Benzo(a)pyrene	100/2000 ^d	3.48 U		3.53 U		
Benzo(b)fluoranthene		3.48 U		3.53 U		
Benzo(ghi)perylene		3.48 U		3.53 U		
Benzo(k)fluoranthene		3.48 U		3.53 U		
Chrysene		3.48 U		3.53 U		
Dibenzo(ah)anthracene		3.48 U		3.53 U		
Fluoranthene		3.48 U		3.53 U		
Fluorene		3.48 UJ		3.53 UJ		
Indeno(123-cd)pyrene		3.48 U		3.53 U		
Naphthalene	5000	3.48 UJ		3.53 UJ		
Phenanthrene		3.48 UJ		3.53 UJ		
Pyrene		3.48 U		3.53 U		
Total cPAHs TEQ	100/2000 ^d	NC		NC		
BTEX in µg/kg						
Benzene	30	2.2 UJ		2.2 UJ		2 UJ
Ethyl Benzene	6000	2.2 UJ		2.2 UJ		2 UJ
Toluene	7000	2.2 UJ		2.2 UJ		2 UJ
m+p-Xylene		2.2 UJ		2.2 UJ		2 UJ
o-Xylene		2.2 UJ		2.2 UJ		2 UJ
Total Xylenes	9000	2.2 UJ		2.2 UJ		2 UJ
Volatiles in µg/kg **						
1,1,1,2-Tetrachloroethane		50 U		50 U	50 U	50 U
1,1,1-Trichloroethane	2000	50 U		50 U	50 U	50 U
1,1,2,2-Tetrachloroethane		50 U		50 U	50 U	50 U
1,1,2-Trichloroethane		50 U		50 U	50 U	50 U
1,1-Dichloroethane		50 U		50 U	50 U	50 U
1,1-Dichloroethene		50 U		50 U	50 U	50 U
1,1-Dichloropropene		50 U		50 U	50 U	50 U
1,2,3-Trichlorobenzene		50 U		50 U	50 U	50 U
1,2,3-Trichloropropane		50 U		50 U	50 U	50 U

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC-1-S1	HC-1-S6	HC-2-S1	HC-2-S4	HC-2-S6
Sampling Date	Method A	9/5/2018	9/5/2018	9/5/2018	9/5/2018	9/5/2018
Depth in Feet	Cleanup Level ^a					
1,2,4-Trichlorobenzene		50 U		50 U	50 U	50 U
1,2,4-Trimethylbenzene		50 U		50 U	50 U	50 U
1,2-Dibromo-3-Chloropropane		50 U		50 U	50 U	50 U
1,2-Dibromoethane (EDB)*	5	5 U		5 U	5 U	5 U
1,2-Dichlorobenzene		50 U		50 U	50 U	50 U
1,2-Dichloroethane(EDC)		20 U		20 U	20 U	20 U
1,2-Dichloropropane		50 U		50 U	50 U	50 U
1,3,5-Trimethylbenzene		50 U		50 U	50 U	50 U
1,3-Dichlorobenzene		50 U		50 U	50 U	50 U
1,3-Dichloropropane		50 U		50 U	50 U	50 U
1,4-Dichlorobenzene		50 U		50 U	50 U	50 U
2,2-Dichloropropane		50 U		50 U	50 U	50 U
2-Chlorotoluene		50 U		50 U	50 U	50 U
4-Chlorotoluene		50 U		50 U	50 U	50 U
Benzene	30	20 U		20 U	20 U	20 U
Bromobenzene		50 U		50 U	50 U	50 U
Bromodichloromethane		50 U		50 U	50 U	50 U
Bromoform		50 U		50 U	50 U	50 U
Bromomethane		50 U		50 U	50 U	50 U
Carbontetrachloride		50 U		50 U	50 U	50 U
Chlorobenzene		50 U		50 U	50 U	50 U
Chloroethane		50 U		50 U	50 U	50 U
Chloroform		50 U		50 U	50 U	50 U
Chloromethane		50 U		50 U	50 U	50 U
cis-1,2-Dichloroethene		50 U		50 U	50 U	50 U
cis-1,3-Dichloropropene		50 U		50 U	50 U	50 U
Dibromochloromethane		20 U		20 U	20 U	20 U
Dibromomethane		50 U		50 U	50 U	50 U
Dichlorodifluoromethane		50 U		50 U	50 U	50 U
Ethylbenzene	6000	50 U		50 U	50 U	50 U
Hexachloro-1,3-butadiene		50 U		50 U	50 U	50 U
Isopropylbenzene		50 U		50 U	50 U	50 U
Isopropyltoluene		50 U		50 U	50 U	50 U
Methylene chloride	20	20 U		20 U	20 U	20 U
MTBE	100	100 U		100 U	100 U	100 U
n-Butylbenzene		50 U		50 U	50 U	50 U
n-Propylbenzene		50 U		50 U	50 U	50 U
sec-Butylbenzene		50 U		50 U	50 U	50 U
Styrene		50 U		50 U	50 U	50 U
tert-Butylbenzene		50 U		50 U	50 U	50 U
Tetrachloroethene	50	50 U		50 U	50 U	50 U
Toluene	7000	50 U		50 U	50 U	50 U
trans-1,2-Dichloroethene		50 U		50 U	50 U	50 U
trans-1,3-Dichloropropene		50 U		50 U	50 U	50 U
Trichloroethene	30	20 U		20 U	20 U	20 U
Trichlorofluoromethane		50 U		50 U	50 U	50 U
Vinyl chloride		50 U		50 U	50 U	50 U
1,4-Dichlorobenzene						
2-Butanone (MEK)						
2-Hexanone						
4-Methyl-2-Pentanone						
Acetone						
Carbon Disulfide						
Chlorodibromomethane						
Vinyl Acetate						
m+p-Xylene						
o-Xylene						
Xylenes	9000	50 U		50 U	50 U	50 U

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC-1-S1	HC-1-S6	HC-2-S1	HC-2-S4	HC-2-S6
Sampling Date	Method A	9/5/2018	9/5/2018	9/5/2018	9/5/2018	9/5/2018
Depth in Feet	Cleanup Level ^a					
Semivolatiles in µg/kg						
1,2,4-Trichlorobenzene		69.5 U		70.6 U		
1,2-Dichlorobenzene		69.5 U		70.6 U		
1,3-Dichlorobenzene		69.5 U		70.6 U		
1,4-Dichlorobenzene		69.5 U		70.6 U		
2,4,5-Trichlorophenol		69.5 U		70.6 U		
2,4,6-Trichlorophenol		69.5 U		70.6 U		
2,4-Dichlorophenol		69.5 U		70.6 U		
2,4-Dimethylphenol		69.5 U		70.6 U		
2,4-Dinitrophenol		348 U		353 U		
2,4-Dinitrotoluene		174 U		177 U		
2,6-Dinitrotoluene		174 U		177 U		
2-Chloronaphthalene		69.5 U		70.6 U		
2-Chlorophenol		69.5 U		70.6 U		
2-Methylphenol		69.5 U		70.6 U		
2-Nitroaniline		174 U		177 U		
2-Nitrophenol		174 U		177 U		
3,3-Dichlorobenzidine		104 U		106 U		
3-Nitroaniline		174 U		177 U		
4,6-Dinitro-2-methylphenol		174 U		177 U		
4-Bromophenyl-phenyl ether		69.5 U		70.6 U		
4-Chloro-3-methylphenol		69.5 U		70.6 U		
4-Chloroaniline		69.5 U		70.6 U		
4-Chlorophenyl-phenyl ether		69.5 U		70.6 U		
4-Methylphenol (cresol)		69.5 U		70.6 U		
4-Nitroaniline		174 U		177 U		
4-Nitrophenol		348 U		353 U		
Aniline		69.5 U		70.6 U		
Azobenzene		69.5 U		70.6 U		
Benzidine		1740 U		1770 U		
Benzoic Acid		34.8 U		35.3 U		
Benzyl Alcohol		69.5 U		70.6 U		
bis(2-Ethylhexyl)phthalate		3.48 U				
bis(2-Chloroethoxy)methane		69.5 U		70.6 U		
bis(2-Chloroethyl)ether		69.5 U		70.6 U		
bis(2-Chloroisopropyl)ether		69.5 U		70.6 U		
Butylbenzylphthalate		3.48 U				
Carbazole		69.5 U		70.6 U		
Diethylphthalate		3.48 U				
Dimethylphthalate		3.48 U				
Di-n-butylphthalate		3.48 U				
Di-n-octylphthalate		3.48 U				
Dibenzofuran		69.5 U		70.6 U		
Hexachlorobenzene		69.5 U		70.6 U		
Hexachlorobutadiene		69.5 U		70.6 U		
Hexachlorocyclopentadiene		174 U		177 U		
Hexachloroethane		69.5 U		70.6 U		
Isophorone		69.5 U		70.6 U		
Nitrobenzene		69.5 U		70.6 U		
N-Nitrosodimethylamine		174 U		177 U		
N-Nitroso-di-n-propylamine		69.5 U		70.6 U		
N-nitrosodiphenylamine		69.5 U		70.6 U		
Pentachlorophenol		17.4 U				
Phenol				177 U		
Pyrene		69.5 U		70.6 U		

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC3-S1	HC-3-S2	HC-3-S3	HC-3-S5	HC-4-S1
Sampling Date	Method A	9/5/2018	9/5/2018	9/5/2018	9/5/2018	9/5/2018
Depth in Feet	Cleanup Level ^a					
Total Solids in %						
TPH in mg/kg						
Diesel	2000		2 UJ	2 UJ	2 UJ	20 UJ
Heavy Oil	2000		5 J	8 J	4 UJ	240 J
Gasoline	30/100 ^b		251 UJ			246 UJ
Metals in mg/kg						
Arsenic	20		6.91			9.8
Cadmium	2		0.54			0.385 U
Chromium	19/2000 ^c		18.4			21.1
Lead	250		3.3			12.6
Mercury	2		0.0613 J			0.0881 J
PCBs in µg/kg						
PCB-1016			21.4 U			19.7 U
PCB-1221			21.4 U			19.7 U
PCB-1232			21.4 U			19.7 U
PCB-1242			21.4 U			19.7 U
PCB-1248			21.4 U			19.7 U
PCB-1254			21.4 U			19.7 U
PCB-1260			21.4 U			19.7 U
Total PCBs	1000/10000 ^d		21.4 U			19.7 U
PAHs (SIM) in µg/kg						
1-Methylnaphthalene			4.47 UJ			3.95 UJ
2-Methylnaphthalene			4.47 UJ			3.95 UJ
Acenaphthene			4.47 UJ			3.95 UJ
Acenaphthylene			4.47 U			3.95 U
Anthracene			4.47 U			3.95 U
Benzo(a)anthracene			4.47 U			4.35
Benzo(a)pyrene	100/2000 ^d		4.47 U			3.95 U
Benzo(b)fluoranthene			4.47 U			3.95 U
Benzo(ghi)perylene			4.47 U			3.95 U
Benzo(k)fluoranthene			4.47 U			3.95 U
Chrysene			4.47 U			6.72
Dibenzo(ah)anthracene			4.47 U			3.95 U
Fluoranthene			4.47 U			5.14
Fluorene			4.47 UJ			3.95 UJ
Indeno(123-cd)pyrene			4.47 U			3.95 U
Naphthalene	5000		4.47 UJ			3.95 UJ
Phenanthrene			4.47 UJ			4.75 J
Pyrene			4.47 U			16.2
Total cPAHs TEQ	100/2000 ^d		NC			0.5022
BTEX in µg/kg						
Benzene	30		2.5 UJ			2.5 UJ
Ethyl Benzene	6000		2.5 UJ			2.5 UJ
Toluene	7000		2.5 UJ			2.5 UJ
m+p-Xylene			2.5 UJ			2.5 UJ
o-Xylene			2.5 UJ			2.5 UJ
Total Xylenes	9000		2.5 UJ			2.5 UJ
Volatiles in µg/kg **						
1,1,1,2-Tetrachloroethane		50 U	50 U			50 U
1,1,1-Trichloroethane	2000	50 U	50 U			50 U
1,1,2,2-Tetrachloroethane		50 U	50 U			50 U
1,1,2-Trichloroethane		50 U	50 U			50 U
1,1-Dichloroethane		50 U	50 U			50 U
1,1-Dichloroethene		50 U	50 U			50 U
1,1-Dichloropropene		50 U	50 U			50 U
1,2,3-Trichlorobenzene		50 U	50 U			50 U
1,2,3-Trichloropropane		50 U	50 U			50 U

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC3-S1	HC-3-S2	HC-3-S3	HC-3-S5	HC-4-S1
Sampling Date	Method A	9/5/2018	9/5/2018	9/5/2018	9/5/2018	9/5/2018
Depth in Feet	Cleanup Level ^a					
1,2,4-Trichlorobenzene		50 U	50 U			50 U
1,2,4-Trimethylbenzene		50 U	50 U			50 U
1,2-Dibromo-3-Chloropropane		50 U	50 U			50 U
1,2-Dibromoethane (EDB)*	5	5 U	5 U			5 U
1,2-Dichlorobenzene		50 U	50 U			50 U
1,2-Dichloroethane(EDC)		20 U	20 U			20 U
1,2-Dichloropropane		50 U	50 U			50 U
1,3,5-Trimethylbenzene		50 U	50 U			50 U
1,3-Dichlorobenzene		50 U	50 U			50 U
1,3-Dichloropropane		50 U	50 U			50 U
1,4-Dichlorobenzene		50 U	50 U			50 U
2,2-Dichloropropane		50 U	50 U			50 U
2-Chlorotoluene		50 U	50 U			50 U
4-Chlorotoluene		50 U	50 U			50 U
Benzene	30	20 U	20 U			20 U
Bromobenzene		50 U	50 U			50 U
Bromodichloromethane		50 U	50 U			50 U
Bromoform		50 U	50 U			50 U
Bromomethane		50 U	50 U			50 U
Carbontetrachloride		50 U	50 U			50 U
Chlorobenzene		50 U	50 U			50 U
Chloroethane		50 U	50 U			50 U
Chloroform		50 U	50 U			50 U
Chloromethane		50 U	50 U			50 U
cis-1,2-Dichloroethene		50 U	50 U			50 U
cis-1,3-Dichloropropene		50 U	50 U			50 U
Dibromochloromethane		20 U	20 U			20 U
Dibromomethane		50 U	50 U			50 U
Dichlorodifluoromethane		50 U	50 U			50 U
Ethylbenzene	6000	50 U	50 U			50 U
Hexachloro-1,3-butadiene		50 U	50 U			50 U
Isopropylbenzene		50 U	50 U			50 U
Isopropyltoluene		50 U	50 U			50 U
Methylene chloride	20	20 U	20 U			20 U
MTBE	100	100 U	100 U			100 U
n-Butylbenzene		50 U	50 U			50 U
n-Propylbenzene		50 U	50 U			50 U
sec-Butylbenzene		50 U	50 U			50 U
Styrene		50 U	50 U			50 U
tert-Butylbenzene		50 U	50 U			50 U
Tetrachloroethene	50	50 U	50 U			50 U
Toluene	7000	50 U	50 U			50 U
trans-1,2-Dichloroethene		50 U	50 U			50 U
trans-1,3-Dichloropropene		50 U	50 U			50 U
Trichloroethene	30	20 U	20 U			20 U
Trichlorofluoromethane		50 U	50 U			50 U
Vinyl chloride		50 U	50 U			50 U
1,4-Dichlorobenzene						
2-Butanone (MEK)						
2-Hexanone						
4-Methyl-2-Pentanone						
Acetone						
Carbon Disulfide						
Chlorodibromomethane						
Vinyl Acetate						
m+p-Xylene						
o-Xylene						
Xylenes	9000	50 U	50 U			50 U

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC3-S1	HC-3-S2	HC-3-S3	HC-3-S5	HC-4-S1
Sampling Date	Method A	9/5/2018	9/5/2018	9/5/2018	9/5/2018	9/5/2018
Depth in Feet	Cleanup Level ^a					
Semivolatiles in µg/kg						
1,2,4-Trichlorobenzene			89.5 U			79.1 U
1,2-Dichlorobenzene			89.5 U			79.1 U
1,3-Dichlorobenzene			89.5 U			79.1 U
1,4-Dichlorobenzene			89.5 U			79.1 U
2,4,5-Trichlorophenol			89.5 U			79.1 U
2,4,6-Trichlorophenol			89.5 U			79.1 U
2,4-Dichlorophenol			89.5 U			79.1 U
2,4-Dimethylphenol			89.5 U			79.1 U
2,4-Dinitrophenol			447 U			395 U
2,4-Dinitrotoluene			224 U			198 U
2,6-Dinitrotoluene			224 U			198 U
2-Chloronaphthalene			89.5 U			79.1 U
2-Chlorophenol			89.5 U			79.1 U
2-Methylphenol			89.5 U			79.1 U
2-Nitroaniline			224 U			198 U
2-Nitrophenol			224 U			198 U
3,3-Dichlorobenzidine			134 U			119 U
3-Nitroaniline			224 U			198 U
4,6-Dinitro-2-methylphenol			224 U			198 U
4-Bromophenyl-phenyl ether			89.5 U			79.1 U
4-Chloro-3-methylphenol			89.5 U			79.1 U
4-Chloroaniline			89.5 U			79.1 U
4-Chlorophenyl-phenyl ether			89.5 U			79.1 U
4-Methylphenol (cresol)			89.5 U			79.1 U
4-Nitroaniline			224 U			198 U
4-Nitrophenol			447 U			395 U
Aniline			89.5 U			79.1 U
Azobenzene			89.5 U			79.1 U
Benzidine			2240 U			1980 U
Benzoic Acid			44.7 U			39.5 U
Benzyl Alcohol			89.5 U			79.1 U
bis(2-Ethylhexyl)phthalate						
bis(2-Chloroethoxy)methane			89.5 U			79.1 U
bis(2-Chloroethyl)ether			89.5 U			79.1 U
bis(2-Chloroisopropyl)ether			89.5 U			79.1 U
Butylbenzylphthalate						
Carbazole			89.5 U			79.1 U
Diethylphthalate						
Dimethylphthalate						
Di-n-butylphthalate						
Di-n-octylphthalate						
Dibenzofuran			89.5 U			79.1 U
Hexachlorobenzene			89.5 U			79.1 U
Hexachlorobutadiene			89.5 U			79.1 U
Hexachlorocyclopentadiene			224 U			198 U
Hexachloroethane			89.5 U			79.1 U
Isophorone			89.5 U			79.1 U
Nitrobenzene			89.5 U			79.1 U
N-Nitrosodimethylamine			224 U			198 U
N-Nitroso-di-n-propylamine			89.5 U			79.1 U
N-nitrosodiphenylamine			89.5 U			79.1 U
Pentachlorophenol						
Phenol			224 U			198 U
Pyrene			89.5 U			79.1 U

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC-4-S3	HC-4-S6	HC5-S1	HC5-S3	HC-6-S1
Sampling Date	Method A	9/5/2018	9/5/2018	8/27/2018	8/27/2018	8/28/2018
Depth in Feet	Cleanup Level ^a					
Total Solids in %					96.3	94.8
TPH in mg/kg						
Diesel	2000	2 UJ	2 UJ		25 U	8
Heavy Oil	2000	3 UJ	4 UJ		50 U	42
Gasoline	30/100 ^b				0.118 U	0.125 U
Metals in mg/kg						
Arsenic	20				7.28	
Cadmium	2				0.09	
Chromium	19/2000 ^c				19.3	
Lead	250				1.22	
Mercury	2				0.0104 U	
PCBs in µg/kg						
PCB-1016					17.2 U	
PCB-1221					17.2 U	
PCB-1232					17.2 U	
PCB-1242					17.2 U	
PCB-1248					17.2 U	
PCB-1254					17.2 U	
PCB-1260					17.2 U	
Total PCBs	1000/10000 ^d				17.2 U	
PAHs (SIM) in µg/kg						
1-Methylnaphthalene					3.55 U	
2-Methylnaphthalene					3.55 U	
Acenaphthene					3.55 U	
Acenaphthylene					3.55 U	
Anthracene					3.55 U	
Benzo(a)anthracene					3.55 U	
Benzo(a)pyrene	100/2000 ^d				3.55 U	
Benzo(b)fluoranthene					3.55 U	
Benzo(ghi)perylene					3.55 U	
Benzo(k)fluoranthene					3.55 U	
Chrysene					3.55 U	
Dibenzo(ah)anthracene					3.55 U	
Fluoranthene					3.55 U	
Fluorene					3.55 U	
Indeno(123-cd)pyrene					3.55 U	
Naphthalene	5000				3.55 U	
Phenanthrene					3.55 U	
Pyrene					3.55 U	
Total cPAHs TEQ	100/2000 ^d				NC	
BTEX in µg/kg						
Benzene	30				1.2 U	1.2 U
Ethyl Benzene	6000				1.2 U	1.2 U
Toluene	7000				1.2 U	1.6
m+p-Xylene					1.2 U	2.8
o-Xylene					1.2 U	1.2 U
Total Xylenes	9000				1.2 U	2.8
Volatiles in µg/kg **						
1,1,1,2-Tetrachloroethane				50 U		
1,1,1-Trichloroethane	2000			50 U		
1,1,2,2-Tetrachloroethane				50 U		
1,1,2-Trichloroethane				50 U		
1,1-Dichloroethane				50 U		
1,1-Dichloroethene				50 U		
1,1-Dichloropropene				50 U		
1,2,3-Trichlorobenzene				50 U		
1,2,3-Trichloropropane				50 U		

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC-4-S3	HC-4-S6	HC5-S1	HC5-S3	HC-6-S1
Sampling Date	Method A	9/5/2018	9/5/2018	8/27/2018	8/27/2018	8/28/2018
Depth in Feet	Cleanup Level ^a					
1,2,4-Trichlorobenzene				50 U		
1,2,4-Trimethylbenzene				50 U		
1,2-Dibromo-3-Chloropropane				50 U		
1,2-Dibromoethane (EDB)*	5			5 U		
1,2-Dichlorobenzene				50 U		
1,2-Dichloroethane(EDC)				20 U		
1,2-Dichloropropane				50 U		
1,3,5-Trimethylbenzene				50 U		
1,3-Dichlorobenzene				50 U		
1,3-Dichloropropane				50 U		
1,4-Dichlorobenzene				50 U		
2,2-Dichloropropane				50 U		
2-Chlorotoluene				50 U		
4-Chlorotoluene				50 U		
Benzene	30			20 U		
Bromobenzene				50 U		
Bromodichloromethane				50 U		
Bromoform				50 U		
Bromomethane				50 U		
Carbontetrachloride				50 U		
Chlorobenzene				50 U		
Chloroethane				50 U		
Chloroform				50 U		
Chloromethane				50 U		
cis-1,2-Dichloroethene				50 U		
cis-1,3-Dichloropropene				50 U		
Dibromochloromethane				20 U		
Dibromomethane				50 U		
Dichlorodifluoromethane				50 U		
Ethylbenzene	6000			50 U		
Hexachloro-1,3-butadiene				50 U		
Isopropylbenzene				50 U		
Isopropyltoluene				50 U		
Methylene chloride	20			20 U		
MTBE	100			100 U		
n-Butylbenzene				50 U		
n-Propylbenzene				50 U		
sec-Butylbenzene				50 U		
Styrene				50 U		
tert-Butylbenzene				50 U		
Tetrachloroethene	50			50 U		
Toluene	7000			50 U		
trans-1,2-Dichloroethene				50 U		
trans-1,3-Dichloropropene				50 U		
Trichloroethene	30			20 U		
Trichlorofluoromethane				50 U		
Vinyl chloride				50 U		
1,4-Dichlorobenzene						
2-Butanone (MEK)						
2-Hexanone						
4-Methyl-2-Pentanone						
Acetone						
Carbon Disulfide						
Chlorodibromomethane						
Vinyl Acetate						
m+p-Xylene						
o-Xylene						
Xylenes	9000			50 U		

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC-4-S3	HC-4-S6	HC5-S1	HC5-S3	HC-6-S1
Sampling Date	Method A	9/5/2018	9/5/2018	8/27/2018	8/27/2018	8/28/2018
Depth in Feet	Cleanup Level ^a					

Semivolatiles in µg/kg

1,2,4-Trichlorobenzene	70.9 U
1,2-Dichlorobenzene	70.9 U
1,3-Dichlorobenzene	70.9 U
1,4-Dichlorobenzene	70.9 U
2,4,5-Trichlorophenol	70.9 U
2,4,6-Trichlorophenol	70.9 U
2,4-Dichlorophenol	70.9 U
2,4-Dimethylphenol	70.9 U
2,4-Dinitrophenol	355 U
2,4-Dinitrotoluene	177 U
2,6-Dinitrotoluene	177 U
2-Chloronaphthalene	70.9 U
2-Chlorophenol	70.9 U
2-Methylphenol	70.9 U
2-Nitroaniline	177 U
2-Nitrophenol	177 U
3,3-Dichlorobenzidine	106 U
3-Nitroaniline	177 U
4,6-Dinitro-2-methylphenol	177 U
4-Bromophenyl-phenyl ether	70.9 U
4-Chloro-3-methylphenol	70.9 U
4-Chloroaniline	70.9 U
4-Chlorophenyl-phenyl ether	70.9 U
4-Methylphenol (cresol)	70.9 U
4-Nitroaniline	177 U
4-Nitrophenol	355 U
Aniline	70.9 U
Azobenzene	70.9 U
Benzidine	1770 U
Benzoic Acid	35.5 U
Benzyl Alcohol	70.9 U
bis(2-Ethylhexyl)phthalate	6.38
bis(2-Chloroethoxy)methane	70.9 U
bis(2-Chloroethyl)ether	70.9 U
bis(2-Chloroisopropyl)ether	70.9 U
Butylbenzylphthalate	3.55 U
Carbazole	70.9 U
Diethylphthalate	3.55 U
Dimethylphthalate	3.55 U
Di-n-butylphthalate	3.55 U
Di-n-octylphthalate	3.55 U
Dibenzofuran	70.9 U
Hexachlorobenzene	70.9 U
Hexachlorobutadiene	70.9 U
Hexachlorocyclopentadiene	177 U
Hexachloroethane	70.9 U
Isophorone	70.9 U
Nitrobenzene	70.9 U
N-Nitrosodimethylamine	177 U
N-Nitroso-di-n-propylamine	70.9 U
N-nitrosodiphenylamine	70.9 U
Pentachlorophenol	17.7 U
Phenol	70.9 U
Pyrene	

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC-6-S2	HC-6-S6	HC-7-S1	HC-7-S3	HC-7-S4
Sampling Date	Method A	8/28/2018	8/28/2018	9/5/2018	9/5/2018	9/5/2018
Depth in Feet	Cleanup Level ^a					
Total Solids in %		95.2	81.5			
TPH in mg/kg						
Diesel	2000	2 U	2 U	17 UJ	2 UJ	2 UJ
Heavy Oil	2000	7	5	110 J	6 J	4 UJ
Gasoline	30/100 ^b	0.113 U			241 U	
Metals in mg/kg						
Arsenic	20	5.5			3.99	4.7
Cadmium	2	0.313 U			1.14	0.591 U
Chromium	19/2000 ^c	19.5			25.6	26.1
Lead	250	4.22			1.12	1.49
Mercury	2	0.0157			0.0104 UJ	0.0107 UJ
PCBs in µg/kg						
PCB-1016					17.5 U	
PCB-1221					17.5 U	
PCB-1232					17.5 U	
PCB-1242					17.5 U	
PCB-1248					17.5 U	
PCB-1254					17.5 U	
PCB-1260					17.5 U	
Total PCBs	1000/10000 ^d				17.5 U	
PAHs (SIM) in µg/kg						
1-Methylnaphthalene					3.43 UJ	
2-Methylnaphthalene					3.43 UJ	
Acenaphthene					3.43 UJ	
Acenaphthylene					3.43 U	
Anthracene					3.43 U	
Benzo(a)anthracene					3.43 U	
Benzo(a)pyrene	100/2000 ^d				3.43 U	
Benzo(b)fluoranthene					3.43 U	
Benzo(ghi)perylene					3.43 U	
Benzo(k)fluoranthene					3.43 U	
Chrysene					3.43 U	
Dibenzo(ah)anthracene					3.43 U	
Fluoranthene					3.43 U	
Fluorene					3.43 UJ	
Indeno(123-cd)pyrene					3.43 U	
Naphthalene	5000				3.43 UJ	
Phenanthrene					3.43 UJ	
Pyrene					3.43 U	
Total cPAHs TEQ	100/2000 ^d				NC	
BTEX in µg/kg						
Benzene	30				2.4 UJ	
Ethyl Benzene	6000				2.4 UJ	
Toluene	7000				2.4 UJ	
m+p-Xylene					2.4 UJ	
o-Xylene					2.4 UJ	
Total Xylenes	9000				2.4 UJ	
Volatiles in µg/kg **						
1,1,1,2-Tetrachloroethane					50 U	
1,1,1-Trichloroethane	2000	1.2 U			50 U	
1,1,2,2-Tetrachloroethane		1.2 U			50 U	
1,1,2-Trichloroethane		1.2 U			50 U	
1,1-Dichloroethane		1.2 U			50 U	
1,1-Dichloroethene		1.2 U			50 U	
1,1-Dichloropropene					50 U	
1,2,3-Trichlorobenzene					50 U	
1,2,3-Trichloropropane					50 U	

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC-6-S2	HC-6-S6	HC-7-S1	HC-7-S3	HC-7-S4
Sampling Date	Method A	8/28/2018	8/28/2018	9/5/2018	9/5/2018	9/5/2018
Depth in Feet	Cleanup Level ^a					
1,2,4-Trichlorobenzene					50 U	
1,2,4-Trimethylbenzene					50 U	
1,2-Dibromo-3-Chloropropane					50 U	
1,2-Dibromoethane (EDB)*	5				5 U	
1,2-Dichlorobenzene					50 U	
1,2-Dichloroethane(EDC)			1.2 U		20 U	
1,2-Dichloropropane			1.2 U		50 U	
1,3,5-Trimethylbenzene					50 U	
1,3-Dichlorobenzene					50 U	
1,3-Dichloropropane					50 U	
1,4-Dichlorobenzene					50 U	
2,2-Dichloropropane					50 U	
2-Chlorotoluene					50 U	
4-Chlorotoluene					50 U	
Benzene	30		1.2 U		20 U	
Bromobenzene					50 U	
Bromodichloromethane			1.2 U		50 U	
Bromoform			1.2 U		50 U	
Bromomethane			6.2 U		50 U	
Carbontetrachloride			1.2 U		50 U	
Chlorobenzene			1.2 U		50 U	
Chloroethane			6.2 U		50 U	
Chloroform			1.2 U		50 U	
Chloromethane			6.2 U		50 U	
cis-1,2-Dichloroethene					50 U	
cis-1,3-Dichloropropene			1.2 U		50 U	
Dibromochloromethane					20 U	
Dibromomethane					50 U	
Dichlorodifluoromethane					50 U	
Ethylbenzene	6000		1.2 U		50 U	
Hexachloro-1,3-butadiene					50 U	
Isopropylbenzene					50 U	
Isopropyltoluene					50 U	
Methylene chloride	20		1.2 U		20 U	
MTBE	100				100 U	
n-Butylbenzene					50 U	
n-Propylbenzene					50 U	
sec-Butylbenzene					50 U	
Styrene			2.4		50 U	
tert-Butylbenzene					50 U	
Tetrachloroethene	50		1.2 U		50 U	
Toluene	7000		2.5 UJ		50 U	
trans-1,2-Dichloroethene					50 U	
trans-1,3-Dichloropropene			1.2 U		50 U	
Trichloroethene	30		1.2 U		20 U	
Trichlorofluoromethane			1.2 U		50 U	
Vinyl chloride			1.2 U		50 U	
1,4-Dichlorobenzene			1.2 U			
2-Butanone (MEK)			12.5 U			
2-Hexanone			12.5 U			
4-Methyl-2-Pentanone			12.5 U			
Acetone			25 U			
Carbon Disulfide			1.2 U			
Chlorodibromomethane			1.2 U			
Vinyl Acetate			6.2 U			
m+p-Xylene			1.1 U			
o-Xylene			1.1 U			
Xylenes	9000		1.1 U		50 U	

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC-6-S2	HC-6-S6	HC-7-S1	HC-7-S3	HC-7-S4
Sampling Date	Method A	8/28/2018	8/28/2018	9/5/2018	9/5/2018	9/5/2018
Depth in Feet	Cleanup Level ^a					
Semivolatiles in µg/kg						
1,2,4-Trichlorobenzene					68.7 U	
1,2-Dichlorobenzene					68.7 U	
1,3-Dichlorobenzene					68.7 U	
1,4-Dichlorobenzene					68.7 U	
2,4,5-Trichlorophenol					68.7 U	
2,4,6-Trichlorophenol					68.7 U	
2,4-Dichlorophenol					68.7 U	
2,4-Dimethylphenol					68.7 U	
2,4-Dinitrophenol					343 U	
2,4-Dinitrotoluene					172 U	
2,6-Dinitrotoluene					172 U	
2-Chloronaphthalene					68.7 U	
2-Chlorophenol					68.7 U	
2-Methylphenol					68.7 U	
2-Nitroaniline					172 U	
2-Nitrophenol					172 U	
3,3-Dichlorobenzidine					103 U	
3-Nitroaniline					172 U	
4,6-Dinitro-2-methylphenol					172 U	
4-Bromophenyl-phenyl ether					68.7 U	
4-Chloro-3-methylphenol					68.7 U	
4-Chloroaniline					68.7 U	
4-Chlorophenyl-phenyl ether					68.7 U	
4-Methylphenol (cresol)					68.7 U	
4-Nitroaniline					172 U	
4-Nitrophenol					343 U	
Aniline					68.7 U	
Azobenzene					68.7 U	
Benzidine					1720 U	
Benzoic Acid					34.3 U	
Benzyl Alcohol					68.7 U	
bis(2-Ethylhexyl)phthalate						
bis(2-Chloroethoxy)methane					68.7 U	
bis(2-Chloroethyl)ether					68.7 U	
bis(2-Chloroisopropyl)ether					68.7 U	
Butylbenzylphthalate						
Carbazole					68.7 U	
Diethylphthalate						
Dimethylphthalate						
Di-n-butylphthalate						
Di-n-octylphthalate						
Dibenzofuran					68.7 U	
Hexachlorobenzene					68.7 U	
Hexachlorobutadiene					68.7 U	
Hexachlorocyclopentadiene					172 U	
Hexachloroethane					68.7 U	
Isophorone					68.7 U	
Nitrobenzene					68.7 U	
N-Nitrosodimethylamine					172 U	
N-Nitroso-di-n-propylamine					68.7 U	
N-nitrosodiphenylamine					68.7 U	
Pentachlorophenol						
Phenol					172 U	
Pyrene					68.7 U	

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC-8-S6	HC9-S1	HC9-S2	HC9-S3	HC9-S4
Sampling Date	Method A	9/5/2018	8/27/2018	8/27/2018	8/27/2018	8/27/2018
Depth in Feet	Cleanup Level ^a					
Total Solids in %			94.3	94.9	96.6	
TPH in mg/kg						
Diesel	2000	2 UJ	25 U	25 U	25 U	
Heavy Oil	2000	4 J	50 U	50 U	50 U	
Gasoline	30/100 ^b	242 UJ	0.119 U			
Metals in mg/kg						
Arsenic	20	3.91	12.8			
Cadmium	2	0.698 U	0.41			
Chromium	19/2000 ^c	18.4	9.61			
Lead	250	1.42	4.69			
Mercury	2	0.0128 UJ	0.0475			
PCBs in µg/kg						
PCB-1016		20.8 U	17.9 U			
PCB-1221		20.8 U	17.9 U			
PCB-1232		20.8 U	17.9 U			
PCB-1242		20.8 U	17.9 U			
PCB-1248		20.8 U	17.9 U			
PCB-1254		20.8 U	17.9 U			
PCB-1260		20.8 U	17.9 U			
Total PCBs	1000/10000 ^d	20.8 U	17.9 U			
PAHs (SIM) in µg/kg						
1-Methylnaphthalene		4.26 UJ	4.8			
2-Methylnaphthalene		4.26 UJ	9.95			
Acenaphthene		4.26 UJ	3.43 U			
Acenaphthylene		4.26 U	3.43 U			
Anthracene		4.26 U	3.43 U			
Benzo(a)anthracene		4.26 U	17.2			
Benzo(a)pyrene	100/2000 ^d	4.26 U	3.43 U			
Benzo(b)fluoranthene		4.26 U	3.43 U			
Benzo(ghi)perylene		4.26 U	3.43 U			
Benzo(k)fluoranthene		4.26 U	3.43 U			
Chrysene		4.26 U	33.6			
Dibenzo(ah)anthracene		4.26 U	3.43 U			
Fluoranthene		4.26 U	27.4			
Fluorene		4.26 UJ	3.43 U			
Indeno(123-cd)pyrene		4.26 U	3.43 U			
Naphthalene	5000	4.26 UJ	3.43 U			
Phenanthrene		4.26 UJ	3.43 U			
Pyrene		4.26 U	40.1			
Total cPAHs TEQ	100/2000 ^d	NC	2.056			
BTEX in µg/kg						
Benzene	30	2.4 UJ				
Ethyl Benzene	6000	2.4 UJ				
Toluene	7000	2.4 UJ				
m+p-Xylene		2.4 UJ				
o-Xylene		2.4 UJ				
Total Xylenes	9000	2.4 UJ				
Volatiles in µg/kg **						
1,1,1,2-Tetrachloroethane		50 U				50 U
1,1,1-Trichloroethane	2000	50 U	1 U			50 U
1,1,2,2-Tetrachloroethane		50 U	1 U			50 U
1,1,2-Trichloroethane		50 U	1 U			50 U
1,1-Dichloroethane		50 U	1 U			50 U
1,1-Dichloroethene		50 U	1 U			50 U
1,1-Dichloropropene		50 U				50 U
1,2,3-Trichlorobenzene		50 U				50 U
1,2,3-Trichloropropane		50 U				50 U

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC-8-S6	HC9-S1	HC9-S2	HC9-S3	HC9-S4
Sampling Date	Method A	9/5/2018	8/27/2018	8/27/2018	8/27/2018	8/27/2018
Depth in Feet	Cleanup Level ^a					
1,2,4-Trichlorobenzene		50 U				50 U
1,2,4-Trimethylbenzene		50 U				50 U
1,2-Dibromo-3-Chloropropane		50 U				50 U
1,2-Dibromoethane (EDB)*	5	5 U				5 U
1,2-Dichlorobenzene		50 U				50 U
1,2-Dichloroethane(EDC)		20 U	1 U			20 U
1,2-Dichloropropane		50 U	1 U			50 U
1,3,5-Trimethylbenzene		50 U				50 U
1,3-Dichlorobenzene		50 U				50 U
1,3-Dichloropropane		50 U				50 U
1,4-Dichlorobenzene		50 U				50 U
2,2-Dichloropropane		50 U				50 U
2-Chlorotoluene		50 U				50 U
4-Chlorotoluene		50 U				50 U
Benzene	30	20 U	1 U			20 U
Bromobenzene		50 U				50 U
Bromodichloromethane		50 U	1 U			50 U
Bromoform		50 U	1 U			50 U
Bromomethane		50 U	5 U			50 U
Carbontetrachloride		50 U	1 U			50 U
Chlorobenzene		50 U	1 U			50 U
Chloroethane		50 U	5 U			50 U
Chloroform		50 U	1 U			50 U
Chloromethane		50 U	5 U			50 U
cis-1,2-Dichloroethene		50 U				50 U
cis-1,3-Dichloropropene		50 U	1 U			50 U
Dibromochloromethane		20 U				20 U
Dibromomethane		50 U				50 U
Dichlorodifluoromethane		50 U				50 U
Ethylbenzene	6000	50 U	1 U			50 U
Hexachloro-1,3-butadiene		50 U				50 U
Isopropylbenzene		50 U				50 U
Isopropyltoluene		50 U				50 U
Methylene chloride	20	20 U	5.7			20 U
MTBE	100	100 U				100 U
n-Butylbenzene		50 U				50 U
n-Propylbenzene		50 U				50 U
sec-Butylbenzene		50 U				50 U
Styrene		50 U	1 U			50 U
tert-Butylbenzene		50 U				50 U
Tetrachloroethene	50	50 U	1 U			50 U
Toluene	7000	50 U	1.7 UJ			50 U
trans-1,2-Dichloroethene		50 U				50 U
trans-1,3-Dichloropropene		50 U	1 U			50 U
Trichloroethene	30	20 U	1 U			20 U
Trichlorofluoromethane		50 U	1 U			50 U
Vinyl chloride		50 U	1 U			50 U
1,4-Dichlorobenzene			1 U			
2-Butanone (MEK)			10 U			
2-Hexanone			10 U			
4-Methyl-2-Pentanone			10 U			
Acetone			20 U			
Carbon Disulfide			1 U			
Chlorodibromomethane			1 U			
Vinyl Acetate			5 U			
m+p-Xylene			1.2 U			
o-Xylene			1.2 U			
Xylenes	9000	50 U	1.2 U			50 U

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC-8-S6	HC9-S1	HC9-S2	HC9-S3	HC9-S4
Sampling Date	Method A	9/5/2018	8/27/2018	8/27/2018	8/27/2018	8/27/2018
Depth in Feet	Cleanup Level ^a					
Semivolatiles in µg/kg						
1,2,4-Trichlorobenzene		85.2 U	62.6 U			
1,2-Dichlorobenzene		85.2 U	62.6 U			
1,3-Dichlorobenzene		85.2 U	62.6 U			
1,4-Dichlorobenzene		85.2 U	62.6 U			
2,4,5-Trichlorophenol		85.2 U	62.6 U			
2,4,6-Trichlorophenol		85.2 U	62.6 U			
2,4-Dichlorophenol		85.2 U	62.6 U			
2,4-Dimethylphenol		85.2 U	62.6 U			
2,4-Dinitrophenol		426 U	313 U			
2,4-Dinitrotoluene		213 U	157 U			
2,6-Dinitrotoluene		213 U	157 U			
2-Chloronaphthalene		85.2 U	62.6 U			
2-Chlorophenol		85.2 U	62.6 U			
2-Methylphenol		85.2 U	62.6 U			
2-Nitroaniline		213 U	157 U			
2-Nitrophenol		213 U	157 U			
3,3-Dichlorobenzidine		128 U	93.9 U			
3-Nitroaniline		213 U	157 U			
4,6-Dinitro-2-methylphenol		213 U	157 U			
4-Bromophenyl-phenyl ether		85.2 U	62.6 U			
4-Chloro-3-methylphenol		85.2 U	62.6 U			
4-Chloroaniline		85.2 U	62.6 U			
4-Chlorophenyl-phenyl ether		85.2 U	62.6 U			
4-Methylphenol (cresol)		85.2 U	62.6 U			
4-Nitroaniline		213 U	157 U			
4-Nitrophenol		426 U	313 U			
Aniline		85.2 U	62.6 U			
Azobenzene		85.2 U	62.6 U			
Benzidine		2130 U	1570 U			
Benzoic Acid		42.6 U	31.3 U			
Benzyl Alcohol		85.2 U	62.6 U			
bis(2-Ethylhexyl)phthalate		4.26 U	9.61			
bis(2-Chloroethoxy)methane		85.2 U	62.6 U			
bis(2-Chloroethyl)ether		85.2 U	62.6 U			
bis(2-Chloroisopropyl)ether		85.2 U	62.6 U			
Butylbenzylphthalate		4.26 U	3.43 U			
Carbazole		85.2 U	62.6 U			
Diethylphthalate		4.26 U	3.43 U			
Dimethylphthalate		4.26 U	3.43 U			
Di-n-butylphthalate		4.26 U	3.43 U			
Di-n-octylphthalate		4.26 U	3.43 U			
Dibenzofuran		85.2 U	62.6 U			
Hexachlorobenzene		85.2 U	62.6 U			
Hexachlorobutadiene		85.2 U	62.6 U			
Hexachlorocyclopentadiene		213 U	157 U			
Hexachloroethane		85.2 U	62.6 U			
Isophorone		85.2 U	62.6 U			
Nitrobenzene		85.2 U	62.6 U			
N-Nitrosodimethylamine		213 U	157 U			
N-Nitroso-di-n-propylamine		85.2 U	62.6 U			
N-nitrosodiphenylamine		85.2 U	62.6 U			
Pentachlorophenol		21.3 U	17.2 U			
Phenol			62.6 U			
Pyrene		85.2 U				

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC-10-S1	HC-10-S2	HC-10-S3	HC-10-S4	HC-11-S1
Sampling Date	Method A	8/28/2018	8/28/2018	8/28/2018	8/28/2018	8/28/2018
Depth in Feet	Cleanup Level ^a					
Total Solids in %		95.6	96.1	95.4	94.8	93.5
TPH in mg/kg						
Diesel	2000	43	2 U	12	2 U	15
Heavy Oil	2000	610	3 U	14	3 U	25
Gasoline	30/100 ^b	0.108 U				0.126 U
Metals in mg/kg						
Arsenic	20	7.2				10.1
Cadmium	2	0.427 U				0.486 U
Chromium	19/2000 ^c	26.9				31.6
Lead	250	5.75				6.69
Mercury	2	0.0229				0.091
PCBs in µg/kg						
PCB-1016		17.3 U				17.4 U
PCB-1221		17.3 U				17.4 U
PCB-1232		17.3 U				17.4 U
PCB-1242		17.3 U				17.4 U
PCB-1248		17.3 U				17.4 U
PCB-1254		17.3 U				17.4 U
PCB-1260		3.91 T				5.99 T
Total PCBs	1000/10000 ^d	3.91 T				5.99 T
PAHs (SIM) in µg/kg						
1-Methylnaphthalene		3.44 U				3.47 U
2-Methylnaphthalene		3.44 U				3.47 U
Acenaphthene		3.44 U				3.47 U
Acenaphthylene		3.44 U				3.47 U
Anthracene		4.48				3.47 U
Benzo(a)anthracene		35.8				17.3
Benzo(a)pyrene	100/2000 ^d	3.44 U				3.47 U
Benzo(b)fluoranthene		3.44 U				3.47 U
Benzo(ghi)perylene		3.44 U				3.47 U
Benzo(k)fluoranthene		3.44 U				3.47 U
Chrysene		57.9				24.3
Dibenzo(ah)anthracene		3.44 U				3.47 U
Fluoranthene		72.7				25.6
Fluorene		3.44 U				3.47 U
Indeno(123-cd)pyrene		3.44 U				3.47 U
Naphthalene	5000	3.44 U				3.47 U
Phenanthrene		31.7				3.47 U
Pyrene		160				49.9
Total cPAHs TEQ	100/2000 ^d	4.159				1.973
BTEX in µg/kg						
Benzene	30	1.1 U				1.3 U
Ethyl Benzene	6000	1.1 U				1.6
Toluene	7000	1.1 U				4.8
m+p-Xylene		1.1 U				5.8
o-Xylene		1.1 U				2.1
Total Xylenes	9000	1.1 U				7.9
Volatiles in µg/kg **						
1,1,1,2-Tetrachloroethane		50 U		50 U	50 U	50 U
1,1,1-Trichloroethane	2000	50 U		50 U	50 U	50 U
1,1,2,2-Tetrachloroethane		50 U		50 U	50 U	50 U
1,1,2-Trichloroethane		50 U		50 U	50 U	50 U
1,1-Dichloroethane		50 U		50 U	50 U	50 U
1,1-Dichloroethene		50 U		50 U	50 U	50 U
1,1-Dichloropropene		50 U		50 U	50 U	50 U
1,2,3-Trichlorobenzene		50 U		50 U	50 U	50 U
1,2,3-Trichloropropane		50 U		50 U	50 U	50 U

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC-10-S1	HC-10-S2	HC-10-S3	HC-10-S4	HC-11-S1
Sampling Date	Method A	8/28/2018	8/28/2018	8/28/2018	8/28/2018	8/28/2018
Depth in Feet	Cleanup Level ^a					
1,2,4-Trichlorobenzene		50 U		50 U	50 U	50 U
1,2,4-Trimethylbenzene		50 U		50 U	50 U	50 U
1,2-Dibromo-3-Chloropropane		50 U		50 U	50 U	50 U
1,2-Dibromoethane (EDB)*	5	5 U		5 U	5 U	5 U
1,2-Dichlorobenzene		50 U		50 U	50 U	50 U
1,2-Dichloroethane(EDC)		20 U		20 U	20 U	20 U
1,2-Dichloropropane		50 U		50 U	50 U	50 U
1,3,5-Trimethylbenzene		50 U		50 U	50 U	50 U
1,3-Dichlorobenzene		50 U		50 U	50 U	50 U
1,3-Dichloropropane		50 U		50 U	50 U	50 U
1,4-Dichlorobenzene		50 U		50 U	50 U	50 U
2,2-Dichloropropane		50 U		50 U	50 U	50 U
2-Chlorotoluene		50 U		50 U	50 U	50 U
4-Chlorotoluene		50 U		50 U	50 U	50 U
Benzene	30	20 U		20 U	20 U	20 U
Bromobenzene		50 U		50 U	50 U	50 U
Bromodichloromethane		50 U		50 U	50 U	50 U
Bromoform		50 U		50 U	50 U	50 U
Bromomethane		50 U		50 U	50 U	50 U
Carbontetrachloride		50 U		50 U	50 U	50 U
Chlorobenzene		50 U		50 U	50 U	50 U
Chloroethane		50 U		50 U	50 U	50 U
Chloroform		50 U		50 U	50 U	50 U
Chloromethane		50 U		50 U	50 U	50 U
cis-1,2-Dichloroethene		50 U		50 U	50 U	50 U
cis-1,3-Dichloropropene		50 U		50 U	50 U	50 U
Dibromochloromethane		20 U		20 U	20 U	20 U
Dibromomethane		50 U		50 U	50 U	50 U
Dichlorodifluoromethane		50 U		50 U	50 U	50 U
Ethylbenzene	6000	50 U		50 U	50 U	50 U
Hexachloro-1,3-butadiene		50 U		50 U	50 U	50 U
Isopropylbenzene		50 U		50 U	50 U	50 U
Isopropyltoluene		50 U		50 U	50 U	50 U
Methylene chloride	20	20 U		20 U	20 U	20 U
MTBE	100	100 U		100 U	100 U	100 U
n-Butylbenzene		50 U		50 U	50 U	50 U
n-Propylbenzene		50 U		50 U	50 U	50 U
sec-Butylbenzene		50 U		50 U	50 U	50 U
Styrene		50 U		50 U	50 U	50 U
tert-Butylbenzene		50 U		50 U	50 U	50 U
Tetrachloroethene	50	50 U		50 U	50 U	50 U
Toluene	7000	50 U		50 U	50 U	50 U
trans-1,2-Dichloroethene		50 U		50 U	50 U	50 U
trans-1,3-Dichloropropene		50 U		50 U	50 U	50 U
Trichloroethene	30	20 U		20 U	20 U	83
Trichlorofluoromethane		50 U		50 U	50 U	50 U
Vinyl chloride		50 U		50 U	50 U	50 U
1,4-Dichlorobenzene						
2-Butanone (MEK)						
2-Hexanone						
4-Methyl-2-Pentanone						
Acetone						
Carbon Disulfide						
Chlorodibromomethane						
Vinyl Acetate						
m+p-Xylene						
o-Xylene						
Xylenes	9000	50 U		50 U	50 U	50 U

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC-10-S1	HC-10-S2	HC-10-S3	HC-10-S4	HC-11-S1
Sampling Date	Method A	8/28/2018	8/28/2018	8/28/2018	8/28/2018	8/28/2018
Depth in Feet	Cleanup Level ^a					
Semivolatiles in µg/kg						
1,2,4-Trichlorobenzene		68.9 U				69.3 U
1,2-Dichlorobenzene		68.9 U				69.3 U
1,3-Dichlorobenzene		68.9 U				69.3 U
1,4-Dichlorobenzene		68.9 U				69.3 U
2,4,5-Trichlorophenol		68.9 U				69.3 U
2,4,6-Trichlorophenol		68.9 U				69.3 U
2,4-Dichlorophenol		68.9 U				69.3 U
2,4-Dimethylphenol		68.9 U				69.3 U
2,4-Dinitrophenol		344 U				347 U
2,4-Dinitrotoluene		172 U				173 U
2,6-Dinitrotoluene		172 U				173 U
2-Chloronaphthalene		68.9 U				69.3 U
2-Chlorophenol		68.9 U				69.3 U
2-Methylphenol		68.9 U				69.3 U
2-Nitroaniline		172 U				173 U
2-Nitrophenol		172 U				173 U
3,3-Dichlorobenzidine		103 U				104 U
3-Nitroaniline		172 U				173 U
4,6-Dinitro-2-methylphenol		172 U				173 U
4-Bromophenyl-phenyl ether		68.9 U				69.3 U
4-Chloro-3-methylphenol		68.9 U				69.3 U
4-Chloroaniline		68.9 U				69.3 U
4-Chlorophenyl-phenyl ether		68.9 U				69.3 U
4-Methylphenol (cresol)		68.9 U				69.3 U
4-Nitroaniline		172 U				173 U
4-Nitrophenol		344 U				347 U
Aniline		68.9 U				69.3 U
Azobenzene		68.9 U				69.3 U
Benzidine		1720 U				1730 U
Benzoic Acid		34.4 U				34.7 U
Benzyl Alcohol		68.9 U				69.3 U
bis(2-Ethylhexyl)phthalate		89.2				15.9
bis(2-Chloroethoxy)methane		68.9 U				69.3 U
bis(2-Chloroethyl)ether		68.9 U				69.3 U
bis(2-Chloroisopropyl)ether		68.9 U				69.3 U
Butylbenzylphthalate		3.44 U				3.47
Carbazole		68.9 U				69.3 U
Diethylphthalate		3.44 U				3.47 U
Dimethylphthalate		3.44 U				3.47 U
Di-n-butylphthalate		3.44 U				3.47 U
Di-n-octylphthalate		3.44 U				3.47 U
Dibenzofuran		68.9 U				69.3 U
Hexachlorobenzene		68.9 U				69.3 U
Hexachlorobutadiene		68.9 U				69.3 U
Hexachlorocyclopentadiene		172 U				173 U
Hexachloroethane		68.9 U				69.3 U
Isophorone		68.9 U				69.3 U
Nitrobenzene		68.9 U				69.3 U
N-Nitrosodimethylamine		172 U				173 U
N-Nitroso-di-n-propylamine		68.9 U				69.3 U
N-nitrosodiphenylamine		68.9 U				69.3 U
Pentachlorophenol		17.2 U				17.3 U
Phenol		68.9 U				69.3 U
Pyrene						

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC11-S4	HC12-S1	HC12-S3	HC12-S6	HC13-S4
Sampling Date	Method A	8/27/2018	8/27/2018	8/27/2018	8/27/2018	8/27/2018
Depth in Feet	Cleanup Level ^a					
Total Solids in %			89	70.5	76.5	91.3
TPH in mg/kg						
Diesel	2000		25 U	25 U	25 U	25 U
Heavy Oil	2000		50 U	50 U	50 U	50 U
Gasoline	30/100 ^b			0.206 U		0.121 U
Metals in mg/kg						
Arsenic	20			10.8		6.1
Cadmium	2			0.187		0.141
Chromium	19/2000 ^c			24.5		29
Lead	250			2.3		1.15
Mercury	2			0.0535		0.011 U
PCBs in µg/kg						
PCB-1016				23.1 U		
PCB-1221				23.1 U		
PCB-1232				23.1 U		
PCB-1242				23.1 U		
PCB-1248				23.1 U		
PCB-1254				23.1 U		
PCB-1260				23.1 U		
Total PCBs	1000/10000 ^d			23.1 U		
PAHs (SIM) in µg/kg						
1-Methylnaphthalene				4.73 U		
2-Methylnaphthalene				4.73 U		
Acenaphthene				4.73 U		
Acenaphthylene				4.73 U		
Anthracene				4.73 U		
Benzo(a)anthracene				9.45		
Benzo(a)pyrene	100/2000 ^d			4.73 U		
Benzo(b)fluoranthene				4.73 U		
Benzo(ghi)perylene				4.73 U		
Benzo(k)fluoranthene				4.73 U		
Chrysene				9.93		
Dibenzo(ah)anthracene				4.73 U		
Fluoranthene				30.7		
Fluorene				4.73 U		
Indeno(123-cd)pyrene				4.73 U		
Naphthalene	5000			4.73 U		
Phenanthrene				4.73 U		
Pyrene				41.1		
Total cPAHs TEQ	100/2000 ^d			1.0443		
BTEX in µg/kg						
Benzene	30					1.2 U
Ethyl Benzene	6000					1.2 U
Toluene	7000					1.2 U
m+p-Xylene						1.2 U
o-Xylene						1.2 U
Total Xylenes	9000					1.2 U
Volatiles in µg/kg **						
1,1,1,2-Tetrachloroethane		50 U				50 U
1,1,1-Trichloroethane	2000	50 U		1.6 U		50 U
1,1,2,2-Tetrachloroethane		50 U		1.6 U		50 U
1,1,2-Trichloroethane		50 U		1.6 U		50 U
1,1-Dichloroethane		50 U		1.6 U		50 U
1,1-Dichloroethene		50 U		1.6 U		50 U
1,1-Dichloropropene		50 U				50 U
1,2,3-Trichlorobenzene		50 U				50 U
1,2,3-Trichloropropane		50 U				50 U

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC11-S4	HC12-S1	HC12-S3	HC12-S6	HC13-S4
Sampling Date	Method A	8/27/2018	8/27/2018	8/27/2018	8/27/2018	8/27/2018
Depth in Feet	Cleanup Level ^a					
1,2,4-Trichlorobenzene		50 U				50 U
1,2,4-Trimethylbenzene		50 U				50 U
1,2-Dibromo-3-Chloropropane		50 U				50 U
1,2-Dibromoethane (EDB)*	5	5 U				5 U
1,2-Dichlorobenzene		50 U				50 U
1,2-Dichloroethane(EDC)		20 U		1.6 U		20 U
1,2-Dichloropropane		50 U		1.6 U		50 U
1,3,5-Trimethylbenzene		50 U				50 U
1,3-Dichlorobenzene		50 U				50 U
1,3-Dichloropropane		50 U				50 U
1,4-Dichlorobenzene		50 U				50 U
2,2-Dichloropropane		50 U				50 U
2-Chlorotoluene		50 U				50 U
4-Chlorotoluene		50 U				50 U
Benzene	30	20 U		1.6 U		20 U
Bromobenzene		50 U				50 U
Bromodichloromethane		50 U		1.6 U		50 U
Bromoform		50 U		1.6 U		50 U
Bromomethane		50 U		8.2 U		50 U
Carbontetrachloride		50 U		1.6 U		50 U
Chlorobenzene		50 U		1.6 U		50 U
Chloroethane		50 U		8.2 U		50 U
Chloroform		50 U		1.6 U		50 U
Chloromethane		50 U		8.2 U		50 U
cis-1,2-Dichloroethene		50 U				50 U
cis-1,3-Dichloropropene		50 U		1.6 U		50 U
Dibromochloromethane		20 U				20 U
Dibromomethane		50 U				50 U
Dichlorodifluoromethane		50 U				50 U
Ethylbenzene	6000	50 U		1.6 U		50 U
Hexachloro-1,3-butadiene		50 U				50 U
Isopropylbenzene		50 U				50 U
Isopropyltoluene		50 U				50 U
Methylene chloride	20	20 U		8.1		20 U
MTBE	100	100 U				100 U
n-Butylbenzene		50 U				50 U
n-Propylbenzene		50 U				50 U
sec-Butylbenzene		50 U				50 U
Styrene		50 U		1.6 U		50 U
tert-Butylbenzene		50 U				50 U
Tetrachloroethene	50	50 U		1.6 U		50 U
Toluene	7000	50 U		2.8 UJ		50 U
trans-1,2-Dichloroethene		50 U				50 U
trans-1,3-Dichloropropene		50 U		1.6 U		50 U
Trichloroethene	30	50		1.6 U		20 U
Trichlorofluoromethane		50 U		1.6 U		50 U
Vinyl chloride		50 U		1.6 U		50 U
1,4-Dichlorobenzene				1.6 U		
2-Butanone (MEK)				16.4 U		
2-Hexanone				16.4 U		
4-Methyl-2-Pentanone				16.4 U		
Acetone				39.1		
Carbon Disulfide				4.1		
Chlorodibromomethane				1.6 U		
Vinyl Acetate				8.2 U		
m+p-Xylene				2.1		
o-Xylene				2.1 U		
Xylenes	9000	50 U		2.1		50 U

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC11-S4	HC12-S1	HC12-S3	HC12-S6	HC13-S4
Sampling Date	Method A	8/27/2018	8/27/2018	8/27/2018	8/27/2018	8/27/2018
Depth in Feet	Cleanup Level ^a					

Semivolatiles in µg/kg

1,2,4-Trichlorobenzene	94.5 U
1,2-Dichlorobenzene	94.5 U
1,3-Dichlorobenzene	94.5 U
1,4-Dichlorobenzene	94.5 U
2,4,5-Trichlorophenol	94.5 U
2,4,6-Trichlorophenol	94.5 U
2,4-Dichlorophenol	94.5 U
2,4-Dimethylphenol	94.5 U
2,4-Dinitrophenol	473 U
2,4-Dinitrotoluene	236 U
2,6-Dinitrotoluene	236 U
2-Chloronaphthalene	94.5 U
2-Chlorophenol	94.5 U
2-Methylphenol	94.5 U
2-Nitroaniline	236 U
2-Nitrophenol	236 U
3,3-Dichlorobenzidine	142 U
3-Nitroaniline	236 U
4,6-Dinitro-2-methylphenol	236 U
4-Bromophenyl-phenyl ether	94.5 U
4-Chloro-3-methylphenol	94.5 U
4-Chloroaniline	94.5 U
4-Chlorophenyl-phenyl ether	94.5 U
4-Methylphenol (cresol)	94.5 U
4-Nitroaniline	236 U
4-Nitrophenol	473 U
Aniline	94.5 U
Azobenzene	94.5 U
Benzidine	2360 U
Benzoic Acid	47.3 U
Benzyl Alcohol	94.5 U
bis(2-Ethylhexyl)phthalate	8.98
bis(2-Chloroethoxy)methane	94.5 U
bis(2-Chloroethyl)ether	94.5 U
bis(2-Chloroisopropyl)ether	94.5 U
Butylbenzylphthalate	4.73 U
Carbazole	94.5 U
Diethylphthalate	4.73 U
Dimethylphthalate	4.73 U
Di-n-butylphthalate	4.73 U
Di-n-octylphthalate	4.73 U
Dibenzofuran	94.5 U
Hexachlorobenzene	94.5 U
Hexachlorobutadiene	94.5 U
Hexachlorocyclopentadiene	236 U
Hexachloroethane	94.5 U
Isophorone	94.5 U
Nitrobenzene	94.5 U
N-Nitrosodimethylamine	236 U
N-Nitroso-di-n-propylamine	94.5 U
N-nitrosodiphenylamine	94.5 U
Pentachlorophenol	23.6 U
Phenol	94.5 U
Pyrene	

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC-14-S5	HC-14-S6	HC-15-S2	HC16-S1	HC16-S2
Sampling Date	Method A	8/28/2018	8/28/2018	8/28/2018	8/27/2018	8/27/2018
Depth in Feet	Cleanup Level ^a					
Total Solids in %		75	73	85.5	95	94.1
TPH in mg/kg						
Diesel	2000	6	2 U	2 U	25 U	25 U
Heavy Oil	2000	21	13	4 U	50 U	50 U
Gasoline	30/100 ^b		0.145 U	0.116 U		0.116 U
Metals in mg/kg						
Arsenic	20		11.5	6.42		9.06
Cadmium	2		0.645 U	0.332 U		2.85
Chromium	19/2000 ^c		234	17.5		34.4
Lead	250		3.36	2.17		1.59
Mercury	2		0.0521	0.0271		0.0138
PCBs in µg/kg						
PCB-1016			22.2 U			
PCB-1221			22.2 U			
PCB-1232			22.2 U			
PCB-1242			22.2 U			
PCB-1248			22.2 U			
PCB-1254			22.2 U			
PCB-1260			22.2 U			
Total PCBs	1000/10000 ^d		22.2 U			
PAHs (SIM) in µg/kg						
1-Methylnaphthalene			4.48 U			
2-Methylnaphthalene			4.48 U			
Acenaphthene			4.48 U			
Acenaphthylene			4.48 U			
Anthracene			4.48 U			
Benzo(a)anthracene			4.48 U			
Benzo(a)pyrene	100/2000 ^d		4.48 U			
Benzo(b)fluoranthene			4.48 U			
Benzo(ghi)perylene			4.48 U			
Benzo(k)fluoranthene			4.48 U			
Chrysene			4.48 U			
Dibenzo(ah)anthracene			4.48 U			
Fluoranthene			4.48 U			
Fluorene			4.48 U			
Indeno(123-cd)pyrene			4.48 U			
Naphthalene	5000		4.48 U			
Phenanthrene			4.48 U			
Pyrene			4.48 U			
Total cPAHs TEQ	100/2000 ^d		NC			
BTEX in µg/kg						
Benzene	30		1.4 U	1.2 U		1.2 U
Ethyl Benzene	6000		1.4 U	1.2 U		1.2 U
Toluene	7000		1.4 U	1.2 U		1.5
m+p-Xylene			1.4 U	1.2 U		1.5
o-Xylene			1.4 U	1.2 U		1.2 U
Total Xylenes	9000		1.4 U	1.2 U		1.5
Volatiles in µg/kg **						
1,1,1,2-Tetrachloroethane		50 U	50 U	50 U		50 U
1,1,1-Trichloroethane	2000	50 U	50 U	50 U		50 U
1,1,2,2-Tetrachloroethane		50 U	50 U	50 U		50 U
1,1,2-Trichloroethane		50 U	50 U	50 U		50 U
1,1-Dichloroethane		50 U	50 U	50 U		50 U
1,1-Dichloroethene		50 U	50 U	50 U		50 U
1,1-Dichloropropene		50 U	50 U	50 U		50 U
1,2,3-Trichlorobenzene		50 U	50 U	50 U		50 U
1,2,3-Trichloropropane		50 U	50 U	50 U		50 U

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC-14-S5	HC-14-S6	HC-15-S2	HC16-S1	HC16-S2
Sampling Date	Method A	8/28/2018	8/28/2018	8/28/2018	8/27/2018	8/27/2018
Depth in Feet	Cleanup Level ^a					
1,2,4-Trichlorobenzene		50 U	50 U	50 U		50 U
1,2,4-Trimethylbenzene		50 U	50 U	50 U		50 U
1,2-Dibromo-3-Chloropropane		50 U	50 U	50 U		50 U
1,2-Dibromoethane (EDB)*	5	5 U	5 U	5 U		5 U
1,2-Dichlorobenzene		50 U	50 U	50 U		50 U
1,2-Dichloroethane(EDC)		20 U	20 U	20 U		20 U
1,2-Dichloropropane		50 U	50 U	50 U		50 U
1,3,5-Trimethylbenzene		50 U	50 U	50 U		50 U
1,3-Dichlorobenzene		50 U	50 U	50 U		50 U
1,3-Dichloropropane		50 U	50 U	50 U		50 U
1,4-Dichlorobenzene		50 U	50 U	50 U		50 U
2,2-Dichloropropane		50 U	50 U	50 U		50 U
2-Chlorotoluene		50 U	50 U	50 U		50 U
4-Chlorotoluene		50 U	50 U	50 U		50 U
Benzene	30	20 U	20 U	20 U		20 U
Bromobenzene		50 U	50 U	50 U		50 U
Bromodichloromethane		50 U	50 U	50 U		50 U
Bromoform		50 U	50 U	50 U		50 U
Bromomethane		50 U	50 U	50 U		50 U
Carbontetrachloride		50 U	50 U	50 U		50 U
Chlorobenzene		50 U	50 U	50 U		50 U
Chloroethane		50 U	50 U	50 U		50 U
Chloroform		50 U	50 U	50 U		50 U
Chloromethane		50 U	50 U	50 U		50 U
cis-1,2-Dichloroethene		50 U	50 U	50 U		50 U
cis-1,3-Dichloropropene		50 U	50 U	50 U		50 U
Dibromochloromethane		20 U	20 U	20 U		20 U
Dibromomethane		50 U	50 U	50 U		50 U
Dichlorodifluoromethane		50 U	50 U	50 U		50 U
Ethylbenzene	6000	50 U	50 U	50 U		50 U
Hexachloro-1,3-butadiene		50 U	50 U	50 U		50 U
Isopropylbenzene		50 U	50 U	50 U		50 U
Isopropyltoluene		50 U	50 U	50 U		50 U
Methylene chloride	20	20 U	20 U	20 U		20 U
MTBE	100	100 U	100 U	100 U		100 U
n-Butylbenzene		50 U	50 U	50 U		50 U
n-Propylbenzene		50 U	50 U	50 U		50 U
sec-Butylbenzene		50 U	50 U	50 U		50 U
Styrene		50 U	50 U	50 U		50 U
tert-Butylbenzene		50 U	50 U	50 U		50 U
Tetrachloroethene	50	50 U	50 U	50 U		50 U
Toluene	7000	50 U	50 U	50 U		50 U
trans-1,2-Dichloroethene		50 U	50 U	50 U		50 U
trans-1,3-Dichloropropene		50 U	50 U	50 U		50 U
Trichloroethene	30	55	50	20 U		20 U
Trichlorofluoromethane		50 U	50 U	50 U		50 U
Vinyl chloride		50 U	50 U	50 U		50 U
1,4-Dichlorobenzene						
2-Butanone (MEK)						
2-Hexanone						
4-Methyl-2-Pentanone						
Acetone						
Carbon Disulfide						
Chlorodibromomethane						
Vinyl Acetate						
m+p-Xylene						
o-Xylene						
Xylenes	9000	50 U	50 U	50 U		50 U

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC-14-S5	HC-14-S6	HC-15-S2	HC16-S1	HC16-S2
Sampling Date	Method A	8/28/2018	8/28/2018	8/28/2018	8/27/2018	8/27/2018
Depth in Feet	Cleanup Level ^a					
Semivolatiles in µg/kg						
1,2,4-Trichlorobenzene			89.5 U			
1,2-Dichlorobenzene			89.5 U			
1,3-Dichlorobenzene			89.5 U			
1,4-Dichlorobenzene			89.5 U			
2,4,5-Trichlorophenol			89.5 U			
2,4,6-Trichlorophenol			89.5 U			
2,4-Dichlorophenol			89.5 U			
2,4-Dimethylphenol			89.5 U			
2,4-Dinitrophenol			448 U			
2,4-Dinitrotoluene			224 U			
2,6-Dinitrotoluene			224 U			
2-Chloronaphthalene			89.5 U			
2-Chlorophenol			89.5 U			
2-Methylphenol			89.5 U			
2-Nitroaniline			224 U			
2-Nitrophenol			224 U			
3,3-Dichlorobenzidine			134 U			
3-Nitroaniline			224 U			
4,6-Dinitro-2-methylphenol			224 U			
4-Bromophenyl-phenyl ether			89.5 U			
4-Chloro-3-methylphenol			89.5 U			
4-Chloroaniline			89.5 U			
4-Chlorophenyl-phenyl ether			89.5 U			
4-Methylphenol (cresol)			89.5 U			
4-Nitroaniline			224 U			
4-Nitrophenol			448 U			
Aniline			89.5 U			
Azobenzene			89.5 U			
Benzidine			2240 U			
Benzoic Acid			44.8 U			
Benzyl Alcohol			89.5 U			
bis(2-Ethylhexyl)phthalate			17.9			
bis(2-Chloroethoxy)methane			89.5 U			
bis(2-Chloroethyl)ether			89.5 U			
bis(2-Chloroisopropyl)ether			89.5 U			
Butylbenzylphthalate			4.48 U			
Carbazole			89.5 U			
Diethylphthalate			4.48 U			
Dimethylphthalate			4.48 U			
Di-n-butylphthalate			4.48 U			
Di-n-octylphthalate			4.48 U			
Dibenzofuran			89.5 U			
Hexachlorobenzene			89.5 U			
Hexachlorobutadiene			89.5 U			
Hexachlorocyclopentadiene			224 U			
Hexachloroethane			89.5 U			
Isophorone			89.5 U			
Nitrobenzene			89.5 U			
N-Nitrosodimethylamine			224 U			
N-Nitroso-di-n-propylamine			89.5 U			
N-nitrosodiphenylamine			89.5 U			
Pentachlorophenol			22.4 U			
Phenol			89.5 U			
Pyrene						

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC16-S4	HC17-S4	HC17-S5	HC18-S3	HC18-S4
Sampling Date	Method A	8/27/2018	8/27/2018	8/27/2018	8/27/2018	8/27/2018
Depth in Feet	Cleanup Level ^a					
Total Solids in %		85.2		81.6	72.2	73.6
TPH in mg/kg						
Diesel	2000	25 U		25 U	25 U	25 U
Heavy Oil	2000	50 U		50 U	50 U	50 U
Gasoline	30/100 ^b			0.125 U	0.358	
Metals in mg/kg						
Arsenic	20			4.17		
Cadmium	2			0.374		
Chromium	19/2000 ^c			15.7		
Lead	250			0.842		
Mercury	2			0.0123 U		
PCBs in µg/kg						
PCB-1016				21.1 U		
PCB-1221				21.1 U		
PCB-1232				21.1 U		
PCB-1242				21.1 U		
PCB-1248				21.1 U		
PCB-1254				21.1 U		
PCB-1260				21.1 U		
Total PCBs	1000/10000 ^d			21.1 U		
PAHs (SIM) in µg/kg						
1-Methylnaphthalene				4.08 U		
2-Methylnaphthalene				4.08 U		
Acenaphthene				4.08 U		
Acenaphthylene				4.08 U		
Anthracene				4.08 U		
Benzo(a)anthracene				4.08 U		
Benzo(a)pyrene	100/2000 ^d			4.08 U		
Benzo(b)fluoranthene				4.08 U		
Benzo(ghi)perylene				4.08 U		
Benzo(k)fluoranthene				4.08 U		
Chrysene				4.08 U		
Dibenzo(ah)anthracene				4.08 U		
Fluoranthene				4.08 U		
Fluorene				4.08 U		
Indeno(123-cd)pyrene				4.08 U		
Naphthalene	5000			4.08 U		
Phenanthrene				4.08 U		
Pyrene				4.08 U		
Total cPAHs TEQ	100/2000 ^d			NC		
BTEX in µg/kg						
Benzene	30			1.2 U	1.7 U	
Ethyl Benzene	6000			1.2 U	1.7 U	
Toluene	7000			1.2 U	1.7 U	
m+p-Xylene				1.2 U	1.7 U	
o-Xylene				1.2 U	1.7 U	
Total Xylenes	9000			1.2 U	1.7 U	
Volatiles in µg/kg **						
1,1,1,2-Tetrachloroethane		50 U	50 U			
1,1,1-Trichloroethane	2000	50 U	50 U			
1,1,2,2-Tetrachloroethane		50 U	50 U			
1,1,2-Trichloroethane		50 U	50 U			
1,1-Dichloroethane		50 U	50 U			
1,1-Dichloroethene		50 U	50 U			
1,1-Dichloropropene		50 U	50 U			
1,2,3-Trichlorobenzene		50 U	50 U			
1,2,3-Trichloropropane		50 U	50 U			

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC16-S4	HC17-S4	HC17-S5	HC18-S3	HC18-S4
Sampling Date	Method A	8/27/2018	8/27/2018	8/27/2018	8/27/2018	8/27/2018
Depth in Feet	Cleanup Level ^a					
1,2,4-Trichlorobenzene		50 U	50 U			
1,2,4-Trimethylbenzene		50 U	50 U			
1,2-Dibromo-3-Chloropropane		50 U	50 U			
1,2-Dibromoethane (EDB)*	5	5 U	5 U			
1,2-Dichlorobenzene		50 U	50 U			
1,2-Dichloroethane(EDC)		20 U	20 U			
1,2-Dichloropropane		50 U	50 U			
1,3,5-Trimethylbenzene		50 U	50 U			
1,3-Dichlorobenzene		50 U	50 U			
1,3-Dichloropropane		50 U	50 U			
1,4-Dichlorobenzene		50 U	50 U			
2,2-Dichloropropane		50 U	50 U			
2-Chlorotoluene		50 U	50 U			
4-Chlorotoluene		50 U	50 U			
Benzene	30	20 U	20 U			
Bromobenzene		50 U	50 U			
Bromodichloromethane		50 U	50 U			
Bromoform		50 U	50 U			
Bromomethane		50 U	50 U			
Carbontetrachloride		50 U	50 U			
Chlorobenzene		50 U	50 U			
Chloroethane		50 U	50 U			
Chloroform		50 U	50 U			
Chloromethane		50 U	50 U			
cis-1,2-Dichloroethene		50 U	50 U			
cis-1,3-Dichloropropene		50 U	50 U			
Dibromochloromethane		20 U	20 U			
Dibromomethane		50 U	50 U			
Dichlorodifluoromethane		50 U	50 U			
Ethylbenzene	6000	50 U	50 U			
Hexachloro-1,3-butadiene		50 U	50 U			
Isopropylbenzene		50 U	50 U			
Isopropyltoluene		50 U	50 U			
Methylene chloride	20	20 U	20 U			
MTBE	100	100 U	100 U			
n-Butylbenzene		50 U	50 U			
n-Propylbenzene		50 U	50 U			
sec-Butylbenzene		50 U	50 U			
Styrene		50 U	50 U			
tert-Butylbenzene		50 U	50 U			
Tetrachloroethene	50	50 U	50 U			
Toluene	7000	50 U	50 U			
trans-1,2-Dichloroethene		50 U	50 U			
trans-1,3-Dichloropropene		50 U	50 U			
Trichloroethene	30	20 U	20 U			
Trichlorofluoromethane		50 U	50 U			
Vinyl chloride		50 U	50 U			
1,4-Dichlorobenzene						
2-Butanone (MEK)						
2-Hexanone						
4-Methyl-2-Pentanone						
Acetone						
Carbon Disulfide						
Chlorodibromomethane						
Vinyl Acetate						
m+p-Xylene						
o-Xylene						
Xylenes	9000	50 U	50 U			

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC16-S4	HC17-S4	HC17-S5	HC18-S3	HC18-S4
Sampling Date	Method A	8/27/2018	8/27/2018	8/27/2018	8/27/2018	8/27/2018
Depth in Feet	Cleanup Level ^a					
Semivolatiles in µg/kg						
1,2,4-Trichlorobenzene				81.5 U		
1,2-Dichlorobenzene				81.5 U		
1,3-Dichlorobenzene				81.5 U		
1,4-Dichlorobenzene				81.5 U		
2,4,5-Trichlorophenol				81.5 U		
2,4,6-Trichlorophenol				81.5 U		
2,4-Dichlorophenol				81.5 U		
2,4-Dimethylphenol				81.5 U		
2,4-Dinitrophenol				408 U		
2,4-Dinitrotoluene				204 U		
2,6-Dinitrotoluene				204 U		
2-Chloronaphthalene				81.5 U		
2-Chlorophenol				81.5 U		
2-Methylphenol				81.5 U		
2-Nitroaniline				204 U		
2-Nitrophenol				204 U		
3,3-Dichlorobenzidine				122 U		
3-Nitroaniline				204 U		
4,6-Dinitro-2-methylphenol				204 U		
4-Bromophenyl-phenyl ether				81.5 U		
4-Chloro-3-methylphenol				81.5 U		
4-Chloroaniline				81.5 U		
4-Chlorophenyl-phenyl ether				81.5 U		
4-Methylphenol (cresol)				81.5 U		
4-Nitroaniline				204 U		
4-Nitrophenol				408 U		
Aniline				81.5 U		
Azobenzene				81.5 U		
Benzidine				2040 U		
Benzoic Acid				40.8 U		
Benzyl Alcohol				81.5 U		
bis(2-Ethylhexyl)phthalate				10.6		
bis(2-Chloroethoxy)methane				81.5 U		
bis(2-Chloroethyl)ether				81.5 U		
bis(2-Chloroisopropyl)ether				81.5 U		
Butylbenzylphthalate				4.08 U		
Carbazole				81.5 U		
Diethylphthalate				4.08 U		
Dimethylphthalate				4.08 U		
Di-n-butylphthalate				4.08 U		
Di-n-octylphthalate				4.08 U		
Dibenzofuran				81.5 U		
Hexachlorobenzene				81.5 U		
Hexachlorobutadiene				81.5 U		
Hexachlorocyclopentadiene				204 U		
Hexachloroethane				81.5 U		
Isophorone				81.5 U		
Nitrobenzene				81.5 U		
N-Nitrosodimethylamine				204 U		
N-Nitroso-di-n-propylamine				81.5 U		
N-nitrosodiphenylamine				81.5 U		
Pentachlorophenol				20.4 U		
Phenol				81.5 U		
Pyrene						

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC18-S5	HC-19-S1	HC-19-S3	HC-20-S1	HC-20-S3
Sampling Date	Method A	8/27/2018	8/28/2018	8/28/2018	8/28/2018	8/28/2018
Depth in Feet	Cleanup Level ^a					
Total Solids in %		70.3	94.4	94.8	91.8	95.7
TPH in mg/kg						
Diesel	2000	25 U	70 U	6	73 U	5
Heavy Oil	2000	50 U	650	44	710	45
Gasoline	30/100 ^b	0.142 U		0.105 U		
Metals in mg/kg						
Arsenic	20	7.41		7.94		
Cadmium	2	0.253		0.607 U		
Chromium	19/2000 ^c	23.3		23.9		
Lead	250	2.79		0.913 T		
Mercury	2	0.0314		0.0105 U		
PCBs in µg/kg						
PCB-1016		23.1 U		17.8 U		
PCB-1221		23.1 U		17.8 U		
PCB-1232		23.1 U		17.8 U		
PCB-1242		23.1 U		17.8 U		
PCB-1248		23.1 U		17.8 U		
PCB-1254		23.1 U		17.8 U		
PCB-1260		23.1 U		17.8 U		
Total PCBs	1000/10000 ^d	23.1 U		17.8 U		
PAHs (SIM) in µg/kg						
1-Methylnaphthalene		4.8 U		3.6 U		
2-Methylnaphthalene		4.8 U		3.6 U		
Acenaphthene		4.8 U		3.6 U		
Acenaphthylene		4.8 U		3.6 U		
Anthracene		4.8 U		3.6 U		
Benzo(a)anthracene		4.8 U		3.6 U		
Benzo(a)pyrene	100/2000 ^d	4.8 U		3.6 U		
Benzo(b)fluoranthene		4.8 U		3.6 U		
Benzo(ghi)perylene		4.8 U		3.6 U		
Benzo(k)fluoranthene		4.8 U		3.6 U		
Chrysene		4.8 U		3.6 U		
Dibenzo(ah)anthracene		4.8 U		3.6 U		
Fluoranthene		4.8 U		3.6 U		
Fluorene		4.8 U		3.6 U		
Indeno(123-cd)pyrene		4.8 U		3.6 U		
Naphthalene	5000	4.8 U		3.6 U		
Phenanthrene		4.8 U		3.6 U		
Pyrene		4.8 U		3.6		
Total cPAHs TEQ	100/2000 ^d	NC		NC		
BTEX in µg/kg						
Benzene	30	1.4 U		1 U		
Ethyl Benzene	6000	1.4 U		1 U		
Toluene	7000	1.4 U		1 U		
m+p-Xylene		1.4 U		1.2		
o-Xylene		1.4 U		1 U		
Total Xylenes	9000	1.4 U		1.2		
Volatiles in µg/kg **						
1,1,1,2-Tetrachloroethane		50 U		50 U		
1,1,1-Trichloroethane	2000	50 U		50 U		
1,1,2,2-Tetrachloroethane		50 U		50 U		
1,1,2-Trichloroethane		50 U		50 U		
1,1-Dichloroethane		50 U		50 U		
1,1-Dichloroethene		50 U		50 U		
1,1-Dichloropropene		50 U		50 U		
1,2,3-Trichlorobenzene		50 U		50 U		
1,2,3-Trichloropropane		50 U		50 U		

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC18-S5	HC-19-S1	HC-19-S3	HC-20-S1	HC-20-S3
Sampling Date	Method A	8/27/2018	8/28/2018	8/28/2018	8/28/2018	8/28/2018
Depth in Feet	Cleanup Level ^a					
1,2,4-Trichlorobenzene		50 U		50 U		
1,2,4-Trimethylbenzene		50 U		50 U		
1,2-Dibromo-3-Chloropropane		50 U		50 U		
1,2-Dibromoethane (EDB)*	5	5 U		5 U		
1,2-Dichlorobenzene		50 U		50 U		
1,2-Dichloroethane(EDC)		20 U		20 U		
1,2-Dichloropropane		50 U		50 U		
1,3,5-Trimethylbenzene		50 U		50 U		
1,3-Dichlorobenzene		50 U		50 U		
1,3-Dichloropropane		50 U		50 U		
1,4-Dichlorobenzene		50 U		50 U		
2,2-Dichloropropane		50 U		50 U		
2-Chlorotoluene		50 U		50 U		
4-Chlorotoluene		50 U		50 U		
Benzene	30	20 U		20 U		
Bromobenzene		50 U		50 U		
Bromodichloromethane		50 U		50 U		
Bromoform		50 U		50 U		
Bromomethane		50 U		50 U		
Carbontetrachloride		50 U		50 U		
Chlorobenzene		50 U		50 U		
Chloroethane		50 U		50 U		
Chloroform		50 U		50 U		
Chloromethane		50 U		50 U		
cis-1,2-Dichloroethene		50 U		50 U		
cis-1,3-Dichloropropene		50 U		50 U		
Dibromochloromethane		20 U		20 U		
Dibromomethane		50 U		50 U		
Dichlorodifluoromethane		50 U		50 U		
Ethylbenzene	6000	50 U		50 U		
Hexachloro-1,3-butadiene		50 U		50 U		
Isopropylbenzene		50 U		50 U		
Isopropyltoluene		50 U		50 U		
Methylene chloride	20	20 U		20 U		
MTBE	100	100 U		100 U		
n-Butylbenzene		50 U		50 U		
n-Propylbenzene		50 U		50 U		
sec-Butylbenzene		50 U		50 U		
Styrene		50 U		50 U		
tert-Butylbenzene		50 U		50 U		
Tetrachloroethene	50	50 U		50 U		
Toluene	7000	50 U		50 U		
trans-1,2-Dichloroethene		50 U		50 U		
trans-1,3-Dichloropropene		50 U		50 U		
Trichloroethene	30	20 U		20 U		
Trichlorofluoromethane		50 U		50 U		
Vinyl chloride		50 U		50 U		
1,4-Dichlorobenzene						
2-Butanone (MEK)						
2-Hexanone						
4-Methyl-2-Pentanone						
Acetone						
Carbon Disulfide						
Chlorodibromomethane						
Vinyl Acetate						
m+p-Xylene						
o-Xylene						
Xylenes	9000	50 U		50 U		

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC18-S5	HC-19-S1	HC-19-S3	HC-20-S1	HC-20-S3
Sampling Date	Method A	8/27/2018	8/28/2018	8/28/2018	8/28/2018	8/28/2018
Depth in Feet	Cleanup Level ^a					
Semivolatiles in µg/kg						
1,2,4-Trichlorobenzene		96 U		72 U		
1,2-Dichlorobenzene		96 U		72 U		
1,3-Dichlorobenzene		96 U		72 U		
1,4-Dichlorobenzene		96 U		72 U		
2,4,5-Trichlorophenol		96 U		72 U		
2,4,6-Trichlorophenol		96 U		72 U		
2,4-Dichlorophenol		96 U		72 U		
2,4-Dimethylphenol		96 U		72 U		
2,4-Dinitrophenol		480 U		360 U		
2,4-Dinitrotoluene		240 U		180 U		
2,6-Dinitrotoluene		240 U		180 U		
2-Chloronaphthalene		96 U		72 U		
2-Chlorophenol		96 U		72 U		
2-Methylphenol		96 U		72 U		
2-Nitroaniline		240 U		180 U		
2-Nitrophenol		240 U		180 U		
3,3-Dichlorobenzidine		144 U		108 U		
3-Nitroaniline		240 U		180 U		
4,6-Dinitro-2-methylphenol		240 U		180 U		
4-Bromophenyl-phenyl ether		96 U		72 U		
4-Chloro-3-methylphenol		96 U		72 U		
4-Chloroaniline		96 U		72 U		
4-Chlorophenyl-phenyl ether		96 U		72 U		
4-Methylphenol (cresol)		96 U		72 U		
4-Nitroaniline		240 U		180 U		
4-Nitrophenol		480 U		360 U		
Aniline		96 U		72 U		
Azobenzene		96 U		72 U		
Benzidine		2400 U		1800 U		
Benzoic Acid		48 U		36 U		
Benzyl Alcohol		96 U		72 U		
bis(2-Ethylhexyl)phthalate		9.12		9.71		
bis(2-Chloroethoxy)methane		96 U		72 U		
bis(2-Chloroethyl)ether		96 U		72 U		
bis(2-Chloroisopropyl)ether		96 U		72 U		
Butylbenzylphthalate		4.8 U		3.6 U		
Carbazole		96 U		72 U		
Diethylphthalate		4.8 U		3.6 U		
Dimethylphthalate		4.8 U		3.6 U		
Di-n-butylphthalate		4.8 U		3.6 U		
Di-n-octylphthalate		4.8 U		3.6 U		
Dibenzofuran		96 U		72 U		
Hexachlorobenzene		96 U		72 U		
Hexachlorobutadiene		96 U		72 U		
Hexachlorocyclopentadiene		240 U		180 U		
Hexachloroethane		96 U		72 U		
Isophorone		96 U		72 U		
Nitrobenzene		96 U		72 U		
N-Nitrosodimethylamine		240 U		180 U		
N-Nitroso-di-n-propylamine		96 U		72 U		
N-nitrosodiphenylamine		96 U		72 U		
Pentachlorophenol		24 U		18 U		
Phenol		96 U		72 U		
Pyrene						

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC-20-S4
Sampling Date	Method A	8/28/2018
Depth in Feet	Cleanup Level ^a	
Total Solids in %		94.3
TPH in mg/kg		
Diesel	2000	2 U
Heavy Oil	2000	4 U
Gasoline	30/100 ^b	0.111 U
Metals in mg/kg		
Arsenic	20	5.42
Cadmium	2	0.403 U
Chromium	19/2000 ^c	24.4
Lead	250	1.58
Mercury	2	0.0108
PCBs in µg/kg		
PCB-1016		17.4 U
PCB-1221		17.4 U
PCB-1232		17.4 U
PCB-1242		17.4 U
PCB-1248		17.4 U
PCB-1254		17.4 U
PCB-1260		17.4 U
Total PCBs	1000/10000 ^d	17.4 U
PAHs (SIM) in µg/kg		
1-Methylnaphthalene		3.57 U
2-Methylnaphthalene		3.57 U
Acenaphthene		3.57 U
Acenaphthylene		3.57 U
Anthracene		3.57 U
Benzo(a)anthracene		3.57 U
Benzo(a)pyrene	100/2000 ^d	3.57 U
Benzo(b)fluoranthene		3.57 U
Benzo(ghi)perylene		3.57 U
Benzo(k)fluoranthene		3.57 U
Chrysene		3.57 U
Dibenzo(ah)anthracene		3.57 U
Fluoranthene		3.57 U
Fluorene		3.57 U
Indeno(123-cd)pyrene		3.57 U
Naphthalene	5000	3.57 U
Phenanthrene		3.57 U
Pyrene		3.57 U
Total cPAHs TEQ	100/2000 ^d	NC
BTEX in µg/kg		
Benzene	30	1.1 U
Ethyl Benzene	6000	1.1 U
Toluene	7000	1.1 U
m+p-Xylene		1.1 U
o-Xylene		1.1 U
Total Xylenes	9000	1.1 U
Volatiles in µg/kg **		
1,1,1,2-Tetrachloroethane		50 U
1,1,1-Trichloroethane	2000	50 U
1,1,2,2-Tetrachloroethane		50 U
1,1,2-Trichloroethane		50 U
1,1-Dichloroethane		50 U
1,1-Dichloroethene		50 U
1,1-Dichloropropene		50 U
1,2,3-Trichlorobenzene		50 U
1,2,3-Trichloropropane		50 U

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC-20-S4
Sampling Date	Method A	8/28/2018
Depth in Feet	Cleanup	
	Level ^a	
1,2,4-Trichlorobenzene		50 U
1,2,4-Trimethylbenzene		50 U
1,2-Dibromo-3-Chloropropane		50 U
1,2-Dibromoethane (EDB)*	5	5 U
1,2-Dichlorobenzene		50 U
1,2-Dichloroethane(EDC)		20 U
1,2-Dichloropropane		50 U
1,3,5-Trimethylbenzene		50 U
1,3-Dichlorobenzene		50 U
1,3-Dichloropropane		50 U
1,4-Dichlorobenzene		50 U
2,2-Dichloropropane		50 U
2-Chlorotoluene		50 U
4-Chlorotoluene		50 U
Benzene	30	20 U
Bromobenzene		50 U
Bromodichloromethane		50 U
Bromoform		50 U
Bromomethane		50 U
Carbontetrachloride		50 U
Chlorobenzene		50 U
Chloroethane		50 U
Chloroform		50 U
Chloromethane		50 U
cis-1,2-Dichloroethene		50 U
cis-1,3-Dichloropropene		50 U
Dibromochloromethane		20 U
Dibromomethane		50 U
Dichlorodifluoromethane		50 U
Ethylbenzene	6000	50 U
Hexachloro-1,3-butadiene		50 U
Isopropylbenzene		50 U
Isopropyltoluene		50 U
Methylene chloride	20	20 U
MTBE	100	100 U
n-Butylbenzene		50 U
n-Propylbenzene		50 U
sec-Butylbenzene		50 U
Styrene		50 U
tert-Butylbenzene		50 U
Tetrachloroethene	50	50 U
Toluene	7000	50 U
trans-1,2-Dichloroethene		50 U
trans-1,3-Dichloropropene		50 U
Trichloroethene	30	44
Trichlorofluoromethane		50 U
Vinyl chloride		50 U
1,4-Dichlorobenzene		
2-Butanone (MEK)		
2-Hexanone		
4-Methyl-2-Pentanone		
Acetone		
Carbon Disulfide		
Chlorodibromomethane		
Vinyl Acetate		
m+p-Xylene		
o-Xylene		
Xylenes	9000	50 U

Table 1 - Analytical Results for Soil Samples

Sample ID MTCA HC-20-S4
 Sampling Date Method A 8/28/2018
 Depth in Feet Cleanup
 Level ^a

Semivolatiles in µg/kg

1,2,4-Trichlorobenzene	71.3 U
1,2-Dichlorobenzene	71.3 U
1,3-Dichlorobenzene	71.3 U
1,4-Dichlorobenzene	71.3 U
2,4,5-Trichlorophenol	71.3 U
2,4,6-Trichlorophenol	71.3 U
2,4-Dichlorophenol	71.3 U
2,4-Dimethylphenol	71.3 U
2,4-Dinitrophenol	357 U
2,4-Dinitrotoluene	178 U
2,6-Dinitrotoluene	178 U
2-Chloronaphthalene	71.3 U
2-Chlorophenol	71.3 U
2-Methylphenol	71.3 U
2-Nitroaniline	178 U
2-Nitrophenol	178 U
3,3-Dichlorobenzidine	107 U
3-Nitroaniline	178 U
4,6-Dinitro-2-methylphenol	178 U
4-Bromophenyl-phenyl ether	71.3 U
4-Chloro-3-methylphenol	71.3 U
4-Chloroaniline	71.3 U
4-Chlorophenyl-phenyl ether	71.3 U
4-Methylphenol (cresol)	71.3 U
4-Nitroaniline	178 U
4-Nitrophenol	357 U
Aniline	71.3 U
Azobenzene	71.3 U
Benzidine	1780 U
Benzoic Acid	35.7 U
Benzyl Alcohol	71.3 U
bis(2-Ethylhexyl)phthalate	11.4
bis(2-Chloroethoxy)methane	71.3 U
bis(2-Chloroethyl)ether	71.3 U
bis(2-Chloroisopropyl)ether	71.3 U
Butylbenzylphthalate	3.57 U
Carbazole	71.3 U
Diethylphthalate	3.57 U
Dimethylphthalate	3.57 U
Di-n-butylphthalate	3.57 U
Di-n-octylphthalate	3.57 U
Dibenzofuran	71.3 U
Hexachlorobenzene	71.3 U
Hexachlorobutadiene	71.3 U
Hexachlorocyclopentadiene	178 U
Hexachloroethane	71.3 U
Isophorone	71.3 U
Nitrobenzene	71.3 U
N-Nitrosodimethylamine	178 U
N-Nitroso-di-n-propylamine	71.3 U
N-nitrosodiphenylamine	71.3 U
Pentachlorophenol	17.8 U
Phenol	71.3 U
Pyrene	71.3 U

U = Not detected at reporting limit indicated.

J = Estimated.

Table 1 - Analytical Results for Soil Samples

Sample ID	MTCA	HC-20-S4
Sampling Date	Method A	8/28/2018
Depth in Feet	Cleanup Level ^a	

- a. Method A soil cleanup level for unrestricted land uses.
 - b. 30 when benzene present/100 without benzene.
 - c. 19 mg/kg as Chromium VI/2000 mg/kg as Chromium III.
 - d. MTCA Method A Cleanup Level for Unrestricted Land Uses / Industrial Properties.
- * Reported at instrument detection limits.
** Samples reported as wet weight.
NC = Not calculated.
Detected concentrations are bolded.

Table 2 - Analytical Results for Groundwater Samples

Sample ID	MTCA	HC5-GW	HC-6-GW	HC-10-GW	HC12-GW	HC13-GW
Sampling Date	Method A	8/27/18	8/28/18	8/28/18	8/27/18	8/27/18
	Cleanup Level					
Total Susp. Solids in mg/L		1600	51	210	440	710
TPH in µg/L						
Diesel	500	65	50 U	50 U	50 U	50 U
Heavy Oil	500	160	100 U	100 U	100 U	100 U
Gasoline	800/1000 ^a	100 U	100 U	100 U	100 U	100 U
Total Metals in µg/L						
Arsenic	5	1	0.954	4.88	0.479	0.558
Cadmium	5	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chromium	50	2.27	0.44	0.69	0.12	0.48
Lead	15	1.02	0.32	0.577	0.158	0.402
Mercury	2	0.08	0.05	0.05 U	0.07	0.05
PCBs in µg/L						
PCB-aroclor 1016		0.01 U	0.01 U	0.01 U		0.01 U
PCB-aroclor 1221		0.01 U	0.01 U	0.01 U		0.01 U
PCB-aroclor 1232		0.01 U	0.01 U	0.01 U		0.01 U
PCB-aroclor 1242		0.01 U	0.01 U	0.01 U		0.01 U
PCB-aroclor 1248		0.01 U	0.01 U	0.01 U		0.01 U
PCB-aroclor 1254		0.01 U	0.01 U	0.01 U		0.01 U
PCB-aroclor 1260		0.01 U	0.01 U	0.01 U		0.01 U
PCB-aroclor 1262		0.01 U	0.01 U	0.01 U		0.01 U
PCB-aroclor 1268		0.01 U	0.01 U	0.01 U		0.01 U
Total PCBs	0.1	0.01 U	0.01 U	0.01 U		0.01 U
Volatiles in µg/L						
1,1,1,2-Tetrachloroethane		1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	200	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane		1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane		1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane		1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethylene		1 U	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane		1 U	1 U	1 U	1 U	1 U
1,2-Dibromo3Chloropropane		5 U	5 U	5 U	5 U	5 U
1,2-Dibromoethane (EDB)	0.01	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene		1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	5	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane		1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene		1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene		1 U	1 U	1 U	1 U	1 U
2-Butanone (MEK)		5 U	5 U	5 U	5 U	5 U
2-Hexanone		5 U	5 U	5 U	5 U	5 U
4-Methyl-2-Pentanone MIBK		5 U	5 U	5 U	5 U	5 U
Acetone		5 U	5 U	5 U	5 U	5 U
Acrylonitrile		1 U	1 U	1 U	1 U	1 U
Benzene	5	1 U	1 U	1 U	1 U	1 U
Bromochloromethane		1 U	1 U	1 U	1 U	1 U
Bromodichloromethane		1 U	1 U	1 U	1 U	1 U
Bromoform		1 U	1 U	1 U	1 U	1 U
Bromomethane		1 U	1 U	1 U	1 U	1 U
Carbon Disulfide		2.6	1 U	1 U	1 U	1 U
Carbon Tetrachloride		1 U	1 U	1 U	1 U	1 U
Chlorobenzene		1 U	1 U	1 U	1 U	1 U
Chlorodibromomethane		1 U	1 U	1 U	1 U	1 U
Chloroethane		1 U	1 U	1 U	1 U	1 U
Chloroform		1 U	1.1	1 U	1 U	1 U
Chloromethane		1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene		8.8	5	15	1.4	3.2
Cis-1,3-Dichloropropene		1 U	1 U	1 U	1 U	1 U
Dibromomethane		1 U	1 U	1 U	1 U	1 U
Ethylbenzene	700	1 U	1 U	1 U	1 U	1 U

Table 2 - Analytical Results for Groundwater Samples

Sample ID	MTCA	HC5-GW	HC-6-GW	HC-10-GW	HC12-GW	HC13-GW
Sampling Date	Method A	8/27/18	8/28/18	8/28/18	8/27/18	8/27/18
	Cleanup Level					
Methyl Iodide		1 U	1 U	1 U	1 U	1 U
Methylene Chloride	5	2 U	2 U	2 U	2 U	2 U
Styrene		1 U	1 U	1 U	1 U	1 U
Tetrachloroethylene	5	1 U	1 U	1 U	1 U	1 U
Toluene	1000	1 U	1 U	1 U	1 U	1 U
m,p Xylene		1 U	1 U	1 U	1 U	1 U
o-Xylene		1 U	1 U	1 U	1 U	1 U
Total Xylene	1000	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene		1.3	1 U	1 U	1 U	1 U
Trans-1,3-Dichloropropene		1 U	1 U	1 U	1 U	1 U
trans-1,4-Dichloro2butene		5 U	5 U	5 U	5 U	5 U
Trichloroethylene	5	1 U	2.3	32.4 J	1 U	1 U
Trichlorofluoromethane		1 U	1 U	1 U	1 U	1 U
Vinyl Acetate		5 U	5 U	5 U	5 U	5 U
Vinyl Chloride	0.2	10	1 U	15	1 U	1 U
PAHs (SIM) in µg/L						
1-Methylnaphthalene				0.1 U		0.1 U
2-Methylnaphthalene		0.1 U		0.1 U		0.1 U
Acenaphthene		0.1 U		0.1 U		0.1 U
Acenaphthylene		0.1 U		0.1 U		0.1 U
Anthracene		0.1 U		0.1 U		0.1 U
Benzo(a)anthracene		0.1 U		0.1 U		0.1 U
Benzo(a)pyrene	0.1	0.1 U		0.1 U		0.1 U
Benzo(b)fluoranthene		0.1 U		0.1 U		0.1 U
Benzo(ghi)perylene		0.1 U		0.1 U		0.1 U
Benzo(k)fluoranthene		0.1 U		0.1 U		0.1 U
Chrysene		0.1 U		0.1 U		0.1 U
Dibenzo(ah)anthracene		0.1 U		0.1 U		0.1 U
Fluoranthene		0.1 U		0.1 U		0.1 U
Fluorene		0.1 U		0.1 U		0.1 U
Indeno(123-cd)pyrene		0.1 U		0.1 U		0.1 U
Naphthalene	160	0.1 U		0.1 U		0.1 U
Phenanthrene		0.1 U		0.1 U		0.1 U
Pyrene		0.1 U		0.1 U		0.1 U
Semivolatiles in µg/L						
1,2,4-Trichlorobenzene		2 U		2 U		2 U
1,2-Dichlorobenzene		2 U		2 U		2 U
1,3-Dichlorobenzene		2 U		2 U		2 U
1,4-Dichlorobenzene		2 U		2 U		2 U
2,4,5-Trichlorophenol		2 U		2 U		2 U
2,4,6-Trichlorophenol		2 U		2 UJ		2 U
2,4-Dichlorophenol		2 U		2 U		2 U
2,4-Dimethylphenol		2 U		2 U		2 U
2,4-Dinitrophenol		2 U		2 U		2 U
2,4-Dinitrotoluene		2 U		2 U		2 U
2,6-Dinitrotoluene		2 U		2 U		2 U
2-Chloronaphthalene		2 UJ		2 UJ		2 UJ
2-Chlorophenol		2 U		2 U		2 U
2-Methylnaphthalene				2 U		
2-Methylphenol		2 U		2 U		2 U
2-Nitroaniline		2 U		2 U		2 U
2-Nitrophenol		2 U		2 U		2 U
3,3-Dichlorobenzidine		2 U		2 U		2 U
3-Nitroaniline		2 U		2 U		2 U
4,6-Dinitro-2-methylphenol		2 U		2 U		2 U
4-Bromophenyl-phenyl ether		2 U		2 U		2 U
4-Chloro-3-methylphenol		2 U		2 U		2 U
4-Chloroaniline		2 U		2 U		2 U
4-Chlorophenyl-phenyl ether		2 U		2 U		2 U

Table 2 - Analytical Results for Groundwater Samples

Sample ID	MTCA	HC5-GW	HC-6-GW	HC-10-GW	HC12-GW	HC13-GW
Sampling Date	Method A	8/27/18	8/28/18	8/28/18	8/27/18	8/27/18
	Cleanup Level					
4-Methylphenol (P.Cresol)		2 U		2 U		2 U
4-Nitroaniline		2 U		2 U		2 U
4-Nitrophenol		2 U		2 U		2 U
Acenaphthene				2 U		
Acenaphthylene				2 U		
Aniline		2 U		2 U		2 U
Anthracene				2 U		
Azobenzene		2 U		2 U		2 U
Benzidine		2 U		2 U		2 U
Benzo(a)anthracene				2 U		
Benzo(a)pyrene	0.1			2 U		
Benzo(b)fluoranthene				2 U		
Benzo(g,h,i)perylene				2 U		
Benzo(k)fluoranthene				2 U		
Benzoic Acid		2 U		2 U		2 U
Benzyl Alcohol		2 U		2 U		2 U
bis(2-Ethylhexyl)phthalate				0.1 U		0.1 U
Butylbenzylphthalate		2 U		2 U		0.1 U
bis(2-Chloroethoxy)methane		2 U		2 U		2 U
bis(2-Chloroethyl)ether		2 U		2 U		2 U
bis(2-Chloroisopropyl)ether		2 U		2 U		2 U
Carbazole		2 U		2 U		2 U
Chrysene				2 U		
Dibenzo(ah)anthracene				2 U		
Dibenzofuran		2 U		2 U		2 U
Diethylphthalate		2 U		0.1 U		0.1 U
Dimethylphthalate		2 U		0.1 U		0.1 U
Di-n-butylphthalate		2 U		0.1 U		0.1 U
Di-n-octylphthalate		2 U		0.1 U		0.1 U
Fluoranthene				2 U		
Fluorene				2 U		
Hexachlorobenzene		2 U		2 U		2 U
Hexachlorobutadiene		2 U		2 U		2 U
Hexachlorocyclopentadiene		2 U		2 U		2 U
Hexachloroethane		1 U		1 U		1 U
Indeno(1,2,3-cd)pyrene				2 U		
Isophorone		2 U		2 U		2 U
Naphthalene				2 U		
Nitrobenzene		2 U		2 U		2 U
N-Nitrosodimethylamine		2 U		2 U		2 U
N-Nitroso-di-n-propylamine		2 U		2 U		2 U
N-nitrosodiphenylamine		2 U		2 U		2 U
Pentachlorophenol		2 U		0.5 U		0.5 U
Phenanthrene				2 U		
Phenol		2 U		2 U		2 U
Pyrene				2 U		

Table 2 - Analytical Results for Groundwater Samples

Sample ID	HC-15-GW	HC18-GW	HC-19-GW	HC-20-GW	HC-1-GW	HC-4-GW
Sampling Date	8/28/18	8/27/18	8/28/18	8/28/18	9/ 5/18	9/ 5/18
Total Susp. Solids in mg/L	23	1300	190	660	230 J	290 J
TPH in µg/L						
Diesel	50 U	88	50 U	50 U	50 UJ	50 UJ
Heavy Oil	100 U	100 U	100 U	100 U	100 UJ	100 UJ
Gasoline	100 U	100 U	100 U	274 J	100 UJ	100 UJ
Total Metals in µg/L						
Arsenic	0.909	1.16	2.72	0.763	1.69	1.12
Cadmium	0.05 U	0.07	0.05 U	0.05 U	0.05 U	0.066
Chromium	0.54	0.41	1.82	183	0.47	1.34
Lead	0.351	0.973	1.17	0.951	1.03	0.95
Mercury	0.05 U	0.2	0.05	0.08	0.06 J	0.28 J
PCBs in µg/L						
PCB-aroclor 1016	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PCB-aroclor 1221	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PCB-aroclor 1232	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PCB-aroclor 1242	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PCB-aroclor 1248	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PCB-aroclor 1254	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PCB-aroclor 1260	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PCB-aroclor 1262	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PCB-aroclor 1268	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Total PCBs	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Volatiles in µg/L						
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 UJ	1 UJ
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 UJ	1 UJ
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 UJ	1 UJ
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 UJ	1 UJ
1,1-Dichloroethane	1 U	1 U	1 U	1 U	1 UJ	1 UJ
1,1-Dichloroethylene	1 U	1 U	1 U	1 U	1 UJ	1 UJ
1,2,3-Trichloropropane	1 U	1 U	1 U	1 U	1 UJ	1 UJ
1,2-Dibromo3Chloropropane	5 U	5 U	5 U	5 U	5 UJ	5 UJ
1,2-Dibromoethane (EDB)	1 U	1 U	1 U	1 U	1 UJ	1 UJ
1,2-Dichlorobenzene	1 U	1 U	1 U	1 U	1 UJ	1 UJ
1,2-Dichloroethane	1 U	1 U	1 U	1 U	1 UJ	1 UJ
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 UJ	1 UJ
1,3-Dichlorobenzene	1 U	1 U	1 U	1 U	1 UJ	1 UJ
1,4-Dichlorobenzene	1 U	1 U	1 U	1 U	1 UJ	1 UJ
2-Butanone (MEK)	5 U	5 U	5 U	5.2	5 UJ	5 UJ
2-Hexanone	5 U	5 U	5 U	5 U	5 UJ	5 UJ
4-Methyl-2-Pentanone MIBK	5 U	5 U	5 U	5 U	5 UJ	5 UJ
Acetone	5 U	5 U	5 U	5 U	5 UJ	5 UJ
Acrylonitrile	1 U	1 U	1 U	1 U	1 UJ	1 UJ
Benzene	1 U	1 U	1 U	1 U	1 UJ	1 UJ
Bromochloromethane	1 U	1 U	1 U	1 U	1 UJ	1 UJ
Bromodichloromethane	1 U	1 U	1 U	1 U	1 UJ	1 UJ
Bromoform	1 U	1 U	1 U	1 U	1 UJ	1 UJ
Bromomethane	1 U	1 U	1 U	1 U	1 UJ	1 UJ
Carbon Disulfide	1 U	1 U	1 U	1 U	1 UJ	1 UJ
Carbon Tetrachloride	1 U	1 U	1 U	1 U	1 UJ	1 UJ
Chlorobenzene	1 U	1 U	1 U	1 U	1 UJ	1 UJ
Chlorodibromomethane	1 U	1 U	1 U	1 U	1 UJ	1 UJ
Chloroethane	1 U	1 U	1 U	1 U	1 UJ	1 UJ
Chloroform	1 U	1 U	1 U	1 U	1 UJ	1 UJ
Chloromethane	1 U	1 U	1 U	8.5	1 UJ	1 UJ
Cis-1,2-Dichloroethene	1 U	1 U	1 U	140	1 UJ	1 UJ
Cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 UJ	1 UJ
Dibromomethane	1 U	1 U	1 U	1 U	1 UJ	1 UJ
Ethylbenzene	1 U	1 U	1 U	1 U	1 UJ	1 UJ

Table 2 - Analytical Results for Groundwater Samples

Sample ID	HC-15-GW	HC18-GW	HC-19-GW	HC-20-GW	HC-1-GW	HC-4-GW
Sampling Date	8/28/18	8/27/18	8/28/18	8/28/18	9/ 5/18	9/ 5/18
Methyl Iodide	1 U	1 U	1 U	1 U	1 UJ	1 UJ
Methylene Chloride	2 U	2 U	2 U	2 U	2 UJ	2 UJ
Styrene	1 U	1 U	1 U	1 U	1 UJ	1 UJ
Tetrachloroethylene	1 U	1 U	1 U	1 U	1 UJ	1 UJ
Toluene	1 U	1 U	1 U	8.5	1 UJ	1 UJ
m,p Xylene	1 U	1 U	1 U	1.2	1 UJ	1 UJ
o-Xylene	1 U	1 U	1 U	1 U	1 UJ	1 UJ
Total Xylene	1 U	1 U	1 U	9.7	1 UJ	1 UJ
Trans-1,2-Dichloroethene	1 U	1 U	1 U	1.9	1 UJ	1 UJ
Trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 UJ	1 UJ
trans-1,4-Dichloro2butene	5 U	5 U	5 U	5 U	5 UJ	5 UJ
Trichloroethylene	1	1 U	1 U	23.3	1 UJ	1 UJ
Trichlorofluoromethane	1 U	1 U	1 U	1 U	1 UJ	1 UJ
Vinyl Acetate	5 U	5 U	5 U	5 U	5 UJ	5 UJ
Vinyl Chloride	1.4	1 U	1 U	810	1 UJ	1 UJ
PAHs (SIM) in µg/L						
1-Methylnaphthalene	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 UJ
2-Methylnaphthalene	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 UJ
Acenaphthene	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Acenaphthylene	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Anthracene	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(a)anthracene	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(a)pyrene	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(b)fluoranthene	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(ghi)perylene	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(k)fluoranthene	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Chrysene	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Dibenzo(ah)anthracene	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Fluoranthene	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Fluorene	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Indeno(123-cd)pyrene	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Naphthalene	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 UJ
Phenanthrene	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Pyrene	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Semivolatiles in µg/L						
1,2,4-Trichlorobenzene	2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dichlorobenzene	2 U	2 U	2 U	2 U	2 U	2 U
1,3-Dichlorobenzene	2 U	2 U	2 U	2 U	2 U	2 U
1,4-Dichlorobenzene	2 U	2 U	2 U	2 U	2 U	2 U
2,4,5-Trichlorophenol	2 U	2 U	2 U	2 U	2 U	2 U
2,4,6-Trichlorophenol	2 UJ	2 U	2 UJ	2 UJ	2 U	2 U
2,4-Dichlorophenol	2 U	2 U	2 U	2 U	2 U	2 U
2,4-Dimethylphenol	2 U	2 U	2 U	2 U	2 U	2 U
2,4-Dinitrophenol	2 U	2 U	2 U	2 U	2 U	2 U
2,4-Dinitrotoluene	2 U	2 U	2 U	2 U	2 U	2 U
2,6-Dinitrotoluene	2 U	2 U	2 U	2 U	2 U	2 U
2-Chloronaphthalene	2 UJ	2 UJ	2 UJ	2 UJ	2 U	2 U
2-Chlorophenol	2 U	2 U	2 U	2 U	2 U	2 U
2-Methylnaphthalene	2 U		2 U	2 U		
2-Methylphenol	2 U	2 U	2 U	2 U	2 U	2 U
2-Nitroaniline	2 U	2 U	2 U	2 U	2 U	2 U
2-Nitrophenol	2 U	2 U	2 U	2 U	2 U	2 U
3,3-Dichlorobenzidine	2 U	2 U	2 U	2 U	2 U	2 U
3-Nitroaniline	2 U	2 U	2 U	2 U	2 U	2 U
4,6-Dinitro-2-methylphenol	2 U	2 U	2 U	2 U	2 U	2 U
4-Bromophenyl-phenyl ether	2 U	2 U	2 U	2 U	2 U	2 U
4-Chloro-3-methylphenol	2 U	2 U	2 U	2 U	2 U	2 U
4-Chloroaniline	2 U	2 U	2 U	2 U	2 U	2 U
4-Chlorophenyl-phenyl ether	2 U	2 U	2 U	2 U	2 U	2 U

Table 2 - Analytical Results for Groundwater Samples

Sample ID Sampling Date	HC-15-GW 8/28/18	HC18-GW 8/27/18	HC-19-GW 8/28/18	HC-20-GW 8/28/18	HC-1-GW 9/ 5/18	HC-4-GW 9/ 5/18
4-Methylphenol (P.Cresol)	2 U	2 U	2 U	2 U	2 U	2 U
4-Nitroaniline	2 U	2 U	2 U	2 U	2 U	2 U
4-Nitrophenol	2 U	2 U	2 U	2 U	2 U	2 U
Acenaphthene	2 U		2 U	2 U		
Acenaphthylene	2 U		2 U	2 U		
Aniline	2 U	2 U	2 U	2 U	2 U	2 U
Anthracene	2 U		2 U	2 U		
Azobenzene	2 U	2 U	2 U	2 U	2 U	2 U
Benzidine	2 U	2 U	2 U	2 U	2 U	2 U
Benzo(a)anthracene	2 U		2 U	2 U		
Benzo(a)pyrene	2 U		2 U	2 U		
Benzo(b)fluoranthene	2 U		2 U	2 U		
Benzo(g,h,i)perylene	2 U		2 U	2 U		
Benzo(k)fluoranthene	2 U		2 U	2 U		
Benzoic Acid	2 U	2 U	2 U	2 U	2 U	2 U
Benzyl Alcohol	2 U	2 U	2 U	2 U	2 U	2 U
bis(2-Ethylhexyl)phthalate	0.1 U	0.1 U	0.1 U	0.1 U	0.24	0.42
Butylbenzylphthalate	2 U	0.1 U	2 U	2 U	0.1 U	0.1 U
bis(2-Chloroethoxy)methane	2 U	2 U	2 U	2 U	2 U	2 U
bis(2-Chloroethyl)ether	2 U	2 U	2 U	2 U	2 U	2 U
bis(2-Chloroisopropyl)ether	2 U	2 U	2 U	2 U	2 U	2 U
Carbazole	2 U	2 U	2 U	2 U	2 U	2 U
Chrysene	2 U		2 U	2 U		
Dibenzo(ah)anthracene	2 U		2 U	2 U		
Dibenzofuran	2 U	2 U	2 U	2 U	2 U	2 U
Diethylphthalate	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Dimethylphthalate	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Di-n-butylphthalate	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Di-n-octylphthalate	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Fluoranthene	2 U		2 U	2 U		
Fluorene	2 U		2 U	2 U		
Hexachlorobenzene	2 U	2 U	2 U	2 U	2 U	2 U
Hexachlorobutadiene	2 U	2 U	2 U	2 U	2 U	2 U
Hexachlorocyclopentadiene	2 U	2 U	2 U	2 U	2 U	2 U
Hexachloroethane	1 U	1 U	1 U	1 U	1 U	1 U
Indeno(1,2,3-cd)pyrene	2 U		2 U	2 U		
Isophorone	2 U	2 U	2 U	2 U	2 U	2 U
Naphthalene	2 U		2 U	2 U		
Nitrobenzene	2 U	2 U	2 U	2 U	2 U	2 U
N-Nitrosodimethylamine	2 U	2 U	2 U	2 U	2 U	2 U
N-Nitroso-di-n-propylamine	2 U	2 U	2 U	2 U	2 U	2 U
N-nitrosodiphenylamine	2 U	2 U	2 U	2 U	2 U	2 U
Pentachlorophenol	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Phenanthrene	2 U		2 U	2 U		
Phenol	2 U	2 U	2 U	2 U	2 U	2 U
Pyrene	2 U		2 U	2 U		

U = Not detected at reporting limit indicated.

J = Estimated.

a. 800 when benzene present/1000 without bei
Detected concentrations are bolded.

Table 2 - Analytical Results for Groundwater Samples

Sheet 7 of 9

Sample ID HC-8-GW
 Sampling Date 9/ 5/18

Total Susp. Solids in mg/L	70 J
TPH in µg/L	
Diesel	50 UJ
Heavy Oil	100 UJ
Gasoline	100 UJ
Total Metals in µg/L	
Arsenic	1.14
Cadmium	0.05 U
Chromium	0.49
Lead	0.252
Mercury	0.06 J
PCBs in µg/L	
PCB-aroclor 1016	0.01 U
PCB-aroclor 1221	0.01 U
PCB-aroclor 1232	0.01 U
PCB-aroclor 1242	0.01 U
PCB-aroclor 1248	0.01 U
PCB-aroclor 1254	0.01 U
PCB-aroclor 1260	0.01 U
PCB-aroclor 1262	0.01 U
PCB-aroclor 1268	0.01 U
Total PCBs	0.01 U
Volatiles in µg/L	
1,1,1,2-Tetrachloroethane	1 UJ
1,1,1-Trichloroethane	1 UJ
1,1,2,2-Tetrachloroethane	1 UJ
1,1,2-Trichloroethane	1 UJ
1,1-Dichloroethane	1 UJ
1,1-Dichloroethylene	1 UJ
1,2,3-Trichloropropane	1 UJ
1,2-Dibromo3Chloropropane	5 UJ
1,2-Dibromoethane (EDB)	1 UJ
1,2-Dichlorobenzene	1 UJ
1,2-Dichloroethane	1 UJ
1,2-Dichloropropane	1 UJ
1,3-Dichlorobenzene	1 UJ
1,4-Dichlorobenzene	1 UJ
2-Butanone (MEK)	5 UJ
2-Hexanone	5 UJ
4-Methyl-2-Pentanone MIBK	5 UJ
Acetone	5 UJ
Acrylonitrile	1 UJ
Benzene	1 UJ
Bromochloromethane	1 UJ
Bromodichloromethane	1 UJ
Bromoform	1 UJ
Bromomethane	1 UJ
Carbon Disulfide	1 UJ
Carbon Tetrachloride	1 UJ
Chlorobenzene	1 UJ
Chlorodibromomethane	1 UJ
Chloroethane	1 UJ
Chloroform	1 UJ
Chloromethane	1 UJ
Cis-1,2-Dichloroethene	1 UJ
Cis-1,3-Dichloropropene	1 UJ
Dibromomethane	1 UJ
Ethylbenzene	1 UJ

Hart Crowser

Table 2 - Analytical Results for Groundwater Samples

Sample ID HC-8-GW
 Sampling Date 9/ 5/18

Methyl Iodide	1 UJ
Methylene Chloride	2 UJ
Styrene	1 UJ
Tetrachloroethylene	1 UJ
Toluene	1 UJ
m,p Xylene	1 UJ
o-Xylene	1 UJ
Total Xylene	1 UJ
Trans-1,2-Dichloroethene	1 UJ
Trans-1,3-Dichloropropene	1 UJ
trans-1,4-Dichloro2butene	5 UJ
Trichloroethylene	1 UJ
Trichlorofluoromethane	1 UJ
Vinyl Acetate	5 UJ
Vinyl Chloride	1 UJ

PAHs (SIM) in µg/L

1-Methylnaphthalene	0.1 UJ
2-Methylnaphthalene	0.1 UJ
Acenaphthene	0.1 U
Acenaphthylene	0.1 U
Anthracene	0.1 U
Benzo(a)anthracene	0.1 U
Benzo(a)pyrene	0.1 U
Benzo(b)fluoranthene	0.1 U
Benzo(ghi)perylene	0.1 U
Benzo(k)fluoranthene	0.1 U
Chrysene	0.1 U
Dibenzo(ah)anthracene	0.1 U
Fluoranthene	0.1 U
Fluorene	0.1 U
Indeno(123-cd)pyrene	0.1 U
Naphthalene	0.1 UJ
Phenanthrene	0.1 U
Pyrene	0.1 U

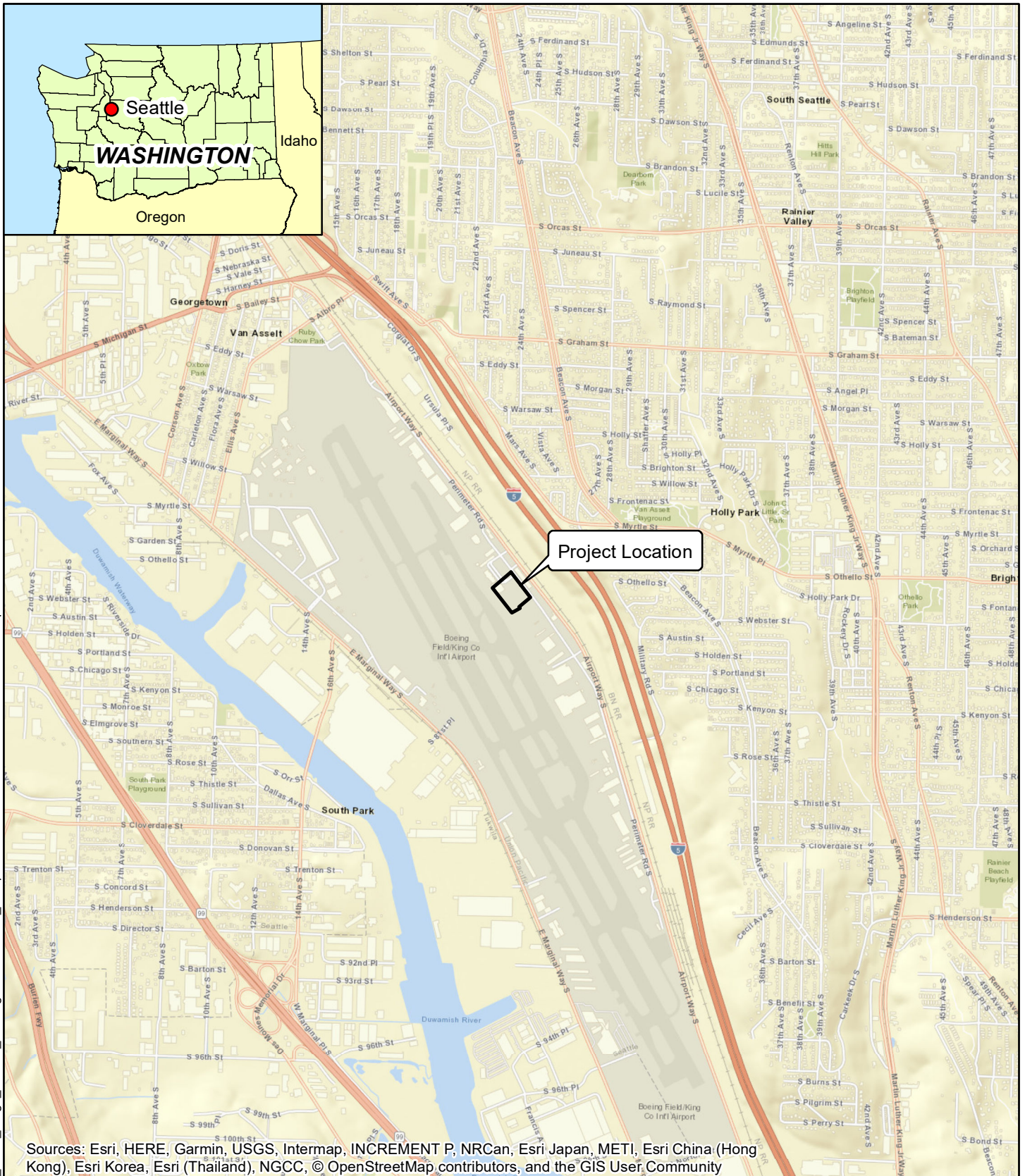
Semivolatiles in µg/L

1,2,4-Trichlorobenzene	2 U
1,2-Dichlorobenzene	2 U
1,3-Dichlorobenzene	2 U
1,4-Dichlorobenzene	2 U
2,4,5-Trichlorophenol	2 U
2,4,6-Trichlorophenol	2 U
2,4-Dichlorophenol	2 U
2,4-Dimethylphenol	2 U
2,4-Dinitrophenol	2 U
2,4-Dinitrotoluene	2 U
2,6-Dinitrotoluene	2 U
2-Chloronaphthalene	2 U
2-Chlorophenol	2 U
2-Methylnaphthalene	
2-Methylphenol	2 U
2-Nitroaniline	2 U
2-Nitrophenol	2 U
3,3-Dichlorobenzidine	2 U
3-Nitroaniline	2 U
4,6-Dinitro-2-methylphenol	2 U
4-Bromophenyl-phenyl ether	2 U
4-Chloro-3-methylphenol	2 U
4-Chloroaniline	2 U
4-Chlorophenyl-phenyl ether	2 U

Table 2 - Analytical Results for Groundwater Samples

Sample ID	HC-8-GW
Sampling Date	9/ 5/18
4-Methylphenol (P.Cresol)	2 U
4-Nitroaniline	2 U
4-Nitrophenol	2 U
Acenaphthene	
Acenaphthylene	
Aniline	2 U
Anthracene	
Azobenzene	2 U
Benzidine	2 U
Benzo(a)anthracene	
Benzo(a)pyrene	
Benzo(b)fluoranthene	
Benzo(g,h,i)perylene	
Benzo(k)fluoranthene	
Benzoic Acid	2 U
Benzyl Alcohol	2 U
bis(2-Ethylhexyl)phthalate	1.11
Butylbenzylphthalate	0.1 U
bis(2-Chloroethoxy)methane	2 U
bis(2-Chloroethyl)ether	2 U
bis(2-Chloroisopropyl)ether	2 U
Carbazole	2 U
Chrysene	
Dibenzo(ah)anthracene	
Dibenzofuran	2 U
Diethylphthalate	0.1 U
Dimethylphthalate	0.1 U
Di-n-butylphthalate	0.1 U
Di-n-octylphthalate	0.1 U
Fluoranthene	
Fluorene	
Hexachlorobenzene	2 U
Hexachlorobutadiene	2 U
Hexachlorocyclopentadiene	2 U
Hexachloroethane	1 U
Indeno(1,2,3-cd)pyrene	
Isophorone	2 U
Naphthalene	
Nitrobenzene	2 U
N-Nitrosodimethylamine	2 U
N-Nitroso-di-n-propylamine	2 U
N-nitrosodiphenylamine	2 U
Pentachlorophenol	0.5 U
Phenanthrene	
Phenol	2 U
Pyrene	

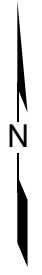
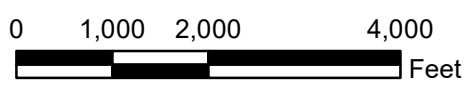
zene.



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

KCIA Large Aircraft Parking Phase II ESA
Seattle, Washington

Vicinity Map



19282-10

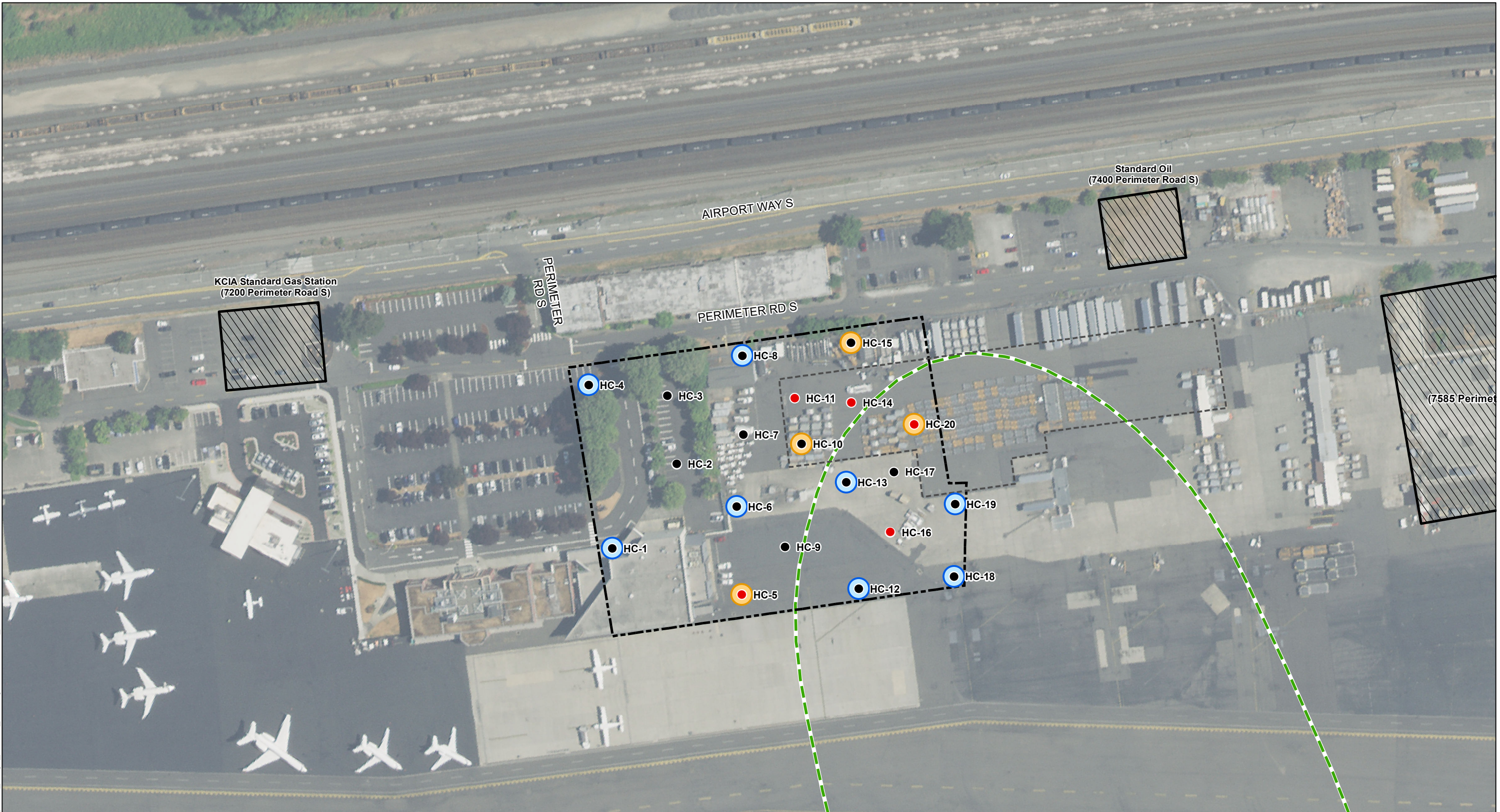
11/18



Figure

1

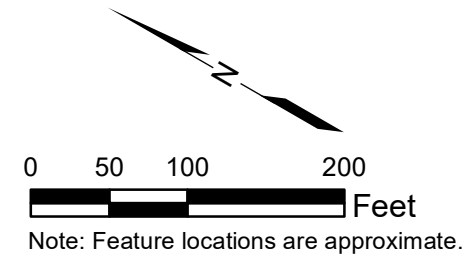
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LEGEND

- Boring Location
- Soil Sample with MTCA Exceedance
- ▭ Project Boundary
- ▭ Former Boeing EMF Building Footprint
- Groundwater Sampling Location
- Groundwater Sampling Location with MTCA Exceedance
- Historical VOC Plume

Source: Aerial photograph provided by Hexagon Imagery Program Data.



KCIA Large Aircraft Parking Seattle, Washington	
Site and Exploration Plan	
19282-10	11/18
	Figure 2

APPENDIX A

Field Exploration Methods and Exploration Logs

APPENDIX A – FIELD EXPLORATION METHODS AND BORING LOGS

This appendix documents the field exploration methods we used to further assess the environmental quality of the soil and groundwater at the Site. The sections are:

- Explorations and Their Location;
- Push-Probe Borings;
- Soil Sampling Procedures;
- Soil Screening and Analysis;
- Groundwater Level Measurements;
- Groundwater Sampling Procedures;
- Sample Handling and Laboratory Analysis; and
- Investigation-Derived Waste Storage and Disposal.

Explorations and Their Location

Subsurface explorations for the Phase II investigation were push-probe borings. Grab groundwater samples were collected from twelve of the borings. Exploration logs in this appendix show our interpretation of the sampling and testing data. The logs indicate the depth at which the physical characteristics of soils change; however, the change may be gradual. In the field, we classified the samples taken from the explorations according to the methods on Figure A-1 – Key to Exploration Logs. This figure's legend explains the symbols and abbreviations used in the logs.

Figure 2 shows where the explorations were located.

Push-Probe Borings

Twenty push-probe borings (HC-1 through HC-20) were drilled to depths of 15 feet bgs on August 27 through 28 and September 5, 2018. The borings were advanced with an approximately 2-inch diameter direct push-probe using a truck-mounted drill rig by a licensed driller subcontracted to Hart Crowser, and a second subcontractor performed concrete coring services for three of the borings located on concrete pads. An environmental geologist from Hart Crowser continuously observed the drilling. We obtained soil samples at 2.5-foot depth intervals. All soil samples were classified in accordance with American Society for Testing and Materials (ASTM) Method D2488, and pertinent characteristics of the subsurface conditions were recorded on boring logs. Detailed logs for each boring are presented at the end of this appendix.

Soil Sampling Procedures

Soil samples were collected for chemical analysis directly from the push-probe sleeve with a clean stainless-steel spoon and/or clean disposable nitrile gloves and placed in pre-cleaned, laboratory-supplied glass sample jars and 40-milliliter (ml) volatile organics analysis (VOA) bottles supplied by the laboratories. Sufficient soil was removed to overfill the glass sample jars. VOA bottles were filled with a 5-gram soil plug according to Environmental Protection Agency (EPA) Method 5035 procedures. The jars were sealed and

labeled. Filled sample jars were stored in an ice-chilled cooler and submitted to the analytical laboratory under chain-of-custody protocols.

Soil Screening and Analysis

Field screening results were used as a general guideline to identify potential chemical constituents in soil samples. In addition, field screening results were used as a basis for selecting soil samples for chemical analysis.

Soil samples were field screened at 2.5-foot depth intervals for evidence of volatile organic compounds (VOCs)-related impacts using (1) visual and olfactory observations, (2) sheen screening, and (3) headspace vapor screening using a MultiRAE photoionization detector (PID). The effectiveness of field screening varies with temperature, moisture content, organic content, soil type, and age of the constituents. Visual examination consists of inspecting the soil for evidence of discoloration, staining, and/or abnormal components. Visual screening is generally more effective when impacts are related to heavy petroleum hydrocarbons, such as motor or hydraulic oil, or when hydrocarbon concentrations are high.

We tested water sheen by placing a small volume of soil in a pan of water and observing the water surface for signs of sheen. Sheens were classified as follows:

No sheen (NS)	No visible sheen on water surface.
Slight sheen (SS)	Light colorless film, spotty to globular; spread is irregular, not rapid; areas of no sheen remain; film dissipates rapidly.
Moderate sheen (MS)	Light to heavy film, may have some color or iridescence; globular to stringy; spread is irregular to flowing; few remaining areas of no sheen on water surface.
Heavy sheen (HS)	Heavy colorful film with iridescence; stringy; spread is rapid; sheen flows off the sample; most of the water surface may be covered with sheen.

Headspace vapor screening is intended to indicate the presence of volatile organic vapors; it involves placing a soil sample in a plastic sample bag. Air is captured in the bag and the bag is shaken to expose the soil to the air trapped in the bag. The PID probe is then inserted in the bag and the instrument measures the concentration of organic vapors in the sample headspace. The highest vapor reading for each sample is then recorded on the boring log. The PID measures concentrations in parts per million (ppm), is calibrated to isobutylene, and can typically quantify organic vapor concentrations in the range of 0 to 1,000 ppm.

All field screening observations were recorded on the boring logs, and this information was used to select which samples to submit for chemical analysis. In general, samples with the highest readings were selected for analysis.

Groundwater Level Measurements

Water level measurements were recorded before groundwater samples were collected. Depth to water was measured using a water level indicator. The probe was cleaned between measurements to prevent cross-contamination of wells.

Groundwater Sampling Procedures

Grab groundwater samples were collected from twelve borings (HC-1, HC-4, HC-5, HC-6, HC-8, HC-10, HC-12, HC-13, HC-15, HC-18, HC-19, and HC-20) on August 27 through 28 and September 5, 2018, and submitted for chemical analysis.

Prior to sampling, field personnel recorded the depth to water in the borings. Wells were purged and sampled using a peristaltic pump and low-flow groundwater sampling techniques at approximately 12.5 feet bgs (the middle of the temporary screened interval of each boring). The water samples were collected directly from the polyethylene tubing into the pre-cleaned containers provided by the analytical laboratory. The containers were sealed, labeled, and stored in an ice-chilled cooler and submitted to the chemistry laboratory under chain-of-custody protocols. To prevent cross-contamination of the wells, new disposable polyethylene tubing was used for each groundwater sample.

Sample Handling and Laboratory Analysis

At the time of collection, soil and groundwater samples were placed in an ice-chilled cooler and submitted to the laboratory using chain-of-custody protocols. Soil and groundwater samples were submitted to AM Test, of Kirkland, Washington and Advanced Analytical Laboratory, of Redmond, Washington, for chemical analysis.

Investigation-Derived Waste Storage and Disposal

Soil cuttings and purge water generated during exploration activities and groundwater sampling were placed in separate labeled drums and left on site, pending receipt of chemical analysis results from the laboratory and determination of appropriate disposal procedures.

Exploration Logs

Sample Description

Identification of soils in this report is based on visual field and laboratory observations which include density/consistency, moisture condition, grain size, and plasticity estimates and should not be construed to imply field nor laboratory testing unless presented herein. ASTM D 2488 visual-manual identification methods were used as a guide. Where laboratory testing confirmed visual-manual identifications, then ASTM D 2487 was used to classify the soils.

Relative Density/Consistency

Soil density/consistency in borings is related primarily to the standard penetration resistance (N). Soil density/consistency in test pits and probes is estimated based on visual observation and is presented parenthetically on the logs.

SAND or GRAVEL Relative Density	N (Blows/Foot)	SILT or CLAY Consistency	N (Blows/Foot)
Very loose	0 to 4	Very soft	0 to 1
Loose	5 to 10	Soft	2 to 4
Medium dense	11 to 30	Medium stiff	5 to 8
Dense	31 to 50	Stiff	9 to 15
Very dense	>50	Very stiff	16 to 30
		Hard	>30

Moisture

Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

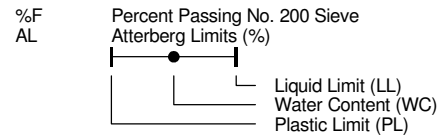
USCS Soil Classification Chart (ASTM D 2487)

Major Divisions		Symbols		Typical Descriptions
		Graph	USCS	
Coarse Grained Soils More than 50% of Material Retained on No. 200 Sieve	Gravel and Gravelly Soils More than 50% of Coarse Fraction Retained on No. 4 Sieve		GW	Well-Graded Gravel; Well-Graded Gravel with Sand
			GP	Poorly Graded Gravel; Poorly Graded Gravel with Sand
			GW-GM	Well-Graded Gravel with Silt; Well-Graded Gravel with Silt and Sand
			GW-GC	Well-Graded Gravel with Clay; Well-Graded Gravel with Clay and Sand
			GP-GM	Poorly Graded Gravel with Silt; Poorly Graded Gravel with Silt and Sand
			GP-GC	Poorly Graded Gravel with Clay; Poorly Graded Gravel with Clay and Sand
	Sand and Sandy Soils More than 50% of Coarse Fraction Passing No. 4 Sieve		GM	Silty Gravel; Silty Gravel with Sand
			GC	Clayey Gravel; Clayey Gravel with Sand
			SW	Well-Graded Sand; Well-Graded Sand with Gravel
			SP	Poorly Graded Sand; Poorly Graded Sand with Gravel
Sands (5-12% fines)		SW-SM	Well-Graded Sand with Silt Well-Graded Sand with Silt and Gravel	
		SW-SC	Well-Graded Sand with Clay; Well-Graded Sand with Clay and Gravel	
		SP-SM	Poorly Graded Sand with Silt; Poorly Graded Sand with Silt and Gravel	
		SP-SC	Poorly Graded Sand with Clay; Poorly Graded Sand with Clay and Gravel	
Fine Grained Soils More than 50% of Material Passing No. 200 Sieve		SM	Silty Sand; Silty Sand with Gravel	
		SC	Clayey Sand; Clayey Sand with Gravel	
	Silt	ML	Silt; Silt with Sand or Gravel; Sandy or Gravelly Silt	
		MH	Elastic Silt; Elastic Silt with Sand or Gravel; Sandy or Gravelly Elastic Silt	
	Silty Clay (based on Atterberg Limits)	CL-ML	Silty Clay; Silty Clay with Sand or Gravel; Gravelly or Sandy Silty Clay	
		Clays	CL	Lean Clay; Lean Clay with Sand or Gravel; Sandy or Gravelly Lean Clay
CH	Fat Clay; Fat Clay with Sand or Gravel; Sandy or Gravelly Fat Clay			
Organics	OL/OH	Organic Soil; Organic Soil with Sand or Gravel; Sandy or Gravelly Organic Soil		
Highly Organic (>50% organic material)	PT	Peat - Decomposing Vegetation - Fibrous to Amorphous Texture		

Minor Constituents Estimated Percentage

Sand, Gravel	
Trace	<5
Few	5 - 15
Cobbles, Boulders	
Trace	<5
Few	5 - 10
Little	15 - 25
Some	30 - 45

Soil Test Symbols



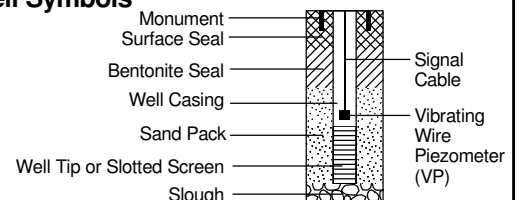
CA	Chemical Analysis
CAUC	Consolidated Anisotropic Undrained Compression
CAUE	Consolidated Anisotropic Undrained Extension
CBR	California Bearing Ratio
CIDC	Consolidated Drained Isotropic Triaxial Compression
CIUC	Consolidated Isotropic Undrained Compression
CK0DC	Consolidated Drained k0 Undrained Compression
CK0DSS	Consolidated k0 Undrained Direct Simple Shear
CK0UC	Consolidated k0 Undrained Compression
CK0UE	Consolidated k0 Undrained Extension
CRSCN	Constant Rate of Strain Consolidation
DSS	Direct Simple Shear
DT	In Situ Density
GS	Grain Size Classification
HYD	Hydrometer
ILCN	Incremental Load Consolidation
K0CN	k0 Consolidation
kc	Constant Head Permeability
kf	Falling Head Permeability
MD	Moisture Density Relationship
OC	Organic Content
OT	Tests by Others
P	Pressuremeter
PID	Photionization Detector Reading
PP	Pocket Penetrometer
SG	Specific Gravity
TRS	Torsional Ring Shear
TV	Torvane
UC	Unconfined Compression
UUC	Unconsolidated Undrained Triaxial Compression
VS	Vane Shear
WC	Water Content (%)

Groundwater Indicators

	Groundwater Level on Date or At Time of Drilling (ATD)
	Groundwater Level on Date Measured in Piezometer
	Groundwater Seepage (Test Pits)

Sample Symbols

Well Symbols



KEY TO EXP. LOGS (SOIL ONLY) - J:\GINT\HC_LIBRARY\GLB - 9/12/18 11:55 - L:\NOTEBOOKS\1928210_KCIA_LARGE_AIRCRAFT_PARKINGFIELD DATA\PERM_GINT FILES\1928210-PP.GPJ - kzj

Date Started: 9/5/18 Date Completed: 9/5/18
 Logged by: G. Griggs Checked by: A. Wong
 Location: Lat: 47.536560 Long: -122.303230
 Ground Surface Elevation: _____
 Horizontal Datum: WGS 84
 Vertical Datum: _____

Contractor/Crew: ESN Northwest
 Rig Model/Type: PowerProbe 9500 / Truck-mounted push-probe rig
 Total Depth: 15 feet Depth to Groundwater: 8.98 feet
 Comments: Location and ground surface elevations are approximate.

Elevation (feet)	Sample Data				Graphic Log	Material Description	Water Level	Depth (feet)
	Type	Recovery Length (inches)	Number Tests	PID				
0						Asphalt.		0
						SILTY SAND WITH GRAVEL (SM), dry to moist, brown.		
	24in.		S-1 PID, No odor, slight sheen	0.4		POORLY GRADED SAND WITH SILT (SP-SM), moist, dark brown.		
	30in.		S-2 PID, No odor, no sheen	0.3				
5	30in.		S-3 PID, No odor, no sheen	0.4				5
	18in.		S-3 PID, No odor, no sheen	0.4				
	30in.		S-4 PID, No odor, no sheen	0.5		POORLY GRADED SAND (SP), moist, dark brown-gray.		
10	18in.		S-4 PID, No odor, no sheen	0.5				10
	30in.		S-5 PID, No odor, no sheen	0.5				
	30in.		S-5 PID, No odor, no sheen	0.5				
	30in.		S-6 PID, No odor, no sheen	0.6				
15	30in.		S-6 PID, No odor, no sheen	0.6		Grab GW sample collected at 15 feet.		15
						Bottom of Borehole at 15.0 feet.		

ATD

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General Notes:

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Material descriptions and stratum lines are interpretive and actual changes may be gradual. Solid stratum lines indicate distinct contact between material strata or geologic units. Dashed stratum lines indicate gradual or approximate change between material strata or geologic units.
3. USCS designations are based on visual-manual identification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling/excavation (ATD) or for date specified. Level may vary with time.

Date Started: 9/5/18 Date Completed: 9/5/18
 Logged by: G. Griggs Checked by: A. Wong
 Location: Lat: 47.536450 Long: -122.302740
 Ground Surface Elevation: _____
 Horizontal Datum: WGS 84
 Vertical Datum: _____

Contractor/Crew: ESN Northwest
 Rig Model/Type: PowerProbe 9500 / Truck-mounted push-probe rig
 Total Depth: 15 feet Depth to Groundwater: 9 feet
 Comments: Location and ground surface elevations are approximate.

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Elevation (feet)	Sample Data				Graphic Log	Material Description	Water Level	Depth (feet)
	Type	Recovery Length (inches)	Number Tests	PID				
0						Asphalt over Concrete debris.		0
	6in.	30	S-1 PID, No odor, slight sheen	0.3		SILTY SAND WITH GRAVEL (SM), dry to moist, light brown.		
	30in.	30	S-2 PID, No odor, no sheen	0.3		POORLY GRADED SAND WITH GRAVEL (SP), moist, gray.		
5	24in.	30	S-3 PID, No odor, no sheen	0.6		POORLY GRADED SAND (SP), moist, dark gray.		5
	30in.	30	S-4 PID, No odor, no sheen	0.8				
10	30in.	30	S-5 PID, No odor, no sheen	0.4				10
	30in.	30	S-6 PID, No odor, slight sheen	0.6		2 inches of woody debris. (ML), 1-foot lens of SANDY SILT.		
15						Bottom of Borehole at 15.0 feet.		15

ATD
▽

General Notes:
 1. Refer to Figure A-1 for explanation of descriptions and symbols.
 2. Material descriptions and stratum lines are interpretive and actual changes may be gradual. Solid stratum lines indicate distinct contact between material strata or geologic units. Dashed stratum lines indicate gradual or approximate change between material strata or geologic units.
 3. USCS designations are based on visual-manual identification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
 4. Groundwater level, if indicated, is at time of drilling/excavation (ATD) or for date specified. Level may vary with time.

Date Started: 9/5/18 Date Completed: 9/5/18
 Logged by: G. Griggs Checked by: A. Wong
 Location: Lat: 47.536650 Long: -122.302410
 Ground Surface Elevation: _____
 Horizontal Datum: WGS 84
 Vertical Datum: _____

Contractor/Crew: ESN Northwest
 Rig Model/Type: PowerProbe 9500 / Truck-mounted push-probe rig
 Total Depth: 15 feet Depth to Groundwater: 8 feet
 Comments: Location and ground surface elevations are approximate.

Elevation (feet)	Sample Data				Graphic Log	Material Description	Water Level	Depth (feet)
	Type	Recovery Length (inches)	Number Tests	PID				
0					Asphalt.			0
	18in.	30	S-1 PID, No odor, no sheen	1.0	SILTY SAND WITH GRAVEL (SM/ML), dry to moist, light brown, to SILT (ML), dark brown.			
	30							
	24in.	30	S-2 PID, No odor, slight sheen	0.3	POORLY GRADED SAND WITH SILT (SP-SM), moist, light brown.			
5	30in.	30	S-3 PID, No odor, no sheen	0.4	SILT (ML), moist, light brown.			5
	30in.	30	S-4 PID, No odor, no sheen	0.3	Becomes wet.		ATD ▽	
10	30in.	30	S-5 PID, No odor, no sheen	0.4	POORLY GRADED SAND (SP), wet, dark brown, coarse sand.			10
	30in.	30	S-6 PID, No odor, no sheen	0.4				
15					Bottom of Borehole at 15.0 feet.			15

General Notes:
 1. Refer to Figure A-1 for explanation of descriptions and symbols.
 2. Material descriptions and stratum lines are interpretive and actual changes may be gradual. Solid stratum lines indicate distinct contact between material strata or geologic units. Dashed stratum lines indicate gradual or approximate change between material strata or geologic units.
 3. USCS designations are based on visual-manual identification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
 4. Groundwater level, if indicated, is at time of drilling/excavation (ATD) or for date specified. Level may vary with time.

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Date Started: 9/5/18 Date Completed: 9/5/18
 Logged by: G. Griggs Checked by: A. Wong
 Location: Lat: 47.536870 Long: -122.302690
 Ground Surface Elevation: _____
 Horizontal Datum: WGS 84
 Vertical Datum: _____

Contractor/Crew: ESN Northwest
 Rig Model/Type: PowerProbe 9500 / Truck-mounted push-probe rig
 Total Depth: 15 feet Depth to Groundwater: 9.65 feet
 Comments: Location and ground surface elevations are approximate.

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Elevation (feet)	Sample Data				Graphic Log	Material Description	Water Level	Depth (feet)
	Type	Recovery Length (inches)	Number Tests	PID				
0					Asphalt.		0	
	18in.	30	S-1 PID, No odor, slight sheen	0.1	SILTY SAND WITH GRAVEL (SM), dry to moist, brown.			
	30in.	30	S-2 PID, No odor, no sheen	0.2	SANDY SILT (ML), dry to moist.			
5	18in.	30	S-3 PID, No odor, no sheen	0.2	SILTY SAND (SM), dry to moist, light brown, fine sand.		5	
	30in.	30	S-4 PID, No odor, no sheen	0.2	POORLY GRADED SAND (SP), moist, gray to brown, coarse sand.			
10	18in.	30	S-5 PID, No odor, no sheen	0.2			10	
	30in.	30	S-6 PID, No odor, no sheen	0.2				
15					Grab GW sample collected at 15 feet.		15	
					Bottom of Borehole at 15.0 feet.			

ATD

General Notes:

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Material descriptions and stratum lines are interpretive and actual changes may be gradual. Solid stratum lines indicate distinct contact between material strata or geologic units. Dashed stratum lines indicate gradual or approximate change between material strata or geologic units.
3. USCS designations are based on visual-manual identification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling/excavation (ATD) or for date specified. Level may vary with time.

Date Started: 8/27/18 Date Completed: 8/27/18
 Logged by: K. Huddleston Checked by: A. Wong
 Location: Lat: 47.535970 Long: -122.303080
 Ground Surface Elevation: _____
 Horizontal Datum: WGS 84
 Vertical Datum: _____

Contractor/Crew: ESN Northwest
 Rig Model/Type: PowerProbe 9500 / Truck-mounted push-probe rig
 Total Depth: 15 feet Depth to Groundwater: 8.42 feet
 Comments: Location and ground surface elevations are approximate.

Elevation (feet)	Sample Data				Graphic Log	Material Description	Water Level	Depth (feet)
	Type	Recovery Length (inches)	Number Tests	PID				
0						Asphalt.		0
	30in.	30	S-1 PID, No odor, no sheen	0.4		SILTY SAND (SM), (very loose), gray to light gray, pulverized rock, some asphalt.		
	18in.	30	S-2 PID, No odor, no sheen	<0.1		SILTY SAND (SM), (loose), dry, light brown.		
	30in.	30	S-3 PID, No odor, oil sheen	0.1		Becomes moist and brown.		
	24in.	30	S-4 PID, No odor, no sheen	<0.1		Becomes wet and black.	ATD ▽	
	30in.	30	S-5 PID, No odor, no sheen	<0.1				
15						Grab GW sample collected at 15 feet.		15
						Bottom of Borehole at 15.0 feet.		

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General Notes:
 1. Refer to Figure A-1 for explanation of descriptions and symbols.
 2. Material descriptions and stratum lines are interpretive and actual changes may be gradual. Solid stratum lines indicate distinct contact between material strata or geologic units. Dashed stratum lines indicate gradual or approximate change between material strata or geologic units.
 3. USCS designations are based on visual-manual identification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
 4. Groundwater level, if indicated, is at time of drilling/excavation (ATD) or for date specified. Level may vary with time.

Date Started: 8/28/18 Date Completed: 8/28/18
 Logged by: C. McCabe Checked by: A. Wong
 Location: Lat: 47.536190 Long: -122.302870
 Ground Surface Elevation: _____
 Horizontal Datum: WGS 84
 Vertical Datum: _____

Contractor/Crew: ESN Northwest
 Rig Model/Type: PowerProbe 9500 / Truck-mounted push-probe rig
 Total Depth: 15 feet Depth to Groundwater: Not Identified
 Comments: Location and ground surface elevations are approximate.

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Elevation (feet)	Depth (feet)	Sample Data			Graphic Log	Material Description	Depth (feet)
		Type	Length (inches)	Number Tests			
0	0		30			WELL-GRADED SAND WITH SILT AND GRAVEL (SW/SP), (loose), dry, tan.	0
				S-1 PID, No odor, slight organic sheen	0.1		
			30			POORLY GRADED SAND (SP), (loose), moist, dark gray, medium sand.	
				S-2 PID, No odor, slight sheen	0.1		
	5		30			POORLY GRADED SAND (SP), (medium dense), moist to wet, dark gray, medium sand.	5
				S-3 PID, No odor, no sheen	0.2		
			30				
				S-4 PID, No odor, no sheen	0.1		
	10		30				10
				S-5 PID, No odor, no sheen	0.1		
			30				
				S-6 PID, No odor, no sheen	0.2		
	15					Grab GW sample collected at 15 feet.	15
						Bottom of Borehole at 15.0 feet.	

General Notes:
 1. Refer to Figure A-1 for explanation of descriptions and symbols.
 2. Material descriptions and stratum lines are interpretive and actual changes may be gradual. Solid stratum lines indicate distinct contact between material strata or geologic units. Dashed stratum lines indicate gradual or approximate change between material strata or geologic units.
 3. USCS designations are based on visual-manual identification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
 4. Groundwater level, if indicated, is at time of drilling/excavation (ATD) or for date specified. Level may vary with time.

Date Started: 9/5/18 Date Completed: 9/5/18
 Logged by: G. Griggs Checked by: A. Wong
 Location: Lat: 47.536220 Long: -122.302470
 Ground Surface Elevation: _____
 Horizontal Datum: WGS 84
 Vertical Datum: _____

Contractor/Crew: ESN Northwest
 Rig Model/Type: PowerProbe 9500 / Truck-mounted push-probe rig
 Total Depth: 15 feet Depth to Groundwater: 8.5 feet
 Comments: Location and ground surface elevations are approximate.

Elevation (feet)	Sample Data				Graphic Log	Material Description	Water Level	Depth (feet)
	Type	Recovery Length (inches)	Number Tests	PID				
0					Asphalt.			0
					SILTY SAND WITH GRAVEL (SM), dry to moist.			
	15in.	30	S-1 PID, No odor, slight organic sheen	<0.1				
	30in.	30	S-2 PID, No odor, no sheen	0.1				
5	18in.	30	S-3 PID, No odor, slight organic sheen	0.1				5
	30in.	30	S-4 PID, No odor, no sheen	0.1				
10	18in.	30	S-5 PID, No odor, no sheen	0.1				10
	30in.	30	S-6 PID, No odor, no sheen	0.1				
15								15

Bottom of Borehole at 15.0 feet.

ATD
▽

General Notes:
 1. Refer to Figure A-1 for explanation of descriptions and symbols.
 2. Material descriptions and stratum lines are interpretive and actual changes may be gradual. Solid stratum lines indicate distinct contact between material strata or geologic units. Dashed stratum lines indicate gradual or approximate change between material strata or geologic units.
 3. USCS designations are based on visual-manual identification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
 4. Groundwater level, if indicated, is at time of drilling/excavation (ATD) or for date specified. Level may vary with time.

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Date Started: 9/5/18 Date Completed: 9/5/18
 Logged by: G. Griggs Checked by: A. Wong
 Location: Lat: 47.536540 Long: -122.302090
 Ground Surface Elevation: _____
 Horizontal Datum: WGS 84
 Vertical Datum: _____

Contractor/Crew: ESN Northwest
 Rig Model/Type: PowerProbe 9500 / Truck-mounted push-probe rig
 Total Depth: 15 feet Depth to Groundwater: 9.98 feet
 Comments: Location and ground surface elevations are approximate.

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Elevation (feet)	Sample Data				Graphic Log	Material Description	Water Level	Depth (feet)
	Type	Recovery Length (inches)	Number Tests	PID				
0						Concrete.		0
	12in.		S-1 PID, No odor, no sheen	0.3		SANDY SILT (ML), dry to moist, light brown, with organics.		
	30in.		S-2 PID, No odor, no sheen	0.4		SILTY SAND (SM), moist, light brown, fine sand.		
5	30in.		S-3 PID, No odor, no sheen	0.7		POORLY GRADED SAND (SP), moist, gray.		5
	30in.		S-4 PID, No odor, no sheen	0.9		POORLY GRADED SAND (SP), moist, dark gray, coarse sand.		
10	30in.		S-5 PID, No odor, no sheen	0.7		Becomes wet.	ATD ▽	10
	30in.		S-6 PID, No odor, no sheen	0.8		Grab GW sample collected at 15 feet.		
15						Bottom of Borehole at 15.0 feet.		15

General Notes:
 1. Refer to Figure A-1 for explanation of descriptions and symbols.
 2. Material descriptions and stratum lines are interpretive and actual changes may be gradual. Solid stratum lines indicate distinct contact between material strata or geologic units. Dashed stratum lines indicate gradual or approximate change between material strata or geologic units.
 3. USCS designations are based on visual-manual identification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
 4. Groundwater level, if indicated, is at time of drilling/excavation (ATD) or for date specified. Level may vary with time.

Date Started: 8/27/18 Date Completed: 8/27/18
 Logged by: K. Huddleston Checked by: A. Wong
 Location: Lat: 47.534020 Long: -122.302810
 Ground Surface Elevation: _____
 Horizontal Datum: WGS 84
 Vertical Datum: _____

Contractor/Crew: ESN Northwest
 Rig Model/Type: PowerProbe 9500 / Truck-mounted push-probe rig
 Total Depth: 15 feet Depth to Groundwater: 8.25 feet
 Comments: Location and ground surface elevations are approximate.

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Elevation (feet)	Sample Data				Graphic Log	Material Description	Water Level	Depth (feet)
	Type	Recovery Length (inches)	Number Tests	PID				
0						Asphalt.		0
	30in.		S-1 PID, No odor, slight sheen	4.0		SANDY SILT (ML), (soft), dry, gray, pulverized rock.		
	30in.		S-2 PID, No odor, no sheen	0.6		SILTY SAND (SM), (very loose), dry, light brown.		
	27in.		S-3 PID, No odor, organic sheen/slight oil sheen	0.3		SILTY SAND (SM), (loose), dry, dark brown. Silt pocket at ~4 feet.		5
	30in.		S-4 PID, No odor, no sheen	0.2		Grades to black.		
	21in.		S-5 PID, No odor, no sheen	0.1		Becomes moist.	ATD ▽	
	30in.		S-6 PID, No odor, no sheen	<0.1		Becomes wet.		10
	30in.					Clayey silt pocket at 13 feet.		
15						Bottom of Borehole at 15.0 feet.		15

General Notes:
 1. Refer to Figure A-1 for explanation of descriptions and symbols.
 2. Material descriptions and stratum lines are interpretive and actual changes may be gradual. Solid stratum lines indicate distinct contact between material strata or geologic units. Dashed stratum lines indicate gradual or approximate change between material strata or geologic units.
 3. USCS designations are based on visual-manual identification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
 4. Groundwater level, if indicated, is at time of drilling/excavation (ATD) or for date specified. Level may vary with time.

Date Started: 8/28/18 Date Completed: 8/28/18
 Logged by: C. McCabe Checked by: A. Wong
 Location: Lat: 47.536030 Long: -122.302200
 Ground Surface Elevation: _____
 Horizontal Datum: WGS 84
 Vertical Datum: _____

Contractor/Crew: ESN Northwest
 Rig Model/Type: PowerProbe 9500 / Truck-mounted push-probe rig
 Total Depth: 15 feet Depth to Groundwater: 9.35 feet
 Comments: Location and ground surface elevations are approximate.

Elevation (feet)	Sample Data				Graphic Log	Material Description	Water Level	Depth (feet)
	Type	Recovery Length (inches)	Number Tests	PID				
0								0
	30in.	30	S-1 PID, Greasy odor, organic sheen	2.0		POORLY GRADED SAND WITH GRAVEL (SP), (loose), dry, gray, with organics.		
	30in.	30	S-2 PID, No odor, no sheen	0.1		POORLY GRADED SAND (SP), (loose), moist, dark gray, medium sand.		
5	30in.	30	S-3 PID, No odor, no sheen	0.4		POORLY GRADED SAND (SP), (medium dense), moist to wet, dark gray, medium sand.		5
	30in.	30	S-4 PID, No odor, no sheen	0.3				
10	30in.	30	S-5 PID, No odor, no sheen	0.3		POORLY GRADED SAND (SP), (medium dense), wet, dark gray.		10
	30in.	30	S-6 PID, No odor, no sheen	0.1				
15						Grab GW sample collected at 15 feet.		15
						Bottom of Borehole at 15.0 feet.		

ATD
▽

General Notes:

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Material descriptions and stratum lines are interpretive and actual changes may be gradual. Solid stratum lines indicate distinct contact between material strata or geologic units. Dashed stratum lines indicate gradual or approximate change between material strata or geologic units.
3. USCS designations are based on visual-manual identification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling/excavation (ATD) or for date specified. Level may vary with time.

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Date Started: 8/28/18 Date Completed: 8/28/18
 Logged by: C. McCabe Checked by: A. Wong
 Location: Lat: 47.536120 Long: -122.302020
 Ground Surface Elevation: _____
 Horizontal Datum: WGS 84
 Vertical Datum: _____

Contractor/Crew: ESN Northwest
 Rig Model/Type: PowerProbe 9500 / Truck-mounted push-probe rig
 Total Depth: 15 feet Depth to Groundwater: 8 feet
 Comments: Location and ground surface elevations are approximate.

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Elevation (feet)	Sample Data				Graphic Log	Material Description	Water Level	Depth (feet)
	Type	Recovery Length (inches)	Number Tests	PID				
0		30				POORLY GRADED SAND WITH GRAVEL (SP), (loose), dry, gray, with organics.		0
		30in.	S-1 PID, No odor, slight sheen	0.4		POORLY GRADED SAND (SP), (loose), dry to moist, gray, medium sand.		
		30	S-2 PID, No odor, no sheen	0.4				
5		30	S-3 PID, No odor, no sheen	0.4				5
		30	S-4 PID, No odor, no sheen	0.4		SANDY SILT (ML), (medium stiff), moist, gray, oxidized staining, chunks of organics.		
		30	S-5 PID, No odor, no sheen	0.2		POORLY GRADED SAND (SP), (medium dense), wet, dark gray, medium sand.		
		30	S-6 PID, No odor, no sheen	0.1		Becomes wet at ~8 feet.		
10								10
15								15
Bottom of Borehole at 15.0 feet.								

ATD
▽

General Notes:
 1. Refer to Figure A-1 for explanation of descriptions and symbols.
 2. Material descriptions and stratum lines are interpretive and actual changes may be gradual. Solid stratum lines indicate distinct contact between material strata or geologic units. Dashed stratum lines indicate gradual or approximate change between material strata or geologic units.
 3. USCS designations are based on visual-manual identification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
 4. Groundwater level, if indicated, is at time of drilling/excavation (ATD) or for date specified. Level may vary with time.

Date Started: 8/27/18 Date Completed: 8/27/18
 Logged by: K. Huddleston Checked by: A. Wong
 Location: Lat: 47.535740 Long: -122.302880
 Ground Surface Elevation: _____
 Horizontal Datum: WGS 84
 Vertical Datum: _____

Contractor/Crew: ESN Northwest
 Rig Model/Type: PowerProbe 9500 / Truck-mounted push-probe rig
 Total Depth: 15 feet Depth to Groundwater: 9.18 feet
 Comments: Location and ground surface elevations are approximate.

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Elevation (feet)	Sample Data				Graphic Log	Material Description	Water Level	Depth (feet)
	Type	Recovery Length (inches)	Number Tests	PID				
0						Asphalt.		0
	30in.		S-1 PID, No odor, slight sheen	0.1		SILTY SAND (SM), (loose), dry, gray, pulverized rock.		
						SANDY SILT (ML), (medium dense), dry, dark brown.		
	30in.		S-2 PID, No odor, no sheen	<0.1		SILTY SAND (SM), (loose), moist, light brown. [FILL]		
5	30in.		S-3 PID, No odor, slight oil sheen	0.1		LEAN CLAY (CL), (very soft), wet, gray. [NATIVE]		5
						SILTY SAND (SM), moist, dark brown/gray.		
	30in.		S-4 PID, No odor, no sheen	<0.1		SANDY LEAN CLAY (CL), wet, gray, some organics.	ATD ▽	10
10	30in.		S-5 PID, No odor, no sheen	<0.1		SANDY SILT (ML), wet, black, very fine grained sandy silt, organics.		
	30in.		S-6 PID, No odor, no sheen	0.1		Grab GW sample collected at 15 feet.		15
Bottom of Borehole at 15.0 feet.								

General Notes:
 1. Refer to Figure A-1 for explanation of descriptions and symbols.
 2. Material descriptions and stratum lines are interpretive and actual changes may be gradual. Solid stratum lines indicate distinct contact between material strata or geologic units. Dashed stratum lines indicate gradual or approximate change between material strata or geologic units.
 3. USCS designations are based on visual-manual identification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
 4. Groundwater level, if indicated, is at time of drilling/excavation (ATD) or for date specified. Level may vary with time.

Date Started: 8/27/18 Date Completed: 8/27/18
 Logged by: K. Huddleston Checked by: A. Wong
 Location: Lat: 47.535950 Long: -122.302470
 Ground Surface Elevation: _____
 Horizontal Datum: WGS 84
 Vertical Datum: _____

Contractor/Crew: ESN Northwest
 Rig Model/Type: PowerProbe 9500 / Truck-mounted push-probe rig
 Total Depth: 15 feet Depth to Groundwater: 8.65 feet
 Comments: Location and ground surface elevations are approximate.

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Elevation (feet)	Depth (feet)	Sample Data			Graphic Log	Material Description	Water Level	Depth (feet)
		Type	Recovery Length (inches)	Number Tests				
0	0					Concrete.	0	
	18 in.			S-1 PID, No odor, no sheen	0.1	SILTY SAND WITH GRAVEL (SM), (loose), dry to moist, light gray to light brown.		
	30 in.			S-2 PID, No odor, no sheen	<0.1	Grades to fine grained sand.		
5	30 in.			S-3 PID, No odor, no sheen	<0.1		5	
	30 in.			S-4 PID, No odor, no sheen	0.1	SILTY SAND (SM), (medium dense), wet, black, coarse grained sand.	ATD ▽	
10	30 in.			S-5 PID, No odor, no sheen	<0.1		10	
	30 in.			S-6 PID, No odor, no sheen	<0.1			
15	15					Grab GW sample collected at 15 feet.	15	
						Bottom of Borehole at 15.0 feet.		

General Notes:
 1. Refer to Figure A-1 for explanation of descriptions and symbols.
 2. Material descriptions and stratum lines are interpretive and actual changes may be gradual. Solid stratum lines indicate distinct contact between material strata or geologic units. Dashed stratum lines indicate gradual or approximate change between material strata or geologic units.
 3. USCS designations are based on visual-manual identification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
 4. Groundwater level, if indicated, is at time of drilling/excavation (ATD) or for date specified. Level may vary with time.

Date Started: 8/28/18 Date Completed: 8/28/18
 Logged by: C. McCabe Checked by: A. Wong
 Location: Lat: 47.536010 Long: -122.301950
 Ground Surface Elevation: _____
 Horizontal Datum: WGS 84
 Vertical Datum: _____

Contractor/Crew: ESN Northwest
 Rig Model/Type: PowerProbe 9500 / Truck-mounted push-probe rig
 Total Depth: 15 feet Depth to Groundwater: Not Identified
 Comments: Location and ground surface elevations are approximate.

Elevation (feet)	Sample Data				Graphic Log	Material Description	Depth (feet)
	Type	Recovery Length (inches)	Number Tests	PID			
0		30				POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM), (loose), dry, brown.	0
		30in.	S-1 PID, No odor, no sheen	0.3			
		30				POORLY GRADED SAND (SP), (loose), dry to moist, dark gray, medium sand.	
		30in.	S-2 PID, No odor, no sheen	0.2		Becomes moist.	
5		30					5
		30in.	S-3 PID, No odor, no sheen	<0.1			
		30					
		30in.	S-4 PID, No odor, no sheen	0.1			
10		30				POORLY GRADED SAND WITH SILT (SP-SM), (medium dense), wet, dark gray, with organics.	10
		30in.	S-5 PID, No odor, no sheen	0.3			
		30				SILTY SAND TO SANDY SILT (SM/ML), (medium dense), wet, dark gray, fine sand with organics.	
		30in.	S-6 PID, No odor, slight sheen	0.2			
15	Bottom of Borehole at 15.0 feet.						15

General Notes:
 1. Refer to Figure A-1 for explanation of descriptions and symbols.
 2. Material descriptions and stratum lines are interpretive and actual changes may be gradual. Solid stratum lines indicate distinct contact between material strata or geologic units. Dashed stratum lines indicate gradual or approximate change between material strata or geologic units.
 3. USCS designations are based on visual-manual identification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
 4. Groundwater level, if indicated, is at time of drilling/excavation (ATD) or for date specified. Level may vary with time.

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Date Started: 8/28/18 Date Completed: 8/28/18
 Logged by: C. McCabe Checked by: A. Wong
 Location: Lat: 47.536060 Long: -122.301530
 Ground Surface Elevation: _____
 Horizontal Datum: WGS 84
 Vertical Datum: _____

Contractor/Crew: ESN Northwest
 Rig Model/Type: PowerProbe 9500 / Truck-mounted push-probe rig
 Total Depth: 15 feet Depth to Groundwater: 9.02 feet
 Comments: Location and ground surface elevations are approximate.

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Elevation (feet)	Depth (feet)	Type	Recovery Length (inches)	Number Tests	PID	Graphic Log	Material Description	Water Level	Depth (feet)
0	0						GRAVEL SLOUGH AND SILTY GRAVELY SAND, (loose), dry, brown.		0
	30		30in.	S-1 PID, No odor, no sheen	0.1				
	30		30in.	S-2 PID, No odor, no sheen	0.2		SILTY SAND (SM), (loose), dry, brown, silty fine sand.		
	30		30in.	S-3 PID, No odor, no sheen	0.1		POORLY GRADED SAND (SP), (loose), dry, brown, slightly silty, medium sand.		
5	5		30in.	S-4 PID, No odor, no sheen	<0.1		POORLY GRADED SAND WITH SILT (SP-SM), (loose), moist to wet, brown with oxidized staining, silty fine sand to medium sand with trace gravel.		5
	30		30in.	S-5 PID, No odor, no sheen	<0.1				
	30		30in.	S-6 PID, No odor, no sheen	0.1				
10	10						POORLY GRADED SAND (SP), (medium dense), wet, dark gray.	ATD ▽	10
15	15						Grab GW sample collected at 15 feet.		15
							Bottom of Borehole at 15.0 feet.		

General Notes:
 1. Refer to Figure A-1 for explanation of descriptions and symbols.
 2. Material descriptions and stratum lines are interpretive and actual changes may be gradual. Solid stratum lines indicate distinct contact between material strata or geologic units. Dashed stratum lines indicate gradual or approximate change between material strata or geologic units.
 3. USCS designations are based on visual-manual identification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
 4. Groundwater level, if indicated, is at time of drilling/excavation (ATD) or for date specified. Level may vary with time.

Date Started: 8/27/18 Date Completed: 8/27/18
 Logged by: K. Huddleston Checked by: A. Wong
 Location: Lat: 47.535700 Long: -122.302510
 Ground Surface Elevation: _____
 Horizontal Datum: WGS 84
 Vertical Datum: _____

Contractor/Crew: ESN Northwest
 Rig Model/Type: PowerProbe 9500 / Truck-mounted push-probe rig
 Total Depth: 15 feet Depth to Groundwater: Not Identified
 Comments: Location and ground surface elevations are approximate.

Elevation (feet)	Sample Data				Graphic Log	Material Description	Depth (feet)
	Type	Recovery Length (inches)	Number Tests	PID			
0						Concrete.	0
		30in.	S-1 PID, No odor, slight organic sheen	<0.1		SILTY SAND WITH GRAVEL (SM), (loose), dry, brown.	
		20in.	S-2 PID, No odor, moderate oil/organic sheen	<0.1		SILTY SAND (SM), (loose), dry, brown.	
5		30in.	S-3 PID, No odor, no sheen	<0.1		Grades to black.	5
		18in.	S-4 PID, No odor, no sheen	0.2		SILTY SAND (SM), (loose), wet, black, slightly silty, coarse sand.	
10		30in.	S-5 PID, No odor, no sheen	<0.1			10
		30in.	S-6 PID, No odor, no sheen	<0.1			
15	Bottom of Borehole at 15.0 feet.						15

General Notes:
 1. Refer to Figure A-1 for explanation of descriptions and symbols.
 2. Material descriptions and stratum lines are interpretive and actual changes may be gradual. Solid stratum lines indicate distinct contact between material strata or geologic units. Dashed stratum lines indicate gradual or approximate change between material strata or geologic units.
 3. USCS designations are based on visual-manual identification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
 4. Groundwater level, if indicated, is at time of drilling/excavation (ATD) or for date specified. Level may vary with time.

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Date Started: 8/27/18 Date Completed: 8/27/18
 Logged by: K. Huddleston Checked by: A. Wong
 Location: Lat: 47.535780 Long: -122.302170
 Ground Surface Elevation: _____
 Horizontal Datum: WGS 84
 Vertical Datum: _____

Contractor/Crew: ESN Northwest
 Rig Model/Type: PowerProbe 9500 / Truck-mounted push-probe rig
 Total Depth: 15 feet Depth to Groundwater: Not Identified
 Comments: Location and ground surface elevations are approximate.

HC PUSH PROBE - J:\GINT\HC_LIBRARY_GLB - 10/8/18 12:20 - L:\NOTEBOOKS\1928210_KCIA_LARGE_AIRCRAFT_PARKING\FIELD DATA\PERM_GINT FILES\1928210-PP.GPJ - kzl

Elevation (feet)	Sample Data				Graphic Log	Material Description	Depth (feet)
	Type	Recovery Length (inches)	Number Tests	PID			
0						Concrete.	0
	30in.		S-1 PID, No odor, no sheen	<0.1		SILTY SAND WITH GRAVEL (SM), (medium dense), dry, brown.	
	30					SILTY SAND (SM), (loose), dry, brown, slightly silty sand.	
	24in.		S-2 PID, No odor, no sheen	<0.1		Becomes finer grained sand.	
5	30					Becomes moist.	5
	30in.		S-3 PID, No odor, no sheen	<0.1			
	30					Grades to black.	
	18in.		S-4 PID, No odor, no sheen	<0.1		SILTY SAND (SM), (medium dense), wet, black, coarse sand.	
10	30						10
	30in.		S-5 PID, No odor, no sheen	<0.1			
	30						
	24in.		S-6 PID, No odor, no sheen	<0.1			
15						Bottom of Borehole at 15.0 feet.	15

General Notes:
 1. Refer to Figure A-1 for explanation of descriptions and symbols.
 2. Material descriptions and stratum lines are interpretive and actual changes may be gradual. Solid stratum lines indicate distinct contact between material strata or geologic units. Dashed stratum lines indicate gradual or approximate change between material strata or geologic units.
 3. USCS designations are based on visual-manual identification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
 4. Groundwater level, if indicated, is at time of drilling/excavation (ATD) or for date specified. Level may vary with time.

Date Started: 8/27/18 Date Completed: 8/27/18
 Logged by: K. Huddleston Checked by: A. Wong
 Location: Lat: 47.535430 Long: -122.302540
 Ground Surface Elevation: _____
 Horizontal Datum: WGS 84
 Vertical Datum: _____

Contractor/Crew: ESN Northwest
 Rig Model/Type: PowerProbe 9500 / Truck-mounted push-probe rig
 Total Depth: 15 feet Depth to Groundwater: 11.53 feet
 Comments: Location and ground surface elevations are approximate.

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Elevation (feet)	Sample Data				Graphic Log	Material Description	Water Level	Depth (feet)
	Type	Recovery Length (inches)	Number Tests	PID				
0						Asphalt/Low-grade Concrete.		0
	30in.	30in.	S-1 PID, No odor, no sheen	<0.1		SILTY SAND (SM), (loose), dry, light brown. [FILL]		
	6in.	6in.	S-2 PID, No odor, no sheen	<0.1				
5	30in.	30in.	S-3 PID, No odor, no sheen	<0.1		Grades to dark brown, moist.		5
	16in.	16in.	S-4 PID, No odor, no sheen	<0.1		SANDY LEAN CLAY (CL), (very soft), wet, dark gray, some organics. [NATIVE]		
10	30in.	30in.	S-5 PID, No odor, slight sheen	<0.1				
	30in.	30in.	S-6 PID, No odor, slight sheen	<0.1				
15						Grab GW sample collected at 15 feet.		15
						Bottom of Borehole at 15.0 feet.		

ATD
▽

General Notes:

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Material descriptions and stratum lines are interpretive and actual changes may be gradual. Solid stratum lines indicate distinct contact between material strata or geologic units. Dashed stratum lines indicate gradual or approximate change between material strata or geologic units.
3. USCS designations are based on visual-manual identification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling/excavation (ATD) or for date specified. Level may vary with time.

Date Started: 8/28/18 Date Completed: 8/28/18
 Logged by: C. McCabe Checked by: A. Wong
 Location: Lat: 47.553557 Long: -122.302120
 Ground Surface Elevation: _____
 Horizontal Datum: WGS 84
 Vertical Datum: _____

Contractor/Crew: ESN Northwest
 Rig Model/Type: PowerProbe 9500 / Truck-mounted push-probe rig
 Total Depth: 15 feet Depth to Groundwater: Not Identified
 Comments: Location and ground surface elevations are approximate.

Elevation (feet)	Sample Data				Graphic Log	Material Description	Depth (feet)
	Type	Recovery Length (inches)	Number Tests	PID			
0		30				0	
	30in.	30	S-1 PID, No odor, slight sheen	0.1		POORLY GRADED SAND WITH GRAVEL (SP), (loose), dry, brown.	
	30in.	30	S-2 PID, No odor, no sheen	<0.1		POORLY GRADED SAND (SP), (loose), dry, brown, medium sand.	
5	30in.	30	S-3 PID, No odor, slight sheen	<0.1		Becomes moist, dark brown/dark gray, fine to medium sand.	5
	30in.	30	S-4 PID, No odor, no sheen	<0.1			
10	30in.	30	S-5 PID, No odor, no sheen	<0.1		Becomes wet, dark gray to black.	10
	30in.	30	S-6 PID, No odor, no sheen	<0.1			
15					Grab GW sample collected at 15 feet.	15	
					Bottom of Borehole at 15.0 feet.		

General Notes:
 1. Refer to Figure A-1 for explanation of descriptions and symbols.
 2. Material descriptions and stratum lines are interpretive and actual changes may be gradual. Solid stratum lines indicate distinct contact between material strata or geologic units. Dashed stratum lines indicate gradual or approximate change between material strata or geologic units.
 3. USCS designations are based on visual-manual identification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
 4. Groundwater level, if indicated, is at time of drilling/excavation (ATD) or for date specified. Level may vary with time.

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Date Started: 8/28/18 Date Completed: 8/28/18
 Logged by: C. McCabe Checked by: A. Wong
 Location: Lat: 47.535790 Long: -122.301950
 Ground Surface Elevation: _____
 Horizontal Datum: WGS 84
 Vertical Datum: _____

Contractor/Crew: ESN Northwest
 Rig Model/Type: PowerProbe 9500 / Truck-mounted push-probe rig
 Total Depth: 15 feet Depth to Groundwater: 9.3 feet
 Comments: Location and ground surface elevations are approximate.

HC PUSH PROBE - J:\GINT\HC_LIBRARY_GLB - 10/8/18 12:20 - L:\NOTEBOOKS\1928210_KCIA_LARGE_AIRCRAFT_PARKINGFIELD DATA\PERM_GINT FILES\1928210-PP.GPJ - kzl

Elevation (feet)	Sample Data				Graphic Log	Material Description	Water Level	Depth (feet)
	Type	Recovery Length (inches)	Number Tests	PID				
0		30					0	
	30in.	30	S-1 PID, No odor, slight sheen	0.1				
	30in.	30	S-2 PID, No odor, no sheen	0.1				
5	30in.	30	S-3 PID, No odor, slight sheen	0.1				
	30in.	30	S-4 PID, No odor, slight sheen	0.6		Becomes wet.		
10	30in.	30	S-5 PID, No odor, no sheen	0.3				
	30in.	30	S-6 PID, No odor, no sheen	0.3				
15							15	

ATD
▽

General Notes:
 1. Refer to Figure A-1 for explanation of descriptions and symbols.
 2. Material descriptions and stratum lines are interpretive and actual changes may be gradual. Solid stratum lines indicate distinct contact between material strata or geologic units. Dashed stratum lines indicate gradual or approximate change between material strata or geologic units.
 3. USCS designations are based on visual-manual identification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
 4. Groundwater level, if indicated, is at time of drilling/excavation (ATD) or for date specified. Level may vary with time.

APPENDIX B

Chemical Data Quality Review and Laboratory Reports

APPENDIX B

CHEMICAL DATA QUALITY REVIEW AND LABORATORY REPORTS

Chemical Data Quality Review

Forty soil samples and four groundwater samples were collected on August 27, 2018. The samples were submitted to Am Test Inc. (AmTest) in Kirkland, Washington, for chemical analyses. AmTest subcontracted analyses for Low Level Polychlorinated Biphenyls (PCBs) to Analytical Resources, Inc. (ARI) in Tukwila, Washington. AmTest reported results under report number 18-A015718. ARI reported results as Work Order 18H0412.

Forty-two soil samples and five groundwater samples were collected on August 28, 2018. The samples were submitted to AmTest for chemical analyses. AmTest subcontracted analyses for Low Level PCBs to ARI. AmTest reported results under report number 18-A015818. ARI reported results as Work Order 18H0419.

Sixty-two of the soil samples that were collected on August 27 and 28, 2018 were submitted to Advanced Analytical Laboratory (AAL) for Redmond, Washington. AAL reported results as Job No. C80830-1.

Thirty-six soil samples and three groundwater samples were collected on September 5, 2018. The samples were submitted to AmTest for chemical analyses. AmTest subcontracted analyses for Low Level PCBs to ARI. AmTest reported results under report number 18-A016408. ARI reported results as Work Order 18I0167.

Thirty-six of the soil samples that were collected on September 5, 2018 were submitted to AAL. AAL reported results as Job No. C80906-2.

The soil samples were analyzed for one or more of the following:

- Volatile organic compounds (VOCs) by EPA Method 8260B;
- Polychlorinated biphenyls (PCBs) by EPA Method 8082A;
- Semi-volatile organic compounds (SVOCs) by EPA Method 8270D;
- Polycyclic aromatic hydrocarbons (PAHs) by EPA Methods 8270D-SIM;
- Gasoline-range petroleum hydrocarbons by Ecology method NWTPH-Gx;
- Total metals (arsenic, cadmium, chromium, and lead) by EPA 6020A;
- Total mercury by EPA 7471B;
- Diesel- and oil-range petroleum hydrocarbons by Ecology method NWTPH-Dx; and
- Total solids (TS) by SM 2540G.

The groundwater samples were analyzed for one or more of the following:

- Low level PCBs by EPA Method 8082A;
- SVOCs by EPA Method 8270D;
- PAHs by EPA Method 8270D-SIM;
- VOCs by EPA Method 624;
- Total metals (arsenic, cadmium, chromium, and lead) by EPA 6020A;
- Total mercury by EPA 7470A;
- Diesel- and oil-range petroleum hydrocarbons by Ecology method NWTPH-Dx;
- Gasoline-range petroleum hydrocarbons by Ecology method NWTPH-Gx; and
- Total suspended solids (TSS) by SM 2540D.

The laboratories performed quality assurance/quality control (QA/QC) reviews on an ongoing basis. Hart Crowser reviewed summary reports to ensure they met data quality objectives for the project and recorded the results on laboratory quality control summary sheets.

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

- Holding times;
- Reporting limits;
- Method blanks (MB);
- Surrogate recoveries;
- Laboratory duplicate relative percent differences (RPDs);
- Standard Reference Material (SRM) recoveries;
- Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries;
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries.

The majority of the data were determined to be acceptable for use with qualifications. The complete laboratory reports are presented at the end of this appendix. The data review is summarized in the following pages.

Reporting Limits

Reporting limits are set by the laboratory and are based on instrumentation abilities, sample matrix, and suggested reporting limits by the Environmental Protection Agency (EPA) or Washington State Department of Ecology (Ecology). In some cases, the reporting limit is raised because of high analyte concentrations in the samples or matrix interferences. When sample results are between the method detection limit (MDL) and the reporting limit (RL) the laboratories flagged the result with a "J." This J flag was changed to a T to match Environmental Information Management (EIM) database requirements.

Sample Receiving Notes

18-A015718. The cooler temperature was 6.6 °C upon arrival at the laboratory, slightly outside the method recommended temperature of 2 to 6 °C. As the slight temperature exceedance would not significantly affect the analytes, sample results were not qualified.

The laboratory reported benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8260B for samples HC9-S1, HC5-S3, HC12-S3, HC18-S3, HC18-S5, HC16-S2, HC17-S5, and HC13-S4. The analysis was not requested on the Chain-of-Custody (COC).

18-A015818. The laboratory reported BTEX by EPA Method 8260B for samples HC19-S3, HC20-S4, HC15-S2, HC14-S6, HC11-S1, HC10-S1, HC6-S1, and HC6-S2. The analysis was not requested on the COC.

18H0419. The cooler temperature was 10.9 °C upon arrival at the laboratory, outside the method recommended temperature of 2 to 6 °C. The temperature exceedance would not significantly affect PCBs, and sample results were not qualified.

18-016408. The cooler temperature was 9.2 °C upon arrival at the laboratory, outside the method recommended temperature of 2 to 6 °C. The results for gasoline, BTEX, VOCs, NWTPH-Dx, naphthalenes, and mercury were qualified as estimated (J) due to the temperature exceedance.

18I0167. Only three of the samples submitted to the laboratory under this COC were project samples.

Soil Results

Total Solids by SM 2540G

Holding times were acceptable. Reporting limits were acceptable. Laboratory duplicate RPDs were within control limits.

Gasoline by NWTPH-Gx

Holding times and reporting limits were acceptable. No method blank contamination was detected. Surrogate and SRM recoveries were within control limits.

Samples HC7-S3, HC7-S4, HC4-S1, HC3-S2, HC2-S1, HC2-S6, HC8-S6, and HC1-S1 were qualified as estimated (J) due to sample receiving temperature exceedances.

VOCs by EPA 8260B

Holding times and reporting limits were acceptable. LCS recoveries were within laboratory control limits.

No method blank contamination was detected with the following exception:

- MB-08/29/18. The method blank contained concentrations of toluene (1.4 ug/kg) above the reporting limit. The laboratory qualified some of the results for toluene in the associated samples (HC9-S1, HC6-S2, and HC12-S3) with B. As the concentrations for toluene were less than five times the amount in the method blank, the results were U-flagged at the reported concentration, and the B qualifiers removed.

Surrogate recoveries were within laboratory control limits with the following exception:

- HC12-S3: The recovery for Toluene-d8 exceeded the control limit. As the remaining surrogates were within control, sample results were not qualified.

SRM recoveries were within control limits with the following exception:

- SRM-08/29/18: The result for Toluene failed high. The laboratory qualified toluene in the associated samples (HC9-S1, HC6-S2, and HC12-S3) with X. The X qualifier was changed to J.

Total Metals by EPA 6020A

Holding times and reporting limits were acceptable. SRM and MS recoveries were within control limits. The laboratory duplicate RPDs were in control.

No method blank contamination was detected with the following exception:

- MB-08/30/18. One method blank contained concentrations of chromium (0.00012 ug/g) below the reporting limit. The results for chromium in the associated samples (HC9-S1, HC5-S3, HC12-S3, HC18-S5, HC16-S2, HC17-S5, and HC13-S4) were greater than five times the amount in the method blank, and not qualified.
- MB-09/5/18. One method blank contained concentrations of chromium (0.00012 ug/g) below the reporting limit. The results for chromium in the associated samples (HC19-S3, HC20-S4, HC15-S2, HC14-S6, HC11-S1, HC10-S1, and HC6-S2) were greater than five times the amount in the method blank, and not qualified.
- MB-09/18/18. One method blank contained concentrations of chromium (0.00012 ug/g) below the reporting limit. The results for chromium in the associated samples (HC7-S3, HC7-S4, HC4-S1, HC4-S3, HC3-S2, HC2-S1, HC8-S6, and HC1-S1) were greater than five times the amount in the method blank, and not qualified.

Total Mercury by EPA 7471B

Holding times and reporting limits were acceptable. No method blank contamination was detected. SRM and MS recoveries were within control limits.

The laboratory duplicate RPDs were in control with the following exception:

- Batch QC Dup: The RPD exceeded the laboratory control limits. Project samples are not qualified due to batch QC failures, and no results were qualified.

Samples HC7-S3, HC7-S4, HC4-S1, HC4-S3, HC3-S2, HC2-S1, HC8-S6, and HC1-S1 were qualified as estimated (J) due to sample receiving temperature exceedances.

Diesel- and Oil-Range Petroleum Hydrocarbons by NWTPH-Dx

Holding times and reporting limits were acceptable. No method blank contamination was detected. SRM recoveries were within control limits.

Surrogate recoveries were within laboratory control limits with the following exception:

- HC19-S1 and HC20-S1: The recoveries for both surrogates were zero percent. The samples were analyzed at a 40-fold dilution, and the surrogates were diluted below the reporting limit. High concentrations of diesel were present in the samples, and sample results were not qualified.

Samples HC4-S1 and HC1-S1 were analyzed at a 10-fold dilution. The laboratory qualified the samples with D10. The D10 qualifiers were removed.

Sample HC10-S1 were analyzed at a 20-fold dilution. The laboratory qualified the samples with D20. The D20 qualifiers were removed.

Samples HC19-S1 and HC20-S1 were analyzed at a 40-fold dilution. The laboratory qualified the samples with D40. The D40 qualifiers were removed.

Samples HC7-S1, HC7-S3, HC7-S4, HC4-S1, HC4-S3, HC4-S6, HC3-S2, HC3-S3, HC3-S5, HC2-S1, HC2-S4, HC2-S6, HC8-S6, HC1-S1, and HC1-S6 were qualified as estimated (J) due to sample receiving temperature exceedances.

SVOCs by EPA 8270D

Holding times and reporting limits are acceptable. No method blank contamination was detected. LCS/LCSD recoveries and RPDs were within laboratory control limits. SRM and surrogate recoveries were within control limits.

PAHs by EPA 8270D-SIM

Holding times and reporting limits are acceptable. No method blank contamination was detected. SRM and surrogate recoveries were within control limits.

LCS/LCSD recoveries and RPDs were within laboratory control limits with the following exception:

- LCS/LCSD-09/18/18: The recoveries for acenaphthene, phenanthrene, and fluorene fell below the control limits. The laboratory qualified those analytes in the associated samples (HC7-S3, HC4-S1, HC3-S2, HC2-S1, HC8-S6, and HC1-S1) with N. The N qualifier was changed to J (estimated).

Samples HC7-S3, HC4-S1, HC3-S2, HC2-S1, and HC1-S1: The results for naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene were qualified as estimated (J) due to sample receiving temperature exceedances.

PCBs by EPA 8082A

Holding times and reporting limits were acceptable. No method blank contamination as detected. Surrogate, LCS, and SRM recoveries were within control limits.

Soil Results from AAL

VOCs by EPA 8260B

Holding times and reporting limits were acceptable. No method blank contamination was detected. Surrogate and LCS recoveries were within laboratory control limits. MS/MSD recoveries and RPDs were within control limits.

Samples HC7-S3, HC4-S1, HC3-S1, HC3-S2, HC2-S1, HC2-S4, HC2-S6, HC8-S6, HC1-S1, HC9-S4, HC5-S1, HC18-S5, HC16-S2, HC16-S4, HC17-S4, HC13-S4, HC15-S2, HC19-S3, HC20-S4, HC14-S5, HC14-S6, HC11-S1, HC11-S4, HC10-S1, HC10-S3, and HC10-S4. The results were reported on a wet weight basis.

Groundwater Results

TSS by SM 2540D

Reporting limits were acceptable. No method blank contamination was detected. SRM recoveries were within control limits.

Laboratory duplicate RPDs were within control limits with the following exception:

- Batch QC Dup: The RPD exceeded the laboratory control limits, and the samples were qualified with M. Project samples are not qualified due to batch QC failures, and the M qualifier was removed.

Samples HC4-GW, HC8-GW, and HC1-GW were analyzed past the 7-day method recommended holding time. Sample results were qualified as estimated (J).

Gasoline by NWTPH-Gx

Holding times and reporting limits were acceptable. No method blank contamination was detected. SRM, LCS, MS, and surrogate recoveries were within laboratory control limits.

Samples HC4-GW, HC8-G2, and HC1-GW were qualified as estimated (J) due to sample receiving temperature exceedances.

Sample HC20-GW was qualified with Z due to high concentrations of cis-1,2-dichloroethene that eluted within the gasoline range. The Z qualifier was changed to J.

VOCs by EPA 624

Holding times and reporting limits were acceptable. Surrogate recoveries were within control limits.

No method blank contamination was detected with the following exception:

- MB-08/29/18. The method blank contained concentrations of toluene (0.77 ug/L) below the reporting limit. The laboratory qualified some of the associated samples (HC5-GW, HC12-GW, HC18-GW, HC19-GW, HC15-GW, HC10-GW, HC6-GW, HC20-GW, and HC13-GW) were qualified with B. As the associated samples were non-detect for toluene, the B qualifier was removed.
- MB-09/05/18. The method blank contained concentrations of toluene (0.77 ug/L) below the reporting limit. The laboratory qualified some of the associated samples (HC19-GW, HC15-GW, HC10-GW, HC6-GW, and HC20-GW) were qualified with B. As the associated samples were either non-detect for toluene, or five times the amount in the method blank, and the B qualifier was removed.

LCS recoveries were within control limits with the following exception:

- LCS-09/17/18: The recovery for bromomethane failed low. The associated samples (HC4-GW, HC8-GW, and HC1-GW) were qualified with N. As the associated samples were non-detect for that analyte, the N qualifier was changed to J (estimated).

SRM recoveries were within control limits with the following exception:

- SRM 08/29/18: The recovery for toluene exceeded the control limits. The associated samples (HC5-GW, HC12-GW, HC18-GW, and HC13-GW) were qualified with X. As the associated samples were non-detect for toluene, the X qualifier was removed.

Sample HC20-GW was analyzed undiluted and at a 50-fold dilution due to high levels of target analytes. The laboratory D qualifier was removed.

Sample HC10-GW: The result for trichloroethene was qualified with E by the laboratory as the concentration of the analyte was above the calibration curve. The E qualifier was changed to J.

Samples HC4-GW, HC8-GW, and HC1-GW were qualified as estimated (J) due to sample receiving temperature exceedances.

Total Metals by EPA 6020A

Holding times and reporting limits were acceptable. SRM and MS recoveries were within control limits. No method blank contamination was detected.

Total Mercury by EPA 7470A

Holding times and reporting limits were acceptable. No method blank contamination was detected. SRM and MS recoveries were within control limits. The laboratory duplicate RPD were within control limits or were not applicable, as the sample and duplicate results were not detected above the reporting limit.

Samples HC4-GW, HC8-GW, and HC1-GW were qualified as estimated (J) due to sample receiving temperature exceedances.

Diesel- and Oil-Range Petroleum Hydrocarbons by NWTPH-Dx

Holding times and reporting limits were acceptable. Surrogate and SRM recoveries were within control limits. No method blank contamination was detected.

Samples HC4-GW, HC8-GW, and HC1-GW were qualified as estimated (J) due to sample receiving temperature exceedances.

SVOCs by EPA 8270D

Holding times and reporting limits were acceptable. No method blank contamination was detected. SRM and surrogate recoveries were within laboratory control limits.

LCS/LCSD recoveries and RPDs were within laboratory control limits with the following exception:

- LCS/LCSD-08/29/18. The recoveries for 2-chloronaphthalene fell below laboratory control limits in the LCS and LCSD. The results for 2-chloronaphthalene in the associated samples (HC5-GW, HC18-GW, and HC13-GW) were qualified with N. The N qualifier was changed to J (estimated).
- LCS/LCSD-09/05/18. The recoveries for 2,4,6-trichlorophenol and 2-chloronaphthalene fell below laboratory control limits in the LCS but were within control in the LCSD. The results for 2-chloronaphthalene in the associated samples (HC19-GW, HC15-GW, HC10-GW, and HC20-GW) were qualified with X. The X qualifier was changed to J (estimated).

PAHs by EPA 8270D-SIM

Holding times and reporting limits were acceptable. SRM and surrogate recoveries were within laboratory control limits. LCS/LCSD recoveries and RPDs were within laboratory control limits.

No method blank contamination was detected with the following exception:

- MB-09/14/18. The method blank contained concentrations of bis(2-ethylhexyl)phthalate (0.31 ug/L) above the reporting limit. Concentrations for that analyte in the associated samples (HC4-GW, HC8-GW, and HC1-GW) were less than ten times the amount in the method blank. The results for bis(2-ethylhexyl) phthalate were qualified as non-detect (U) at the reported concentration.

LCS/LCSD recoveries and RPDs were within laboratory control limits with the following exception:

- LCS/LCSD-09/14/18. The recoveries for Di-n-octylphthalate failed high. The associated samples (HC4-GW, HC8-GW, and HC1-GW) were flagged by the laboratory with N. As the associated samples were non-detect for that analyte, the N qualifier was removed.

The results for naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene in samples HC4-GW, HC8-GW, and HC1-GW were qualified as estimated (J) due to sample receiving temperature exceedances.

Groundwater Results from ARI

Low Level PCBs by EPA 8082A

Holding times and reporting limits were acceptable. No method blank contamination as detected. LCS recoveries were within control limits.

Surrogate recoveries were within laboratory control limits with the following exception:

- HC4-GW and HC1-GW. The recoveries for DCB on one chromatographic column fell outside control limits due to matrix interferences. The recoveries for DCB on the second chromatographic column and recoveries for TCMX on both columns were in control. Sample results were not qualified.

Samples HC4-GW, HC8-GW, and HC1-GW. The samples were prepared after the method recommended holding time of seven days, and the laboratory qualified the results with H. However, as PCBs are stable compounds and holding times have been re-evaluated, the H qualifier was removed.

Data Qualifier Definitions

The following data qualifiers are used in the text and tables according to a quality assurance review of the laboratory procedures and results:

- U** Indicates the compound or analyte was analyzed for and not detected. The value reported is the sample quantitation limit corrected for sample dilution by the laboratory.
- J** The associated numerical value is an estimated quantity because quality control criteria were slightly exceeded.
- UJ** Indicates the compound or analyte was analyzed for and not detected. Because of quality control deficiencies identified during data validation, the value reported may not accurately reflect the sample quantitation limit.
- T** The associated numerical value is an estimated quantity because reported concentrations were less than the practical quantitation limit (lowest calibration standard).

Laboratory Reports



Am Test Inc.
 13600 NE 126TH PL
 Suite C
 Kirkland, WA 98034
 (425) 885-1664

*Professional
 Analytical
 Services*

Oct 8 2018
 Hart Crowser
 3131 Elliot Ave
 Suite 200
 Seattle, WA 98109
 Attention: ANDREA WONG

Dear ANDREA WONG:

Enclosed please find the analytical data for your KCIA LARGE AIRCRAFT project.

The following is a cross correlation of client and laboratory identifications for your convenience.

CLIENT ID	MATRIX	AMTEST ID	TEST
HC9-S1	Soil	18-A015718	s8270, s8260, PCB, NWTPH-Gx, NWTPH-Dx, s8270-SIM, sICP-MS, CONV, Hg-CV, MET, MET
HC9-S2	Soil	18-A015719	NWTPH-Dx, CONV
HC9-S3	Soil	18-A015720	NWTPH-Dx, CONV
HC9-S4	Soil	18-A015721	HOLD
HC9-S5	Soil	18-A015722	HOLD
HC9-S6	Soil	18-A015723	HOLD
HC5-GW	Water	18-A015724	Semi-Vol, VOA, NWTPH-Gx, NWTPH-Dx, wPAH, sPAH, CONV, Hg-CV, MET
HC5-S1	Soil	18-A015725	HOLD
HC5-S2	Soil	18-A015726	HOLD
HC5-S3	Soil	18-A015727	s8270, PCB, NWTPH-Gx, NWTPH-Dx, s8270-SIM, sICP-MS, CONV, Hg-CV, MET, MET
HC5-S4	Soil	18-A015728	HOLD
HC5-S5	Soil	18-A015729	HOLD
HC12-S1	Soil	18-A015730	NWTPH-Dx, CONV
HC12-S2	Soil	18-A015731	HOLD
HC12-S3	Soil	18-A015732	s8270, s8260, PCB, NWTPH-Gx, NWTPH-Dx, s8270-SIM, sICP-MS, CONV, Hg-CV, MET, MET
HC12-S4	Soil	18-A015733	HOLD
HC12-S5	Soil	18-A015734	HOLD
HC12-S6	Soil	18-A015735	NWTPH-Dx, CONV
HC12-GW	Water	18-A015736	VOA, NWTPH-Gx, NWTPH-Dx, CONV, Hg-CV, MET
HC18-S1	Soil	18-A015737	HOLD

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 Suite C
 Kirkland, WA 98034
 (425) 885-1664

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Oct 8 2018
 Hart Crowser
 continued . . .

CLIENT ID	MATRIX	AMTEST ID	TEST
HC18-S2	Soil	18-A015738	HOLD
HC18-S3	Soil	18-A015739	NWTPH-Gx, NWTPH-Dx, CONV
HC18-S4	Soil	18-A015740	NWTPH-Dx, CONV
HC18-S5	Soil	18-A015741	s8270, PCB, NWTPH-Gx, NWTPH-Dx, s8270-SIM, sICP-MS, CONV, Hg-CV, MET, MET
HC18-GW	Water	18-A015742	Semi-Vol, VOA, NWTPH-Gx, NWTPH-Dx, wPAH, CONV, Hg-CV, MET
HC16-S1	Soil	18-A015743	NWTPH-Dx, CONV
HC16-S2	Soil	18-A015744	NWTPH-Gx, NWTPH-Dx, sICP-MS, CONV, Hg-CV, MET, MET
HC16-S3	Soil	18-A015745	HOLD
HC16-S4	Soil	18-A015746	NWTPH-Dx, CONV
HC16-S5	Soil	18-A015747	HOLD
HC16-S6	Soil	18-A015748	HOLD
HC17-S1	Soil	18-A015749	HOLD
HC17-S2	Soil	18-A015750	HOLD
HC17-S3	Soil	18-A015751	HOLD
HC17-S4	Soil	18-A015752	HOLD
HC17-S5	Soil	18-A015753	s8270, PCB, NWTPH-Gx, NWTPH-Dx, s8270-SIM, sICP-MS, CONV, Hg-CV, MET, MET
HC17-S6	Soil	18-A015754	HOLD
HC13-S1	Soil	18-A015755	HOLD
HC13-S2	Soil	18-A015756	HOLD
HC13-S3	Soil	18-A015757	HOLD
HC13-S4	Soil	18-A015758	NWTPH-Gx, NWTPH-Dx, sICP-MS, CONV, Hg-CV, MET, MET
HC13-S5	Soil	18-A015759	HOLD
HC13-S6	Soil	18-A015760	HOLD
HC13-GW	Water	18-A015761	Semi-Vol, VOA, NWTPH-Gx, NWTPH-Dx, wPAH, CONV, Hg-CV, MET

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**Professional
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Oct 8 2018
Hart Crowser
continued . . .

Your samples were received on Tuesday, August 28, 2018. At the time of receipt, the samples were logged in and properly maintained prior to the subsequent analysis.

The analytical procedures used at AmTest are well documented and are typically derived from the protocols of the EPA, USDA, FDA or the Army Corps of Engineers.

Following the analytical data you will find the Quality Control (QC) results.

Please note that the detection limits that are listed in the body of the report refer to the Practical Quantitation Limits (PQL's), as opposed to the Method Detection Limits (MDL's).

If you should have any questions pertaining to the data package, please feel free to contact me.

Sincerely,


Aaron W. Young
Laboratory Manager

Project #: 19282-10

BACT = Bacteriological
CONV = Conventional

MET = Metals
ORG = Organics

NUT=Nutrients
DEM=Demand

MIN=Minerals

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 www.amtestlab.com



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ANALYSIS REPORT

Hart Crowser
 3131 Elliot Ave
 Seattle, WA 98109
 Attention: ANDREA WONG
 Project Name: KCIA LARGE AIRCRAFT
 Project #: 19282-10
 All results reported on a dry weight basis.

Date Received: 08/28/18
 Date Reported: 10/ 8/18

AMTEST Identification Number 18-A015718
 Client Identification HC9-S1
 Sampling Date 08/27/18, 09:00

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	94.3	%		0.1	SM 2540G	SRW	08/30/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	12.8	ug/g		0.331	EPA 6020	KQ	09/27/18
Cadmium	0.410	ug/g		0.331	EPA 6020	KQ	09/27/18
Chromium	9.61	ug/g		0.663	EPA 6020	KQ	09/27/18
Lead	4.69	ug/g		0.663	EPA 6020	KQ	09/27/18
Acid Digestion	Y				SW-846 3050B	KQ	08/30/18
Mercury	0.0475	ug/g		0.01	EPA 7471B	JH	09/10/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 25	mg/kg		25.	NWTPH-Dx	NNL	09/21/18
Heavy Oil	< 50	mg/kg		50.	NWTPH-Dx	NNL	09/21/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/08/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	60.8 %	50.0 - 150.
2-Fluorobiphenyl	62.7 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Soil	< 119	ug/kg		120	WDOE NWTPH-Gx	AY	09/10/18
Benzene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/10/18
Toluene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/10/18
Ethyl Benzene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/10/18
m+p-Xylene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/10/18
o-Xylene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/10/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	96.8 %	50.0 - 150.

Volatile Organic Analysis (VOA's)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,1,1-Trichloroethane	< 1	ug/kg		1.0	SW-846 8260C	NNL	08/29/18
1,1,2,2-Tetrachloroethane	< 1	ug/kg		1.0	SW-846 8260C	NNL	08/29/18
1,1,2-Trichloroethane	< 1	ug/kg		1.0	SW-846 8260C	NNL	08/29/18
1,1-Dichloroethane	< 1	ug/kg		1.0	SW-846 8260C	NNL	08/29/18
1,1-Dichloroethylene	< 1	ug/kg		1.0	SW-846 8260C	NNL	08/29/18
1,2-Dichloroethane	< 1	ug/kg		1.0	SW-846 8260C	NNL	08/29/18
1,2-Dichloropropane	< 1	ug/kg		1.0	SW-846 8260C	NNL	08/29/18
1,4-Dichlorobenzene	< 1	ug/kg		1.0	SW-846 8260C	NNL	08/29/18
2-Butanone (MEK)	< 10	ug/kg		10.	SW-846 8260C	NNL	08/29/18
2-Hexanone	< 10	ug/kg		10.	SW-846 8260C	NNL	08/29/18
4-Methyl-2-Pentanone	< 10	ug/kg		10.	SW-846 8260C	NNL	08/29/18
Acetone	< 20	ug/kg		20.	SW-846 8260C	NNL	08/29/18
Benzene	< 1	ug/kg		1.0	SW-846 8260C	NNL	08/29/18
Bromodichloromethane	< 1	ug/kg		1.0	SW-846 8260C	NNL	08/29/18
Bromoform	< 1	ug/kg		1.0	SW-846 8260C	NNL	08/29/18
Bromomethane	< 5	ug/kg		5.0	SW-846 8260C	NNL	08/29/18
Carbon Disulfide	< 1	ug/kg		1.0	SW-846 8260C	NNL	08/29/18
Carbon Tetrachloride	< 1	ug/kg		1.0	SW-846 8260C	NNL	08/29/18
Chlorobenzene	< 1	ug/kg		1.0	SW-846 8260C	NNL	08/29/18
Chlorodibromomethane	< 1	ug/kg		1.0	SW-846 8260C	NNL	08/29/18
Chloroethane	< 5	ug/kg		5.0	SW-846 8260C	NNL	08/29/18
Chloroform	< 1	ug/kg		1.0	SW-846 8260C	NNL	08/29/18
Chloromethane	< 5	ug/kg		5.0	SW-846 8260C	NNL	08/29/18
Cis-1,3-Dichloropropene	< 1	ug/kg		1.0	SW-846 8260C	NNL	08/29/18
Ethyl Benzene	< 1	ug/kg		1.0	SW-846 8260C	NNL	08/29/18
Methylene Chloride	5.7	ug/kg		1.0	SW-846 8260C	NNL	08/29/18
Styrene	< 1	ug/kg		1.0	SW-846 8260C	NNL	08/29/18
Tetrachloroethylene	< 1	ug/kg		1.0	SW-846 8260C	NNL	08/29/18
Toluene	1.7	ug/kg	BX	1.0	SW-846 8260C	NNL	08/29/18

Hart Crowser
Project Name: KCIA LARGE AIRCRAFT
AmTest ID: 18-A015718

Volatile Organic Analysis (VOA's) continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Xylenes	< 1	ug/kg		1.0	SW-846 8260C	NNL	08/29/18
Trans-1,3-Dichloropropene	< 1	ug/kg		1.0	SW-846 8260C	NNL	08/29/18
Trichloroethylene	< 1	ug/kg		1.0	SW-846 8260C	NNL	08/29/18
Trichlorofluoromethane	< 1	ug/kg		1.0	SW-846 8260C	NNL	08/29/18
Vinyl Acetate	< 5	ug/kg		5.0	SW-846 8260C	NNL	08/29/18
Vinyl Chloride	< 1	ug/kg		1.0	SW-846 8260C	NNL	08/29/18

VOA Surrogates

ANALYTE	% RECOVERY	LIMITS
D4-1,2,-Dichloroethane	96.3 %	56.6 - 140.
D8-Toluene (Soil)	130. %	60.2 - 135.
4-Bromofluorobenzene S	97.5 %	65.3 - 127.

Semi-Volatiles

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,2,4-Trichlorobenzene	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
1,2-Dichlorobenzene	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
1,3-Dichlorobenzene	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
1,4-Dichlorobenzene	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
2,4,5-Trichlorophenol	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
2,4,6-Trichlorophenol	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
2,4-Dichlorophenol	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
2,4-Dimethylphenol	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
2,4-Dinitrophenol	< 313	ug/kg		310	EPA 8270D	NNL	09/16/18
2,4-Dinitrotoluene	< 157	ug/kg		160	EPA 8270D	NNL	09/16/18
2,6-Dinitrotoluene	< 157	ug/kg		160	EPA 8270D	NNL	09/16/18
2-Chloronaphthalene	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
2-Chlorophenol	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
2-Methylphenol	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
2-Nitroaniline	< 157	ug/kg		160	EPA 8270D	NNL	09/16/18
2-Nitrophenol	< 157	ug/kg		160	EPA 8270D	NNL	09/16/18
3,3-Dichlorobenzidine	< 93.9	ug/kg		94.	EPA 8270D	NNL	09/16/18
3-Nitroaniline	< 157	ug/kg		160	EPA 8270D	NNL	09/16/18
4,6-Dinitro-2-methylpheno	< 157	ug/kg		160	EPA 8270D	NNL	09/16/18
4-Bromophenyl-phenyl ethe	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
4-Chloro-3-methylphenol	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
4-Chloroaniline	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
4-Chlorophenyl-phenyl eth	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
4-Methylphenol (cresol)	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
4-Nitroaniline	< 157	ug/kg		160	EPA 8270D	NNL	09/16/18
4-Nitrophenol	< 313	ug/kg		310	EPA 8270D	NNL	09/16/18
Aniline	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
Azobenzene	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
Benzidine	< 1570	ug/kg		1600	EPA 8270D	NNL	09/16/18
Benzoic Acid	< 31.3	ug/kg		31.	EPA 8270D	NNL	09/16/18
Benzyl Alcohol	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
bis(2-Chloroethoxy)methan	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
bis(2-Chloroethyl)ether	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
bis(2-Chloroisopropyl)eth	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
bis(2-Ethylhexyl)phthalat	9.61	ug/kg		3.1	EPA 8270D-SIM	NNL	09/19/18
Butylbenzylphthalate	< 3.43	ug/Kg		3.1	EPA 8270D-SIM	NNL	09/19/18
Carbazole	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
Dibenzofuran	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
Di-n-butylphthalate	< 3.43	ug/kg		3.1	EPA 8270D-SIM	NNL	09/19/18
Diethylphthalate	< 3.43	ug/kg		3.1	EPA 8270D-SIM	NNL	09/19/18
Dimethylphthalate	< 3.43	ug/kg		3.1	EPA 8270D-SIM	NNL	09/19/18
Di-n-octylphthalate	< 3.43	ug/kg		3.1	EPA 8270D-SIM	NNL	09/19/18

Semi-Volatiles continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Hexachlorobenzene	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
Hexachlorobutadiene	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
Hexachlorocyclopentadiene	< 157	ug/kg		160	EPA 8270D	NNL	09/16/18
Hexachloroethane	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
Isophorone	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
Nitrobenzene	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
N-Nitrosodimethylamine	< 157	ug/kg		160	EPA 8270D	NNL	09/16/18
N-Nitroso-di-n-propylamin	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
N-nitrosodiphenylamine	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18
Pentachlorophenol	< 17.2	ug/kg		16.	EPA 8270D-SIM	NNL	09/19/18
Phenol	< 62.6	ug/kg		63.	EPA 8270D	NNL	09/16/18

Polynuclear Aromatic Hydrocarbons (PAH)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1-Methylnaphthalene	4.80	ug/Kg		3.1	EPA 8270D-SIM	NNL	09/19/18
2-Methylnaphthalene	9.95	ug/Kg		3.1	EPA 8270D-SIM	NNL	09/19/18
Acenaphthene	< 3.43	ug/Kg		3.1	EPA 8270D-SIM	NNL	09/19/18
Acenaphthylene	< 3.43	ug/Kg		3.1	EPA 8270D-SIM	NNL	09/19/18
Anthracene	< 3.43	ug/Kg		3.1	EPA 8270D-SIM	NNL	09/19/18
Benzo(a)anthracene	17.2	ug/Kg		3.1	EPA 8270D-SIM	NNL	09/19/18
Benzo(a)pyrene	< 3.43	ug/Kg		3.1	EPA 8270D-SIM	NNL	09/19/18
Benzo(b)fluoranthene	< 3.43	ug/Kg		3.1	EPA 8270D-SIM	NNL	09/19/18
Benzo(ghi)perylene	< 3.43	ug/Kg		3.1	EPA 8270D-SIM	NNL	09/19/18
Benzo(k)fluoranthene	< 3.43	ug/Kg		3.1	EPA 8270D-SIM	NNL	09/19/18
Chrysene	33.6	ug/Kg		3.1	EPA 8270D-SIM	NNL	09/19/18
Dibenzo(ah)anthracene	< 3.43	ug/Kg		3.1	EPA 8270D-SIM	NNL	09/19/18
Fluoranthene	27.4	ug/Kg		3.1	EPA 8270D-SIM	NNL	09/19/18
Fluorene	< 3.43	ug/Kg		3.1	EPA 8270D-SIM	NNL	09/19/18
Indeno(123-cd)pyrene	< 3.43	ug/Kg		3.1	EPA 8270D-SIM	NNL	09/19/18
Naphthalene	< 3.43	ug/Kg		3.1	EPA 8270D-SIM	NNL	09/19/18
Phenanthrene	< 3.43	ug/Kg		3.1	EPA 8270D-SIM	NNL	09/19/18
Pyrene	40.1	ug/Kg		3.1	EPA 8270D-SIM	NNL	09/19/18
Sonnication Ext.	Y				SW-846 3550C	DP	09/10/18

Semi-Volatile Surrogates

ANALYTE	% RECOVERY	LIMITS
2-Fluorophenol	56.6 %	24.4 - 126.
D6-Phenol	69.6 %	20.0 - 140.
D5-Nitrobenzene	93.4 %	0.0 - 141.
2-Fluorobiphenyl	119. %	0.0 - 128.
2,4,6-Tribromophenol	44.0 %	0.0 - 130.
D14-Terphenyl	139. %	17.5 - 182.

PCB's

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
PCB-1016	< 17.9	ug/kg		17.9	EPA 8082A	NNL	09/15/18
PCB-1221	< 17.9	ug/kg		17.9	EPA 8082A	NNL	09/15/18
PCB-1232	< 17.9	ug/kg		17.9	EPA 8082A	NNL	09/15/18
PCB-1242	< 17.9	ug/kg		17.9	EPA 8082A	NNL	09/15/18
PCB-1248	< 17.9	ug/kg		17.9	EPA 8082A	NNL	09/15/18
PCB-1254	< 17.9	ug/kg		17.9	EPA 8082A	NNL	09/15/18
PCB-1260	< 17.9	ug/kg		17.9	EPA 8082A	NNL	09/15/18
Soxhlet Ext.	Y				SW-846 3540C	DP	09/07/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Tetrachloro-M-xylene	98.0 % Rec	43.3 - 162.
Decachlorobiphenyl	96.1 % Rec	40.1 - 191.

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT
 AmTest ID: 18-A015719

AMTEST Identification Number 18-A015719
Client Identification HC9-S2
Sampling Date 08/27/18, 09:05

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	94.9	%		0.1	SM 2540G	SRW	08/30/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 25	mg/kg		25.	NWTPH-Dx	NNL	09/21/18
Heavy Oil	< 50	mg/kg		50.	NWTPH-Dx	NNL	09/21/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/08/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	70.9 %	50.0 - 150.
2-Fluorobiphenyl	74.4 %	50.0 - 150.

Hart Crowser
Project Name: KCIA LARGE AIRCRAFT
AmTest ID: 18-A015720

AMTEST Identification Number 18-A015720
Client Identification HC9-S3
Sampling Date 08/27/18, 09:10

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	96.6	%		0.1	SM 2540G	SRW	08/30/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 25	mg/kg		25.	NWTPH-Dx	NNL	09/21/18
Heavy Oil	< 50	mg/kg		50.	NWTPH-Dx	NNL	09/21/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/08/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	71.0 %	50.0 - 150.
2-Fluorobiphenyl	74.4 %	50.0 - 150.

AMTEST Identification Number 18-A015721
Client Identification HC9-S4
Sampling Date 08/27/18, 09:15

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					KW	08/28/18

Hart Crowser
Project Name: KCIA LARGE AIRCRAFT
AmTest ID: 18-A015722

AMTEST Identification Number 18-A015722
Client Identification HC9-S5
Sampling Date 08/27/18, 09:20

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					KW	08/28/18

AMTEST Identification Number 18-A015723
Client Identification HC9-S6
Sampling Date 08/27/18, 09:25

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					KW	08/28/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT
 AmTest ID: 18-A015724

AMTEST Identification Number 18-A015724
Client Identification HC5-GW
Sampling Date 08/27/18, 10:10

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Suspended Solids	1600	mg/l		1	SM 2540D	SRW	08/31/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	1.00	ug/L		0.05	EPA 6020	KQ	09/24/18
Cadmium	< 0.05	ug/L		0.05	EPA 6020	KQ	09/24/18
Chromium	2.27	ug/L		0.1	EPA 6020	KQ	09/24/18
Lead	1.02	ug/L		0.1	EPA 6020	KQ	09/24/18
Acid Dig.(Tot Metals)	Y				EPA 3010	KQ	09/04/18

Total Metals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Mercury	0.00008	mg/l		0.00005	EPA 7471B	SRW	09/04/18

NWTPH-Dx (Water)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	65.	ug/l		50.	NWTPH-Dx	DP	09/20/18
Heavy Oil	160	ug/l		100	NWTPH-Dx	DP	09/20/18
Sep Fun Ext	Y				EPA 3510	DP	09/06/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	94.6 %	50.0 - 150.
2-Fluorobiphenyl	103. %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Water	< 100	ug/l		100	NWTPH-Gx	AY	09/10/18
Benzene	< 0.5	ug/l		0.5	EPA 624	AY	08/29/18
Toluene	< 0.5	ug/l		0.5	EPA 624	AY	08/29/18
Ethyl Benzene	< 0.5	ug/l		0.5	EPA 624	AY	08/29/18
Total Xylene	< 1	ug/l		1	EPA 624	AY	08/29/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	110. %	50.0 - 150.

Volatile Organic Analysis (VOA's)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,1,1,2-Tetrachloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,1,1-Trichloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,1,2,2-Tetrachloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,1,2-Trichloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,1-Dichloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,1-Dichloroethylene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,2,3-Trichloropropane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,2-Dibromo3Chloropropane	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
1,2-Dibromoethane (EDB)	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,2-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,2-Dichloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,2-Dichloropropane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,3-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,4-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
2-Butanone (MEK)	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
2-Hexanone	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
4-Methyl-2-Pentanone MIBK	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
Acetone	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
Acrylonitrile	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Benzene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Bromochloromethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Bromodichloromethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Bromoform	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Bromomethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18

Volatile Organic Analysis (VOA's) continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Carbon Disulfide	2.6	ug/l		1.0	EPA 624	NNL	08/29/18
Carbon Tetrachloride	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Chlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Chlorodibromomethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Chloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Chloroform	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Chloromethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Cis-1,2-Dichloroethene	8.8	ug/l		1.0	EPA 624	NNL	08/29/18
Cis-1,3-Dichloropropene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Dibromomethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Ethyl Benzene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
m,p Xylene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Methyl Iodide	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Methylene Chloride	< 2	ug/l		2.0	EPA 624	NNL	08/29/18
o-Xylene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Styrene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Tetrachloroethylene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Toluene	< 1	ug/l	BX	1.0	EPA 624	NNL	08/29/18
Trans-1,2-Dichloroethene	1.3	ug/l		1.0	EPA 624	NNL	08/29/18
Trans-1,3-Dichloropropene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
trans-1,4-Dichloro2butene	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
Trichloroethylene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Trichlorofluoromethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Vinyl Acetate	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
Vinyl Chloride	10.	ug/l		1.0	EPA 624	NNL	08/29/18

VOA Surrogates

ANALYTE	% RECOVERY	LIMITS
D4-1,2,-Dichloroethane	110. %	82.8 - 113.
D8-Toluene	109. %	89.0 - 123.
4-Bromofluorobenzene	107. %	85.3 - 117.

Poly-Aromatic Hydrocarbons

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
2-Methylnaphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Acenaphthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Acenaphthylene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Benzo(a)anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Benzo(a)pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Benzo(b)fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Benzo(ghi)perylene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18

Poly-Aromatic Hydrocarbons continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Benzo(k)fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Chrysene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Dibenzo(ah)anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Fluorene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Indeno(123-cd)pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Naphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Phenanthrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18

Semi-Volatiles

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,2,4-Trichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
1,2-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
1,3-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
1,4-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2,4,5-Trichlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2,4,6-Trichlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2,4-Dichlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2,4-Dimethylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2,4-Dinitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2,4-Dinitrotoluene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2,6-Dinitrotoluene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2-Chloronaphthalene	< 2	ug/l	N	1.9	EPA 8270D	NNL	09/15/18
2-Chlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2-Methylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2-Nitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
3,3-Dichlorobenzidine	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
3-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
4,6-Dinitro-2-methylpheno	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
4-Bromophenyl-phenyl ethe	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
4-Chloro-3-methylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
4-Chloroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
4-Chlorophenyl-phenyl eth	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
4-Methylphenol (P.Cresol)	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
4-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
4-Nitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Aniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Azobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Benzidine	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Benzoic Acid	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18

Semi-Volatiles continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Benzyl Alcohol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
bis(2-Chloroethoxy)methan	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
bis(2-Chloroethyl)ether	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
bis(2-Chloroisopropyl)eth	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
bis(2-Ethylhexyl)phthalat	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Butylbenzylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Carbazole	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Dibenzofuran	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Diethylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Dimethylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Di-n-butylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Hexachlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Hexachlorobutadiene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Hexachlorocyclopentadiene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Hexachloroethane	< 1	ug/l		0.95	EPA 8270D	NNL	09/15/18
Isophorone	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Nitrobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
N-Nitrosodimethylamine	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
N-Nitroso-di-n-propylamin	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
N-nitrosodiphenylamine	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Pentachlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Phenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18

Polynuclear Aromatic Hydrocarbons (PAH)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
2-Methylnaphthalene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Acenaphthene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Acenaphthylene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Anthracene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Benzo(a)anthracene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Benzo(a)pyrene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Benzo(b)fluoranthene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Benzo(g,h,i)perylene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Benzo(k)fluoranthene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Chrysene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Dibenzo(ah)anthracene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Di-n-octylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Fluoranthene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Fluorene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Indeno(1,2,3-cd)pyrene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Naphthalene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Phenanthrene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Pyrene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Liq/Liq Ext.	Y				EPA 3520	DP	08/29/18

Semi-Volatile Surrogates

ANALYTE	% RECOVERY	LIMITS
2-Fluorophenol	14.0 %	11.5 - 136.
D6-Phenol	41.1 %	0.0 - 105.
D5-Nitrobenzene	62.2 %	10.0 - 142.
2-Fluorobiphenyl	61.6 %	23.6 - 122.
2,4,6-Tribromophenol	26.8 %	0.0 - 145.
D14-Terphenyl	71.5 %	11.0 - 178.

Hart Crowser
Project Name: KCIA LARGE AIRCRAFT
AmTest ID: 18-A015725

AMTEST Identification Number 18-A015725
Client Identification HC5-S1
Sampling Date 08/27/18, 10:15

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					KW	08/28/18

AMTEST Identification Number 18-A015726
Client Identification HC5-S2
Sampling Date 08/27/18, 10:20

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					KW	08/28/18

AMTEST Identification Number 18-A015727
Client Identification HC5-S3
Sampling Date 08/27/18, 10:25

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	96.3	%		0.1	SM 2540G	SRW	08/30/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	7.28	ug/g		0.482	EPA 6020	KQ	09/27/18
Cadmium	0.090	ug/g		0.482	EPA 6020	KQ	09/27/18
Chromium	19.3	ug/g		0.964	EPA 6020	KQ	09/27/18
Lead	1.22	ug/g		0.964	EPA 6020	KQ	09/27/18
Acid Digestion	Y				SW-846 3050B	KQ	08/30/18
Mercury	< 0.0104	ug/g		0.01	EPA 7471B	JH	09/10/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 25	mg/kg		25.	NWTPH-Dx	NNL	09/21/18
Heavy Oil	< 50	mg/kg		50.	NWTPH-Dx	NNL	09/21/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/08/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	77.5 %	50.0 - 150.
2-Fluorobiphenyl	82.8 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Soil	< 118	ug/kg		120	WDOE NWTPH-Gx	AY	09/10/18
Benzene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/10/18
Toluene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/10/18
Ethyl Benzene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/10/18
m+p-Xylene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/10/18
o-Xylene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/10/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
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Surrogate continued...

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	105. %	50.0 - 150.

Semi-Volatiles

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,2,4-Trichlorobenzene	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
1,2-Dichlorobenzene	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
1,3-Dichlorobenzene	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
1,4-Dichlorobenzene	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
2,4,5-Trichlorophenol	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
2,4,6-Trichlorophenol	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
2,4-Dichlorophenol	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
2,4-Dimethylphenol	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
2,4-Dinitrophenol	< 355	ug/kg		350	EPA 8270D	NNL	09/16/18
2,4-Dinitrotoluene	< 177	ug/kg		180	EPA 8270D	NNL	09/16/18
2,6-Dinitrotoluene	< 177	ug/kg		180	EPA 8270D	NNL	09/16/18
2-Chloronaphthalene	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
2-Chlorophenol	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
2-Methylphenol	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
2-Nitroaniline	< 177	ug/kg		180	EPA 8270D	NNL	09/16/18
2-Nitrophenol	< 177	ug/kg		180	EPA 8270D	NNL	09/16/18
3,3-Dichlorobenzidine	< 106	ug/kg		110	EPA 8270D	NNL	09/16/18
3-Nitroaniline	< 177	ug/kg		180	EPA 8270D	NNL	09/16/18
4,6-Dinitro-2-methylpheno	< 177	ug/kg		180	EPA 8270D	NNL	09/16/18
4-Bromophenyl-phenyl ethe	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
4-Chloro-3-methylphenol	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
4-Chloroaniline	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
4-Chlorophenyl-phenyl eth	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
4-Methylphenol (cresol)	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
4-Nitroaniline	< 177	ug/kg		180	EPA 8270D	NNL	09/16/18
4-Nitrophenol	< 355	ug/kg		350	EPA 8270D	NNL	09/16/18
Aniline	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
Azobenzene	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
Benzidine	< 1770	ug/kg		1800	EPA 8270D	NNL	09/16/18
Benzoic Acid	< 35.5	ug/kg		35.	EPA 8270D	NNL	09/16/18
Benzyl Alcohol	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
bis(2-Chloroethoxy)methan	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
bis(2-Chloroethyl)ether	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
bis(2-Chloroisopropyl)eth	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
bis(2-Ethylhexyl)phthalat	6.38	ug/kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Butylbenzylphthalate	< 3.55	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Carbazole	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
Dibenzofuran	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18

Semi-Volatiles continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Di-n-butylphthalate	< 3.55	ug/kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Diethylphthalate	< 3.55	ug/kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Dimethylphthalate	< 3.55	ug/kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Di-n-octylphthalate	< 3.55	ug/kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Hexachlorobenzene	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
Hexachlorobutadiene	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
Hexachlorocyclopentadiene	< 177	ug/kg		180	EPA 8270D	NNL	09/16/18
Hexachloroethane	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
Isophorone	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
Nitrobenzene	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
N-Nitrosodimethylamine	< 177	ug/kg		180	EPA 8270D	NNL	09/16/18
N-Nitroso-di-n-propylamin	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
N-nitrosodiphenylamine	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18
Pentachlorophenol	< 17.7	ug/kg		18.	EPA 8270D-SIM	NNL	09/19/18
Phenol	< 70.9	ug/kg		71.	EPA 8270D	NNL	09/16/18

Polynuclear Aromatic Hydrocarbons (PAH)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1-Methylnaphthalene	< 3.55	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
2-Methylnaphthalene	< 3.55	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Acenaphthene	< 3.55	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Acenaphthylene	< 3.55	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Anthracene	< 3.55	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Benzo(a)anthracene	< 3.55	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Benzo(a)pyrene	< 3.55	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Benzo(b)fluoranthene	< 3.55	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Benzo(ghi)perylene	< 3.55	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Benzo(k)fluoranthene	< 3.55	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Chrysene	< 3.55	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Dibenzo(ah)anthracene	< 3.55	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Fluoranthene	< 3.55	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Fluorene	< 3.55	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Indeno(123-cd)pyrene	< 3.55	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Naphthalene	< 3.55	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Phenanthrene	< 3.55	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Pyrene	< 3.55	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Sonnication Ext.	Y				SW-846 3550C	DP	09/10/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT
 AmTest ID: 18-A015727

Semi-Volatile Surrogates

ANALYTE	% RECOVERY	LIMITS
2-Fluorophenol	75.1 %	24.4 - 126.
D6-Phenol	80.4 %	20.0 - 140.
D5-Nitrobenzene	74.4 %	0.0 - 141.
2-Fluorobiphenyl	86.2 %	0.0 - 128.
2,4,6-Tribromophenol	71.4 %	0.0 - 130.
D14-Terphenyl	137. %	17.5 - 182.

PCB's

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
PCB-1016	< 17.2	ug/kg		17.2	EPA 8082A	NNL	09/15/18
PCB-1221	< 17.2	ug/kg		17.2	EPA 8082A	NNL	09/15/18
PCB-1232	< 17.2	ug/kg		17.2	EPA 8082A	NNL	09/15/18
PCB-1242	< 17.2	ug/kg		17.2	EPA 8082A	NNL	09/15/18
PCB-1248	< 17.2	ug/kg		17.2	EPA 8082A	NNL	09/15/18
PCB-1254	< 17.2	ug/kg		17.2	EPA 8082A	NNL	09/15/18
PCB-1260	< 17.2	ug/kg		17.2	EPA 8082A	NNL	09/15/18
Soxhlet Ext.	Y				SW-846 3540C	DP	09/07/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Tetrachloro-M-xylene	84.9 % Rec	43.3 - 162.
Decachlorobiphenyl	88.1 % Rec	40.1 - 191.

AMTEST Identification Number 18-A015728
Client Identification HC5-S4
Sampling Date 08/27/18, 10:30

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					KW	08/28/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT
 AmTest ID: 18-A015729

AMTEST Identification Number 18-A015729
Client Identification HC5-S5
Sampling Date 08/27/18, 10:35

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					KW	08/28/18

AMTEST Identification Number 18-A015730
Client Identification HC12-S1
Sampling Date 08/27/18, 11:00

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	89.0	%		0.1	SM 2540G	SRW	08/30/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 25	mg/kg		25.	NWTPH-Dx	NNL	09/21/18
Heavy Oil	< 50	mg/kg		50.	NWTPH-Dx	NNL	09/21/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/08/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	79.6 %	50.0 - 150.
2-Fluorobiphenyl	85.4 %	50.0 - 150.

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT
 AmTest ID: 18-A015731

AMTEST Identification Number 18-A015731
Client Identification HC12-S2
Sampling Date 08/27/18, 11:05

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					KW	08/28/18

AMTEST Identification Number 18-A015732
Client Identification HC12-S3
Sampling Date 08/27/18, 11:10

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	70.5	%		0.1	SM 2540G	SRW	08/30/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	10.8	ug/g		0.684	EPA 6020	KQ	09/27/18
Cadmium	0.187	ug/g		0.684	EPA 6020	KQ	09/27/18
Chromium	24.5	ug/g		1.37	EPA 6020	KQ	09/27/18
Lead	2.30	ug/g		1.37	EPA 6020	KQ	09/27/18
Acid Digestion	Y				SW-846 3050B	KQ	08/30/18
Mercury	0.0535	ug/g		0.01	EPA 7471B	JH	09/10/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 25	mg/kg		25.	NWTPH-Dx	NNL	09/21/18
Heavy Oil	< 50	mg/kg		50.	NWTPH-Dx	NNL	09/21/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/08/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	78.7 %	50.0 - 150.
2-Fluorobiphenyl	86.6 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Soil	< 206	ug/kg		210	WDOE NWTPH-Gx	AY	09/10/18
Benzene	< 2.1	ug/kg		2.1	EPA 8260	AY	09/10/18
Toluene	2.4	ug/kg		2.1	EPA 8260	AY	09/10/18
Ethyl Benzene	< 2.1	ug/kg		2.1	EPA 8260	AY	09/10/18
m+p-Xylene	2.1	ug/kg		2.1	EPA 8260	AY	09/10/18
o-Xylene	< 2.1	ug/kg		2.1	EPA 8260	AY	09/10/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	93.2 %	50.0 - 150.

Volatile Organic Analysis (VOA's)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,1,1-Trichloroethane	< 1.6	ug/kg		1.6	SW-846 8260C	NNL	08/29/18
1,1,2,2-Tetrachloroethane	< 1.6	ug/kg		1.6	SW-846 8260C	NNL	08/29/18
1,1,2-Trichloroethane	< 1.6	ug/kg		1.6	SW-846 8260C	NNL	08/29/18
1,1-Dichloroethane	< 1.6	ug/kg		1.6	SW-846 8260C	NNL	08/29/18
1,1-Dichloroethylene	< 1.6	ug/kg		1.6	SW-846 8260C	NNL	08/29/18
1,2-Dichloroethane	< 1.6	ug/kg		1.6	SW-846 8260C	NNL	08/29/18
1,2-Dichloropropane	< 1.6	ug/kg		1.6	SW-846 8260C	NNL	08/29/18
1,4-Dichlorobenzene	< 1.6	ug/kg		1.6	SW-846 8260C	NNL	08/29/18
2-Butanone (MEK)	< 16.4	ug/kg		16.	SW-846 8260C	NNL	08/29/18
2-Hexanone	< 16.4	ug/kg		16.	SW-846 8260C	NNL	08/29/18
4-Methyl-2-Pentanone	< 16.4	ug/kg		16.	SW-846 8260C	NNL	08/29/18
Acetone	39.1	ug/kg		33.	SW-846 8260C	NNL	08/29/18
Benzene	< 1.6	ug/kg		1.6	SW-846 8260C	NNL	08/29/18
Bromodichloromethane	< 1.6	ug/kg		1.6	SW-846 8260C	NNL	08/29/18
Bromoform	< 1.6	ug/kg		1.6	SW-846 8260C	NNL	08/29/18
Bromomethane	< 8.2	ug/kg		8.2	SW-846 8260C	NNL	08/29/18
Carbon Disulfide	4.1	ug/kg		1.6	SW-846 8260C	NNL	08/29/18
Carbon Tetrachloride	< 1.6	ug/kg		1.6	SW-846 8260C	NNL	08/29/18
Chlorobenzene	< 1.6	ug/kg		1.6	SW-846 8260C	NNL	08/29/18
Chlorodibromomethane	< 1.6	ug/kg		1.6	SW-846 8260C	NNL	08/29/18
Chloroethane	< 8.2	ug/kg		8.2	SW-846 8260C	NNL	08/29/18
Chloroform	< 1.6	ug/kg		1.6	SW-846 8260C	NNL	08/29/18
Chloromethane	< 8.2	ug/kg		8.2	SW-846 8260C	NNL	08/29/18
Cis-1,3-Dichloropropene	< 1.6	ug/kg		1.6	SW-846 8260C	NNL	08/29/18
Ethyl Benzene	< 1.6	ug/kg		1.6	SW-846 8260C	NNL	08/29/18
Methylene Chloride	8.1	ug/kg		1.6	SW-846 8260C	NNL	08/29/18
Styrene	< 1.6	ug/kg		1.6	SW-846 8260C	NNL	08/29/18
Tetrachloroethylene	< 1.6	ug/kg		1.6	SW-846 8260C	NNL	08/29/18
Toluene	2.8	ug/kg	BX	1.6	SW-846 8260C	NNL	08/29/18

Hart Crowser
Project Name: KCIA LARGE AIRCRAFT
AmTest ID: 18-A015732

Volatile Organic Analysis (VOA's) continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Xylenes	< 1.6	ug/kg		1.6	SW-846 8260C	NNL	08/29/18
Trans-1,3-Dichloropropene	< 1.6	ug/kg		1.6	SW-846 8260C	NNL	08/29/18
Trichloroethylene	< 1.6	ug/kg		1.6	SW-846 8260C	NNL	08/29/18
Trichlorofluoromethane	< 1.6	ug/kg		1.6	SW-846 8260C	NNL	08/29/18
Vinyl Acetate	< 8.2	ug/kg		8.2	SW-846 8260C	NNL	08/29/18
Vinyl Chloride	< 1.6	ug/kg		1.6	SW-846 8260C	NNL	08/29/18

VOA Surrogates

ANALYTE	% RECOVERY	LIMITS
D4-1,2,-Dichloroethane	98.8 %	56.6 - 140.
D8-Toluene (Soil)	150. %	60.2 - 135.
4-Bromofluorobenzene S	96.0 %	65.3 - 127.

Semi-Volatiles

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,2,4-Trichlorobenzene	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
1,2-Dichlorobenzene	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
1,3-Dichlorobenzene	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
1,4-Dichlorobenzene	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
2,4,5-Trichlorophenol	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
2,4,6-Trichlorophenol	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
2,4-Dichlorophenol	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
2,4-Dimethylphenol	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
2,4-Dinitrophenol	< 473	ug/kg		470	EPA 8270D	NNL	09/16/18
2,4-Dinitrotoluene	< 236	ug/kg		240	EPA 8270D	NNL	09/16/18
2,6-Dinitrotoluene	< 236	ug/kg		240	EPA 8270D	NNL	09/16/18
2-Chloronaphthalene	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
2-Chlorophenol	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
2-Methylphenol	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
2-Nitroaniline	< 236	ug/kg		240	EPA 8270D	NNL	09/16/18
2-Nitrophenol	< 236	ug/kg		240	EPA 8270D	NNL	09/16/18
3,3-Dichlorobenzidine	< 142	ug/kg		140	EPA 8270D	NNL	09/16/18
3-Nitroaniline	< 236	ug/kg		240	EPA 8270D	NNL	09/16/18
4,6-Dinitro-2-methylpheno	< 236	ug/kg		240	EPA 8270D	NNL	09/16/18
4-Bromophenyl-phenyl ethe	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
4-Chloro-3-methylphenol	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
4-Chloroaniline	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
4-Chlorophenyl-phenyl eth	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
4-Methylphenol (cresol)	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
4-Nitroaniline	< 236	ug/kg		240	EPA 8270D	NNL	09/16/18
4-Nitrophenol	< 473	ug/kg		470	EPA 8270D	NNL	09/16/18
Aniline	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
Azobenzene	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
Benzidine	< 2360	ug/kg		2400	EPA 8270D	NNL	09/16/18
Benzoic Acid	< 47.3	ug/kg		47.	EPA 8270D	NNL	09/16/18
Benzyl Alcohol	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
bis(2-Chloroethoxy)methan	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
bis(2-Chloroethyl)ether	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
bis(2-Chloroisopropyl)eth	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
bis(2-Ethylhexyl)phthalat	8.98	ug/kg		4.7	EPA 8270D-SIM	NNL	09/19/18
Butylbenzylphthalate	< 4.73	ug/Kg		4.7	EPA 8270D-SIM	NNL	09/19/18
Carbazole	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
Dibenzofuran	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
Di-n-butylphthalate	< 4.73	ug/kg		4.7	EPA 8270D-SIM	NNL	09/19/18
Diethylphthalate	< 4.73	ug/kg		4.7	EPA 8270D-SIM	NNL	09/19/18
Dimethylphthalate	< 4.73	ug/kg		4.7	EPA 8270D-SIM	NNL	09/19/18
Di-n-octylphthalate	< 4.73	ug/kg		4.7	EPA 8270D-SIM	NNL	09/19/18

Semi-Volatiles continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Hexachlorobenzene	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
Hexachlorobutadiene	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
Hexachlorocyclopentadiene	< 236	ug/kg		240	EPA 8270D	NNL	09/16/18
Hexachloroethane	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
Isophorone	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
Nitrobenzene	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
N-Nitrosodimethylamine	< 236	ug/kg		240	EPA 8270D	NNL	09/16/18
N-Nitroso-di-n-propylamin	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
N-nitrosodiphenylamine	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18
Pentachlorophenol	< 23.6	ug/kg		24.	EPA 8270D-SIM	NNL	09/19/18
Phenol	< 94.5	ug/kg		95.	EPA 8270D	NNL	09/16/18

Polynuclear Aromatic Hydrocarbons (PAH)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1-Methylnaphthalene	< 4.73	ug/Kg		4.7	EPA 8270D-SIM	NNL	09/19/18
2-Methylnaphthalene	< 4.73	ug/Kg		4.7	EPA 8270D-SIM	NNL	09/19/18
Acenaphthene	< 4.73	ug/Kg		4.7	EPA 8270D-SIM	NNL	09/19/18
Acenaphthylene	< 4.73	ug/Kg		4.7	EPA 8270D-SIM	NNL	09/19/18
Anthracene	< 4.73	ug/Kg		4.7	EPA 8270D-SIM	NNL	09/19/18
Benzo(a)anthracene	9.45	ug/Kg		4.7	EPA 8270D-SIM	NNL	09/19/18
Benzo(a)pyrene	< 4.73	ug/Kg		4.7	EPA 8270D-SIM	NNL	09/19/18
Benzo(b)fluoranthene	< 4.73	ug/Kg		4.7	EPA 8270D-SIM	NNL	09/19/18
Benzo(ghi)perylene	< 4.73	ug/Kg		4.7	EPA 8270D-SIM	NNL	09/19/18
Benzo(k)fluoranthene	< 4.73	ug/Kg		4.7	EPA 8270D-SIM	NNL	09/19/18
Chrysene	9.93	ug/Kg		4.7	EPA 8270D-SIM	NNL	09/19/18
Dibenzo(ah)anthracene	< 4.73	ug/Kg		4.7	EPA 8270D-SIM	NNL	09/19/18
Fluoranthene	30.7	ug/Kg		4.7	EPA 8270D-SIM	NNL	09/19/18
Fluorene	< 4.73	ug/Kg		4.7	EPA 8270D-SIM	NNL	09/19/18
Indeno(123-cd)pyrene	< 4.73	ug/Kg		4.7	EPA 8270D-SIM	NNL	09/19/18
Naphthalene	< 4.73	ug/Kg		4.7	EPA 8270D-SIM	NNL	09/19/18
Phenanthrene	< 4.73	ug/Kg		4.7	EPA 8270D-SIM	NNL	09/19/18
Pyrene	41.1	ug/Kg		4.7	EPA 8270D-SIM	NNL	09/19/18
Sonnication Ext.	Y				SW-846 3550C	DP	09/10/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT
 AmTest ID: 18-A015732

Semi-Volatile Surrogates

ANALYTE	% RECOVERY	LIMITS
2-Fluorophenol	64.2 %	24.4 - 126.
D6-Phenol	63.1 %	20.0 - 140.
D5-Nitrobenzene	60.4 %	0.0 - 141.
2-Fluorobiphenyl	81.0 %	0.0 - 128.
2,4,6-Tribromophenol	101. %	0.0 - 130.
D14-Terphenyl	159. %	17.5 - 182.

PCB's

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
PCB-1016	< 23.1	ug/kg		23.1	EPA 8082A	NNL	09/15/18
PCB-1221	< 23.1	ug/kg		23.1	EPA 8082A	NNL	09/15/18
PCB-1232	< 23.1	ug/kg		23.1	EPA 8082A	NNL	09/15/18
PCB-1242	< 23.1	ug/kg		23.1	EPA 8082A	NNL	09/15/18
PCB-1248	< 23.1	ug/kg		23.1	EPA 8082A	NNL	09/15/18
PCB-1254	< 23.1	ug/kg		23.1	EPA 8082A	NNL	09/15/18
PCB-1260	< 23.1	ug/kg		23.1	EPA 8082A	NNL	09/15/18
Soxhlet Ext.	Y				SW-846 3540C	DP	09/07/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Tetrachloro-M-xylene	96.4 % Rec	43.3 - 162.
Decachlorobiphenyl	90.6 % Rec	40.1 - 191.

AMTEST Identification Number 18-A015733
Client Identification HC12-S4
Sampling Date 08/27/18, 11:15

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					KW	08/28/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT
 AmTest ID: 18-A015734

AMTEST Identification Number 18-A015734
Client Identification HC12-S5
Sampling Date 08/27/18, 11:20

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					KW	08/28/18

AMTEST Identification Number 18-A015735
Client Identification HC12-S6
Sampling Date 08/27/18, 11:25

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	76.5	%		0.1	SM 2540G	SRW	08/30/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 25	mg/kg		25.	NWTPH-Dx	NNL	09/21/18
Heavy Oil	< 50	mg/kg		50.	NWTPH-Dx	NNL	09/21/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/08/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	85.9 %	50.0 - 150.
2-Fluorobiphenyl	88.9 %	50.0 - 150.

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT
 AmTest ID: 18-A015736

AMTEST Identification Number 18-A015736
Client Identification HC12-GW
Sampling Date 08/27/18, 11:30

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Suspended Solids	440	mg/l		1	SM 2540D	SRW	08/31/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	0.479	ug/L		0.05	EPA 6020	KQ	09/24/18
Cadmium	< 0.05	ug/L		0.05	EPA 6020	KQ	09/24/18
Chromium	0.12	ug/L		0.1	EPA 6020	KQ	09/24/18
Lead	0.158	ug/L		0.1	EPA 6020	KQ	09/24/18
Acid Dig.(Tot Metals)	Y				EPA 3010	KQ	09/04/18

Total Metals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Mercury	0.00007	mg/l		0.00005	EPA 7471B	SRW	09/04/18

NWTPH-Dx (Water)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 50	ug/l		50.	NWTPH-Dx	DP	09/20/18
Heavy Oil	< 100	ug/l		100	NWTPH-Dx	DP	09/20/18
Sep Fun Ext	Y				EPA 3510	DP	09/06/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	73.9 %	50.0 - 150.
2-Fluorobiphenyl	75.2 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Water	< 100	ug/l		100	NWTPH-Gx	AY	09/10/18
Benzene	< 0.5	ug/l		0.5	EPA 624	AY	08/29/18
Toluene	< 0.5	ug/l		0.5	EPA 624	AY	08/29/18
Ethyl Benzene	< 0.5	ug/l		0.5	EPA 624	AY	08/29/18
Total Xylene	< 1	ug/l		1	EPA 624	AY	08/29/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	109. %	50.0 - 150.

Volatile Organic Analysis (VOA's)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,1,1,2-Tetrachloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,1,1-Trichloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,1,2,2-Tetrachloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,1,2-Trichloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,1-Dichloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,1-Dichloroethylene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,2,3-Trichloropropane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,2-Dibromo3Chloropropane	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
1,2-Dibromoethane (EDB)	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,2-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,2-Dichloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,2-Dichloropropane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,3-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,4-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
2-Butanone (MEK)	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
2-Hexanone	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
4-Methyl-2-Pentanone MIBK	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
Acetone	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
Acrylonitrile	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Benzene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Bromochloromethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Bromodichloromethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Bromoform	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Bromomethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18

Volatile Organic Analysis (VOA's) continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Carbon Disulfide	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Carbon Tetrachloride	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Chlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Chlorodibromomethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Chloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Chloroform	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Chloromethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Cis-1,2-Dichloroethene	1.4	ug/l		1.0	EPA 624	NNL	08/29/18
Cis-1,3-Dichloropropene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Dibromomethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Ethyl Benzene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
m,p Xylene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Methyl Iodide	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Methylene Chloride	< 2	ug/l		2.0	EPA 624	NNL	08/29/18
o-Xylene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Styrene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Tetrachloroethylene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Toluene	< 1	ug/l	BX	1.0	EPA 624	NNL	08/29/18
Trans-1,2-Dichloroethene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Trans-1,3-Dichloropropene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
trans-1,4-Dichloro2butene	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
Trichloroethylene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Trichlorofluoromethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Vinyl Acetate	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
Vinyl Chloride	< 1	ug/l		1.0	EPA 624	NNL	08/29/18

VOA Surrogates

ANALYTE	% RECOVERY	LIMITS
D4-1,2,-Dichloroethane	102. %	82.8 - 113.
D8-Toluene	115. %	89.0 - 123.
4-Bromofluorobenzene	105. %	85.3 - 117.

Hart Crowser
Project Name: KCIA LARGE AIRCRAFT
AmTest ID: 18-A015737

AMTEST Identification Number 18-A015737
Client Identification HC18-S1
Sampling Date 08/27/18, 12:15

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					KW	08/28/18

AMTEST Identification Number 18-A015738
Client Identification HC18-S2
Sampling Date 08/27/18, 12:20

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					KW	08/28/18

AMTEST Identification Number 18-A015739
Client Identification HC18-S3
Sampling Date 08/27/18, 12:25

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	72.2	%		0.1	SM 2540G	SRW	08/30/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 25	mg/kg		25.	NWTPH-Dx	NNL	09/21/18
Heavy Oil	< 50	mg/kg		50.	NWTPH-Dx	NNL	09/21/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/08/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	82.3 %	50.0 - 150.
2-Fluorobiphenyl	88.8 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Soil	358.	ug/kg		170	WDOE NWTPH-Gx	AY	09/10/18
Benzene	< 1.7	ug/kg		1.7	EPA 8260	AY	09/10/18
Toluene	< 1.7	ug/kg		1.7	EPA 8260	AY	09/10/18
Ethyl Benzene	< 1.7	ug/kg		1.7	EPA 8260	AY	09/10/18
m+p-Xylene	< 1.7	ug/kg		1.7	EPA 8260	AY	09/10/18
o-Xylene	< 1.7	ug/kg		1.7	EPA 8260	AY	09/10/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	97.6 %	50.0 - 150.

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT
 AmTest ID: 18-A015740

AMTEST Identification Number 18-A015740
Client Identification HC18-S4
Sampling Date 08/27/18, 12:30

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	73.6	%		0.1	SM 2540G	SRW	08/30/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 25	mg/kg		25.	NWTPH-Dx	NNL	09/21/18
Heavy Oil	< 50	mg/kg		50.	NWTPH-Dx	NNL	09/21/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/08/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	76.5 %	50.0 - 150.
2-Fluorobiphenyl	80.2 %	50.0 - 150.

AMTEST Identification Number 18-A015741
Client Identification HC18-S5
Sampling Date 08/27/18, 12:35

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	70.3	%		0.1	SM 2540G	SRW	08/30/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	7.41	ug/g		0.358	EPA 6020	KQ	09/27/18
Cadmium	0.253	ug/g		0.358	EPA 6020	KQ	09/27/18
Chromium	23.3	ug/g		0.716	EPA 6020	KQ	09/27/18
Lead	2.79	ug/g		0.716	EPA 6020	KQ	09/27/18
Acid Digestion	Y				SW-846 3050B	KQ	08/30/18
Mercury	0.0314	ug/g		0.01	EPA 7471B	JH	09/10/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 25	mg/kg		25.	NWTPH-Dx	NNL	09/21/18
Heavy Oil	< 50	mg/kg		50.	NWTPH-Dx	NNL	09/21/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/08/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	84.2 %	50.0 - 150.
2-Fluorobiphenyl	89.5 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Soil	< 142	ug/kg		140	WDOE NWTPH-Gx	AY	09/10/18
Benzene	< 1.4	ug/kg		1.4	EPA 8260	AY	09/10/18
Toluene	< 1.4	ug/kg		1.4	EPA 8260	AY	09/10/18
Ethyl Benzene	< 1.4	ug/kg		1.4	EPA 8260	AY	09/10/18
m+p-Xylene	< 1.4	ug/kg		1.4	EPA 8260	AY	09/10/18
o-Xylene	< 1.4	ug/kg		1.4	EPA 8260	AY	09/10/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
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Surrogate continued...

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	104. %	50.0 - 150.

Semi-Volatiles

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,2,4-Trichlorobenzene	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
1,2-Dichlorobenzene	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
1,3-Dichlorobenzene	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
1,4-Dichlorobenzene	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
2,4,5-Trichlorophenol	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
2,4,6-Trichlorophenol	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
2,4-Dichlorophenol	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
2,4-Dimethylphenol	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
2,4-Dinitrophenol	< 480	ug/kg		480	EPA 8270D	NNL	09/16/18
2,4-Dinitrotoluene	< 240	ug/kg		240	EPA 8270D	NNL	09/16/18
2,6-Dinitrotoluene	< 240	ug/kg		240	EPA 8270D	NNL	09/16/18
2-Chloronaphthalene	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
2-Chlorophenol	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
2-Methylphenol	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
2-Nitroaniline	< 240	ug/kg		240	EPA 8270D	NNL	09/16/18
2-Nitrophenol	< 240	ug/kg		240	EPA 8270D	NNL	09/16/18
3,3-Dichlorobenzidine	< 144	ug/kg		140	EPA 8270D	NNL	09/16/18
3-Nitroaniline	< 240	ug/kg		240	EPA 8270D	NNL	09/16/18
4,6-Dinitro-2-methylpheno	< 240	ug/kg		240	EPA 8270D	NNL	09/16/18
4-Bromophenyl-phenyl ethe	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
4-Chloro-3-methylphenol	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
4-Chloroaniline	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
4-Chlorophenyl-phenyl eth	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
4-Methylphenol (cresol)	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
4-Nitroaniline	< 240	ug/kg		240	EPA 8270D	NNL	09/16/18
4-Nitrophenol	< 480	ug/kg		480	EPA 8270D	NNL	09/16/18
Aniline	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
Azobenzene	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
Benzidine	< 2400	ug/kg		2400	EPA 8270D	NNL	09/16/18
Benzoic Acid	< 48	ug/kg		48.	EPA 8270D	NNL	09/16/18
Benzyl Alcohol	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
bis(2-Chloroethoxy)methan	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
bis(2-Chloroethyl)ether	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
bis(2-Chloroisopropyl)eth	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
bis(2-Ethylhexyl)phthalat	9.12	ug/kg		4.8	EPA 8270D-SIM	NNL	09/19/18
Butylbenzylphthalate	< 4.8	ug/Kg		4.8	EPA 8270D-SIM	NNL	09/19/18
Carbazole	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
Dibenzofuran	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18

Semi-Volatiles continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Di-n-butylphthalate	< 4.8	ug/kg		4.8	EPA 8270D-SIM	NNL	09/19/18
Diethylphthalate	< 4.8	ug/kg		4.8	EPA 8270D-SIM	NNL	09/19/18
Dimethylphthalate	< 4.8	ug/kg		4.8	EPA 8270D-SIM	NNL	09/19/18
Di-n-octylphthalate	< 4.8	ug/kg		4.8	EPA 8270D-SIM	NNL	09/19/18
Hexachlorobenzene	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
Hexachlorobutadiene	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
Hexachlorocyclopentadiene	< 240	ug/kg		240	EPA 8270D	NNL	09/16/18
Hexachloroethane	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
Isophorone	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
Nitrobenzene	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
N-Nitrosodimethylamine	< 240	ug/kg		240	EPA 8270D	NNL	09/16/18
N-Nitroso-di-n-propylamin	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
N-nitrosodiphenylamine	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18
Pentachlorophenol	< 24	ug/kg		24.	EPA 8270D-SIM	NNL	09/19/18
Phenol	< 96	ug/kg		96.	EPA 8270D	NNL	09/16/18

Polynuclear Aromatic Hydrocarbons (PAH)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1-Methylnaphthalene	< 4.8	ug/Kg		4.8	EPA 8270D-SIM	NNL	09/19/18
2-Methylnaphthalene	< 4.8	ug/Kg		4.8	EPA 8270D-SIM	NNL	09/19/18
Acenaphthene	< 4.8	ug/Kg		4.8	EPA 8270D-SIM	NNL	09/19/18
Acenaphthylene	< 4.8	ug/Kg		4.8	EPA 8270D-SIM	NNL	09/19/18
Anthracene	< 4.8	ug/Kg		4.8	EPA 8270D-SIM	NNL	09/19/18
Benzo(a)anthracene	< 4.8	ug/Kg		4.8	EPA 8270D-SIM	NNL	09/19/18
Benzo(a)pyrene	< 4.8	ug/Kg		4.8	EPA 8270D-SIM	NNL	09/19/18
Benzo(b)fluoranthene	< 4.8	ug/Kg		4.8	EPA 8270D-SIM	NNL	09/19/18
Benzo(ghi)perylene	< 4.8	ug/Kg		4.8	EPA 8270D-SIM	NNL	09/19/18
Benzo(k)fluoranthene	< 4.8	ug/Kg		4.8	EPA 8270D-SIM	NNL	09/19/18
Chrysene	< 4.8	ug/Kg		4.8	EPA 8270D-SIM	NNL	09/19/18
Dibenzo(ah)anthracene	< 4.8	ug/Kg		4.8	EPA 8270D-SIM	NNL	09/19/18
Fluoranthene	< 4.8	ug/Kg		4.8	EPA 8270D-SIM	NNL	09/19/18
Fluorene	< 4.8	ug/Kg		4.8	EPA 8270D-SIM	NNL	09/19/18
Indeno(123-cd)pyrene	< 4.8	ug/Kg		4.8	EPA 8270D-SIM	NNL	09/19/18
Naphthalene	< 4.8	ug/Kg		4.8	EPA 8270D-SIM	NNL	09/19/18
Phenanthrene	< 4.8	ug/Kg		4.8	EPA 8270D-SIM	NNL	09/19/18
Pyrene	< 4.8	ug/Kg		4.8	EPA 8270D-SIM	NNL	09/19/18
Sonnication Ext.	Y				SW-846 3550C	DP	09/10/18

Semi-Volatile Surrogates

ANALYTE	% RECOVERY	LIMITS
2-Fluorophenol	64.4 %	24.4 - 126.
D6-Phenol	66.8 %	20.0 - 140.
D5-Nitrobenzene	56.8 %	0.0 - 141.
2-Fluorobiphenyl	72.9 %	0.0 - 128.
2,4,6-Tribromophenol	68.6 %	0.0 - 130.
D14-Terphenyl	134. %	17.5 - 182.

PCB's

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
PCB-1016	< 23.1	ug/kg		23.1	EPA 8082A	NNL	09/15/18
PCB-1221	< 23.1	ug/kg		23.1	EPA 8082A	NNL	09/15/18
PCB-1232	< 23.1	ug/kg		23.1	EPA 8082A	NNL	09/15/18
PCB-1242	< 23.1	ug/kg		23.1	EPA 8082A	NNL	09/15/18
PCB-1248	< 23.1	ug/kg		23.1	EPA 8082A	NNL	09/15/18
PCB-1254	< 23.1	ug/kg		23.1	EPA 8082A	NNL	09/15/18
PCB-1260	< 23.1	ug/kg		23.1	EPA 8082A	NNL	09/15/18
Soxhlet Ext.	Y				SW-846 3540C	DP	09/07/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Tetrachloro-M-xylene	78.5 % Rec	43.3 - 162.
Decachlorobiphenyl	84.2 % Rec	40.1 - 191.

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT
 AmTest ID: 18-A015742

AMTEST Identification Number 18-A015742
Client Identification HC18-GW
Sampling Date 08/27/18, 12:40

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Suspended Solids	1300	mg/l		1	SM 2540D	SRW	08/31/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	1.16	ug/L		0.05	EPA 6020	KQ	09/24/18
Cadmium	0.070	ug/L		0.05	EPA 6020	KQ	09/24/18
Chromium	0.41	ug/L		0.1	EPA 6020	KQ	09/24/18
Lead	0.973	ug/L		0.1	EPA 6020	KQ	09/24/18
Acid Dig.(Tot Metals)	Y				EPA 3010	KQ	09/04/18

Total Metals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Mercury	0.00020	mg/l		0.00005	EPA 7471B	SRW	09/04/18

NWTPH-Dx (Water)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	88.	ug/l		50.	NWTPH-Dx	DP	09/20/18
Heavy Oil	< 100	ug/l		100	NWTPH-Dx	DP	09/20/18
Sep Fun Ext	Y				EPA 3510	DP	09/06/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	91.2 %	50.0 - 150.
2-Fluorobiphenyl	96.7 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Water	< 100	ug/l		100	NWTPH-Gx	AY	09/10/18
Benzene	< 0.5	ug/l		0.5	EPA 624	AY	08/29/18
Toluene	< 0.5	ug/l		0.5	EPA 624	AY	08/29/18
Ethyl Benzene	< 0.5	ug/l		0.5	EPA 624	AY	08/29/18
Total Xylene	< 1	ug/l		1	EPA 624	AY	08/29/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	99.5 %	50.0 - 150.

Volatile Organic Analysis (VOA's)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,1,1,2-Tetrachloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,1,1-Trichloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,1,2,2-Tetrachloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,1,2-Trichloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,1-Dichloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,1-Dichloroethylene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,2,3-Trichloropropane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,2-Dibromo3Chloropropane	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
1,2-Dibromoethane (EDB)	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,2-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,2-Dichloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,2-Dichloropropane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,3-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,4-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
2-Butanone (MEK)	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
2-Hexanone	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
4-Methyl-2-Pentanone MIBK	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
Acetone	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
Acrylonitrile	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Benzene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Bromochloromethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Bromodichloromethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Bromoform	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Bromomethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18

Volatile Organic Analysis (VOA's) continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Carbon Disulfide	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Carbon Tetrachloride	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Chlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Chlorodibromomethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Chloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Chloroform	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Chloromethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Cis-1,2-Dichloroethene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Cis-1,3-Dichloropropene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Dibromomethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Ethyl Benzene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
m,p Xylene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Methyl Iodide	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Methylene Chloride	< 2	ug/l		2.0	EPA 624	NNL	08/29/18
o-Xylene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Styrene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Tetrachloroethylene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Toluene	< 1	ug/l	BX	1.0	EPA 624	NNL	08/29/18
Trans-1,2-Dichloroethene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Trans-1,3-Dichloropropene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
trans-1,4-Dichloro2butene	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
Trichloroethylene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Trichlorofluoromethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Vinyl Acetate	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
Vinyl Chloride	< 1	ug/l		1.0	EPA 624	NNL	08/29/18

VOA Surrogates

ANALYTE	% RECOVERY	LIMITS
D4-1,2,-Dichloroethane	107. %	82.8 - 113.
D8-Toluene	113. %	89.0 - 123.
4-Bromofluorobenzene	103. %	85.3 - 117.

Poly-Aromatic Hydrocarbons

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
2-Methylnaphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Acenaphthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Acenaphthylene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Benzo(a)anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Benzo(a)pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Benzo(b)fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Benzo(ghi)perylene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18

Poly-Aromatic Hydrocarbons continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Benzo(k)fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Chrysene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Dibenzo(ah)anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Fluorene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Indeno(123-cd)pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Naphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Phenanthrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18

Semi-Volatiles

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,2,4-Trichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
1,2-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
1,3-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
1,4-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2,4,5-Trichlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2,4,6-Trichlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2,4-Dichlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2,4-Dimethylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2,4-Dinitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2,4-Dinitrotoluene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2,6-Dinitrotoluene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2-Chloronaphthalene	< 2	ug/l	N	1.9	EPA 8270D	NNL	09/15/18
2-Chlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2-Methylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2-Nitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
3,3-Dichlorobenzidine	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
3-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
4,6-Dinitro-2-methylpheno	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
4-Bromophenyl-phenyl ethe	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
4-Chloro-3-methylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
4-Chloroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
4-Chlorophenyl-phenyl eth	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
4-Methylphenol (P.Cresol)	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
4-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
4-Nitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Aniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Azobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Benzidine	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Benzoic Acid	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18

Semi-Volatiles continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Benzyl Alcohol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
bis(2-Chloroethoxy)methan	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
bis(2-Chloroethyl)ether	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
bis(2-Chloroisopropyl)eth	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
bis(2-Ethylhexyl)phthalat	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Butylbenzylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Carbazole	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Dibenzofuran	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Diethylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Dimethylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Di-n-butylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Hexachlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Hexachlorobutadiene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Hexachlorocyclopentadiene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Hexachloroethane	< 1	ug/l		0.95	EPA 8270D	NNL	09/15/18
Isophorone	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Nitrobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
N-Nitrosodimethylamine	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
N-Nitroso-di-n-propylamin	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
N-nitrosodiphenylamine	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Pentachlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Phenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18

Polynuclear Aromatic Hydrocarbons (PAH)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
2-Methylnaphthalene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Acenaphthene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Acenaphthylene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Anthracene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Benzo(a)anthracene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Benzo(a)pyrene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Benzo(b)fluoranthene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Benzo(g,h,i)perylene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Benzo(k)fluoranthene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Chrysene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Dibenzo(ah)anthracene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Di-n-octylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Fluoranthene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Fluorene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Indeno(1,2,3-cd)pyrene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Naphthalene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Phenanthrene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Pyrene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Liq/Liq Ext.	Y				EPA 3520	DP	08/29/18

Semi-Volatile Surrogates

ANALYTE	% RECOVERY	LIMITS
2-Fluorophenol	17.7 %	11.5 - 136.
D6-Phenol	52.2 %	0.0 - 105.
D5-Nitrobenzene	73.7 %	10.0 - 142.
2-Fluorobiphenyl	84.4 %	23.6 - 122.
2,4,6-Tribromophenol	31.5 %	0.0 - 145.
D14-Terphenyl	109. %	11.0 - 178.

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Dimethylphthalate	< 0.1	ug/l		0.1	EPA 8270D-SIM	NNL	09/13/18
Diethylphthalate	< 0.1	ug/l		0.1	EPA 8270D-SIM	NNL	09/13/18
Pentachlorophenol	< 0.5	ug/l		0.5	EPA 8270D-SIM	NNL	09/13/18
Di-n-butylphthalate	< 0.1	ug/l		0.1	EPA 8270D-SIM	NNL	09/13/18
Butylbenzylphthalate	< 0.1	ug/l		0.1	EPA 8270D-SIM	NNL	09/13/18
bis(2-Ethylhexyl)phthalat	< 0.1	ug/l		0.1	EPA 8270D-SIM	NNL	09/13/18
Di-n-octylphthalate	< 0.1	ug/l		0.1	EPA 8270D-SIM	NNL	09/13/18
1-Methylnaphthalene	< 0.1	ug/l		0.1	EPA 8270D-SIM	NNL	09/13/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT
 AmTest ID: 18-A015743

AMTEST Identification Number 18-A015743
Client Identification HC16-S1
Sampling Date 08/27/18, 13:30

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	95.0	%		0.1	SM 2540G	SRW	08/30/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 25	mg/kg		25.	NWTPH-Dx	NNL	09/21/18
Heavy Oil	< 50	mg/kg		50.	NWTPH-Dx	NNL	09/21/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/08/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	82.9 %	50.0 - 150.
2-Fluorobiphenyl	88.8 %	50.0 - 150.

AMTEST Identification Number 18-A015744
Client Identification HC16-S2
Sampling Date 08/27/18, 13:35

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	94.1	%		0.1	SM 2540G	SRW	08/30/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	9.06	ug/g		0.558	EPA 6020	KQ	09/27/18
Cadmium	2.85	ug/g		0.558	EPA 6020	KQ	09/27/18
Chromium	34.4	ug/g		1.12	EPA 6020	KQ	09/27/18
Lead	1.59	ug/g		1.12	EPA 6020	KQ	09/27/18
Acid Digestion	Y				SW-846 3050B	KQ	08/30/18
Mercury	0.0138	ug/g		0.01	EPA 7471B	JH	09/10/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 25	mg/kg		25.	NWTPH-Dx	NNL	09/21/18
Heavy Oil	< 50	mg/kg		50.	NWTPH-Dx	NNL	09/21/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/08/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	62.2 %	50.0 - 150.
2-Fluorobiphenyl	69.7 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Soil	< 116	ug/kg		120	WDOE NWTPH-Gx	AY	09/10/18
Benzene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/10/18
Toluene	1.5	ug/kg		1.2	EPA 8260	AY	09/10/18
Ethyl Benzene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/10/18
m+p-Xylene	1.5	ug/kg		1.2	EPA 8260	AY	09/10/18
o-Xylene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/10/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
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Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT
 AmTest ID: 18-A015744

Surrogate continued...

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	97.4 %	50.0 - 150.

AMTEST Identification Number 18-A015745
Client Identification HC16-S3
Sampling Date 08/27/18, 13:40

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					KW	08/28/18

AMTEST Identification Number 18-A015746
Client Identification HC16-S4
Sampling Date 08/27/18, 13:45

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	85.2	%		0.1	SM 2540G	SRW	08/30/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 25	mg/kg		25.	NWTPH-Dx	DP	10/04/18
Heavy Oil	< 50	mg/kg		50.	NWTPH-Dx	DP	10/04/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/11/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	117. %	50.0 - 150.
2-Fluorobiphenyl	133. %	50.0 - 150.

Hart Crowser
Project Name: KCIA LARGE AIRCRAFT
AmTest ID: 18-A015747

AMTEST Identification Number 18-A015747
Client Identification HC16-S5
Sampling Date 08/27/18, 13:50

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					KW	08/28/18

AMTEST Identification Number 18-A015748
Client Identification HC16-S6
Sampling Date 08/27/18, 13:55

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					KW	08/28/18

AMTEST Identification Number 18-A015749
Client Identification HC17-S1
Sampling Date 08/27/18, 14:15

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					KW	08/28/18

AMTEST Identification Number 18-A015750
Client Identification HC17-S2
Sampling Date 08/27/18, 14:20

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					KW	08/28/18

Hart Crowser
Project Name: KCIA LARGE AIRCRAFT
AmTest ID: 18-A015751

AMTEST Identification Number 18-A015751
Client Identification HC17-S3
Sampling Date 08/27/18, 14:25

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					KW	08/28/18

AMTEST Identification Number 18-A015752
Client Identification HC17-S4
Sampling Date 08/27/18, 14:30

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					KW	08/28/18

AMTEST Identification Number 18-A015753
Client Identification HC17-S5
Sampling Date 08/27/18, 14:35

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	81.6	%		0.1	SM 2540G	SRW	08/30/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	4.17	ug/g		0.287	EPA 6020	KQ	09/27/18
Cadmium	0.374	ug/g		0.287	EPA 6020	KQ	09/27/18
Chromium	15.7	ug/g		0.575	EPA 6020	KQ	09/27/18
Lead	0.842	ug/g		0.575	EPA 6020	KQ	09/27/18
Acid Digestion	Y				SW-846 3050B	KQ	08/30/18
Mercury	< 0.0123	ug/g		0.01	EPA 7471B	JH	09/10/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 25	mg/kg		25.	NWTPH-Dx	DP	10/04/18
Heavy Oil	< 50	mg/kg		50.	NWTPH-Dx	DP	10/04/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/11/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	102. %	50.0 - 150.
2-Fluorobiphenyl	113. %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Soil	< 125	ug/kg		120	WDOE NWTPH-Gx	AY	09/10/18
Benzene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/10/18
Toluene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/10/18
Ethyl Benzene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/10/18
m+p-Xylene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/10/18
o-Xylene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/10/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
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Surrogate continued...

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	99.4 %	50.0 - 150.

Semi-Volatiles

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,2,4-Trichlorobenzene	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
1,2-Dichlorobenzene	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
1,3-Dichlorobenzene	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
1,4-Dichlorobenzene	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
2,4,5-Trichlorophenol	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
2,4,6-Trichlorophenol	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
2,4-Dichlorophenol	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
2,4-Dimethylphenol	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
2,4-Dinitrophenol	< 408	ug/kg		410	EPA 8270D	NNL	09/16/18
2,4-Dinitrotoluene	< 204	ug/kg		200	EPA 8270D	NNL	09/16/18
2,6-Dinitrotoluene	< 204	ug/kg		200	EPA 8270D	NNL	09/16/18
2-Chloronaphthalene	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
2-Chlorophenol	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
2-Methylphenol	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
2-Nitroaniline	< 204	ug/kg		200	EPA 8270D	NNL	09/16/18
2-Nitrophenol	< 204	ug/kg		200	EPA 8270D	NNL	09/16/18
3,3-Dichlorobenzidine	< 122	ug/kg		120	EPA 8270D	NNL	09/16/18
3-Nitroaniline	< 204	ug/kg		200	EPA 8270D	NNL	09/16/18
4,6-Dinitro-2-methylpheno	< 204	ug/kg		200	EPA 8270D	NNL	09/16/18
4-Bromophenyl-phenyl ethe	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
4-Chloro-3-methylphenol	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
4-Chloroaniline	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
4-Chlorophenyl-phenyl eth	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
4-Methylphenol (cresol)	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
4-Nitroaniline	< 204	ug/kg		200	EPA 8270D	NNL	09/16/18
4-Nitrophenol	< 408	ug/kg		410	EPA 8270D	NNL	09/16/18
Aniline	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
Azobenzene	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
Benzidine	< 2040	ug/kg		2000	EPA 8270D	NNL	09/16/18
Benzoic Acid	< 40.8	ug/kg		41.	EPA 8270D	NNL	09/16/18
Benzyl Alcohol	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
bis(2-Chloroethoxy)methan	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
bis(2-Chloroethyl)ether	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
bis(2-Chloroisopropyl)eth	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
bis(2-Ethylhexyl)phthalat	10.6	ug/kg		4.1	EPA 8270D-SIM	NNL	09/19/18
Butylbenzylphthalate	< 4.08	ug/Kg		4.1	EPA 8270D-SIM	NNL	09/19/18
Carbazole	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
Dibenzofuran	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18

Semi-Volatiles continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Di-n-butylphthalate	< 4.08	ug/kg		4.1	EPA 8270D-SIM	NNL	09/19/18
Diethylphthalate	< 4.08	ug/kg		4.1	EPA 8270D-SIM	NNL	09/19/18
Dimethylphthalate	< 4.08	ug/kg		4.1	EPA 8270D-SIM	NNL	09/19/18
Di-n-octylphthalate	< 4.08	ug/kg		4.1	EPA 8270D-SIM	NNL	09/19/18
Hexachlorobenzene	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
Hexachlorobutadiene	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
Hexachlorocyclopentadiene	< 204	ug/kg		200	EPA 8270D	NNL	09/16/18
Hexachloroethane	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
Isophorone	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
Nitrobenzene	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
N-Nitrosodimethylamine	< 204	ug/kg		200	EPA 8270D	NNL	09/16/18
N-Nitroso-di-n-propylamin	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
N-nitrosodiphenylamine	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18
Pentachlorophenol	< 20.4	ug/kg		20.	EPA 8270D-SIM	NNL	09/19/18
Phenol	< 81.5	ug/kg		82.	EPA 8270D	NNL	09/16/18

Polynuclear Aromatic Hydrocarbons (PAH)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1-Methylnaphthalene	< 4.08	ug/Kg		4.1	EPA 8270D-SIM	NNL	09/19/18
2-Methylnaphthalene	< 4.08	ug/Kg		4.1	EPA 8270D-SIM	NNL	09/19/18
Acenaphthene	< 4.08	ug/Kg		4.1	EPA 8270D-SIM	NNL	09/19/18
Acenaphthylene	< 4.08	ug/Kg		4.1	EPA 8270D-SIM	NNL	09/19/18
Anthracene	< 4.08	ug/Kg		4.1	EPA 8270D-SIM	NNL	09/19/18
Benzo(a)anthracene	< 4.08	ug/Kg		4.1	EPA 8270D-SIM	NNL	09/19/18
Benzo(a)pyrene	< 4.08	ug/Kg		4.1	EPA 8270D-SIM	NNL	09/19/18
Benzo(b)fluoranthene	< 4.08	ug/Kg		4.1	EPA 8270D-SIM	NNL	09/19/18
Benzo(ghi)perylene	< 4.08	ug/Kg		4.1	EPA 8270D-SIM	NNL	09/19/18
Benzo(k)fluoranthene	< 4.08	ug/Kg		4.1	EPA 8270D-SIM	NNL	09/19/18
Chrysene	< 4.08	ug/Kg		4.1	EPA 8270D-SIM	NNL	09/19/18
Dibenzo(ah)anthracene	< 4.08	ug/Kg		4.1	EPA 8270D-SIM	NNL	09/19/18
Fluoranthene	< 4.08	ug/Kg		4.1	EPA 8270D-SIM	NNL	09/19/18
Fluorene	< 4.08	ug/Kg		4.1	EPA 8270D-SIM	NNL	09/19/18
Indeno(123-cd)pyrene	< 4.08	ug/Kg		4.1	EPA 8270D-SIM	NNL	09/19/18
Naphthalene	< 4.08	ug/Kg		4.1	EPA 8270D-SIM	NNL	09/19/18
Phenanthrene	< 4.08	ug/Kg		4.1	EPA 8270D-SIM	NNL	09/19/18
Pyrene	< 4.08	ug/Kg		4.1	EPA 8270D-SIM	NNL	09/19/18
Sonnication Ext.	Y				SW-846 3550C	DP	09/10/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT
 AmTest ID: 18-A015753

Semi-Volatile Surrogates

ANALYTE	% RECOVERY	LIMITS
2-Fluorophenol	72.8 %	24.4 - 126.
D6-Phenol	79.8 %	20.0 - 140.
D5-Nitrobenzene	79.3 %	0.0 - 141.
2-Fluorobiphenyl	92.5 %	0.0 - 128.
2,4,6-Tribromophenol	81.0 %	0.0 - 130.
D14-Terphenyl	154. %	17.5 - 182.

PCB's

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
PCB-1016	< 21.1	ug/kg		21.1	EPA 8082A	NNL	09/15/18
PCB-1221	< 21.1	ug/kg		21.1	EPA 8082A	NNL	09/15/18
PCB-1232	< 21.1	ug/kg		21.1	EPA 8082A	NNL	09/15/18
PCB-1242	< 21.1	ug/kg		21.1	EPA 8082A	NNL	09/15/18
PCB-1248	< 21.1	ug/kg		21.1	EPA 8082A	NNL	09/15/18
PCB-1254	< 21.1	ug/kg		21.1	EPA 8082A	NNL	09/15/18
PCB-1260	< 21.1	ug/kg		21.1	EPA 8082A	NNL	09/15/18
Soxhlet Ext.	Y				SW-846 3540C	DP	09/07/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Tetrachloro-M-xylene	82.0 % Rec	43.3 - 162.
Decachlorobiphenyl	86.7 % Rec	40.1 - 191.

AMTEST Identification Number 18-A015754
Client Identification HC17-S6
Sampling Date 08/27/18, 14:40

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					KW	08/28/18

Hart Crowser
Project Name: KCIA LARGE AIRCRAFT
AmTest ID: 18-A015755

AMTEST Identification Number 18-A015755
Client Identification HC13-S1
Sampling Date 08/27/18, 15:00

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					KW	08/28/18

AMTEST Identification Number 18-A015756
Client Identification HC13-S2
Sampling Date 08/27/18, 15:05

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					KW	08/28/18

AMTEST Identification Number 18-A015757
Client Identification HC13-S3
Sampling Date 08/27/18, 15:10

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					KW	08/28/18

AMTEST Identification Number 18-A015758
Client Identification HC13-S4
Sampling Date 08/27/18, 15:15

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	91.3	%		0.1	SM 2540G	SRW	08/30/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	6.10	ug/g		0.418	EPA 6020	KQ	09/27/18
Cadmium	0.141	ug/g		0.418	EPA 6020	KQ	09/27/18
Chromium	29.0	ug/g		0.836	EPA 6020	KQ	09/27/18
Lead	1.15	ug/g		0.836	EPA 6020	KQ	09/27/18
Acid Digestion	Y				SW-846 3050B	KQ	08/30/18
Mercury	< 0.011	ug/g		0.01	EPA 7471B	JH	09/10/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 25	mg/kg		25.	NWTPH-Dx	DP	10/04/18
Heavy Oil	< 50	mg/kg		50.	NWTPH-Dx	DP	10/04/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/11/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	121. %	50.0 - 150.
2-Fluorobiphenyl	127. %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Soil	< 121	ug/kg		120	WDOE NWTPH-Gx	AY	09/10/18
Benzene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/10/18
Toluene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/10/18
Ethyl Benzene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/10/18
m+p-Xylene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/10/18
o-Xylene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/10/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
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Hart Crowser
Project Name: KCIA LARGE AIRCRAFT
AmTest ID: 18-A015758

Surrogate continued...

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	106. %	50.0 - 150.

AMTEST Identification Number 18-A015759
Client Identification HC13-S5
Sampling Date 08/27/18, 15:20

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					KW	08/28/18

AMTEST Identification Number 18-A015760
Client Identification HC13-S6
Sampling Date 08/27/18, 15:25

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					KW	08/28/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT
 AmTest ID: 18-A015761

AMTEST Identification Number 18-A015761
Client Identification HC13-GW
Sampling Date 08/27/18, 15:30

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Suspended Solids	710	mg/l		1	SM 2540D	SRW	08/31/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	0.558	ug/L		0.05	EPA 6020	KQ	09/24/18
Cadmium	< 0.05	ug/L		0.05	EPA 6020	KQ	09/24/18
Chromium	0.48	ug/L		0.1	EPA 6020	KQ	09/24/18
Lead	0.402	ug/L		0.1	EPA 6020	KQ	09/24/18
Acid Dig.(Tot Metals)	Y				EPA 3010	KQ	09/04/18

Total Metals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Mercury	0.00005	mg/l		0.00005	EPA 7471B	SRW	09/04/18

NWTPH-Dx (Water)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 50	ug/l		50.	NWTPH-Dx	DP	09/20/18
Heavy Oil	< 100	ug/l		100	NWTPH-Dx	DP	09/20/18
Sep Fun Ext	Y				EPA 3510	DP	09/06/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	76.9 %	50.0 - 150.
2-Fluorobiphenyl	79.5 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Water	< 100	ug/l		100	NWTPH-Gx	AY	09/10/18
Benzene	< 0.5	ug/l		0.5	EPA 624	AY	08/29/18
Toluene	0.62	ug/l		0.5	EPA 624	AY	08/29/18
Ethyl Benzene	< 0.5	ug/l		0.5	EPA 624	AY	08/29/18
Total Xylene	< 1	ug/l		1	EPA 624	AY	08/29/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	101. %	50.0 - 150.

Volatile Organic Analysis (VOA's)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,1,1,2-Tetrachloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,1,1-Trichloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,1,2,2-Tetrachloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,1,2-Trichloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,1-Dichloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,1-Dichloroethylene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,2,3-Trichloropropane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,2-Dibromo3Chloropropane	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
1,2-Dibromoethane (EDB)	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,2-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,2-Dichloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,2-Dichloropropane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,3-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
1,4-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
2-Butanone (MEK)	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
2-Hexanone	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
4-Methyl-2-Pentanone MIBK	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
Acetone	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
Acrylonitrile	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Benzene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Bromochloromethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Bromodichloromethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Bromoform	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Bromomethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18

Volatile Organic Analysis (VOA's) continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Carbon Disulfide	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Carbon Tetrachloride	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Chlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Chlorodibromomethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Chloroethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Chloroform	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Chloromethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Cis-1,2-Dichloroethene	3.2	ug/l		1.0	EPA 624	NNL	08/29/18
Cis-1,3-Dichloropropene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Dibromomethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Ethyl Benzene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
m,p Xylene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Methyl Iodide	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Methylene Chloride	< 2	ug/l		2.0	EPA 624	NNL	08/29/18
o-Xylene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Styrene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Tetrachloroethylene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Toluene	< 1	ug/l	BX	1.0	EPA 624	NNL	08/29/18
Trans-1,2-Dichloroethene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Trans-1,3-Dichloropropene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
trans-1,4-Dichloro2butene	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
Trichloroethylene	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Trichlorofluoromethane	< 1	ug/l		1.0	EPA 624	NNL	08/29/18
Vinyl Acetate	< 5	ug/l		5.0	EPA 624	NNL	08/29/18
Vinyl Chloride	< 1	ug/l		1.0	EPA 624	NNL	08/29/18

VOA Surrogates

ANALYTE	% RECOVERY	LIMITS
D4-1,2,-Dichloroethane	109. %	82.8 - 113.
D8-Toluene	115. %	89.0 - 123.
4-Bromofluorobenzene	102. %	85.3 - 117.

Poly-Aromatic Hydrocarbons

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
2-Methylnaphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Acenaphthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Acenaphthylene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Benzo(a)anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Benzo(a)pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Benzo(b)fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Benzo(ghi)perylene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18

Poly-Aromatic Hydrocarbons continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Benzo(k)fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Chrysene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Dibenzo(ah)anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Fluorene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Indeno(123-cd)pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Naphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Phenanthrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18
Pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/13/18

Semi-Volatiles

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,2,4-Trichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
1,2-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
1,3-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
1,4-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2,4,5-Trichlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2,4,6-Trichlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2,4-Dichlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2,4-Dimethylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2,4-Dinitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2,4-Dinitrotoluene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2,6-Dinitrotoluene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2-Chloronaphthalene	< 2	ug/l	N	1.9	EPA 8270D	NNL	09/15/18
2-Chlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2-Methylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
2-Nitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
3,3-Dichlorobenzidine	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
3-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
4,6-Dinitro-2-methylpheno	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
4-Bromophenyl-phenyl ethe	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
4-Chloro-3-methylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
4-Chloroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
4-Chlorophenyl-phenyl eth	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
4-Methylphenol (P.Cresol)	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
4-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
4-Nitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Aniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Azobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Benzidine	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Benzoic Acid	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18

Semi-Volatiles continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Benzyl Alcohol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
bis(2-Chloroethoxy)methan	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
bis(2-Chloroethyl)ether	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
bis(2-Chloroisopropyl)eth	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
bis(2-Ethylhexyl)phthalat	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Butylbenzylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Carbazole	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Dibenzofuran	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Diethylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Dimethylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Di-n-butylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Hexachlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Hexachlorobutadiene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Hexachlorocyclopentadiene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Hexachloroethane	< 1	ug/l		0.95	EPA 8270D	NNL	09/15/18
Isophorone	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Nitrobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
N-Nitrosodimethylamine	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
N-Nitroso-di-n-propylamin	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
N-nitrosodiphenylamine	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Pentachlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Phenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18

Polynuclear Aromatic Hydrocarbons (PAH)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
2-Methylnaphthalene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Acenaphthene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Acenaphthylene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Anthracene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Benzo(a)anthracene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Benzo(a)pyrene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Benzo(b)fluoranthene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Benzo(g,h,i)perylene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Benzo(k)fluoranthene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Chrysene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Dibenzo(ah)anthracene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Di-n-octylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Fluoranthene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Fluorene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Indeno(1,2,3-cd)pyrene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Naphthalene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Phenanthrene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Pyrene	< 2	ug/l		1.9	EPA 8270D	NNL	09/15/18
Liq/Liq Ext.	Y				EPA 3520	DP	08/29/18

Semi-Volatile Surrogates

ANALYTE	% RECOVERY	LIMITS
2-Fluorophenol	63.4 %	11.5 - 136.
D6-Phenol	88.8 %	0.0 - 105.
D5-Nitrobenzene	87.0 %	10.0 - 142.
2-Fluorobiphenyl	93.8 %	23.6 - 122.
2,4,6-Tribromophenol	104. %	0.0 - 145.
D14-Terphenyl	111. %	11.0 - 178.

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Dimethylphthalate	< 0.1	ug/l		0.1	EPA 8270D-SIM	NNL	09/13/18
Diethylphthalate	< 0.1	ug/l		0.1	EPA 8270D-SIM	NNL	09/13/18
Pentachlorophenol	< 0.5	ug/l		0.5	EPA 8270D-SIM	NNL	09/13/18
Di-n-butylphthalate	< 0.1	ug/l		0.1	EPA 8270D-SIM	NNL	09/13/18
Butylbenzylphthalate	< 0.1	ug/l		0.1	EPA 8270D-SIM	NNL	09/13/18
bis(2-Ethylhexyl)phthalat	< 0.1	ug/l		0.1	EPA 8270D-SIM	NNL	09/13/18
Di-n-octylphthalate	< 0.1	ug/l		0.1	EPA 8270D-SIM	NNL	09/13/18
1-Methylnaphthalene	< 0.1	ug/l		0.1	EPA 8270D-SIM	NNL	09/13/18

N = The Matrix Spike sample recovery is not within control limits. See case narrative.

Hart Crowser
Project Name: KCIA LARGE AIRCRAFT
AmTest ID: 18-A015761

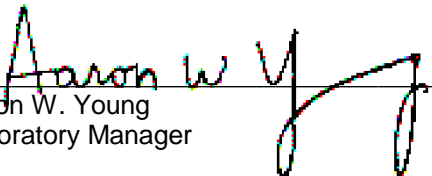
Case Narrative:

The temperature of the samples upon arrival at the laboratory was 6.6 degrees Celcius.

2-Chloronaphthalene in the water SVOC matrix spike was below the acceptable level. All other QA/QC was within limits, therefore they are attributed to matrix interference.

Toluene was detected in the VOC blank and was above the acceptable limits for the VOC (8260) SRM analyses. Therefore, the Toluene VOC results should be considered estimates.

No further corrective action was taken.


Aaron W. Young
Laboratory Manager

QC Summary for sample numbers: 18-A015718 to 18-A015761

DUPLICATES

SAMPLE #	ANALYTE	UNITS	SMPL VAL	DUP VAL	RPD	MAX RPD
18-A015765	Total Suspended Solids	mg/l	3.0	4.0	29.	50.
18-A015805	Total Suspended Solids	mg/l	1.0	1.0	0.00	50.
18-A015815	Total Suspended Solids	mg/l	5.0	6.0	18.	50.
18-A015884	Total Suspended Solids	mg/l	14.	14.	0.00	50.
18-A015940	Total Suspended Solids	mg/l	41.	39.	5.0	50.
18-A015955	Total Suspended Solids	mg/l	2.0	3.0	40.	50.
18-A016004	Total Suspended Solids	mg/l	< 1	< 1		50.
18-A016047	Total Suspended Solids	mg/l	17.	15.	12.	50.
18-A015719	Total Solids	%	94.9	95.3	0.42	15.
18-A015744	Total Solids	%	94.1	94.7	0.64	15.
18-A015842	Total Solids	%	75.0	73.5	2.0	15.
18-A015862	Total Solids	%	81.5	83.5	2.4	15.
18-A015837	Mercury	mg/l	< 0.00005	< 0.00005		30.
18-A015864	Mercury	mg/l	0.00008	0.00008	0.00	30.
18-A015718	Mercury	ug/g	0.0448	0.0421	6.2	50.
18-A016074	Mercury	ug/g	0.0108	0.0079	31.	50.
18-A016207	Mercury	ug/g	0.0101	0.0083	20.	50.
18-A015832	Arsenic	ug/g	5.49	5.62	2.3	25.
18-A016080	Arsenic	ug/g	9.41	9.53	1.3	25.
18-A016326	Arsenic	ug/g	10.8	10.8	0.00	25.
18-A016427	Arsenic	ug/g	2.87	2.69	6.5	25.
18-A016446	Arsenic	ug/g	3.05	3.46	13.	25.
18-A015832	Cadmium	ug/g	0.118	0.151	25.	39.
18-A016080	Cadmium	ug/g	0.356	0.312	13.	39.
18-A016326	Cadmium	ug/g	0.216	0.216	0.00	39.
18-A016427	Cadmium	ug/g	0.446	0.306	37.	39.
18-A016446	Cadmium	ug/g	0.187	0.146	25.	39.
18-A015832	Chromium	ug/g	15.0	16.2	7.7	42.
18-A016080	Chromium	ug/g	24.5	22.9	6.8	42.
18-A016326	Chromium	ug/g	22.2	20.4	8.5	42.
18-A016427	Chromium	ug/g	17.1	16.2	5.4	42.
18-A016446	Chromium	ug/g	14.4	14.9	3.4	42.
18-A015832	Lead	ug/g	1.858	1.839	1.0	27.
18-A016080	Lead	ug/g	10.08	9.803	2.8	27.
18-A016326	Lead	ug/g	4.417	4.417	0.00	27.
18-A016427	Lead	ug/g	2.446	2.874	16.	27.
18-A016446	Lead	ug/g	1.108	1.119	0.99	27.

QC Summary for sample numbers: 18-A015718 to 18-A015761...

MATRIX SPIKES

SAMPLE #	ANALYTE	UNITS	SMPL VAL	SMPL+SPK	SPK AMT	% REC	LIMITS
18-A015837	Mercury	mg/l	< 0.00005	0.00301	0.00250	120. %	70.0 - 130.
18-A015864	Mercury	mg/l	0.00008	0.00315	0.00250	123. %	70.0 - 130.
18-A015718	Mercury	ug/g	0.0448	0.248	0.186	109. %	23.0 - 163.
18-A015843	Mercury	ug/g	0.0380	0.176	0.152	90.8 %	23.0 - 163.
18-A016074	Mercury	ug/g	0.0108	0.182	0.179	95.6 %	23.0 - 163.
18-A016207	Mercury	ug/g	0.0101	0.154	0.176	81.8 %	23.0 - 163.
Blank	PCB-1260	ug/kg	< 16.6	0.29	0.25	116. %	45.0 - 150.
Blank	PCB-1260	ug/kg	< 16.6	0.33	0.25	132. %	45.0 - 150.
18-A015724	Chloromethane	ug/l	< 1	14.8	11.9	124. %	62.1 - 182.
18-A015724	Chloromethane	ug/l	< 1	13.8	11.9	116. %	62.1 - 182.
18-A015724	Vinyl Chloride	ug/l	10.	21.	12.	91.7 %	0.0 - 251.
18-A015724	Vinyl Chloride	ug/l	10.	20.	12.	83.3 %	0.0 - 251.
18-A015724	Bromomethane	ug/l	< 1	9.6	11.9	80.7 %	66.1 - 164.
18-A015724	Bromomethane	ug/l	< 1	11.6	11.9	97.5 %	66.1 - 164.
18-A015724	Chloroethane	ug/l	< 1	13.4	11.9	113. %	48.9 - 128.
18-A015724	Chloroethane	ug/l	< 1	15.0	11.9	126. %	48.9 - 128.
18-A015724	Trichlorofluoromethane	ug/l	< 1	13.8	11.9	116. %	17.0 - 181.
18-A015724	Trichlorofluoromethane	ug/l	< 1	11.2	11.9	94.1 %	17.0 - 181.
18-A015724	1,1-Dichloroethylene	ug/l	< 1	12.3	11.9	103. %	3.0 - 234.
18-A015724	1,1-Dichloroethylene	ug/l	< 1	11.0	11.9	92.4 %	3.0 - 234.
18-A015724	Acetone	ug/l	< 5	10.9	11.9	91.6 %	38.9 - 165.
18-A015724	Acetone	ug/l	< 5	9.9	11.9	83.2 %	38.9 - 165.
18-A015724	Carbon Disulfide	ug/l	2.6	13.6	11.9	92.4 %	61.2 - 156.
18-A015724	Carbon Disulfide	ug/l	2.6	13.1	11.9	88.2 %	61.2 - 156.
18-A015724	Methyl Iodide	ug/l	< 1	11.6	11.9	97.5 %	44.9 - 153.
18-A015724	Methyl Iodide	ug/l	< 1	10.3	11.9	86.6 %	44.9 - 153.
18-A015724	Methylene Chloride	ug/l	< 2	10.9	11.9	91.6 %	52.0 - 156.
18-A015724	Methylene Chloride	ug/l	< 2	10.5	11.9	88.2 %	52.0 - 156.
18-A015724	Trans-1,2-Dichloroethene	ug/l	1.3	14.	12.	106. %	62.0 - 150.
18-A015724	Trans-1,2-Dichloroethene	ug/l	1.3	12.	12.	89.2 %	62.0 - 150.
18-A015724	Cis-1,2-Dichloroethene	ug/l	8.8	20.	12.	93.3 %	59.4 - 147.
18-A015724	Cis-1,2-Dichloroethene	ug/l	8.8	19.	12.	85.0 %	59.4 - 147.
18-A015724	1,1-Dichloroethane	ug/l	< 1	10.5	11.9	88.2 %	82.0 - 138.
18-A015724	1,1-Dichloroethane	ug/l	< 1	10.9	11.9	91.6 %	82.0 - 138.
18-A015724	Vinyl Acetate	ug/l	< 5	11.3	11.9	95.0 %	30.0 - 167.
18-A015724	Vinyl Acetate	ug/l	< 5	9.6	11.9	80.7 %	30.0 - 167.
18-A015724	Acrylonitrile	ug/l	< 1	11.2	11.9	94.1 %	39.3 - 165.
18-A015724	Acrylonitrile	ug/l	< 1	10.4	11.9	87.4 %	39.3 - 165.
18-A015724	2-Butanone (MEK)	ug/l	< 5	11.4	11.9	95.8 %	36.2 - 170.
18-A015724	2-Butanone (MEK)	ug/l	< 5	11.7	11.9	98.3 %	36.2 - 170.
18-A015724	Chloroform	ug/l	< 1	11.6	11.9	97.5 %	51.0 - 138.
18-A015724	Chloroform	ug/l	< 1	11.3	11.9	95.0 %	51.0 - 138.
18-A015724	1,1,1-Trichloroethane	ug/l	< 1	12.6	11.9	106. %	77.0 - 148.
18-A015724	1,1,1-Trichloroethane	ug/l	< 1	11.3	11.9	95.0 %	77.0 - 148.
18-A015724	Carbon Tetrachloride	ug/l	< 1	11.4	11.9	95.8 %	70.0 - 140.
18-A015724	Carbon Tetrachloride	ug/l	< 1	12.0	11.9	101. %	70.0 - 140.
18-A015724	Benzene	ug/l	< 1	10.4	11.9	87.4 %	37.0 - 151.
18-A015724	Benzene	ug/l	< 1	10.9	11.9	91.6 %	37.0 - 151.
18-A015724	1,2-Dichloroethane	ug/l	< 1	9.6	11.9	80.7 %	57.0 - 143.

QC Summary for sample numbers: 18-A015718 to 18-A015761...

MATRIX SPIKES continued....

SAMPLE #	ANALYTE	UNITS	SMPL VAL	SMPL+SPK	SPK AMT	% REC	LIMITS
18-A015724	1,2-Dichloroethane	ug/l	< 1	10.3	11.9	86.6 %	57.0 - 143.
18-A015724	Trichloroethylene	ug/l	< 1	9.9	11.9	83.2 %	71.0 - 157.
18-A015724	Trichloroethylene	ug/l	< 1	10.1	11.9	84.9 %	71.0 - 157.
18-A015724	Bromodichloromethane	ug/l	< 1	9.3	11.9	78.2 %	68.0 - 135.
18-A015724	Bromodichloromethane	ug/l	< 1	10.3	11.9	86.6 %	68.0 - 135.
18-A015724	Bromochloromethane	ug/l	< 1	11.	12.	91.7 %	75.8 - 136.
18-A015724	Bromochloromethane	ug/l	< 1	10.	12.	83.3 %	75.8 - 136.
18-A015724	1,2-Dibromoethane (EDB)	ug/l	< 1	10.	12.	83.3 %	76.0 - 121.
18-A015724	1,2-Dibromoethane (EDB)	ug/l	< 1	11.	12.	91.7 %	76.0 - 121.
18-A015724	Dibromomethane	ug/l	< 1	9.7	12.	80.8 %	75.0 - 125.
18-A015724	Dibromomethane	ug/l	< 1	10.	12.	83.3 %	75.0 - 125.
18-A015724	1,2-Dichloropropane	ug/l	< 1	9.6	11.9	80.7 %	74.0 - 128.
18-A015724	1,2-Dichloropropane	ug/l	< 1	10.8	11.9	90.8 %	74.0 - 128.
18-A015724	4-Methyl-2-Pentanone MIBK	ug/l	< 5	10.8	11.9	90.8 %	43.7 - 147.
18-A015724	4-Methyl-2-Pentanone MIBK	ug/l	< 5	11.6	11.9	97.5 %	43.7 - 147.
18-A015724	Toluene	ug/l	< 1	11.1	11.9	93.3 %	47.0 - 150.
18-A015724	Toluene	ug/l	< 1	11.8	11.9	99.2 %	47.0 - 150.
18-A015724	Cis-1,3-Dichloropropene	ug/l	< 1	10.6	11.9	89.1 %	0.0 - 227.
18-A015724	Cis-1,3-Dichloropropene	ug/l	< 1	10.9	11.9	91.6 %	0.0 - 227.
18-A015724	1,1,2-Trichloroethane	ug/l	< 1	9.5	11.9	79.8 %	78.0 - 121.
18-A015724	1,1,2-Trichloroethane	ug/l	< 1	10.3	11.9	86.6 %	78.0 - 121.
18-A015724	Tetrachloroethylene	ug/l	< 1	9.9	11.9	83.2 %	50.4 - 167.
18-A015724	Tetrachloroethylene	ug/l	< 1	10.5	11.9	88.2 %	50.4 - 167.
18-A015724	2-Hexanone	ug/l	< 5	11.3	11.9	95.0 %	44.8 - 139.
18-A015724	2-Hexanone	ug/l	< 5	11.6	11.9	97.5 %	44.8 - 139.
18-A015724	Chlorodibromomethane	ug/l	< 1	10.1	11.9	84.9 %	53.0 - 149.
18-A015724	Chlorodibromomethane	ug/l	< 1	10.6	11.9	89.1 %	53.0 - 149.
18-A015724	Chlorobenzene	ug/l	< 1	11.6	11.9	97.5 %	37.0 - 160.
18-A015724	Chlorobenzene	ug/l	< 1	11.2	11.9	94.1 %	37.0 - 160.
18-A015724	Ethyl Benzene	ug/l	< 1	11.4	11.9	95.8 %	79.0 - 125.
18-A015724	Ethyl Benzene	ug/l	< 1	11.4	11.9	95.8 %	79.0 - 125.
18-A015724	m,p Xylene	ug/l	< 1	23.4	23.8	98.3 %	55.8 - 130.
18-A015724	m,p Xylene	ug/l	< 1	23.2	23.8	97.5 %	55.8 - 130.
18-A015724	o-Xylene	ug/l	< 1	11.6	11.9	97.5 %	75.0 - 125.
18-A015724	o-Xylene	ug/l	< 1	12.1	11.9	102. %	75.0 - 125.
18-A015724	Styrene	ug/l	< 1	11.0	11.9	92.4 %	52.9 - 120.
18-A015724	Styrene	ug/l	< 1	10.7	11.9	89.9 %	52.9 - 120.
18-A015724	Bromoform	ug/l	< 1	12.	12.	100. %	63.0 - 139.
18-A015724	Bromoform	ug/l	< 1	12.	12.	100. %	63.0 - 139.
18-A015724	1,1,2,2-Tetrachloroethane	ug/l	< 1	11.	12.	91.7 %	63.0 - 121.
18-A015724	1,1,2,2-Tetrachloroethane	ug/l	< 1	11.	12.	91.7 %	63.0 - 121.
18-A015724	1,1,1,2-Tetrachloroethane	ug/l	< 1	11.	12.	91.7 %	75.8 - 122.
18-A015724	1,1,1,2-Tetrachloroethane	ug/l	< 1	12.	12.	100. %	75.8 - 122.
18-A015724	Trans-1,3-Dichloropropene	ug/l	< 1	12.	12.	100. %	17.0 - 183.
18-A015724	Trans-1,3-Dichloropropene	ug/l	< 1	11.	12.	91.7 %	17.0 - 183.
18-A015724	1,3-Dichlorobenzene	ug/l	< 1	12.	12.	100. %	59.0 - 156.
18-A015724	1,3-Dichlorobenzene	ug/l	< 1	11.	12.	91.7 %	59.0 - 156.
18-A015724	1,4-Dichlorobenzene	ug/l	< 1	11.6	11.9	97.5 %	77.5 - 127.
18-A015724	1,4-Dichlorobenzene	ug/l	< 1	11.8	11.9	99.2 %	77.5 - 127.

QC Summary for sample numbers: 18-A015718 to 18-A015761...

MATRIX SPIKES continued....

SAMPLE #	ANALYTE	UNITS	SMPL VAL	SMPL+SPK	SPK AMT	% REC	LIMITS
18-A015724	1,2-Dichlorobenzene	ug/l	< 1	11.5	11.9	96.6 %	18.0 - 190.
18-A015724	1,2-Dichlorobenzene	ug/l	< 1	12.0	11.9	101. %	18.0 - 190.
18-A015724	1,2-Dibromo3Chloropropane	ug/l	< 5	13.	12.	108. %	39.3 - 162.
18-A015724	1,2-Dibromo3Chloropropane	ug/l	< 5	13.	12.	108. %	39.3 - 162.
18-A015724	trans-1,4-Dichloro2butene	ug/l	< 5	12.	12.	100. %	47.5 - 141.
18-A015724	trans-1,4-Dichloro2butene	ug/l	< 5	11.	12.	91.7 %	47.5 - 141.
18-A015724	1,2,3-Trichloropropane	ug/l	< 1	12.	12.	100. %	38.3 - 163.
18-A015724	1,2,3-Trichloropropane	ug/l	< 1	11.	12.	91.7 %	38.3 - 163.
Blank	Phenol	ug/l	< 2	2.1	10.0	21.0 %	5.0 - 112.
Blank	Phenol	ug/l	< 2	2.1	10.0	21.0 %	5.0 - 112.
Blank	Phenol	ug/kg	< 2	6.5	10.0	65.0 %	9.0 - 143.
Blank	Phenol	ug/kg	< 2	5.3	10.0	53.0 %	9.0 - 143.
Blank	bis(2-Chloroethyl)ether	ug/l	< 2	4.2	10.0	42.0 %	12.0 - 158.
Blank	bis(2-Chloroethyl)ether	ug/l	< 2	4.3	10.0	43.0 %	12.0 - 158.
Blank	2-Chlorophenol	ug/l	< 2	4.2	10.0	42.0 %	23.0 - 134.
Blank	2-Chlorophenol	ug/l	< 2	4.6	10.0	46.0 %	23.0 - 134.
Blank	2-Chlorophenol	ug/kg	< 2	6.5	10.0	65.0 %	21.0 - 128.
Blank	2-Chlorophenol	ug/kg	< 2	5.2	10.0	52.0 %	21.0 - 128.
Blank	1,3-Dichlorobenzene	ug/l	< 2	4.6	10.0	46.0 %	0.0 - 172.
Blank	1,3-Dichlorobenzene	ug/l	< 2	4.3	10.0	43.0 %	0.0 - 172.
Blank	1,4-Dichlorobenzene	ug/l	< 2	4.6	10.0	46.0 %	20.0 - 124.
Blank	1,4-Dichlorobenzene	ug/l	< 2	4.5	10.0	45.0 %	20.0 - 124.
Blank	1,4-Dichlorobenzene	ug/kg	< 2	6.4	10.0	64.0 %	28.0 - 113.
Blank	1,4-Dichlorobenzene	ug/kg	< 2	4.9	10.0	49.0 %	28.0 - 113.
Blank	1,2-Dichlorobenzene	ug/l	< 2	4.6	10.0	46.0 %	32.0 - 129.
Blank	1,2-Dichlorobenzene	ug/l	< 2	4.4	10.0	44.0 %	32.0 - 129.
Blank	bis(2-Chloroisopropyl)eth	ug/l	< 2	4.1	10.0	41.0 %	36.0 - 166.
Blank	bis(2-Chloroisopropyl)eth	ug/l	< 2	4.0	10.0	40.0 %	36.0 - 166.
Blank	N-Nitroso-di-n-propylamin	ug/l	< 2	4.5	10.0	45.0 %	0.0 - 230.
Blank	N-Nitroso-di-n-propylamin	ug/l	< 2	4.6	10.0	46.0 %	0.0 - 230.
Blank	N-Nitroso-di-n-propylamin	ug/kg	< 2	6.2	10.0	62.0 %	32.0 - 119.
Blank	N-Nitroso-di-n-propylamin	ug/kg	< 2	5.7	10.0	57.0 %	32.0 - 119.
Blank	Hexachloroethane	ug/l	< 1	4.7	10.0	47.0 %	40.0 - 113.
Blank	Hexachloroethane	ug/l	< 1	4.4	10.0	44.0 %	40.0 - 113.
Blank	Nitrobenzene	ug/l	< 2	4.7	10.0	47.0 %	35.0 - 180.
Blank	Nitrobenzene	ug/l	< 2	4.6	10.0	46.0 %	35.0 - 180.
Blank	Isophorone	ug/l	< 2	3.2	10.0	32.0 %	21.0 - 196.
Blank	Isophorone	ug/l	< 2	3.3	10.0	33.0 %	21.0 - 196.
Blank	2-Nitrophenol	ug/l	< 2	4.3	10.0	43.0 %	29.0 - 182.
Blank	2-Nitrophenol	ug/l	< 2	4.0	10.0	40.0 %	29.0 - 182.
Blank	bis(2-Chloroethoxy)methan	ug/l	< 2	4.2	10.0	42.0 %	33.0 - 184.
Blank	bis(2-Chloroethoxy)methan	ug/l	< 2	4.2	10.0	42.0 %	33.0 - 184.
Blank	2,4-Dichlorophenol	ug/l	< 2	4.0	10.0	40.0 %	39.0 - 135.
Blank	2,4-Dichlorophenol	ug/l	< 2	3.9	10.0	39.0 %	39.0 - 135.
Blank	1,2,4-Trichlorobenzene	ug/l	< 2	4.5	10.0	45.0 %	44.0 - 142.
Blank	1,2,4-Trichlorobenzene	ug/l	< 2	4.6	10.0	46.0 %	44.0 - 142.
Blank	1,2,4-Trichlorobenzene	ug/kg	< 2	6.2	10.0	62.0 %	15.0 - 116.
Blank	1,2,4-Trichlorobenzene	ug/kg	< 2	5.1	10.0	51.0 %	15.0 - 116.
Blank	Naphthalene	ug/l	< 2	4.5	10.0	45.0 %	21.0 - 133.

QC Summary for sample numbers: 18-A015718 to 18-A015761...

MATRIX SPIKES continued....

SAMPLE #	ANALYTE	UNITS	SMPL VAL	SMPL+SPK	SPK AMT	% REC	LIMITS
Blank	Naphthalene	ug/l	< 2	4.4	10.0	44.0 %	21.0 - 133.
Blank	Naphthalene	ug/l	< 0.1	5.37	10.0	53.7 %	25.5 - 134.
Blank	Naphthalene	ug/l	< 0.1	5.17	10.0	51.7 %	25.5 - 134.
Blank	Naphthalene	ug/Kg	< 3.33	7.32	10.0	73.2 %	21.0 - 133.
Blank	Naphthalene	ug/Kg	< 3.33	6.10	10.0	61.0 %	21.0 - 133.
Blank	Hexachlorobutadiene	ug/l	< 2	4.4	10.0	44.0 %	24.0 - 116.
Blank	Hexachlorobutadiene	ug/l	< 2	4.2	10.0	42.0 %	24.0 - 116.
Blank	4-Chloro-3-methylphenol	ug/l	< 2	2.3	10.0	23.0 %	22.0 - 147.
Blank	4-Chloro-3-methylphenol	ug/l	< 2	2.8	10.0	28.0 %	22.0 - 147.
Blank	4-Chloro-3-methylphenol	ug/kg	< 2	5.4	10.0	54.0 %	7.0 - 137.
Blank	4-Chloro-3-methylphenol	ug/kg	< 2	7.1	10.0	71.0 %	7.0 - 137.
Blank	2-Methylnaphthalene	ug/l	< 0.1	7.90	10.0	79.0 %	27.9 - 153.
Blank	2-Methylnaphthalene	ug/l	< 0.1	7.66	10.0	76.6 %	27.9 - 153.
Blank	2-Methylnaphthalene	ug/Kg	< 3.33	13.0	10.0	130. %	30.0 - 140.
Blank	2-Methylnaphthalene	ug/Kg	< 3.33	12.3	10.0	123. %	30.0 - 140.
Blank	2,4,6-Trichlorophenol	ug/l	< 2	3.9	10.0	39.0 %	37.0 - 144.
Blank	2,4,6-Trichlorophenol	ug/l	< 2	3.7	10.0	37.0 %	37.0 - 144.
Blank	2-Chloronaphthalene	ug/l	< 2	4.5	10.0	45.0 %	60.0 - 118.
Blank	2-Chloronaphthalene	ug/l	< 2	4.4	10.0	44.0 %	60.0 - 118.
Blank	Dimethylphthalate	ug/l	< 2	3.3	10.0	33.0 %	0.0 - 112.
Blank	Dimethylphthalate	ug/l	< 2	3.4	10.0	34.0 %	0.0 - 112.
Blank	Dimethylphthalate	ug/l	< 0.1	3.69	10.0	36.9 %	18.0 - 133.
Blank	Dimethylphthalate	ug/l	< 0.1	3.65	10.0	36.5 %	18.0 - 133.
Blank	Dimethylphthalate	ug/kg	< 3.33	7.38	10.0	73.8 %	0.0 - 112.
Blank	Dimethylphthalate	ug/kg	< 3.33	8.27	10.0	82.7 %	0.0 - 112.
Blank	Acenaphthylene	ug/l	< 2	4.7	10.0	47.0 %	33.0 - 145.
Blank	Acenaphthylene	ug/l	< 2	4.7	10.0	47.0 %	33.0 - 145.
Blank	Acenaphthylene	ug/l	< 0.1	4.82	10.0	48.2 %	20.0 - 112.
Blank	Acenaphthylene	ug/l	< 0.1	4.83	10.0	48.3 %	20.0 - 112.
Blank	Acenaphthylene	ug/Kg	< 3.33	6.43	10.0	64.3 %	33.0 - 145.
Blank	Acenaphthylene	ug/Kg	< 3.33	6.60	10.0	66.0 %	33.0 - 145.
Blank	2,6-Dinitrotoluene	ug/l	< 2	5.3	10.0	53.0 %	50.0 - 158.
Blank	2,6-Dinitrotoluene	ug/l	< 2	5.4	10.0	54.0 %	50.0 - 158.
Blank	Acenaphthene	ug/l	< 2	4.6	10.0	46.0 %	35.0 - 145.
Blank	Acenaphthene	ug/l	< 2	4.5	10.0	45.0 %	35.0 - 145.
Blank	Acenaphthene	ug/kg	< 2	6.8	10.0	68.0 %	25.0 - 108.
Blank	Acenaphthene	ug/kg	< 2	6.9	10.0	69.0 %	25.0 - 108.
Blank	Acenaphthene	ug/l	< 0.1	5.03	10.0	50.3 %	25.0 - 158.
Blank	Acenaphthene	ug/l	< 0.1	5.03	10.0	50.3 %	25.0 - 158.
Blank	Acenaphthene	ug/Kg	< 3.33	7.00	10.0	70.0 %	47.0 - 145.
Blank	Acenaphthene	ug/Kg	< 3.33	7.23	10.0	72.3 %	47.0 - 145.
Blank	2,4-Dinitrotoluene	ug/l	< 2	4.9	10.0	49.0 %	39.0 - 139.
Blank	2,4-Dinitrotoluene	ug/l	< 2	4.8	10.0	48.0 %	39.0 - 139.
Blank	2,4-Dinitrotoluene	ug/kg	< 5	7.2	10.0	72.0 %	16.0 - 145.
Blank	2,4-Dinitrotoluene	ug/kg	< 5	7.8	10.0	78.0 %	16.0 - 145.
Blank	Diethylphthalate	ug/l	< 2	4.5	10.0	45.0 %	0.0 - 114.
Blank	Diethylphthalate	ug/l	< 2	4.7	10.0	47.0 %	0.0 - 114.
Blank	Diethylphthalate	ug/l	< 0.1	4.45	10.0	44.5 %	31.6 - 136.
Blank	Diethylphthalate	ug/l	< 0.1	4.58	10.0	45.8 %	31.6 - 136.

QC Summary for sample numbers: 18-A015718 to 18-A015761...

MATRIX SPIKES continued....

SAMPLE #	ANALYTE	UNITS	SMPL VAL	SMPL+SPK	SPK AMT	% REC	LIMITS
Blank	Diethylphthalate	ug/kg	< 3.33	7.11	10.0	71.1 %	0.0 - 114.
Blank	Diethylphthalate	ug/kg	< 3.33	7.95	10.0	79.5 %	0.0 - 114.
Blank	4-Chlorophenyl-phenyl eth	ug/l	< 2	4.8	10.0	48.0 %	25.0 - 158.
Blank	4-Chlorophenyl-phenyl eth	ug/l	< 2	4.6	10.0	46.0 %	25.0 - 158.
Blank	Fluorene	ug/l	< 2	4.6	10.0	46.0 %	32.0 - 121.
Blank	Fluorene	ug/l	< 2	4.5	10.0	45.0 %	32.0 - 121.
Blank	Fluorene	ug/l	< 0.1	5.73	10.0	57.3 %	24.0 - 131.
Blank	Fluorene	ug/l	< 0.1	5.74	10.0	57.4 %	24.0 - 131.
Blank	Fluorene	ug/Kg	< 3.33	8.15	10.0	81.5 %	59.0 - 121.
Blank	Fluorene	ug/Kg	< 3.33	8.92	10.0	89.2 %	59.0 - 121.
Blank	4,6-Dinitro-2-methylpheno	ug/l	< 2	3.1	10.0	31.0 %	0.0 - 181.
Blank	4,6-Dinitro-2-methylpheno	ug/l	< 2	3.9	10.0	39.0 %	0.0 - 181.
Blank	4-Bromophenyl-phenyl ethe	ug/l	< 2	5.9	10.0	59.0 %	53.0 - 127.
Blank	4-Bromophenyl-phenyl ethe	ug/l	< 2	6.1	10.0	61.0 %	53.0 - 127.
Blank	Hexachlorobenzene	ug/l	< 2	5.1	10.0	51.0 %	0.0 - 152.
Blank	Hexachlorobenzene	ug/l	< 2	5.1	10.0	51.0 %	0.0 - 152.
Blank	Pentachlorophenol	ug/l	< 0.5	3.57	10.0	35.7 %	0.0 - 135.
Blank	Pentachlorophenol	ug/l	< 0.5	3.69	10.0	36.9 %	0.0 - 135.
Blank	Pentachlorophenol	ug/kg	< 16.7	4.04	10.0	40.4 %	14.0 - 176.
Blank	Pentachlorophenol	ug/kg	< 16.7	3.96	10.0	39.6 %	14.0 - 176.
Blank	Phenanthrene	ug/l	< 2	5.0	10.0	50.0 %	37.0 - 120.
Blank	Phenanthrene	ug/l	< 2	5.1	10.0	51.0 %	37.0 - 120.
Blank	Phenanthrene	ug/l	< 0.1	6.32	10.0	63.2 %	46.0 - 125.
Blank	Phenanthrene	ug/l	< 0.1	6.49	10.0	64.9 %	46.0 - 125.
Blank	Phenanthrene	ug/Kg	< 3.33	8.45	10.0	84.5 %	54.0 - 135.
Blank	Phenanthrene	ug/Kg	< 3.33	9.50	10.0	95.0 %	54.0 - 135.
Blank	Anthracene	ug/l	< 2	4.5	10.0	45.0 %	27.0 - 133.
Blank	Anthracene	ug/l	< 2	4.6	10.0	46.0 %	27.0 - 133.
Blank	Anthracene	ug/l	< 0.1	4.86	10.0	48.6 %	20.0 - 155.
Blank	Anthracene	ug/l	< 0.1	4.99	10.0	49.9 %	20.0 - 155.
Blank	Anthracene	ug/Kg	< 3.33	6.67	10.0	66.7 %	27.0 - 133.
Blank	Anthracene	ug/Kg	< 3.33	7.48	10.0	74.8 %	27.0 - 133.
Blank	Di-n-butylphthalate	ug/l	< 2	5.4	10.0	54.0 %	1.0 - 118.
Blank	Di-n-butylphthalate	ug/l	< 2	5.6	10.0	56.0 %	1.0 - 118.
Blank	Di-n-butylphthalate	ug/l	< 0.1	4.96	10.0	49.6 %	32.7 - 164.
Blank	Di-n-butylphthalate	ug/l	< 0.1	5.19	10.0	51.9 %	32.7 - 164.
Blank	Di-n-butylphthalate	ug/kg	< 3.33	7.09	10.0	70.9 %	1.0 - 118.
Blank	Di-n-butylphthalate	ug/kg	< 3.33	7.81	10.0	78.1 %	1.0 - 118.
Blank	Fluoranthene	ug/l	< 2	5.3	10.0	53.0 %	26.0 - 137.
Blank	Fluoranthene	ug/l	< 2	5.5	10.0	55.0 %	26.0 - 137.
Blank	Fluoranthene	ug/l	< 0.1	5.94	10.0	59.4 %	20.0 - 147.
Blank	Fluoranthene	ug/l	< 0.1	6.18	10.0	61.8 %	20.0 - 147.
Blank	Fluoranthene	ug/Kg	< 3.33	8.59	10.0	85.9 %	26.0 - 137.
Blank	Fluoranthene	ug/Kg	< 3.33	9.45	10.0	94.5 %	26.0 - 137.
Blank	Pyrene	ug/l	< 2	5.4	10.0	54.0 %	35.0 - 115.
Blank	Pyrene	ug/l	< 2	5.6	10.0	56.0 %	35.0 - 115.
Blank	Pyrene	ug/l	< 0.1	6.32	10.0	63.2 %	21.0 - 174.
Blank	Pyrene	ug/l	< 0.1	6.61	10.0	66.1 %	21.0 - 174.
Blank	Pyrene	ug/Kg	< 3.33	7.89	10.0	78.9 %	52.0 - 115.

QC Summary for sample numbers: 18-A015718 to 18-A015761...

MATRIX SPIKES continued....

SAMPLE #	ANALYTE	UNITS	SMPL VAL	SMPL+SPK	SPK AMT	% REC	LIMITS
Blank	Pyrene	ug/Kg	< 3.33	8.51	10.0	85.1 %	52.0 - 115.
Blank	Butylbenzylphthalate	ug/l	< 2	5.2	10.0	52.0 %	0.0 - 152.
Blank	Butylbenzylphthalate	ug/l	< 2	5.3	10.0	53.0 %	0.0 - 152.
Blank	Butylbenzylphthalate	ug/l	< 0.1	5.08	10.0	50.8 %	39.9 - 140.
Blank	Butylbenzylphthalate	ug/l	< 0.1	5.36	10.0	53.6 %	39.9 - 140.
Blank	Butylbenzylphthalate	ug/Kg	< 3.33	6.86	10.0	68.6 %	0.0 - 152.
Blank	Butylbenzylphthalate	ug/Kg	< 3.33	7.53	10.0	75.3 %	0.0 - 152.
Blank	Benzo(a)anthracene	ug/l	< 2	5.1	10.0	51.0 %	33.0 - 143.
Blank	Benzo(a)anthracene	ug/l	< 2	5.4	10.0	54.0 %	33.0 - 143.
Blank	Benzo(a)anthracene	ug/l	< 0.1	6.28	10.0	62.8 %	28.0 - 140.
Blank	Benzo(a)anthracene	ug/l	< 0.1	6.73	10.0	67.3 %	28.0 - 140.
Blank	Benzo(a)anthracene	ug/Kg	< 3.33	8.56	10.0	85.6 %	33.0 - 143.
Blank	Benzo(a)anthracene	ug/Kg	< 3.33	9.58	10.0	95.8 %	33.0 - 143.
Blank	Chrysene	ug/l	< 2	5.6	10.0	56.0 %	17.0 - 168.
Blank	Chrysene	ug/l	< 2	5.8	10.0	58.0 %	17.0 - 168.
Blank	Chrysene	ug/l	< 0.1	5.02	10.0	50.2 %	20.0 - 130.
Blank	Chrysene	ug/l	< 0.1	5.17	10.0	51.7 %	20.0 - 130.
Blank	Chrysene	ug/Kg	< 3.33	7.02	10.0	70.2 %	17.0 - 168.
Blank	Chrysene	ug/Kg	< 3.33	7.57	10.0	75.7 %	17.0 - 168.
Blank	bis(2-Ethylhexyl)phthalat	ug/l	< 2	5.5	10.0	55.0 %	8.0 - 158.
Blank	bis(2-Ethylhexyl)phthalat	ug/l	< 2	5.9	10.0	59.0 %	8.0 - 158.
Blank	bis(2-Ethylhexyl)phthalat	ug/l	0.25	4.86	10.0	46.1 %	37.2 - 165.
Blank	bis(2-Ethylhexyl)phthalat	ug/l	0.25	5.17	10.0	49.2 %	37.2 - 165.
Blank	bis(2-Ethylhexyl)phthalat	ug/kg	< 3.33	6.94	10.0	69.4 %	8.0 - 158.
Blank	bis(2-Ethylhexyl)phthalat	ug/kg	< 3.33	7.68	10.0	76.8 %	8.0 - 158.
Blank	Di-n-octylphthalate	ug/l	< 2	5.4	10.0	54.0 %	4.0 - 146.
Blank	Di-n-octylphthalate	ug/l	< 2	5.8	10.0	58.0 %	4.0 - 146.
Blank	Di-n-octylphthalate	ug/l	< 0.1	5.16	10.0	51.6 %	23.5 - 136.
Blank	Di-n-octylphthalate	ug/l	< 0.1	5.54	10.0	55.4 %	23.5 - 136.
Blank	Di-n-octylphthalate	ug/kg	< 3.33	7.43	10.0	74.3 %	4.0 - 155.
Blank	Di-n-octylphthalate	ug/kg	< 3.33	8.10	10.0	81.0 %	4.0 - 155.
Blank	Benzo(b)fluoranthene	ug/l	< 2	5.4	10.0	54.0 %	24.0 - 159.
Blank	Benzo(b)fluoranthene	ug/l	< 2	5.8	10.0	58.0 %	24.0 - 159.
Blank	Benzo(b)fluoranthene	ug/l	< 0.1	7.48	10.0	74.8 %	20.0 - 160.
Blank	Benzo(b)fluoranthene	ug/l	< 0.1	7.90	10.0	79.0 %	20.0 - 160.
Blank	Benzo(b)fluoranthene	ug/Kg	< 3.33	10.5	10.0	105. %	24.0 - 159.
Blank	Benzo(b)fluoranthene	ug/Kg	< 3.33	11.4	10.0	114. %	24.0 - 159.
Blank	Benzo(k)fluoranthene	ug/l	< 2	5.8	10.0	58.0 %	11.0 - 162.
Blank	Benzo(k)fluoranthene	ug/l	< 2	5.9	10.0	59.0 %	11.0 - 162.
Blank	Benzo(k)fluoranthene	ug/l	< 0.1	6.29	10.0	62.9 %	21.1 - 157.
Blank	Benzo(k)fluoranthene	ug/l	< 0.1	6.56	10.0	65.6 %	21.1 - 157.
Blank	Benzo(k)fluoranthene	ug/Kg	< 3.33	8.98	10.0	89.8 %	11.0 - 162.
Blank	Benzo(k)fluoranthene	ug/Kg	< 3.33	9.81	10.0	98.1 %	11.0 - 162.
Blank	Benzo(a)pyrene	ug/l	< 2	4.6	10.0	46.0 %	17.0 - 163.
Blank	Benzo(a)pyrene	ug/l	< 2	4.9	10.0	49.0 %	17.0 - 163.
Blank	Benzo(a)pyrene	ug/l	< 0.1	5.63	10.0	56.3 %	35.0 - 140.
Blank	Benzo(a)pyrene	ug/l	< 0.1	5.89	10.0	58.9 %	35.0 - 140.
Blank	Benzo(a)pyrene	ug/Kg	< 3.33	8.17	10.0	81.7 %	17.0 - 163.
Blank	Benzo(a)pyrene	ug/Kg	< 3.33	8.96	10.0	89.6 %	17.0 - 163.

QC Summary for sample numbers: 18-A015718 to 18-A015761...

MATRIX SPIKES continued....

SAMPLE #	ANALYTE	UNITS	SMPL VAL	SMPL+SPK	SPK AMT	% REC	LIMITS
Blank	Indeno(1,2,3-cd)pyrene	ug/l	< 2	5.5	10.0	55.0 %	0.0 - 171.
Blank	Indeno(1,2,3-cd)pyrene	ug/l	< 2	5.8	10.0	58.0 %	0.0 - 171.
Blank	Indeno(123-cd)pyrene	ug/l	< 0.1	6.62	10.0	66.2 %	31.1 - 163.
Blank	Indeno(123-cd)pyrene	ug/l	< 0.1	6.83	10.0	68.3 %	31.1 - 163.
Blank	Indeno(123-cd)pyrene	ug/Kg	< 3.33	10.1	10.0	101. %	0.0 - 171.
Blank	Indeno(123-cd)pyrene	ug/Kg	< 3.33	11.0	10.0	110. %	0.0 - 171.
Blank	Dibenzo(ah)anthracene	ug/l	< 2	5.4	10.0	54.0 %	0.0 - 227.
Blank	Dibenzo(ah)anthracene	ug/l	< 2	5.7	10.0	57.0 %	0.0 - 227.
Blank	Dibenzo(ah)anthracene	ug/l	< 0.1	6.29	10.0	62.9 %	20.0 - 170.
Blank	Dibenzo(ah)anthracene	ug/l	< 0.1	6.65	10.0	66.5 %	20.0 - 170.
Blank	Dibenzo(ah)anthracene	ug/Kg	< 3.33	9.81	10.0	98.1 %	0.0 - 227.
Blank	Dibenzo(ah)anthracene	ug/Kg	< 3.33	10.8	10.0	108. %	0.0 - 227.
Blank	Benzo(g,h,i)perylene	ug/l	< 2	5.2	10.0	52.0 %	0.0 - 219.
Blank	Benzo(g,h,i)perylene	ug/l	< 2	5.4	10.0	54.0 %	0.0 - 219.
Blank	Benzo(ghi)perylene	ug/l	< 0.1	6.19	10.0	61.9 %	20.6 - 175.
Blank	Benzo(ghi)perylene	ug/l	< 0.1	6.37	10.0	63.7 %	20.6 - 175.
Blank	Benzo(ghi)perylene	ug/Kg	< 3.33	9.54	10.0	95.4 %	0.0 - 219.
Blank	Benzo(ghi)perylene	ug/Kg	< 3.33	10.4	10.0	104. %	0.0 - 219.
18-A015736	Arsenic	ug/L	0.479	95.2	100.	94.7 %	70.0 - 130.
18-A015736	Arsenic	ug/L	0.479	94.9	100.	94.4 %	70.0 - 130.
18-A016025	Arsenic	ug/L	7.24	108.	100.	101. %	70.0 - 130.
18-A016025	Arsenic	ug/L	7.24	111.	100.	104. %	70.0 - 130.
18-A015832	Arsenic	ug/g	5.49	254.	284.	87.5 %	22.0 - 154.
18-A016080	Arsenic	ug/g	9.41	525.	560.	92.1 %	22.0 - 154.
18-A016326	Arsenic	ug/g	10.8	290.	297.	94.0 %	22.0 - 154.
18-A016427	Arsenic	ug/g	2.87	345.	374.	91.5 %	22.0 - 154.
18-A016446	Arsenic	ug/g	3.05	518.	544.	94.7 %	22.0 - 154.
18-A015736	Cadmium	ug/L	< 0.05	102.	100.	102. %	70.0 - 130.
18-A015736	Cadmium	ug/L	< 0.05	101.	100.	101. %	70.0 - 130.
18-A016025	Cadmium	ug/L	0.255	94.8	100.	94.5 %	70.0 - 130.
18-A016025	Cadmium	ug/L	0.255	94.9	100.	94.6 %	70.0 - 130.
18-A015832	Cadmium	ug/g	0.118	254.	284.	89.4 %	66.7 - 132.
18-A016080	Cadmium	ug/g	0.356	517.	560.	92.3 %	66.7 - 132.
18-A016326	Cadmium	ug/g	0.216	284.	297.	95.6 %	66.7 - 132.
18-A016427	Cadmium	ug/g	0.446	361.	374.	96.4 %	66.7 - 132.
18-A016446	Cadmium	ug/g	0.187	528.	544.	97.0 %	66.7 - 132.
18-A015736	Chromium	ug/L	0.12	91.1	100.	91.0 %	70.0 - 130.
18-A015736	Chromium	ug/L	0.12	89.2	100.	89.1 %	70.0 - 130.
18-A015832	Chromium	ug/g	15.0	271.	284.	90.1 %	56.7 - 134.
18-A016080	Chromium	ug/g	24.5	528.	560.	89.9 %	56.7 - 134.
18-A016326	Chromium	ug/g	22.2	297.	297.	92.5 %	56.7 - 134.
18-A016427	Chromium	ug/g	17.1	350.	374.	89.0 %	56.7 - 134.
18-A016446	Chromium	ug/g	14.4	515.	544.	92.0 %	56.7 - 134.
18-A015736	Lead	ug/L	0.158	102.	100.	102. %	70.0 - 130.
18-A015736	Lead	ug/L	0.158	102.	100.	102. %	70.0 - 130.
18-A016025	Lead	ug/L	0.196	103.	100.	103. %	70.0 - 130.
18-A016025	Lead	ug/L	0.196	104.	100.	104. %	70.0 - 130.
18-A015832	Lead	ug/g	1.858	270.0	284.0	94.4 %	65.7 - 130.
18-A016080	Lead	ug/g	10.08	537.0	560.0	94.1 %	65.7 - 130.

QC Summary for sample numbers: 18-A015718 to 18-A015761...

MATRIX SPIKES continued....

SAMPLE #	ANALYTE	UNITS	SMPL VAL	SMPL+SPK	SPK AMT	% REC	LIMITS
18-A016326	Lead	ug/g	4.417	283.0	297.0	93.8 %	65.7 - 130.
18-A016427	Lead	ug/g	2.446	287.0	374.0	76.1 %	65.7 - 130.
18-A016446	Lead	ug/g	1.108	508.0	544.0	93.2 %	65.7 - 130.

MATRIX SPIKE DUPLICATES

SAMPLE #	ANALYTE	UNITS	SAM + SPK	MSD VALUE	RPD	LIMITS
Spike	PCB-1260	ug/kg	0.29	0.33	13.	23.
Spike	Chloromethane	ug/l	14.8	13.8	7.0	34.
Spike	Vinyl Chloride	ug/l	21.	20.	4.9	33.
Spike	Bromomethane	ug/l	9.6	11.6	19.	27.
Spike	Chloroethane	ug/l	13.4	15.0	11.	25.
Spike	Trichlorofluoromethane	ug/l	13.8	11.2	21.	34.
Spike	1,1-Dichloroethylene	ug/l	12.3	11.0	11.	21.
Spike	Acetone	ug/l	10.9	9.9	9.6	15.
Spike	Carbon Disulfide	ug/l	13.6	13.1	3.7	35.
Spike	Methyl Iodide	ug/l	11.6	10.3	12.	35.
Spike	Methylene Chloride	ug/l	10.9	10.5	3.7	38.
Spike	Trans-1,2-Dichloroethene	ug/l	14.	12.	15.	23.
Spike	Cis-1,2-Dichloroethene	ug/l	20.	19.	5.1	25.
Spike	1,1-Dichloroethane	ug/l	10.5	10.9	3.7	31.
Spike	Vinyl Acetate	ug/l	11.3	9.6	16.	45.
Spike	Acrylonitrile	ug/l	11.2	10.4	7.4	20.
Spike	2-Butanone (MEK)	ug/l	11.4	11.7	2.6	25.
Spike	Chloroform	ug/l	11.6	11.3	2.6	23.
Spike	1,1,1-Trichloroethane	ug/l	12.6	11.3	11.	36.
Spike	Carbon Tetrachloride	ug/l	11.4	12.0	5.1	37.
Spike	Benzene	ug/l	10.4	10.9	4.7	16.
Spike	1,2-Dichloroethane	ug/l	9.6	10.3	7.0	24.
Spike	Trichloroethylene	ug/l	9.9	10.1	2.0	16.
Spike	Bromodichloromethane	ug/l	9.3	10.3	10.	22.
Spike	Bromochloromethane	ug/l	11.	10.	9.5	36.
Spike	1,2-Dibromoethane (EDB)	ug/l	10.	11.	9.5	28.
Spike	Dibromomethane	ug/l	9.7	10.	3.0	20.
Spike	1,2-Dichloropropane	ug/l	9.6	10.8	12.	24.
Spike	4-Methyl-2-Pentanone MIBK	ug/l	10.8	11.6	7.1	39.
Spike	Toluene	ug/l	11.1	11.8	6.1	14.
Spike	Cis-1,3-Dichloropropene	ug/l	10.6	10.9	2.8	39.
Spike	1,1,2-Trichloroethane	ug/l	9.5	10.3	8.1	22.
Spike	Tetrachloroethylene	ug/l	9.9	10.5	5.9	21.
Spike	2-Hexanone	ug/l	11.3	11.6	2.6	40.
Spike	Chlorodibromomethane	ug/l	10.1	10.6	4.8	30.
Spike	Chlorobenzene	ug/l	11.6	11.2	3.5	14.
Spike	Ethyl Benzene	ug/l	11.4	11.4	0.00	18.
Spike	m,p Xylene	ug/l	23.4	23.2	0.86	38.
Spike	o-Xylene	ug/l	11.6	12.1	4.2	20.
Spike	Styrene	ug/l	11.0	10.7	2.8	29.
Spike	Bromoform	ug/l	12.	12.	0.00	26.
Spike	1,1,2,2-Tetrachloroethane	ug/l	11.	11.	0.00	28.
Spike	1,1,1,2-Tetrachloroethane	ug/l	11.	12.	8.7	37.
Spike	Trans-1,3-Dichloropropene	ug/l	12.	11.	8.7	29.
Spike	1,3-Dichlorobenzene	ug/l	12.	11.	8.7	20.
Spike	1,4-Dichlorobenzene	ug/l	11.6	11.8	1.7	27.

QC Summary for sample numbers: 18-A015718 to 18-A015761...

MATRIX SPIKE DUPLICATES continued...

SAMPLE #	ANALYTE	UNITS	SAM + SPK	MSD VALUE	RPD	LIMITS
Spike	1,2-Dichlorobenzene	ug/l	11.5	12.0	4.3	25.
Spike	1,2-Dibromo3Chloropropane	ug/l	13.	13.	0.00	39.
Spike	trans-1,4-Dichloro2butene	ug/l	12.	11.	8.7	35.
Spike	1,2,3-Trichloropropane	ug/l	12.	11.	8.7	45.
Spike	Phenol	ug/l	2.1	2.1	0.00	40.
Spike	Phenol	ug/kg	6.5	5.3	20.	32.
Spike	bis(2-Chloroethyl)ether	ug/l	4.2	4.3	2.4	40.
Spike	2-Chlorophenol	ug/l	4.2	4.6	9.1	40.
Spike	2-Chlorophenol	ug/kg	6.5	5.2	22.	33.
Spike	1,3-Dichlorobenzene	ug/l	4.6	4.3	6.7	40.
Spike	1,4-Dichlorobenzene	ug/l	4.6	4.5	2.2	40.
Spike	1,4-Dichlorobenzene	ug/kg	6.4	4.9	27.	35.
Spike	1,2-Dichlorobenzene	ug/l	4.6	4.4	4.4	40.
Spike	bis(2-Chloroisopropyl)eth	ug/l	4.1	4.0	2.5	40.
Spike	N-Nitroso-di-n-propylamin	ug/l	4.5	4.6	2.2	40.
Spike	N-Nitroso-di-n-propylamin	ug/kg	6.2	5.7	8.4	28.
Spike	Hexachloroethane	ug/l	4.7	4.4	6.6	40.
Spike	Nitrobenzene	ug/l	4.7	4.6	2.2	40.
Spike	Isophorone	ug/l	3.2	3.3	3.1	40.
Spike	2-Nitrophenol	ug/l	4.3	4.0	7.2	40.
Spike	bis(2-Chloroethoxy)methan	ug/l	4.2	4.2	0.00	40.
Spike	2,4-Dichlorophenol	ug/l	4.0	3.9	2.5	40.
Spike	1,2,4-Trichlorobenzene	ug/l	4.5	4.6	2.2	40.
Spike	1,2,4-Trichlorobenzene	ug/kg	6.2	5.1	19.	36.
Spike	Naphthalene	ug/l	4.5	4.4	2.2	40.
Spike	Naphthalene	ug/l	5.37	5.17	3.8	40.
Spike	Naphthalene	ug/Kg	7.32	6.10	18.	40.
Spike	Hexachlorobutadiene	ug/l	4.4	4.2	4.7	40.
Spike	4-Chloro-3-methylphenol	ug/l	2.3	2.8	20.	40.
Spike	4-Chloro-3-methylphenol	ug/kg	5.4	7.1	27.	42.
Spike	2-Methylnaphthalene	ug/l	7.90	7.66	3.1	40.
Spike	2-Methylnaphthalene	ug/Kg	13.0	12.3	5.5	40.
Spike	2,4,6-Trichlorophenol	ug/l	3.9	3.7	5.3	40.
Spike	2-Chloronaphthalene	ug/l	4.5	4.4	2.2	40.
Spike	Dimethylphthalate	ug/l	3.3	3.4	3.0	40.
Spike	Dimethylphthalate	ug/l	3.69	3.65	1.1	40.
Spike	Dimethylphthalate	ug/kg	7.38	8.27	11.	40.
Spike	Acenaphthylene	ug/l	4.7	4.7	0.00	40.
Spike	Acenaphthylene	ug/l	4.82	4.83	0.21	40.
Spike	Acenaphthylene	ug/Kg	6.43	6.60	2.6	40.
Spike	2,6-Dinitrotoluene	ug/l	5.3	5.4	1.9	40.
Spike	Acenaphthene	ug/l	4.6	4.5	2.2	40.
Spike	Acenaphthene	ug/kg	6.8	6.9	1.5	36.
Spike	Acenaphthene	ug/l	5.03	5.03	0.00	40.
Spike	Acenaphthene	ug/Kg	7.00	7.23	3.2	40.
Spike	2,4-Dinitrotoluene	ug/l	4.9	4.8	2.1	40.
Spike	2,4-Dinitrotoluene	ug/kg	7.2	7.8	8.0	30.
Spike	Diethylphthalate	ug/l	4.5	4.7	4.3	40.
Spike	Diethylphthalate	ug/l	4.45	4.58	2.9	40.

QC Summary for sample numbers: 18-A015718 to 18-A015761...

MATRIX SPIKE DUPLICATES continued...

SAMPLE #	ANALYTE	UNITS	SAM + SPK	MSD VALUE	RPD	LIMITS
Spike	Diethylphthalate	ug/kg	7.11	7.95	11.	40.
Spike	4-Chlorophenyl-phenyl eth	ug/l	4.8	4.6	4.3	40.
Spike	Fluorene	ug/l	4.6	4.5	2.2	40.
Spike	Fluorene	ug/l	5.73	5.74	0.17	40.
Spike	Fluorene	ug/Kg	8.15	8.92	9.0	40.
Spike	4,6-Dinitro-2-methylpheno	ug/l	3.1	3.9	23.	40.
Spike	4-Bromophenyl-phenyl ethe	ug/l	5.9	6.1	3.3	40.
Spike	Hexachlorobenzene	ug/l	5.1	5.1	0.00	40.
Spike	Pentachlorophenol	ug/l	3.57	3.69	3.3	40.
Spike	Pentachlorophenol	ug/kg	4.04	3.96	2.0	40.
Spike	Phenanthrene	ug/l	5.0	5.1	2.0	40.
Spike	Phenanthrene	ug/l	6.32	6.49	2.7	40.
Spike	Phenanthrene	ug/Kg	8.45	9.50	12.	40.
Spike	Anthracene	ug/l	4.5	4.6	2.2	40.
Spike	Anthracene	ug/l	4.86	4.99	2.6	40.
Spike	Anthracene	ug/Kg	6.67	7.48	11.	40.
Spike	Di-n-butylphthalate	ug/l	5.4	5.6	3.6	40.
Spike	Di-n-butylphthalate	ug/l	4.96	5.19	4.5	40.
Spike	Di-n-butylphthalate	ug/kg	7.09	7.81	9.7	40.
Spike	Fluoranthene	ug/l	5.3	5.5	3.7	40.
Spike	Fluoranthene	ug/l	5.94	6.18	4.0	40.
Spike	Fluoranthene	ug/Kg	8.59	9.45	9.5	40.
Spike	Pyrene	ug/l	5.4	5.6	3.6	40.
Spike	Pyrene	ug/l	6.32	6.61	4.5	40.
Spike	Pyrene	ug/Kg	7.89	8.51	7.6	40.
Spike	Butylbenzylphthalate	ug/l	5.2	5.3	1.9	40.
Spike	Butylbenzylphthalate	ug/l	5.08	5.36	5.4	40.
Spike	Butylbenzylphthalate	ug/Kg	6.86	7.53	9.3	40.
Spike	Benzo(a)anthracene	ug/l	5.1	5.4	5.7	40.
Spike	Benzo(a)anthracene	ug/l	6.28	6.73	6.9	40.
Spike	Benzo(a)anthracene	ug/Kg	8.56	9.58	11.	40.
Spike	Chrysene	ug/l	5.6	5.8	3.5	40.
Spike	Chrysene	ug/l	5.02	5.17	2.9	40.
Spike	Chrysene	ug/Kg	7.02	7.57	7.5	40.
Spike	bis(2-Ethylhexyl)phthalat	ug/l	5.5	5.9	7.0	40.
Spike	bis(2-Ethylhexyl)phthalat	ug/l	4.86	5.17	6.2	40.
Spike	bis(2-Ethylhexyl)phthalat	ug/kg	6.94	7.68	10.	40.
Spike	Di-n-octylphthalate	ug/l	5.4	5.8	7.1	40.
Spike	Di-n-octylphthalate	ug/l	5.16	5.54	7.1	40.
Spike	Di-n-octylphthalate	ug/kg	7.43	8.10	8.6	40.
Spike	Benzo(b)fluoranthene	ug/l	5.4	5.8	7.1	40.
Spike	Benzo(b)fluoranthene	ug/l	7.48	7.90	5.5	40.
Spike	Benzo(b)fluoranthene	ug/Kg	10.5	11.4	8.2	40.
Spike	Benzo(k)fluoranthene	ug/l	5.8	5.9	1.7	40.
Spike	Benzo(k)fluoranthene	ug/l	6.29	6.56	4.2	40.
Spike	Benzo(k)fluoranthene	ug/Kg	8.98	9.81	8.8	40.
Spike	Benzo(a)pyrene	ug/l	4.6	4.9	6.3	40.
Spike	Benzo(a)pyrene	ug/l	5.63	5.89	4.5	40.
Spike	Benzo(a)pyrene	ug/Kg	8.17	8.96	9.2	40.

QC Summary for sample numbers: 18-A015718 to 18-A015761...

MATRIX SPIKE DUPLICATES continued...

SAMPLE #	ANALYTE	UNITS	SAM + SPK	MSD VALUE	RPD	LIMITS
Spike	Indeno(1,2,3-cd)pyrene	ug/l	5.5	5.8	5.3	40.
Spike	Indeno(123-cd)pyrene	ug/l	6.62	6.83	3.1	40.
Spike	Indeno(123-cd)pyrene	ug/Kg	10.1	11.0	8.5	40.
Spike	Dibenzo(ah)anthracene	ug/l	5.4	5.7	5.4	40.
Spike	Dibenzo(ah)anthracene	ug/l	6.29	6.65	5.6	40.
Spike	Dibenzo(ah)anthracene	ug/Kg	9.81	10.8	9.6	40.
Spike	Benzo(g,h,i)perylene	ug/l	5.2	5.4	3.8	40.
Spike	Benzo(ghi)perylene	ug/l	6.19	6.37	2.9	40.
Spike	Benzo(ghi)perylene	ug/Kg	9.54	10.4	8.6	40.
Spike	Arsenic	ug/L	95.2	94.9	0.32	16.
Spike	Arsenic	ug/L	108.	111.	2.7	16.
Spike	Cadmium	ug/L	102.	101.	0.99	25.
Spike	Cadmium	ug/L	94.8	94.9	0.11	25.
Spike	Chromium	ug/L	91.1	89.2	2.1	15.
Spike	Lead	ug/L	102.	102.	0.00	25.
Spike	Lead	ug/L	103.	104.	0.97	25.

STANDARD REFERENCE MATERIALS

ANALYTE	UNITS	TRUE VALUE	MEASURED VAL	% REC	LIMITS
Total Suspended Solids	mg/l	100	98.	98.0 %	81.0 - 122.
Total Suspended Solids	mg/l	100	98.	98.0 %	81.0 - 122.
Total Suspended Solids	mg/l	100	100	100. %	81.0 - 122.
Total Suspended Solids	mg/l	100	100	100. %	81.0 - 122.
Mercury	mg/l	0.00250	0.00271	108. %	90.0 - 110.
Mercury	mg/l	0.00250	0.00276	110. %	90.0 - 110.
Mercury	ug/g	0.250	0.263	105. %	51.2 - 148.
Mercury	ug/g	0.250	0.264	106. %	51.2 - 148.
Benzene	ug/l	10.0	10.6	106. %	85.0 - 115.
Benzene	ug/kg	10.0	9.9	99.0 %	70.0 - 130.
Toluene	ug/l	10.0	11.3	113. %	70.0 - 130.
Toluene	ug/kg	10.0	11.9	119. %	70.0 - 130.
Ethyl Benzene	ug/l	10.0	10.3	103. %	85.0 - 115.
Ethyl Benzene	ug/kg	10.0	10.0	100. %	70.0 - 130.
m+p-Xylene	ug/kg	20.0	19.7	98.5 %	70.0 - 130.
o-Xylene	ug/kg	10.0	10.1	101. %	70.0 - 130.
Total Xylene	ug/l	30.0	31.9	106. %	70.0 - 130.
PCB-1016	ug/kg	0.40	0.38	95.0 %	70.0 - 130.
PCB-1016	ug/kg	0.40	0.35	87.5 %	70.0 - 130.
PCB-1260	ug/kg	0.40	0.44	110. %	43.3 - 175.
PCB-1260	ug/kg	0.40	0.39	97.5 %	43.3 - 175.
Chloromethane	ug/kg	10.0	9.4	94.0 %	70.0 - 130.
Chloromethane	ug/kg	10.0	10.0	100. %	70.0 - 130.
Chloromethane	ug/l	10.0	9.4	94.0 %	70.0 - 130.
Vinyl Chloride	ug/l	10.	7.3	73.0 %	70.0 - 130.
Vinyl Chloride	ug/kg	10.0	7.3	73.0 %	70.0 - 130.
Vinyl Chloride	ug/kg	10.0	10.5	105. %	70.0 - 130.
Bromomethane	ug/kg	10.0	8.4	84.0 %	70.0 - 130.

QC Summary for sample numbers: 18-A015718 to 18-A015761...

STANDARD REFERENCE MATERIALS continued...

ANALYTE	UNITS	TRUE VALUE	MEASURED VAL	% REC	LIMITS
Bromomethane	ug/kg	10.0	11.0	110. %	70.0 - 130.
Bromomethane	ug/l	10.0	8.4	84.0 %	70.0 - 130.
Chloroethane	ug/kg	10.0	8.8	88.0 %	70.0 - 130.
Chloroethane	ug/kg	10.0	8.7	87.0 %	70.0 - 130.
Chloroethane	ug/l	10.0	8.8	88.0 %	70.0 - 130.
Trichlorofluoromethane	ug/l	10.0	7.9	79.0 %	70.0 - 130.
Trichlorofluoromethane	ug/kg	10.0	7.9	79.0 %	70.0 - 130.
Trichlorofluoromethane	ug/kg	10.0	12.6	126. %	70.0 - 130.
1,1-Dichloroethylene	ug/l	10.0	7.9	79.0 %	70.0 - 130.
1,1-Dichloroethylene	ug/kg	10.0	7.9	79.0 %	70.0 - 130.
1,1-Dichloroethylene	ug/kg	10.0	11.1	111. %	70.0 - 130.
Acetone	ug/l	10.0	9.0	90.0 %	70.0 - 130.
Carbon Disulfide	ug/l	10.0	7.9	79.0 %	70.0 - 130.
Carbon Disulfide	ug/kg	10.0	7.9	79.0 %	70.0 - 130.
Carbon Disulfide	ug/kg	10.0	11.0	110. %	70.0 - 130.
Methyl Iodide	ug/l	10.0	7.5	75.0 %	70.0 - 130.
Methylene Chloride	ug/kg	10.0	9.4	94.0 %	70.0 - 130.
Methylene Chloride	ug/kg	10.0	11.1	111. %	70.0 - 130.
Methylene Chloride	ug/l	10.0	9.4	94.0 %	70.0 - 130.
Trans-1,2-Dichloroethene	ug/l	10.	7.4	74.0 %	70.0 - 130.
Cis-1,2-Dichloroethene	ug/l	10.	8.3	83.0 %	70.0 - 130.
1,1-Dichloroethane	ug/l	10.0	7.8	78.0 %	70.0 - 130.
1,1-Dichlorethane	ug/kg	10.0	7.8	78.0 %	70.0 - 130.
1,1-Dichlorethane	ug/kg	10.0	10.7	107. %	70.0 - 130.
Vinyl Acetate	ug/kg	10.0	8.3	83.0 %	70.0 - 130.
Vinyl Acetate	ug/kg	10.0	9.8	98.0 %	70.0 - 130.
Vinyl Acetate	ug/l	10.0	8.3	83.0 %	70.0 - 130.
Acrylonitrile	ug/l	10.0	8.1	81.0 %	70.0 - 130.
2-Butanone (MEK)	ug/l	10.0	7.8	78.0 %	70.0 - 130.
Chloroform	ug/l	10.0	8.4	84.0 %	70.0 - 130.
Chloroform	ug/kg	10.0	8.4	84.0 %	70.0 - 130.
Chloroform	ug/kg	10.0	10.5	105. %	70.0 - 130.
1,1,1-Trichloroethane	ug/l	10.0	8.2	82.0 %	70.0 - 130.
1,1,1-Trichloroethane	ug/kg	10.0	8.2	82.0 %	70.0 - 130.
1,1,1-Trichloroethane	ug/kg	10.0	10.7	107. %	70.0 - 130.
Carbon Tetrachloride	ug/l	10.0	8.6	86.0 %	70.0 - 130.
Carbon Tetrachloride	ug/kg	10.0	8.6	86.0 %	70.0 - 130.
Carbon Tetrachloride	ug/kg	10.0	11.6	116. %	70.0 - 130.
Benzene	ug/l	10.0	10.2	102. %	70.0 - 130.
Benzene	ug/kg	10.0	10.2	102. %	70.0 - 130.
Benzene	ug/kg	10.0	10.6	106. %	70.0 - 130.
1,2-Dichloroethane	ug/l	10.0	9.4	94.0 %	70.0 - 130.
1,2-Dichloroethane	ug/kg	10.0	9.4	94.0 %	70.0 - 130.
1,2-Dichloroethane	ug/kg	10.0	9.0	90.0 %	70.0 - 130.

QC Summary for sample numbers: 18-A015718 to 18-A015761...

STANDARD REFERENCE MATERIALS continued...

ANALYTE	UNITS	TRUE VALUE	MEASURED VAL	% REC	LIMITS
Trichloroethylene	ug/kg	10.0	9.1	91.0 %	70.0 - 130.
Trichloroethylene	ug/kg	10.0	10.6	106. %	70.0 - 130.
Trichloroethylene	ug/l	10.0	9.1	91.0 %	70.0 - 130.
Bromodichloromethane	ug/l	10.0	9.7	97.0 %	70.0 - 130.
Bromodichloromethane	ug/kg	10.0	9.7	97.0 %	70.0 - 130.
Bromodichloromethane	ug/kg	10.0	9.6	96.0 %	70.0 - 130.
Bromochloromethane	ug/l	10.	7.8	78.0 %	70.0 - 130.
1,2-Dibromoethane (EDB)	ug/l	10.	7.1	71.0 %	70.0 - 130.
Dibromomethane	ug/l	10.	9.4	94.0 %	70.0 - 130.
1,2-Dichloropropane	ug/l	10.0	9.5	95.0 %	70.0 - 130.
1,2-Dichloropropane	ug/kg	10.0	9.5	95.0 %	70.0 - 130.
1,2-Dichloropropane	ug/kg	10.0	9.8	98.0 %	70.0 - 130.
4-Methyl-2-Pentanone MIBK	ug/l	10.0	9.7	97.0 %	70.0 - 130.
Toluene	ug/l	10.0	19.0	190. %	70.0 - 130.
Toluene	ug/kg	10.0	19.0	190. %	70.0 - 130.
Toluene	ug/kg	10.0	11.3	113. %	70.0 - 130.
Cis-1,3-Dichloropropene	ug/l	10.0	10.7	107. %	70.0 - 130.
Cis-1,3-Dichloropropene	ug/kg	10.0	10.7	107. %	70.0 - 130.
Cis-1,3-Dichloropropene	ug/kg	10.0	11.0	110. %	70.0 - 130.
1,1,2-Trichloroethane	ug/l	10.0	7.0	70.0 %	70.0 - 130.
1,1,2-Trichloroethane	ug/kg	10.0	7.0	70.0 %	70.0 - 130.
1,1,2-Trichloroethane	ug/kg	10.0	9.7	97.0 %	70.0 - 130.
Tetrachloroethylene	ug/l	10.0	7.6	76.0 %	70.0 - 130.
Tetrachloroethylene	ug/kg	10.0	7.6	76.0 %	70.0 - 130.
Tetrachloroethylene	ug/kg	10.0	10.7	107. %	70.0 - 130.
2-Hexanone	ug/l	10.0	7.3	73.0 %	70.0 - 130.
Chlorodibromomethane	ug/l	10.0	7.4	74.0 %	70.0 - 130.
Chlorodibromomethane	ug/kg	10.0	7.4	74.0 %	70.0 - 130.
Chlorodibromomethane	ug/kg	10.0	10.3	103. %	70.0 - 130.
Chlorobenzene	ug/l	10.0	8.0	80.0 %	70.0 - 130.
Chlorobenzene	ug/kg	10.0	8.0	80.0 %	70.0 - 130.
Chlorobenzene	ug/kg	10.0	10.2	102. %	70.0 - 130.
Ethyl Benzene	ug/l	10.0	8.2	82.0 %	70.0 - 130.
Ethyl Benzene	ug/kg	10.0	8.2	82.0 %	70.0 - 130.
Ethyl Benzene	ug/kg	10.0	10.3	103. %	70.0 - 130.
Total Xylenes	ug/kg	30.0	23.9	79.7 %	70.0 - 130.
Total Xylenes	ug/kg	30.0	32.0	107. %	70.0 - 130.
m,p Xylene	ug/l	20.0	16.0	80.0 %	70.0 - 130.
o-Xylene	ug/l	10.0	7.8	78.0 %	70.0 - 130.
Styrene	ug/l	10.0	9.4	94.0 %	70.0 - 130.
Styrene	ug/kg	10.0	9.4	94.0 %	70.0 - 130.
Styrene	ug/kg	10.0	10.3	103. %	70.0 - 130.
Bromoform	ug/l	10.	7.4	74.0 %	70.0 - 130.
Bromoform	ug/kg	10.0	7.4	74.0 %	70.0 - 130.

QC Summary for sample numbers: 18-A015718 to 18-A015761...

STANDARD REFERENCE MATERIALS continued....

ANALYTE	UNITS	TRUE VALUE	MEASURED VAL	% REC	LIMITS
Bromoform	ug/kg	10.0	10.1	101.0 %	70.0 - 130.
1,1,2,2-Tetrachloroethane	ug/l	10.	7.1	71.0 %	70.0 - 130.
1,1,2,2-Tetrachloroethane	ug/kg	10.0	7.1	71.0 %	70.0 - 130.
1,1,2,2-Tetrachloroethane	ug/kg	10.0	9.1	91.0 %	70.0 - 130.
1,1,1,2-Tetrachloroethane	ug/l	10.	8.2	82.0 %	70.0 - 130.
Trans-1,3-Dichloropropene	ug/l	10.	7.9	79.0 %	70.0 - 130.
Trans-1,3-Dichloropropene	ug/kg	10.0	8.2	82.0 %	70.0 - 130.
Trans-1,3-Dichloropropene	ug/kg	10.0	8.7	87.0 %	70.0 - 130.
1,4-Dichlorobenzene	ug/kg	10.0	7.3	73.0 %	70.0 - 130.
1,4-Dichlorobenzene	ug/kg	10.0	10.6	106.0 %	70.0 - 130.
1,3-Dichlorobenzene	ug/l	10.	7.6	76.0 %	70.0 - 130.
1,4-Dichlorobenzene	ug/l	10.0	7.3	73.0 %	70.0 - 130.
1,2-Dichlorobenzene	ug/l	10.0	7.1	71.0 %	70.0 - 130.
1,2-Dibromo3Chloropropane	ug/l	10.	7.3	73.0 %	70.0 - 130.
trans-1,4-Dichloro2butene	ug/l	10.	8.2	82.0 %	70.0 - 130.
1,2,3-Trichloropropane	ug/l	10.	8.2	82.0 %	70.0 - 130.
Gasoline in Water	ug/l	1280	1420	111.0 %	70.0 - 130.
Gasoline in Water	ug/l	213.	203.	95.3 %	70.0 - 130.
Gasoline in Soil	ug/kg	1280	1420	111.0 %	70.0 - 130.
Gasoline in Soil	ug/kg	213.	203.	95.3 %	70.0 - 130.
Diesel	ug/l	400	380	95.0 %	85.0 - 115.
Diesel	ug/l	400	380	95.0 %	85.0 - 115.
Diesel	mg/kg	400	380	95.0 %	85.0 - 115.
Diesel	mg/kg	400	370	92.5 %	85.0 - 115.
Diesel	mg/kg	400	440	110.0 %	85.0 - 115.
Heavy Oil	ug/l	400	350	87.5 %	85.0 - 115.
Heavy Oil	ug/l	400	350	87.5 %	85.0 - 115.
Heavy Oil	mg/kg	400	350	87.5 %	85.0 - 115.
Heavy Oil	mg/kg	400	370	92.5 %	85.0 - 115.
Heavy Oil	mg/kg	400	440	110.0 %	85.0 - 115.
N-Nitrosodimethylamine	ug/l	15.0	17.4	116.0 %	70.0 - 130.
N-Nitrosodimethylamine	ug/kg	15.0	15.2	101.0 %	70.0 - 130.
Aniline	ug/l	15.0	15.2	101.0 %	70.0 - 130.
Aniline	ug/kg	15.0	15.6	104.0 %	70.0 - 130.
Phenol	ug/l	15.0	15.0	100.0 %	70.0 - 130.
Phenol	ug/kg	15.0	14.9	99.3 %	70.0 - 130.
bis(2-Chloroethyl)ether	ug/l	15.0	14.1	94.0 %	70.0 - 130.
bis(2-Chloroethyl)ether	ug/kg	15.0	13.9	92.7 %	70.0 - 130.
2-Chlorophenol	ug/l	15.0	14.8	98.7 %	70.0 - 130.
2-Chlorophenol	ug/kg	15.0	14.7	98.0 %	70.0 - 130.
1,3-Dichlorobenzene	ug/l	15.0	14.8	98.7 %	70.0 - 130.
1,3-Dichlorobenzene	ug/kg	15.0	14.6	97.3 %	70.0 - 130.
1,4-Dichlorobenzene	ug/l	15.0	14.6	97.3 %	70.0 - 130.
1,4-Dichlorobenzene	ug/kg	15.0	14.6	97.3 %	70.0 - 130.

QC Summary for sample numbers: 18-A015718 to 18-A015761...

STANDARD REFERENCE MATERIALS continued...

ANALYTE	UNITS	TRUE VALUE	MEASURED VAL	% REC	LIMITS
Benzyl Alcohol	ug/l	15.0	15.1	101. %	70.0 - 130.
Benzyl Alcohol	ug/kg	15.0	14.5	96.7 %	70.0 - 130.
1,2-Dichlorobenzene	ug/l	15.0	14.7	98.0 %	70.0 - 130.
1,2-Dichlorobenzene	ug/kg	15.0	14.6	97.3 %	70.0 - 130.
2-Methylphenol	ug/l	15.0	14.5	96.7 %	70.0 - 130.
2-Methylphenol	ug/kg	15.0	14.5	96.7 %	70.0 - 130.
bis(2-Chloroisopropyl)eth	ug/l	15.0	14.6	97.3 %	70.0 - 130.
bis(2-Chloroisopropyl)eth	ug/kg	15.0	14.4	96.0 %	70.0 - 130.
4-Methylphenol (P.Cresol)	ug/l	15.0	15.5	103. %	70.0 - 130.
4-Methylphenol (cresol)	ug/kg	15.0	15.5	103. %	70.0 - 130.
N-Nitroso-di-n-propylamin	ug/l	15.0	14.9	99.3 %	70.0 - 130.
N-Nitroso-di-n-propylamin	ug/kg	15.0	14.6	97.3 %	70.0 - 130.
Hexachloroethane	ug/l	15.0	14.6	97.3 %	70.0 - 130.
Hexachloroethane	ug/kg	15.0	14.6	97.3 %	70.0 - 130.
Nitrobenzene	ug/l	15.0	14.8	98.7 %	70.0 - 130.
Nitrobenzene	ug/kg	15.0	14.8	98.7 %	70.0 - 130.
Isophorone	ug/l	15.0	14.6	97.3 %	70.0 - 130.
Isophorone	ug/kg	15.0	14.4	96.0 %	70.0 - 130.
2-Nitrophenol	ug/l	15.0	15.4	103. %	70.0 - 130.
2-Nitrophenol	ug/kg	15.0	15.0	100. %	70.0 - 130.
2,4-Dimethylphenol	ug/l	15.0	15.0	100. %	70.0 - 130.
2,4-Dimethylphenol	ug/kg	15.0	14.3	95.3 %	70.0 - 130.
Benzoic Acid	ug/l	15.0	17.9	119. %	70.0 - 130.
Benzoic Acid	ug/kg	15.0	16.2	108. %	70.0 - 130.
bis(2-Chloroethoxy)methan	ug/l	15.0	14.6	97.3 %	70.0 - 130.
bis(2-Chloroethoxy)methan	ug/kg	15.0	14.6	97.3 %	70.0 - 130.
2,4-Dichlorophenol	ug/l	15.0	14.8	98.7 %	70.0 - 130.
2,4-Dichlorophenol	ug/kg	15.0	14.4	96.0 %	70.0 - 130.
1,2,4-Trichlorobenzene	ug/l	15.0	14.6	97.3 %	70.0 - 130.
1,2,4-Trichlorobenzene	ug/kg	15.0	14.9	99.3 %	70.0 - 130.
Naphthalene	ug/l	15.0	14.8	98.7 %	70.0 - 130.
Naphthalene	ug/kg	15.0	14.9	99.3 %	70.0 - 130.
Naphthalene	ug/l	5.00	5.11	102. %	70.0 - 130.
Naphthalene	ug/Kg	5.00	4.94	98.8 %	70.0 - 130.
4-Chloroaniline	ug/l	15.0	14.8	98.7 %	70.0 - 130.
4-Chloroaniline	ug/kg	15.0	15.2	101. %	70.0 - 130.
Hexachlorobutadiene	ug/l	15.0	14.6	97.3 %	70.0 - 130.
Hexachlorobutadiene	ug/kg	15.0	14.8	98.7 %	70.0 - 130.
4-Chloro-3-methylphenol	ug/l	15.0	15.4	103. %	70.0 - 130.
4-Chloro-3-methylphenol	ug/kg	15.0	14.8	98.7 %	70.0 - 130.
2-Methylnaphthalene	ug/l	15.0	14.5	96.7 %	70.0 - 130.
2-Methylnaphthalene	ug/kg	15.0	14.5	96.7 %	70.0 - 130.
2-Methylnaphthalene	ug/l	5.00	5.90	118. %	70.0 - 130.
2-Methylnaphthalene	ug/Kg	5.00	5.75	115. %	21.6 - 178.

QC Summary for sample numbers: 18-A015718 to 18-A015761...

STANDARD REFERENCE MATERIALS continued...

ANALYTE	UNITS	TRUE VALUE	MEASURED VAL	% REC	LIMITS
Hexachlorocyclopentadiene	ug/l	15.0	15.3	102. %	70.0 - 130.
Hexachlorocyclopentadiene	ug/kg	15.0	15.2	101. %	70.0 - 130.
2,4,6-Trichlorophenol	ug/l	15.0	14.5	96.7 %	70.0 - 130.
2,4,6-Trichlorophenol	ug/kg	15.0	15.1	101. %	70.0 - 130.
2,4,5-Trichlorophenol	ug/l	15.0	14.5	96.7 %	70.0 - 130.
2,4,5-Trichlorophenol	ug/kg	15.0	14.8	98.7 %	70.0 - 130.
2-Chloronaphthalene	ug/l	15.0	14.5	96.7 %	70.0 - 130.
2-Chloronaphthalene	ug/kg	15.0	15.0	100. %	70.0 - 130.
2-Nitroaniline	ug/l	15.0	15.0	100. %	70.0 - 130.
2-Nitroaniline	ug/kg	15.0	15.3	102. %	70.0 - 130.
Dimethylphthalate	ug/l	15.0	14.3	95.3 %	70.0 - 130.
Dimethylphthalate	ug/kg	15.0	14.4	96.0 %	70.0 - 130.
Dimethylphthalate	ug/l	5.00	5.29	106. %	70.0 - 130.
Dimethylphthalate	ug/kg	5.00	5.32	106. %	70.0 - 130.
Acenaphthylene	ug/l	15.0	14.7	98.0 %	70.0 - 130.
Acenaphthylene	ug/kg	15.0	14.9	99.3 %	70.0 - 130.
Acenaphthylene	ug/l	5.00	5.06	101. %	70.0 - 130.
Acenaphthylene	ug/Kg	5.00	4.87	97.4 %	70.0 - 130.
2,6-Dinitrotoluene	ug/l	15.0	14.8	98.7 %	70.0 - 130.
2,6-Dinitrotoluene	ug/kg	15.0	14.8	98.7 %	70.0 - 130.
3-Nitroaniline	ug/l	15.0	14.7	98.0 %	70.0 - 130.
3-Nitroaniline	ug/kg	15.0	14.5	96.7 %	70.0 - 130.
Acenaphthene	ug/l	15.0	14.7	98.0 %	70.0 - 130.
Acenaphthene	ug/kg	15.0	14.9	99.3 %	70.0 - 130.
Acenaphthene	ug/l	5.00	4.73	94.6 %	70.0 - 130.
Acenaphthene	ug/Kg	5.00	4.58	91.6 %	70.0 - 130.
2,4-Dinitrophenol	ug/l	15.0	14.5	96.7 %	70.0 - 130.
2,4-Dinitrophenol	ug/kg	15.0	14.3	95.3 %	70.0 - 130.
4-Nitrophenol	ug/l	15.0	14.7	98.0 %	70.0 - 130.
4-Nitrophenol	ug/kg	15.0	15.4	103. %	70.0 - 130.
Dibenzofuran	ug/l	15.0	14.6	97.3 %	70.0 - 130.
Dibenzofuran	ug/kg	15.0	14.8	98.7 %	70.0 - 130.
2,4-Dinitrotoluene	ug/l	15.0	14.3	95.3 %	70.0 - 130.
2,4-Dinitrotoluene	ug/kg	15.0	14.9	99.3 %	70.0 - 130.
Diethylphthalate	ug/l	15.0	14.4	96.0 %	70.0 - 130.
Diethylphthalate	ug/kg	15.0	14.8	98.7 %	70.0 - 130.
Diethylphthalate	ug/l	5.00	4.91	98.2 %	70.0 - 130.
Diethylphthalate	ug/kg	5.00	5.08	102. %	70.0 - 130.
4-Chlorophenyl-phenyl eth	ug/l	15.0	14.4	96.0 %	70.0 - 130.
4-Chlorophenyl-phenyl eth	ug/kg	15.0	14.5	96.7 %	70.0 - 130.
Fluorene	ug/l	15.0	14.2	94.7 %	70.0 - 130.
Fluorene	ug/kg	15.0	14.6	97.3 %	70.0 - 130.
Fluorene	ug/l	5.00	4.95	99.0 %	70.0 - 130.
Fluorene	ug/Kg	5.00	4.99	99.8 %	70.0 - 130.

QC Summary for sample numbers: 18-A015718 to 18-A015761...

STANDARD REFERENCE MATERIALS continued...

ANALYTE	UNITS	TRUE VALUE	MEASURED VAL	% REC	LIMITS
4-Nitroaniline	ug/l	15.0	15.5	103. %	70.0 - 130.
4-Nitroaniline	ug/kg	15.0	14.5	96.7 %	70.0 - 130.
4,6-Dinitro-2-methylpheno	ug/l	15.0	15.7	105. %	70.0 - 130.
4,6-Dinitro-2-methylpheno	ug/kg	15.0	15.2	101. %	70.0 - 130.
N-nitrosodiphenylamine	ug/l	15.0	14.8	98.7 %	70.0 - 130.
N-nitrosodiphenylamine	ug/kg	15.0	14.9	99.3 %	70.0 - 130.
Azobenzene	ug/l	15.0	14.4	96.0 %	70.0 - 130.
Azobenzene	ug/kg	15.0	14.2	94.7 %	70.0 - 130.
4-Bromophenyl-phenyl ethe	ug/l	15.0	14.8	98.7 %	70.0 - 130.
4-Bromophenyl-phenyl ethe	ug/kg	15.0	14.7	98.0 %	70.0 - 130.
Hexachlorobenzene	ug/l	15.0	14.8	98.7 %	70.0 - 130.
Hexachlorobenzene	ug/kg	15.0	14.8	98.7 %	70.0 - 130.
Pentachlorophenol	ug/l	15.0	16.9	113. %	70.0 - 130.
Pentachlorophenol	ug/kg	15.0	16.5	110. %	70.0 - 130.
Pentachlorophenol	ug/l	5.00	5.71	114. %	70.0 - 130.
Pentachlorophenol	ug/kg	5.00	5.13	103. %	0.0 - 208.
Phenanthrene	ug/l	15.0	14.8	98.7 %	70.0 - 130.
Phenanthrene	ug/kg	15.0	14.7	98.0 %	70.0 - 130.
Phenanthrene	ug/l	5.00	5.16	103. %	70.0 - 130.
Phenanthrene	ug/Kg	5.00	4.97	99.4 %	70.0 - 130.
Anthracene	ug/l	15.0	14.7	98.0 %	70.0 - 130.
Anthracene	ug/kg	15.0	14.7	98.0 %	70.0 - 130.
Anthracene	ug/l	5.00	4.78	95.6 %	70.0 - 130.
Anthracene	ug/Kg	5.00	4.61	92.2 %	70.0 - 130.
Carbazole	ug/l	15.0	14.8	98.7 %	70.0 - 130.
Carbazole	ug/kg	15.0	14.6	97.3 %	70.0 - 130.
Di-n-butylphthalate	ug/l	15.0	15.0	100. %	70.0 - 130.
Di-n-butylphthalate	ug/kg	15.0	14.3	95.3 %	70.0 - 130.
Di-n-butylphthalate	ug/l	5.00	4.88	97.6 %	70.0 - 130.
Di-n-butylphthalate	ug/kg	5.00	4.98	99.6 %	70.0 - 130.
Fluoranthene	ug/l	15.0	14.9	99.3 %	70.0 - 130.
Fluoranthene	ug/kg	15.0	14.6	97.3 %	70.0 - 130.
Fluoranthene	ug/l	5.00	4.95	99.0 %	70.0 - 130.
Fluoranthene	ug/Kg	5.00	5.07	101. %	70.0 - 130.
Benzidine	ug/l	15.0	15.4	103. %	70.0 - 130.
Pyrene	ug/l	15.0	14.9	99.3 %	70.0 - 130.
Pyrene	ug/kg	15.0	15.4	103. %	70.0 - 130.
Pyrene	ug/l	5.00	5.11	102. %	70.0 - 130.
Pyrene	ug/Kg	5.00	4.58	91.6 %	70.0 - 130.
Butylbenzylphthalate	ug/l	15.0	14.8	98.7 %	70.0 - 130.
Butylbenzylphthalate	ug/kg	15.0	15.2	101. %	70.0 - 130.
Butylbenzylphthalate	ug/l	5.00	4.95	99.0 %	70.0 - 130.
Butylbenzylphthalate	ug/Kg	5.00	4.71	94.2 %	70.0 - 130.
3,3-Dichlorobenzidine	ug/l	15.0	15.4	103. %	70.0 - 130.

QC Summary for sample numbers: 18-A015718 to 18-A015761...

STANDARD REFERENCE MATERIALS continued...

ANALYTE	UNITS	TRUE VALUE	MEASURED VAL	% REC	LIMITS
3,3-Dichlorobenzidine	ug/kg	15.0	15.5	103. %	70.0 - 130.
Benzo(a)anthracene	ug/l	15.0	14.9	99.3 %	70.0 - 130.
Benzo(a)anthracene	ug/kg	15.0	15.2	101. %	70.0 - 130.
Benzo(a)anthracene	ug/l	5.00	4.92	98.4 %	70.0 - 130.
Benzo(a)anthracene	ug/Kg	5.00	4.77	95.4 %	70.0 - 130.
Chrysene	ug/l	15.0	14.6	97.3 %	70.0 - 130.
Chrysene	ug/kg	15.0	14.5	96.7 %	70.0 - 130.
Chrysene	ug/l	5.00	4.34	86.8 %	70.0 - 130.
Chrysene	ug/Kg	5.00	4.29	85.8 %	70.0 - 130.
bis(2-Ethylhexyl)phthalat	ug/l	15.0	14.8	98.7 %	70.0 - 130.
bis(2-Ethylhexyl)phthalat	ug/kg	15.0	15.1	101. %	70.0 - 130.
bis(2-Ethylhexyl)phthalat	ug/l	5.00	4.62	92.4 %	70.0 - 130.
bis(2-Ethylhexyl)phthalat	ug/kg	5.00	4.67	93.4 %	70.0 - 130.
Di-n-octylphthalate	ug/l	15.0	15.0	100. %	70.0 - 130.
Di-n-octylphthalate	ug/kg	15.0	17.3	115. %	70.0 - 130.
Di-n-octylphthalate	ug/l	5.00	4.84	96.8 %	70.0 - 130.
Di-n-octylphthalate	ug/kg	5.00	4.69	93.8 %	70.0 - 130.
Benzo(b)fluoranthene	ug/l	15.0	15.2	101. %	70.0 - 130.
Benzo(b)fluoranthene	ug/kg	15.0	15.7	105. %	70.0 - 130.
Benzo(b)fluoranthene	ug/l	5.00	5.36	107. %	70.0 - 130.
Benzo(b)fluoranthene	ug/Kg	5.00	5.23	105. %	70.0 - 130.
Benzo(k)fluoranthene	ug/l	15.0	15.1	101. %	70.0 - 130.
Benzo(k)fluoranthene	ug/kg	15.0	15.9	106. %	70.0 - 130.
Benzo(k)fluoranthene	ug/l	5.00	4.96	99.2 %	70.0 - 130.
Benzo(k)fluoranthene	ug/Kg	5.00	4.78	95.6 %	70.0 - 130.
Benzo(a)pyrene	ug/l	15.0	15.1	101. %	70.0 - 130.
Benzo(a)pyrene	ug/kg	15.0	15.1	101. %	70.0 - 130.
Benzo(a)pyrene	ug/l	5.00	4.93	98.6 %	70.0 - 130.
Benzo(a)pyrene	ug/Kg	5.00	4.88	97.6 %	70.0 - 130.
Indeno(1,2,3-cd)pyrene	ug/l	15.0	15.3	102. %	70.0 - 130.
Indeno(1,2,3-cd)pyrene	ug/kg	15.0	13.1	87.3 %	70.0 - 130.
Indeno(123-cd)pyrene	ug/l	5.00	5.05	101. %	70.0 - 130.
Indeno(123-cd)pyrene	ug/Kg	5.00	5.40	108. %	70.0 - 130.
Dibenzo(ah)anthracene	ug/l	15.0	15.0	100. %	70.0 - 130.
Dibenzo(a,h)anthracene	ug/kg	15.0	13.4	89.3 %	70.0 - 130.
Dibenzo(ah)anthracene	ug/l	5.00	5.07	101. %	70.0 - 130.
Dibenzo(ah)anthracene	ug/Kg	5.00	5.45	109. %	70.0 - 130.
Benzo(g,h,i)perylene	ug/l	15.0	15.0	100. %	70.0 - 130.
Benzo(g,h,i)perylene	ug/kg	15.0	13.8	92.0 %	70.0 - 130.
Benzo(ghi)perylene	ug/l	5.00	4.87	97.4 %	70.0 - 130.
Benzo(ghi)perylene	ug/Kg	5.00	5.19	104. %	70.0 - 130.
1-Methylnaphthalene	ug/l	5.00	4.38	87.6 %	70.0 - 130.
1-Methylnaphthalene	ug/Kg	5.00	4.39	87.8 %	78.6 - 146.
Arsenic	ug/L	25.0	25.4	102. %	90.0 - 110.

QC Summary for sample numbers: 18-A015718 to 18-A015761...

STANDARD REFERENCE MATERIALS continued....

ANALYTE	UNITS	TRUE VALUE	MEASURED VAL	% REC	LIMITS
Arsenic	ug/g	25.0	25.5	102. %	65.9 - 129.
Arsenic	ug/g	25.0	25.5	102. %	65.9 - 129.
Arsenic	ug/g	25.0	27.8	111. %	65.9 - 129.
Arsenic	ug/g	25.0	27.8	111. %	65.9 - 129.
Cadmium	ug/L	25.0	25.5	102. %	90.0 - 110.
Cadmium	ug/g	25.0	24.7	98.8 %	73.0 - 126.
Cadmium	ug/g	25.0	24.4	97.6 %	73.0 - 126.
Cadmium	ug/g	25.0	24.3	97.2 %	73.0 - 126.
Cadmium	ug/g	25.0	27.8	111. %	73.0 - 126.
Cadmium	ug/g	25.0	27.8	111. %	73.0 - 126.
Chromium	ug/L	25.0	22.5	90.0 %	90.0 - 110.
Chromium	ug/g	25.0	25.0	100. %	69.0 - 130.
Chromium	ug/g	25.0	24.6	98.4 %	69.0 - 130.
Chromium	ug/g	25.0	24.4	97.6 %	69.0 - 130.
Chromium	ug/g	25.0	27.8	111. %	69.0 - 130.
Chromium	ug/g	25.0	27.8	111. %	69.0 - 130.
Lead	ug/L	25.0	24.1	96.4 %	90.0 - 110.
Lead	ug/g	25.00	24.30	97.2 %	74.3 - 126.
Lead	ug/g	25.00	24.13	96.5 %	74.3 - 126.
Lead	ug/g	25.00	24.10	96.4 %	74.3 - 126.
Lead	ug/g	25.00	27.75	111. %	74.3 - 126.
Lead	ug/g	25.00	27.50	110. %	74.3 - 126.

BLANKS

ANALYTE	UNITS	RESULT
Total Suspended Solids	mg/l	< 1
Total Suspended Solids	mg/l	< 1
Total Suspended Solids	mg/l	< 1
Total Suspended Solids	mg/l	< 1
Mercury	mg/l	< 0.00005
Mercury	mg/l	< 0.00005
Mercury	ug/g	< 0.01
Mercury	ug/g	< 0.01
Benzene	ug/l	< 0.5
Benzene	ug/kg	< 1
Toluene	ug/l	0.77
Toluene	ug/kg	< 1
Ethyl Benzene	ug/l	< 0.5
Ethyl Benzene	ug/kg	< 1
m+p-Xylene	ug/kg	< 1
o-Xylene	ug/kg	< 1
Total Xylene	ug/l	< 1
PCB-1016	ug/kg	< 16.6
PCB-1221	ug/kg	< 16.6

QC Summary for sample numbers: 18-A015718 to 18-A015761...

BLANKS continued....

ANALYTE	UNITS	RESULT
PCB-1232	ug/kg	< 16.6
PCB-1242	ug/kg	< 16.6
PCB-1248	ug/kg	< 16.6
PCB-1254	ug/kg	< 16.6
PCB-1260	ug/kg	< 16.6
Tetrachloro-M-xylene	% Rec	89.8
Decachlorobiphenyl	% Rec	89.5
Chloromethane	ug/kg	< 5
Chloromethane	ug/kg	< 5
Chloromethane	ug/l	< 1
Vinyl Chloride	ug/l	< 1
Vinyl Chloride	ug/kg	< 1
Vinyl Chloride	ug/kg	< 1
Bromomethane	ug/kg	< 5
Bromomethane	ug/kg	< 5
Bromomethane	ug/l	< 1
Chloroethane	ug/kg	< 5
Chloroethane	ug/kg	< 5
Chloroethane	ug/l	< 1
Trichlorofluoromethane	ug/l	< 1
Trichlorofluoromethane	ug/kg	< 1
Trichlorofluoromethane	ug/kg	< 1
1,1-Dichloroethylene	ug/l	< 1
1,1-Dichloroethylene	ug/kg	< 1
1,1-Dichloroethylene	ug/kg	< 1
Acetone	ug/kg	< 20
Acetone	ug/kg	< 20
Acetone	ug/l	< 5
Carbon Disulfide	ug/l	< 1
Carbon Disulfide	ug/kg	< 1
Carbon Disulfide	ug/kg	< 1
Methyl Iodide	ug/l	< 1
Methylene Chloride	ug/kg	< 1
Methylene Chloride	ug/kg	< 1
Methylene Chloride	ug/l	< 2
Trans-1,2-Dichloroethene	ug/l	< 1
Cis-1,2-Dichloroethene	ug/l	< 1
1,1-Dichloroethane	ug/l	< 1
1,1-Dichlorethane	ug/kg	< 1
1,1-Dichlorethane	ug/kg	< 1
Vinyl Acetate	ug/kg	< 5

QC Summary for sample numbers: 18-A015718 to 18-A015761...

BLANKS continued....

ANALYTE	UNITS	RESULT
Vinyl Acetate	ug/kg	< 5
Vinyl Acetate	ug/l	< 5
Acrylonitrile	ug/l	< 1
2-Butanone (MEK)	ug/l	< 5
2-Butanone (MEK)	ug/kg	< 10
2-Butanone (MEK)	ug/kg	< 10
Chloroform	ug/l	< 1
Chloroform	ug/kg	< 1
Chloroform	ug/kg	< 1
1,1,1-Trichloroethane	ug/l	< 1
1,1,1-Trichloroethane	ug/kg	< 1
1,1,1-Trichloroethane	ug/kg	< 1
Carbon Tetrachloride	ug/l	< 1
Carbon Tetrachloride	ug/kg	< 1
Carbon Tetrachloride	ug/kg	< 1
Benzene	ug/l	< 1
Benzene	ug/kg	< 1
Benzene	ug/kg	< 1
1,2-Dichloroethane	ug/l	< 1
1,2-Dichloroethane	ug/kg	< 1
1,2-Dichloroethane	ug/kg	< 1
Trichloroethylene	ug/kg	< 1
Trichloroethylene	ug/kg	< 1
Trichloroethylene	ug/l	< 1
Bromodichloromethane	ug/l	< 1
Bromodichloromethane	ug/kg	< 1
Bromodichloromethane	ug/kg	< 1
Bromochloromethane	ug/l	< 1
1,2-Dibromoethane (EDB)	ug/l	< 1
Dibromomethane	ug/l	< 1
1,2-Dichloropropane	ug/l	< 1
1,2-Dichloropropane	ug/kg	< 1
1,2-Dichloropropane	ug/kg	< 1
4-Methyl-2-Pentanone MIBK	ug/l	< 5
4-Methyl-2-Pentanone	ug/kg	< 10
4-Methyl-2-Pentanone	ug/kg	< 10
Toluene	ug/l	1.4
Toluene	ug/kg	1.4
Toluene	ug/kg	< 1
Cis-1,3-Dichloropropene	ug/l	< 1
Cis-1,3-Dichloropropene	ug/kg	< 1

QC Summary for sample numbers: 18-A015718 to 18-A015761...

BLANKS continued....

ANALYTE	UNITS	RESULT
Cis-1,3-Dichloropropene	ug/kg	< 1
1,1,2-Trichloroethane	ug/l	< 1
1,1,2-Trichloroethane	ug/kg	< 1
1,1,2-Trichloroethane	ug/kg	< 1
Tetrachloroethylene	ug/l	< 1
Tetrachloroethylene	ug/kg	< 1
Tetrachloroethylene	ug/kg	< 1
2-Hexanone	ug/l	< 5
2-Hexanone	ug/kg	< 10
2-Hexanone	ug/kg	< 10
Chlorodibromomethane	ug/l	< 1
Chlorodibromomethane	ug/kg	< 1
Chlorodibromomethane	ug/kg	< 1
Chlorobenzene	ug/l	< 1
Chlorobenzene	ug/kg	< 1
Chlorobenzene	ug/kg	< 1
Ethyl Benzene	ug/l	< 1
Ethyl Benzene	ug/kg	< 1
Ethyl Benzene	ug/kg	< 1
Total Xylenes	ug/kg	< 1
Total Xylenes	ug/kg	< 1
m,p Xylene	ug/l	< 1
o-Xylene	ug/l	< 1
Styrene	ug/l	< 1
Styrene	ug/kg	< 1
Styrene	ug/kg	< 1
Bromoform	ug/l	< 1
Bromoform	ug/kg	< 1
Bromoform	ug/kg	< 1
1,1,2,2-Tetrachloroethane	ug/l	< 1
1,1,2,2-Tetrachloroethane	ug/kg	< 1
1,1,2,2-Tetrachloroethane	ug/kg	< 1
1,1,1,2-Tetrachloroethane	ug/l	< 1
Trans-1,3-Dichloropropene	ug/l	< 1
Trans-1,3-Dichloropropene	ug/kg	< 1
Trans-1,3-Dichloropropene	ug/kg	< 1
1,4-Dichlorobenzene	ug/kg	< 1
1,4-Dichlorobenzene	ug/kg	< 1
1,3-Dichlorobenzene	ug/l	< 1
1,4-Dichlorobenzene	ug/l	< 1
1,2-Dichlorobenzene	ug/l	< 1

QC Summary for sample numbers: 18-A015718 to 18-A015761...

BLANKS continued....

ANALYTE	UNITS	RESULT
1,2-Dibromo3Chloropropane	ug/l	< 5
trans-1,4-Dichloro2butene	ug/l	< 5
1,2,3-Trichloropropane	ug/l	< 1
D4-1,2,-Dichloroethane	%	95.0
D4-1,2,-Dichloroethane	%	95.0
D4-1,2,-Dichloroethane	%	96.2
D8-Toluene	%	108.
D8-Toluene (Soil)	%	108.
D8-Toluene (Soil)	%	102.
4-Bromofluorobenzene	%	106.
4-Bromofluorobenzene S	%	106.
4-Bromofluorobenzene S	%	111.
Gasoline in Water	ug/l	< 100
Gasoline in Soil	ug/kg	< 100
Bromofluorobenzene	%	111.
Bromofluorobenzene	%	104.
Diesel	ug/l	< 50
Diesel	mg/kg	< 25
Diesel	mg/kg	< 25
Heavy Oil	ug/l	< 100
Heavy Oil	mg/kg	< 50
Heavy Oil	mg/kg	< 50
Bromofluorobenzene	%	69.1
Bromofluorobenzene	%	74.8
Bromofluorobenzene	%	100.
2-Fluorobiphenyl	%	71.0
2-Fluorobiphenyl	%	80.1
2-Fluorobiphenyl	%	100.
N-Nitrosodimethylamine	ug/l	< 2
N-Nitrosodimethylamine	ug/kg	< 5
Aniline	ug/l	< 2
Aniline	ug/kg	< 2
Phenol	ug/l	< 2
Phenol	ug/kg	< 2
bis(2-Chloroethyl)ether	ug/l	< 2
bis(2-Chloroethyl)ether	ug/kg	< 2
2-Chlorophenol	ug/l	< 2
2-Chlorophenol	ug/kg	< 2
1,3-Dichlorobenzene	ug/l	< 2
1,3-Dichlorobenzene	ug/kg	< 2
1,4-Dichlorobenzene	ug/l	< 2

QC Summary for sample numbers: 18-A015718 to 18-A015761...

BLANKS continued....

ANALYTE	UNITS	RESULT
1,4-Dichlorobenzene	ug/kg	< 2
Benzyl Alcohol	ug/l	< 2
Benzyl Alcohol	ug/kg	< 2
1,2-Dichlorobenzene	ug/l	< 2
1,2-Dichlorobenzene	ug/kg	< 2
2-Methylphenol	ug/l	< 2
2-Methylphenol	ug/kg	< 2
bis(2-Chloroisopropyl)eth	ug/l	< 2
bis(2-Chloroisopropyl)eth	ug/kg	< 2
4-Methylphenol (P.Cresol)	ug/l	< 2
4-Methylphenol (cresol)	ug/kg	< 2
N-Nitroso-di-n-propylamin	ug/l	< 2
N-Nitroso-di-n-propylamin	ug/kg	< 2
Hexachloroethane	ug/l	< 1
Hexachloroethane	ug/kg	< 2
Nitrobenzene	ug/l	< 2
Nitrobenzene	ug/kg	< 2
Isophorone	ug/l	< 2
Isophorone	ug/kg	< 2
2-Nitrophenol	ug/l	< 2
2-Nitrophenol	ug/kg	< 5
2,4-Dimethylphenol	ug/l	< 2
2,4-Dimethylphenol	ug/kg	< 2
Benzoic Acid	ug/l	< 2
Benzoic Acid	ug/kg	< 1
bis(2-Chloroethoxy)methan	ug/l	< 2
bis(2-Chloroethoxy)methan	ug/kg	< 2
2,4-Dichlorophenol	ug/l	< 2
2,4-Dichlorophenol	ug/kg	< 2
1,2,4-Trichlorobenzene	ug/l	< 2
1,2,4-Trichlorobenzene	ug/kg	< 2
Naphthalene	ug/l	< 2
Naphthalene	ug/kg	< 2
Naphthalene	ug/l	< 0.1
Naphthalene	ug/Kg	< 3.33
4-Chloroaniline	ug/l	< 2
4-Chloroaniline	ug/kg	< 2
Hexachlorobutadiene	ug/l	< 2
Hexachlorobutadiene	ug/kg	< 2
4-Chloro-3-methylphenol	ug/l	< 2
4-Chloro-3-methylphenol	ug/kg	< 2

QC Summary for sample numbers: 18-A015718 to 18-A015761...

BLANKS continued....

ANALYTE	UNITS	RESULT
2-Methylnaphthalene	ug/l	< 2
2-Methylnaphthalene	ug/kg	< 2
2-Methylnaphthalene	ug/l	< 0.1
2-Methylnaphthalene	ug/Kg	< 3.33
Hexachlorocyclopentadiene	ug/l	< 2
Hexachlorocyclopentadiene	ug/kg	< 5
2,4,6-Trichlorophenol	ug/l	< 2
2,4,6-Trichlorophenol	ug/kg	< 2
2,4,5-Trichlorophenol	ug/l	< 2
2,4,5-Trichlorophenol	ug/kg	< 2
2-Chloronaphthalene	ug/l	< 2
2-Chloronaphthalene	ug/kg	< 2
2-Nitroaniline	ug/l	< 2
2-Nitroaniline	ug/kg	< 5
Dimethylphthalate	ug/l	< 2
Dimethylphthalate	ug/kg	< 2
Dimethylphthalate	ug/l	< 0.1
Dimethylphthalate	ug/kg	< 3.33
Acenaphthylene	ug/l	< 2
Acenaphthylene	ug/kg	< 2
Acenaphthylene	ug/l	< 0.1
Acenaphthylene	ug/Kg	< 3.33
2,6-Dinitrotoluene	ug/l	< 2
2,6-Dinitrotoluene	ug/kg	< 5
3-Nitroaniline	ug/l	< 2
3-Nitroaniline	ug/kg	< 5
Acenaphthene	ug/l	< 2
Acenaphthene	ug/kg	< 2
Acenaphthene	ug/l	< 0.1
Acenaphthene	ug/Kg	< 3.33
2,4-Dinitrophenol	ug/l	< 2
2,4-Dinitrophenol	ug/kg	< 10
4-Nitrophenol	ug/l	< 2
4-Nitrophenol	ug/kg	< 10
Dibenzofuran	ug/l	< 2
Dibenzofuran	ug/kg	< 2
2,4-Dinitrotoluene	ug/l	< 2
2,4-Dinitrotoluene	ug/kg	< 5
Diethylphthalate	ug/l	< 2
Diethylphthalate	ug/kg	< 2
Diethylphthalate	ug/l	< 0.1

QC Summary for sample numbers: 18-A015718 to 18-A015761...

BLANKS continued....

ANALYTE	UNITS	RESULT
Diethylphthalate	ug/kg	< 3.33
4-Chlorophenyl-phenyl eth	ug/l	< 2
4-Chlorophenyl-phenyl eth	ug/kg	< 2
Fluorene	ug/l	< 2
Fluorene	ug/kg	< 2
Fluorene	ug/l	< 0.1
Fluorene	ug/Kg	< 3.33
4-Nitroaniline	ug/l	< 2
4-Nitroaniline	ug/kg	< 5
4,6-Dinitro-2-methylpheno	ug/l	< 2
4,6-Dinitro-2-methylpheno	ug/kg	< 5
N-nitrosodiphenylamine	ug/l	< 2
N-nitrosodiphenylamine	ug/kg	< 2
Azobenzene	ug/l	< 2
Azobenzene	ug/kg	< 2
4-Bromophenyl-phenyl ethe	ug/l	< 2
4-Bromophenyl-phenyl ethe	ug/kg	< 2
Hexachlorobenzene	ug/l	< 2
Hexachlorobenzene	ug/kg	< 2
Pentachlorophenol	ug/l	< 2
Pentachlorophenol	ug/kg	< 5
Pentachlorophenol	ug/l	< 0.5
Pentachlorophenol	ug/kg	< 16.7
Phenanthrene	ug/l	< 2
Phenanthrene	ug/kg	< 2
Phenanthrene	ug/l	< 0.1
Phenanthrene	ug/Kg	< 3.33
Anthracene	ug/l	< 2
Anthracene	ug/kg	< 2
Anthracene	ug/l	< 0.1
Anthracene	ug/Kg	< 3.33
Carbazole	ug/l	< 2
Carbazole	ug/kg	< 2
Di-n-butylphthalate	ug/l	< 2
Di-n-butylphthalate	ug/kg	< 2
Di-n-butylphthalate	ug/l	< 0.1
Di-n-butylphthalate	ug/kg	< 3.33
Fluoranthene	ug/l	< 2
Fluoranthene	ug/kg	< 2
Fluoranthene	ug/l	< 0.1
Fluoranthene	ug/Kg	< 3.33

QC Summary for sample numbers: 18-A015718 to 18-A015761...

BLANKS continued....

ANALYTE	UNITS	RESULT
Benzidine	ug/l	< 2
Benzidine	ug/kg	< 50
Pyrene	ug/l	< 2
Pyrene	ug/kg	< 2
Pyrene	ug/l	< 0.1
Pyrene	ug/Kg	< 3.33
Butylbenzylphthalate	ug/l	< 2
Butylbenzylphthalate	ug/kg	< 2
Butylbenzylphthalate	ug/l	< 0.1
Butylbenzylphthalate	ug/Kg	< 3.33
3,3-Dichlorobenzidine	ug/l	< 2
3,3-Dichlorobenzidine	ug/kg	< 3
Benzo(a)anthracene	ug/l	< 2
Benzo(a)anthracene	ug/kg	< 2
Benzo(a)anthracene	ug/l	< 0.1
Benzo(a)anthracene	ug/Kg	< 3.33
Chrysene	ug/l	< 2
Chrysene	ug/kg	< 2
Chrysene	ug/l	< 0.1
Chrysene	ug/Kg	< 3.33
bis(2-Ethylhexyl)phthalat	ug/l	< 2
bis(2-Ethylhexyl)phthalat	ug/kg	< 2
bis(2-Ethylhexyl)phthalat	ug/l	0.25
bis(2-Ethylhexyl)phthalat	ug/kg	< 3.33
Di-n-octylphthalate	ug/l	< 2
Di-n-octylphthalate	ug/kg	< 1
Di-n-octylphthalate	ug/l	< 0.1
Di-n-octylphthalate	ug/kg	< 3.33
Benzo(b)fluoranthene	ug/l	< 2
Benzo(b)fluoranthene	ug/kg	< 2
Benzo(b)fluoranthene	ug/l	< 0.1
Benzo(b)fluoranthene	ug/Kg	< 3.33
Benzo(k)fluoranthene	ug/l	< 2
Benzo(k)fluoranthene	ug/kg	< 2
Benzo(k)fluoranthene	ug/l	< 0.1
Benzo(k)fluoranthene	ug/Kg	< 3.33
Benzo(a)pyrene	ug/l	< 2
Benzo(a)pyrene	ug/kg	< 2
Benzo(a)pyrene	ug/l	< 0.1
Benzo(a)pyrene	ug/Kg	< 3.33
Indeno(1,2,3-cd)pyrene	ug/l	< 2

QC Summary for sample numbers: 18-A015718 to 18-A015761...

BLANKS continued....

ANALYTE	UNITS	RESULT
Indeno(1,2,3-cd)pyrene	ug/kg	< 2
Indeno(123-cd)pyrene	ug/l	< 0.1
Indeno(123-cd)pyrene	ug/Kg	< 3.33
Dibenzo(ah)anthracene	ug/l	< 2
Dibenzo(a,h)anthracene	ug/kg	< 2
Dibenzo(ah)anthracene	ug/l	< 0.1
Dibenzo(ah)anthracene	ug/Kg	< 3.33
Benzo(g,h,i)perylene	ug/l	< 2
Benzo(g,h,i)perylene	ug/kg	< 2
Benzo(ghi)perylene	ug/l	< 0.1
Benzo(ghi)perylene	ug/Kg	< 3.33
1-Methylnaphthalene	ug/l	< 0.1
1-Methylnaphthalene	ug/Kg	< 3.33
2-Fluorophenol	%	85.8
D6-Phenol	%	86.0
D5-Nitrobenzene	%	81.2
2-Fluorobiphenyl	%	80.8
2,4,6-Tribromophenol	%	26.0
D14-Terphenyl	%	114.
Arsenic	ug/L	< 0.05
Arsenic	ug/g	< 0.00005
Arsenic	ug/g	< 0.00005
Arsenic	ug/g	< 0.00005
Arsenic	ug/g	< 0.00005
Arsenic	ug/g	< 0.00005
Cadmium	ug/L	< 0.05
Cadmium	ug/g	< 0.00005
Cadmium	ug/g	< 0.00005
Cadmium	ug/g	< 0.00005
Cadmium	ug/g	< 0.00005
Cadmium	ug/g	< 0.00005
Chromium	ug/L	< 0.1
Chromium	ug/g	0.00012
Chromium	ug/g	< 0.0001
Chromium	ug/g	< 0.0001
Chromium	ug/g	< 0.0001
Chromium	ug/g	< 0.0001
Lead	ug/L	< 0.1
Lead	ug/g	< 0.0001
Lead	ug/g	< 0.0001
Lead	ug/g	< 0.0001

QC Summary for sample numbers: 18-A015718 to 18-A015761...

BLANKS continued....

ANALYTE	UNITS	RESULT
Lead	ug/g	< 0.0001
Lead	ug/g	< 0.0001

Sample Custody Record

Samples Shipped to: Am Test

JOB 19282-10 LAB NUMBER _____
 PROJECT NAME KCIA Large Aircraft
 HART CROWSER CONTACT Andrea Wong
 SAMPLED BY: S. Green

2 of 4

Hart Crowser, Inc.
 3131 Elliott Avenue, Suite 600
 Seattle, Washington 98121
 Office: 206.324.9530 • Fax 206.328.5581



LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX	REQUESTED ANALYSIS										NO. OF CONTAINERS	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS
						NMTPH-Dx	NMTPH-Gx	PCB by 8082A	SWCS PAIR by 8270/8270S1H	SWCS PAIR by 8270/8270S1H	TOTAL METALS (As Col 4)	Pb by col 4	TOTAL METALS by 2418	VOC by 8208	LOW LEVEL PCBs		
15730	HC12-S1		8/27/18	1100	SOIL	X										2	HOLD Rest
31	HC12-S2			1105		X										2	HOLD
32	HC12-S3			1110		X	X	X	X							4	
33	HC12-S4			1115		X	X	X	X							2	HOLD
34	HC12-S5			1120		X	X	X	X							2	HOLD
35	HC12-S6			1125		X	X	X	X							2	HOLD Rest
36	HC12-GW			1130	WATER	X	X	X	X	X						9	NO PCB'S, NO SVOC'S
37	HC18-S1			1215	SOIL											2	HOLD
38	HC18-S2			1220												2	HOLD
39	HC18-S3			1225		X	X	X	X							4	HOLD Rest
40	HC18-S4			1230		X	X	X	X							2	HOLD Rest
41	HC18-S5			1235		X	X	X	X							2	HOLD Rest

RELINQUISHED BY	DATE	RECEIVED BY	DATE
<u>Andrea Wong</u>	8/28/18	<u>Stank</u>	8/28/18
SIGNATURE	TIME	SIGNATURE	TIME
<u>Andrea Wong</u>		<u>ALANNA STANK</u>	
PRINT NAME		PRINT NAME	
<u>Hart Crowser</u>	1205	<u>AMTEST</u>	12:15
COMPANY		COMPANY	

RELINQUISHED BY	DATE	RECEIVED BY	DATE
SIGNATURE	TIME	SIGNATURE	TIME
PRINT NAME		PRINT NAME	
COMPANY		COMPANY	

SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS:		TOTAL NUMBER OF CONTAINERS	
will send email with samples for analysis			

SAMPLE RECEIPT INFORMATION		SHIPMENT METHOD:	
CUSTOMY SEALS:	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	<input type="checkbox"/> HAND	<input type="checkbox"/> OVERNIGHT
GOOD CONDITION	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> OCCURIER	
TEMPERATURE			

COOLER NO.:	STORAGE LOCATION:

TURNAROUND TIME:
<input type="checkbox"/> 24 HOURS <input type="checkbox"/> 1 WEEK <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____

See Lab Work Order No. _____	for Other Contract Requirements _____

Sample Custody Record

Samples Shipped to: AmTest

JOB 19282-10 LAB NUMBER _____
 PROJECT NAME KCIA Large Aircraft
 HART CROWSER CONTACT Andrea Wong
 SAMPLED BY: J. Green

LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX
15742	HClB-S6		8/27/18	1240	SOIL
43	HClB-GW		8/27/18	1240	WATER
44	HClB-S1			1330	SOIL
45	HClB-S2			1335	
46	HClB-S3			1340	
47	HClB-S4			1345	
48	HClB-S5			1350	
49	HClB-S6			1355	
50	HClF-S1			1415	
51	HClF-S2			1420	
52	HClF-S3			1425	
	HClF-S4			1430	

RELINQUISHED BY	DATE	RECEIVED BY	DATE
<u>Andrea Wong</u>	8/28/18	<u>Alanna Staab</u>	8/28/18
<u>Hart Crowser</u>	1205	<u>AmTest</u>	12:15

3 of 4
 Hart Crowser, Inc.
 3131 Elliott Avenue, Suite 600
 Seattle, Washington 98121
 Office: 206.324.9530 • Fax 206.328.5581



REQUESTED ANALYSIS	NO. OF CONTAINERS	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS
NMTPH-Dx	X	
NMTPH-Gx	X	
PCBs by 8082A	X	
Spec & Date by 87018270514	X	
Total Metals (As Cd, Cr, Pb) by 610	X	
Total Mercury by 4118	X	
VOCs by 820B	X	
Wettest PCBs	X	
TSS		
	9	JRG 8/27/18
	2	HOLD REST
	2	HOLD REST
	2	HOLD REST
	4	HOLD REST
	2	HOLD REST
	2	HOLD REST
	2	HOLD REST
	2	HOLD REST
	2	HOLD REST
	2	HOLD REST

SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS:
 Will send email with samples for analysis

COOLER NO.: _____ STORAGE LOCATION: _____

TURNAROUND TIME:
 24 HOURS 1 WEEK
 48 HOURS STANDARD
 72 HOURS OTHER _____

See Lab Work Order No. _____
 for Other Contract Requirements

Sample Custody Record

Samples Shipped to: Amfest

JOB 19282-10 LAB NUMBER

PROJECT NAME KCIA Large Air Craft

HART CROWSER CONTACT Andrea Woney

SAMPLED BY: J. Green

LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX
15753	HC17-S5		8/27/18	1435	SOIL
54	HC17-S6			1440	
55	HC13-S1			1500	
56	HC13-S2			1505	
57	HC13-S3			1510	
58	HC13-S4			1515	
59	HC13-S5			1520	
60	HC13-S6			1525	
61	HC13-GW			1530	WATER

RELINQUISHED BY	DATE	RECEIVED BY	DATE
<u>A Woney</u>	8/28/18	<u>A Staab</u>	8/28/18
SIGNATURE <u>Andrea Woney</u>	TIME	SIGNATURE ALANNA STAAB	TIME
PRINT NAME <u>Andrea Woney</u>		PRINT NAME AMTEST	12:15
COMPANY		COMPANY	

RELINQUISHED BY	DATE	RECEIVED BY	DATE
SIGNATURE		SIGNATURE	
PRINT NAME		PRINT NAME	
COMPANY		COMPANY	

REQUESTED ANALYSIS										
NMTPH-PX										
NMTPH-GX	X									
PCBC by 8082A	X	X								
PCBC & DATE by 8210/8210 SH	X	X								
PCBC by 8210 (As. Calc)	X	X								
Total Mercury by 9411 B	X									
VOCS by 8260 B										
Lowlevel PCBC										
TSS										

NO. OF CONTAINERS	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS
2	
4	HOLD
4	HOLD
2	HOLD
2	HOLD
2	NO PCB'S OR SVOC'S
2	HOLD
2	HOLD
9	

SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS:
Will send email with samples for analysis

COOLER NO.: _____ STORAGE LOCATION: _____

TURNAROUND TIME:
 24 HOURS 1 WEEK
 48 HOURS STANDARD
 72 HOURS OTHER _____

4 of 4
 Hart Crowser, Inc.
 3131 Elliott Avenue, Suite 600
 Seattle, Washington 98121
 Office: 206.324.9530 • Fax 206.328.5581





14 September 2018

Aaron Young
AmTest Laboratories
13600 NE 126th PI Suite C
Kirkland, WA 98034

RE: Hart Crowser

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

<u>Associated Work Order(s)</u>	<u>Associated SDG ID(s)</u>
18H0412	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



18H0412

Chain of Custody No. **33178**

Client Name & Address: <i>Amtest</i>	Invoice To:
Contact Person: <i>Aaron Young</i>	Invoice Contact:
Phone No:	PO Number: <i>18-410</i>
Fax No:	Invoice Ph/Fax:
E-mail: <i>aaron.y@amtestlab.com</i>	Invoice E-mail:
Report Delivery: (Choose all that apply) Mail / Fax / <u>Email</u> / Posted Online	Data posted to online account: YES / NO Web Login ID:

Special Instructions:

Requested TAT: (**Rush must be pre-approved by lab**)
 Standard RUSH (5 Day / 3 Day / 48 HR / 24 HR) Temperature upon Receipt:

Project Name: <i>Hart-Crowser</i>		Date Sampled	Time Sampled	Matrix	No. of containers	Analysis Requested										QA/QC	
AmTest ID	Client ID (35 characters max)					<i>LLP</i>	<i>LLPCBs</i>	<i>0.1 reporting limit</i>									
	<i>15724</i>	<i>8/27/18</i>	<i>10:10</i>	<i>W</i>	<i>1</i>		<i>X</i>										
	<i>15742</i>	<i>↓</i>	<i>12:40</i>	<i>↓</i>	<i>1</i>		<i>X</i>										
	<i>15761</i>	<i>↓</i>	<i>15:30</i>	<i>↓</i>	<i>1</i>		<i>X</i>										

Collected/Relinquished By: <i>[Signature]</i>	Date: <i>8/29/18</i>	Time: <i>14:30</i>	Received By: <i>Stephanie FISHER</i>	Date: <i>8-30-18</i>	Time: <i>1115</i>
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

COMMENTS:



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
14-Sep-2018 12:41

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
15724	18H0412-01	Water	27-Aug-2018 10:10	30-Aug-2018 11:15
15742	18H0412-02	Water	27-Aug-2018 12:40	30-Aug-2018 11:15
15761	18H0412-03	Water	27-Aug-2018 15:30	30-Aug-2018 11:15



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
14-Sep-2018 12:41

Case Narrative

Sample receipt

Samples as listed on the preceding page were received August 30, 2018 under ARI work order 18H0412. For details regarding sample receipt, please refer to the Cooler Receipt Form.

PCB Aroclors - EPA Method SW8082A

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.



Cooler Receipt Form

ARI Client: Amtest
 COC No(s): 33178 NA
 Assigned ARI Job No: 18 H0412

Project Name: Hart Crouser
 Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
 Tracking No: 1Z80795503485574 NA 17

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO
 Were custody papers included with the cooler? YES NO
 Were custody papers properly filled out (ink, signed, etc.) YES NO
 Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)
 Time: 11:15 6.6
 If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D002565
 Cooler Accepted by: SCF Date: 8-30-18 Time: 11:15

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO
 What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____
 Was sufficient ice used (if appropriate)? NA YES NO
 Were all bottles sealed in individual plastic bags? YES NO
 Did all bottles arrive in good condition (unbroken)? YES NO
 Were all bottle labels complete and legible? YES NO
 Did the number of containers listed on COC match with the number of containers received? YES NO
 Did all bottle labels and tags agree with custody papers? YES NO
 Were all bottles used correct for the requested analyses? YES NO
 Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO
 Were all VOC vials free of air bubbles? NA YES NO
 Was sufficient amount of sample sent in each bottle? YES NO
 Date VOC Trip Blank was made at ARI: NA _____
 Was Sample Split by ARI : NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: JSB Date: 08/30/18 Time: 11:29

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____



Small → "sm" (< 2 mm)
 Peabubbles → "pb" (2 to < 4 mm)
 Large → "lg" (4 to < 6 mm)
 Headspace → "hs" (> 6 mm)



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
14-Sep-2018 12:41

15724
18H0412-01 (Water)

Aroclor PCB

Method: EPA 8082A

Sampled: 08/27/2018 10:10

Instrument: ECD7

Analyzed: 13-Sep-2018 11:38

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BGH0851 Sample Size: 1000 mL
Prepared: 03-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CGI0091 Initial Volume: 0.5 mL
Cleaned: 13-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfuric Acid
Cleanup Batch: CGI0089 Initial Volume: 0.5 mL
Cleaned: 12-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfur
Cleanup Batch: CGI0090 Initial Volume: 0.5 mL
Cleaned: 12-Sep-2018 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
<i>Surrogate: Decachlorobiphenyl</i>					29-120 %	55.4	%
<i>Surrogate: Tetrachlorometaxylene</i>					32-120 %	56.3	%
<i>Surrogate: Decachlorobiphenyl [2C]</i>					29-120 %	51.8	%
<i>Surrogate: Tetrachlorometaxylene [2C]</i>					32-120 %	54.0	%



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
14-Sep-2018 12:41

15742

18H0412-02 (Water)

Aroclor PCB

Method: EPA 8082A

Sampled: 08/27/2018 12:40

Instrument: ECD7

Analyzed: 13-Sep-2018 12:00

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BGH0851 Sample Size: 1000 mL
Prepared: 03-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CGI0091 Initial Volume: 0.5 mL
Cleaned: 13-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfuric Acid
Cleanup Batch: CGI0089 Initial Volume: 0.5 mL
Cleaned: 12-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfur
Cleanup Batch: CGI0090 Initial Volume: 0.5 mL
Cleaned: 12-Sep-2018 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
<i>Surrogate: Decachlorobiphenyl</i>					29-120 %	66.7 %	
<i>Surrogate: Tetrachlorometaxylene</i>					32-120 %	54.0 %	
<i>Surrogate: Decachlorobiphenyl [2C]</i>					29-120 %	60.9 %	
<i>Surrogate: Tetrachlorometaxylene [2C]</i>					32-120 %	51.8 %	



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
14-Sep-2018 12:41

15761
18H0412-03 (Water)

Aroclor PCB

Method: EPA 8082A

Sampled: 08/27/2018 15:30

Instrument: ECD7

Analyzed: 13-Sep-2018 12:22

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BGH0851 Sample Size: 1000 mL
Prepared: 03-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CGI0091 Initial Volume: 0.5 mL
Cleaned: 13-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfuric Acid
Cleanup Batch: CGI0089 Initial Volume: 0.5 mL
Cleaned: 12-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfur
Cleanup Batch: CGI0090 Initial Volume: 0.5 mL
Cleaned: 12-Sep-2018 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
<i>Surrogate: Decachlorobiphenyl</i>					29-120 %	74.5 %	
<i>Surrogate: Tetrachlorometaxylene</i>					32-120 %	67.7 %	
<i>Surrogate: Decachlorobiphenyl [2C]</i>					29-120 %	71.1 %	
<i>Surrogate: Tetrachlorometaxylene [2C]</i>					32-120 %	65.6 %	



AmTest Laboratories 13600 NE 126th Pl Suite C Kirkland WA, 98034	Project: Hart Crowser Project Number: PCB Project Manager: Aaron Young	Reported: 14-Sep-2018 12:41
--	--	--------------------------------

Aroclor PCB - Quality Control

Batch BGH0851 - EPA 3510C SepF

Instrument: ECD7 Analyst: JGR

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BGH0851-BLK1)											
						Prepared: 03-Sep-2018 Analyzed: 13-Sep-2018 10:53					
Aroclor 1016	ND	0.002	0.010	ug/L							U
Aroclor 1221	ND	0.002	0.010	ug/L							U
Aroclor 1232	ND	0.002	0.010	ug/L							U
Aroclor 1242	ND	0.002	0.010	ug/L							U
Aroclor 1248	ND	0.002	0.010	ug/L							U
Aroclor 1254	ND	0.002	0.010	ug/L							U
Aroclor 1260	ND	0.003	0.010	ug/L							U
Aroclor 1262	ND	0.003	0.010	ug/L							U
Aroclor 1268	ND	0.003	0.010	ug/L							U
<i>Surrogate: Decachlorobiphenyl</i>	0.0132			ug/L	0.0200		66.1	29-120			
<i>Surrogate: Tetrachlorometaxylene</i>	0.0102			ug/L	0.0200		51.1	32-120			
<i>Surrogate: Decachlorobiphenyl [2C]</i>	0.0124			ug/L	0.0200		61.8	29-120			
<i>Surrogate: Tetrachlorometaxylene [2C]</i>	0.00931			ug/L	0.0200		46.5	32-120			
LCS (BGH0851-BS1)											
						Prepared: 03-Sep-2018 Analyzed: 13-Sep-2018 11:15					
Aroclor 1016	0.040	0.002	0.010	ug/L	0.0500		80.0	54-120			
Aroclor 1260	0.037	0.003	0.010	ug/L	0.0500		73.6	51-128			
<i>Surrogate: Decachlorobiphenyl</i>	0.0123			ug/L	0.0200		61.4	29-120			
<i>Surrogate: Tetrachlorometaxylene</i>	0.0104			ug/L	0.0200		52.1	32-120			
<i>Surrogate: Decachlorobiphenyl [2C]</i>	0.0119			ug/L	0.0200		59.6	29-120			
<i>Surrogate: Tetrachlorometaxylene [2C]</i>	0.00982			ug/L	0.0200		49.1	32-120			



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
14-Sep-2018 12:41

Certified Analyses included in this Report

Analyte	Certifications
EPA 8082A in Water	
Aroclor 1016	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1016 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1221	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1221 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1232	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1232 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1242	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1242 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1248	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1248 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1254	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1254 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1260	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1260 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1262	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1262 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1268	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1268 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	02/07/2019
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	02/07/2019
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-011	05/12/2019
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
14-Sep-2018 12:41

Notes and Definitions

- U This analyte is not detected above the applicable reporting or detection limit.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- [2C] Indicates this result was quantified on the second column on a dual column analysis.



Am Test Inc.
 13600 NE 126TH PL
 Suite C
 Kirkland, WA 98034
 (425) 885-1664

*Professional
 Analytical
 Services*

Oct 23 2018
 Hart Crowser
 3131 Elliot Ave
 Suite 200
 Seattle, WA 98109
 Attention: ANDREA WONG

Dear ANDREA WONG:

Enclosed please find the analytical data for your KCIA LARGE AIRCRAFT PARKING SITE project.

The following is a cross correlation of client and laboratory identifications for your convenience.

CLIENT ID	MATRIX	AMTEST ID	TEST
HC-19-S1	Soil	18-A015818	NWTPH-Dx, CONV
HC-19-S2	Soil	18-A015819	HOLD
HC-19-S3	Soil	18-A015820	s8270, PCB, NWTPH-Gx, NWTPH-Dx, s8270-SIM, sICP-MS, CONV, Hg-CV, MET, MET
HC-19-S4	Soil	18-A015821	HOLD
HC-19-S5	Soil	18-A015822	HOLD
HC-19-S6	Soil	18-A015823	HOLD
HC-19-GW	Water	18-A015824	Semi-Vol, VOA, NWTPH-Gx, NWTPH-Dx, w625-SIM, CONV, Hg-CV, MET
HC-20-S1	Soil	18-A015825	NWTPH-Dx, CONV
HC-20-S2	Soil	18-A015826	HOLD
HC-20-S3	Soil	18-A015827	NWTPH-Dx, CONV
HC-20-S4	Soil	18-A015828	s8270, PCB, NWTPH-Gx, NWTPH-Dx, s8270-SIM, sICP-MS, CONV, Hg-CV, MET, MET
HC-20-S5	Soil	18-A015829	HOLD
HC-20-S6	Soil	18-A015830	HOLD
HC-15-S1	Soil	18-A015831	HOLD
HC-15-S2	Soil	18-A015832	NWTPH-Gx, NWTPH-Dx, sICP-MS, CONV, Hg-CV, MET, MET
HC-15-S3	Soil	18-A015833	HOLD
HC-15-S4	Soil	18-A015834	HOLD
HC-15-S5	Soil	18-A015835	HOLD
HC-15-S6	Soil	18-A015836	HOLD
HC-15-GW	Water	18-A015837	Semi-Vol, VOA, NWTPH-Gx, NWTPH-Dx, w625-SIM, CONV, Hg-CV, MET
HC-14-S1	Soil	18-A015838	HOLD

Am Test Inc.
 13600 NE 126TH PL
 Suite C
 Kirkland, WA 98034
 (425) 885-1664

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Oct 23 2018
 Hart Crowser
 continued . . .

CLIENT ID	MATRIX	AMTEST ID	TEST
HC-14-S2	Soil	18-A015839	HOLD
HC-14-S3	Soil	18-A015840	HOLD
HC-14-S4	Soil	18-A015841	HOLD
HC-14-S5	Soil	18-A015842	NWTPH-Dx, CONV
HC-14-S6	Soil	18-A015843	s8270, PCB, NWTPH-Gx, NWTPH-Dx, s8270-SIM, sICP-MS, CONV, Hg-CV, MET, MET
HC-11-S1	Soil	18-A015844	s8270, PCB, NWTPH-Gx, NWTPH-Dx, s8270-SIM, sICP-MS, CONV, Hg-CV, MET, MET
HC-11-S2	Soil	18-A015845	HOLD
HC-11-S3	Soil	18-A015846	HOLD
HC-11-S4	Soil	18-A015847	HOLD
HC-11-S5	Soil	18-A015848	HOLD
HC-11-S6	Soil	18-A015849	HOLD
HC-10-S1	Soil	18-A015850	s8270, PCB, NWTPH-Gx, NWTPH-Dx, s8270-SIM, sICP-MS, CONV, Hg-CV, MET, MET
HC-10-S2	Soil	18-A015851	NWTPH-Dx, CONV
HC-10-S3	Soil	18-A015852	NWTPH-Dx, CONV
HC-10-S4	Soil	18-A015853	NWTPH-Dx, CONV
HC-10-S5	Soil	18-A015854	HOLD
HC-10-S6	Soil	18-A015855	HOLD
HC-10-GW	Water	18-A015856	Semi-Vol, VOA, NWTPH-Gx, NWTPH-Dx, w625-SIM, CONV, Hg-CV, MET
HC-6-S1	Soil	18-A015857	NWTPH-Gx, NWTPH-Dx, CONV
HC-6-S2	Soil	18-A015858	s8260, NWTPH-Gx, NWTPH-Dx, sICP-MS, CONV, Hg-CV, MET, MET
HC-6-S3	Soil	18-A015859	HOLD
HC-6-S4	Soil	18-A015860	HOLD
HC-6-S5	Soil	18-A015861	HOLD
HC-6-S6	Soil	18-A015862	NWTPH-Dx, CONV
HC-6-GW	Water	18-A015863	VOA, NWTPH-Gx, NWTPH-Dx, CONV, Hg-CV, MET

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Kirkland, WA 98034
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Oct 23 2018
Hart Crowser
continued . . .

CLIENT ID	MATRIX	AMTEST ID	TEST
HC-20-GW	Water	18-A015864	Semi-Vol, VOA, NWTPH-Gx, NWTPH-Dx, w625-SIM, CONV, Hg-CV, MET

Your samples were received on Wednesday, August 29, 2018. At the time of receipt, the samples were logged in and properly maintained prior to the subsequent analysis.

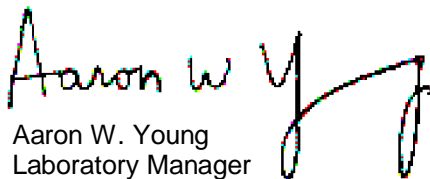
The analytical procedures used at AmTest are well documented and are typically derived from the protocols of the EPA, USDA, FDA or the Army Corps of Engineers.

Following the analytical data you will find the Quality Control (QC) results.

Please note that the detection limits that are listed in the body of the report refer to the Practical Quantitation Limits (PQL's), as opposed to the Method Detection Limits (MDL's).

If you should have any questions pertaining to the data package, please feel free to contact me.

Sincerely,


Aaron W. Young
Laboratory Manager

Project #: 19282-10

BACT = Bacteriological
CONV = Conventional

MET = Metals
ORG = Organics

NUT=Nutrients
DEM=Demand

MIN=Minerals

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ANALYSIS REPORT

Hart Crowser
 3131 Elliot Ave
 Seattle, WA 98109
 Attention: ANDREA WONG
 Project Name: KCIA LARGE AIRCRAFT PARKING SITE
 Project #: 19282-10
 All results reported on a dry weight basis.

Date Received: 08/29/18
 Date Reported: 6/7/18

AMTEST Identification Number 18-A015818
 Client Identification HC-19-S1
 Sampling Date 08/28/18, 08:25

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	94.4	%		0.1	SM 2540G	SRW	08/30/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 70	mg/kg	D40	68.	NWTPH-Dx	DP	10/08/18
Heavy Oil	650	mg/kg	D40	140	NWTPH-Dx	DP	10/08/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/11/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	0.0 %	50.0 - 150.
2-Fluorobiphenyl	0.0 %	50.0 - 150.

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING SITE
 AmTest ID: 18-A015819

AMTEST Identification Number 18-A015819
Client Identification HC-19-S2
Sampling Date 08/28/18, 08:30

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AS	08/29/18

AMTEST Identification Number 18-A015820
Client Identification HC-19-S3
Sampling Date 08/28/18, 08:35

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	94.8	%		0.1	SM 2540G	SRW	08/30/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	7.94	ug/g		0.607	EPA 6020	KQ	09/27/18
Cadmium	< 0.607	ug/g		0.607	EPA 6020	KQ	09/27/18
Chromium	23.9	ug/g		1.21	EPA 6020	KQ	09/27/18
Lead	0.913	ug/g	J	1.21	EPA 6020	KQ	09/27/18
Acid Digestion	Y				SW-846 3050B	KQ	09/05/18
Mercury	< 0.0105	ug/g		0.01	EPA 7471B	JH	09/10/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	6.	mg/kg		1.8	NWTPH-Dx	NNL	10/04/18
Heavy Oil	44.	mg/kg		3.5	NWTPH-Dx	NNL	10/04/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/11/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	72.8 %	50.0 - 150.
2-Fluorobiphenyl	73.8 %	50.0 - 150.

Hart Crowser
Project Name: KCIA LARGE AIRCRAFT PARKING SITE
AmTest ID: 18-A015820

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Soil	< 105	ug/kg		100	WDOE NWTPH-Gx	AY	09/11/18
Benzene	< 1	ug/kg		1.0	EPA 8260	AY	09/11/18
Toluene	< 1	ug/kg		1.0	EPA 8260	AY	09/11/18
Ethyl Benzene	< 1	ug/kg		1.0	EPA 8260	AY	09/11/18
m+p-Xylene	1.2	ug/kg		1.0	EPA 8260	AY	09/11/18
o-Xylene	< 1	ug/kg		1.0	EPA 8260	AY	09/11/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	98.0 %	50.0 - 150.

Semi-Volatiles

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,2,4-Trichlorobenzene	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
1,2-Dichlorobenzene	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
1,3-Dichlorobenzene	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
1,4-Dichlorobenzene	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
2,4,5-Trichlorophenol	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
2,4,6-Trichlorophenol	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
2,4-Dichlorophenol	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
2,4-Dimethylphenol	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
2,4-Dinitrophenol	< 360	ug/kg		360	EPA 8270D	NNL	09/16/18
2,4-Dinitrotoluene	< 180	ug/kg		180	EPA 8270D	NNL	09/16/18
2,6-Dinitrotoluene	< 180	ug/kg		180	EPA 8270D	NNL	09/16/18
2-Chloronaphthalene	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
2-Chlorophenol	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
2-Methylphenol	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
2-Nitroaniline	< 180	ug/kg		180	EPA 8270D	NNL	09/16/18
2-Nitrophenol	< 180	ug/kg		180	EPA 8270D	NNL	09/16/18
3,3-Dichlorobenzidine	< 108	ug/kg		110	EPA 8270D	NNL	09/16/18
3-Nitroaniline	< 180	ug/kg		180	EPA 8270D	NNL	09/16/18
4,6-Dinitro-2-methylpheno	< 180	ug/kg		180	EPA 8270D	NNL	09/16/18
4-Bromophenyl-phenyl ethe	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
4-Chloro-3-methylphenol	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
4-Chloroaniline	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
4-Chlorophenyl-phenyl eth	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
4-Methylphenol (cresol)	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
4-Nitroaniline	< 180	ug/kg		180	EPA 8270D	NNL	09/16/18
4-Nitrophenol	< 360	ug/kg		360	EPA 8270D	NNL	09/16/18
Aniline	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
Azobenzene	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
Benzidine	< 1800	ug/kg		1800	EPA 8270D	NNL	09/16/18
Benzoic Acid	< 36	ug/kg		36.	EPA 8270D	NNL	09/16/18
Benzyl Alcohol	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
bis(2-Chloroethoxy)methan	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
bis(2-Chloroethyl)ether	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
bis(2-Chloroisopropyl)eth	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
bis(2-Ethylhexyl)phthalat	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
bis(2-Ethylhexyl)phthalat	9.71	ug/kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Butylbenzylphthalate	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
Butylbenzylphthalate	< 3.6	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Carbazole	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
Dibenzofuran	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
Diethylphthalate	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
Diethylphthalate	< 3.6	ug/kg		3.6	EPA 8270D-SIM	NNL	09/19/18

Semi-Volatiles continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Dimethylphthalate	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
Di-n-butylphthalate	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
Di-n-butylphthalate	< 3.6	ug/kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Dimethylphthalate	< 3.6	ug/kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Di-n-octylphthalate	< 36	ug/kg		36.	EPA 8270D	NNL	09/16/18
Di-n-octylphthalate	< 3.6	ug/kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Hexachlorobenzene	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
Hexachlorobutadiene	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
Hexachlorocyclopentadiene	< 180	ug/kg		180	EPA 8270D	NNL	09/16/18
Hexachloroethane	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
Isophorone	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
Nitrobenzene	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
N-Nitrosodimethylamine	< 180	ug/kg		180	EPA 8270D	NNL	09/16/18
N-Nitroso-di-n-propylamin	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
N-nitrosodiphenylamine	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18
Pentachlorophenol	< 180	ug/kg		180	EPA 8270D	NNL	09/16/18
Pentachlorophenol	< 18	ug/kg		18.	EPA 8270D-SIM	NNL	09/19/18
Phenol	< 72	ug/kg		72.	EPA 8270D	NNL	09/16/18

Polynuclear Aromatic Hydrocarbons (PAH)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1-Methylnaphthalene	< 3.6	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
2-Methylnaphthalene	< 3.6	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Acenaphthene	< 3.6	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Acenaphthylene	< 3.6	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Anthracene	< 3.6	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Benzo(a)anthracene	< 3.6	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Benzo(a)pyrene	< 3.6	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Benzo(b)fluoranthene	< 3.6	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Benzo(ghi)perylene	< 3.6	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Benzo(k)fluoranthene	< 3.6	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Chrysene	< 3.6	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Dibenzo(ah)anthracene	< 3.6	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Fluoranthene	< 3.6	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Fluorene	< 3.6	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Indeno(123-cd)pyrene	< 3.6	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Naphthalene	< 3.6	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Phenanthrene	< 3.6	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Pyrene	3.60	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Sonnication Ext.	Y				SW-846 3550C	DP	09/10/18

Semi-Volatile Surrogates

ANALYTE	% RECOVERY	LIMITS
2-Fluorophenol	38.2 %	24.4 - 126.
D6-Phenol	34.8 %	20.0 - 140.
D5-Nitrobenzene	65.7 %	0.0 - 141.
2-Fluorobiphenyl	79.5 %	0.0 - 128.
2,4,6-Tribromophenol	17.3 %	0.0 - 130.
D14-Terphenyl	165. %	17.5 - 182.

PCB's

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
PCB-1016	< 17.8	ug/kg		17.8	EPA 8082A	NNL	09/19/18
PCB-1221	< 17.8	ug/kg		17.8	EPA 8082A	NNL	09/19/18
PCB-1232	< 17.8	ug/kg		17.8	EPA 8082A	NNL	09/19/18
PCB-1242	< 17.8	ug/kg		17.8	EPA 8082A	NNL	09/19/18
PCB-1248	< 17.8	ug/kg		17.8	EPA 8082A	NNL	09/19/18
PCB-1254	< 17.8	ug/kg		17.8	EPA 8082A	NNL	09/19/18
PCB-1260	< 17.8	ug/kg		17.8	EPA 8082A	NNL	09/19/18
Soxhlet Ext.	Y				SW-846 3540C	DP	09/11/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Tetrachloro-M-xylene	96.1 % Rec	43.3 - 162.
Decachlorobiphenyl	97.1 % Rec	40.1 - 191.

AMTEST Identification Number 18-A015821
Client Identification HC-19-S4
Sampling Date 08/28/18, 08:40

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AS	08/29/18

Hart Crowser
Project Name: KCIA LARGE AIRCRAFT PARKING SITE
AmTest ID: 18-A015822

AMTEST Identification Number 18-A015822
Client Identification HC-19-S5
Sampling Date 08/28/18, 08:45

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AS	08/29/18

AMTEST Identification Number 18-A015823
Client Identification HC-19-S6
Sampling Date 08/28/18, 08:50

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AS	08/29/18

AMTEST Identification Number 18-A015824
Client Identification HC-19-GW
Sampling Date 08/28/18, 08:50

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Suspended Solids	190	mg/l		1	SM 2540D	SRW	08/31/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	2.72	ug/L		0.05	EPA 6020	KQ	09/25/18
Cadmium	< 0.05	ug/L		0.05	EPA 6020	KQ	09/25/18
Chromium	1.82	ug/L		0.1	EPA 6020	KQ	09/25/18
Lead	1.17	ug/L		0.1	EPA 6020	KQ	09/25/18
Acid Dig.(Tot Metals)	Y				EPA 3010	KQ	09/19/18

Total Metals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Mercury	0.00005	mg/l		0.00005	EPA 7471B	SRW	09/04/18

NWTPH-Dx (Water)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 50	ug/l		50.	NWTPH-Dx	DP	09/20/18
Heavy Oil	< 100	ug/l		100	NWTPH-Dx	DP	09/20/18
Sep Fun Ext	Y				EPA 3510	DP	09/06/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	75.6 %	50.0 - 150.
2-Fluorobiphenyl	79.9 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Water	< 100	ug/l		100	NWTPH-Gx	AY	09/11/18
Benzene	< 0.5	ug/l		0.5	EPA 624	AY	08/29/18
Toluene	< 0.5	ug/l		0.5	EPA 624	AY	08/29/18
Ethyl Benzene	< 0.5	ug/l		0.5	EPA 624	AY	08/29/18
Total Xylene	< 1	ug/l		1	EPA 624	AY	08/29/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	103. %	50.0 - 150.

Volatile Organic Analysis (VOA's)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,1,1,2-Tetrachloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,1,1-Trichloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,1,2,2-Tetrachloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,1,2-Trichloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,1-Dichloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,1-Dichloroethylene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,2,3-Trichloropropane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,2-Dibromo3Chloropropane	< 5	ug/l		5.0	EPA 624	AY	09/04/18
1,2-Dibromoethane (EDB)	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,2-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,2-Dichloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,2-Dichloropropane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,3-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,4-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
2-Butanone (MEK)	< 5	ug/l		5.0	EPA 624	AY	09/04/18
2-Hexanone	< 5	ug/l		5.0	EPA 624	AY	09/04/18
4-Methyl-2-Pentanone MIBK	< 5	ug/l		5.0	EPA 624	AY	09/04/18
Acetone	< 5	ug/l		5.0	EPA 624	AY	09/04/18
Acrylonitrile	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Benzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Bromochloromethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Bromodichloromethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Bromoform	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Bromomethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18

Volatile Organic Analysis (VOA's) continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Carbon Disulfide	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Carbon Tetrachloride	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Chlorobenzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Chlorodibromomethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Chloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Chloroform	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Chloromethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Cis-1,2-Dichloroethene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Cis-1,3-Dichloropropene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Dibromomethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Ethyl Benzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
m,p Xylene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Methyl Iodide	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Methylene Chloride	< 2	ug/l		2.0	EPA 624	AY	09/04/18
o-Xylene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Styrene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Tetrachloroethylene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Toluene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Trans-1,2-Dichloroethene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Trans-1,3-Dichloropropene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
trans-1,4-Dichloro2butene	< 5	ug/l		5.0	EPA 624	AY	09/04/18
Trichloroethylene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Trichlorofluoromethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Vinyl Acetate	< 5	ug/l		5.0	EPA 624	AY	09/04/18
Vinyl Chloride	< 1	ug/l		1.0	EPA 624	AY	09/04/18

VOA Surrogates

ANALYTE	% RECOVERY	LIMITS
D4-1,2,-Dichloroethane	101. %	82.8 - 113.
D8-Toluene	111. %	89.0 - 123.
4-Bromofluorobenzene	103. %	85.3 - 117.

Semi-Volatiles

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,2,4-Trichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
1,2-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
1,3-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
1,4-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2,4,5-Trichlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2,4,6-Trichlorophenol	< 2	ug/l	X	1.9	EPA 8270D	NNL	09/16/18
2,4-Dichlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2,4-Dimethylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2,4-Dinitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2,4-Dinitrotoluene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2,6-Dinitrotoluene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2-Chloronaphthalene	< 2	ug/l	X	1.9	EPA 8270D	NNL	09/16/18
2-Chlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2-Methylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2-Nitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
3,3-Dichlorobenzidine	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
3-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4,6-Dinitro-2-methylpheno	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Bromophenyl-phenyl ethe	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Chloro-3-methylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Chloroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Chlorophenyl-phenyl eth	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Methylphenol (P.Cresol)	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Nitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Aniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Azobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Benzidine	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Benzoic Acid	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Benzyl Alcohol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
bis(2-Chloroethoxy)methan	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
bis(2-Chloroethyl)ether	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
bis(2-Chloroisopropyl)eth	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
bis(2-Ethylhexyl)phthalat	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
bis(2-Ethylhexyl)phthalat	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Butylbenzylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Butylbenzylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Carbazole	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Dibenzofuran	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Diethylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Diethylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18

Semi-Volatiles continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Dimethylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Dimethylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Di-n-butylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Di-n-butylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Di-n-octylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Di-n-octylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Hexachlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Hexachlorobutadiene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Hexachlorocyclopentadiene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Hexachloroethane	< 1	ug/l		0.95	EPA 8270D	NNL	09/16/18
Isophorone	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Nitrobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
N-Nitrosodimethylamine	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
N-Nitroso-di-n-propylamin	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
N-nitrosodiphenylamine	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Pentachlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Pentachlorophenol	< 0.5	ug/l		0.48	EPA 8270D-SIM	NNL	09/14/18
Phenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18

Polynuclear Aromatic Hydrocarbons (PAH)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1-Methylnaphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
2-Methylnaphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Acenaphthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Acenaphthylene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Benzo(a)anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Benzo(a)pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Benzo(b)fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Benzo(ghi)perylene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Benzo(k)fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Chrysene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Dibenzo(ah)anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Fluorene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Indeno(123-cd)pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Naphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Phenanthrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Liq/Liq Ext.	Y				EPA 3520	DP	09/05/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING SITE
 AmTest ID: 18-A015824

Semi-Volatile Surrogates

ANALYTE	% RECOVERY	LIMITS
2-Fluorophenol	15.9 %	11.5 - 136.
D6-Phenol	51.4 %	0.0 - 105.
D5-Nitrobenzene	88.8 %	10.0 - 142.
2-Fluorobiphenyl	89.4 %	23.6 - 122.
2,4,6-Tribromophenol	22.4 %	0.0 - 145.
D14-Terphenyl	114. %	11.0 - 178.

AMTEST Identification Number 18-A015825
 Client Identification HC-20-S1
 Sampling Date 08/28/18, 09:40

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	91.8	%		0.1	SM 2540G	SRW	08/30/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 73	mg/kg	D40	73.	NWTPH-Dx	DP	10/08/18
Heavy Oil	710	mg/kg	D40	150	NWTPH-Dx	DP	10/08/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/11/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	0.0 %	50.0 - 150.
2-Fluorobiphenyl	0.0 %	50.0 - 150.

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING SITE
 AmTest ID: 18-A015826

AMTEST Identification Number 18-A015826
Client Identification HC-20-S2
Sampling Date 08/28/18, 09:45

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AS	08/29/18

AMTEST Identification Number 18-A015827
Client Identification HC-20-S3
Sampling Date 08/28/18, 09:50

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	95.7	%		0.1	SM 2540G	SRW	08/30/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	5.	mg/kg		1.8	NWTPH-Dx	NNL	10/04/18
Heavy Oil	45.	mg/kg		3.5	NWTPH-Dx	NNL	10/04/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/11/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	76.6 %	50.0 - 150.
2-Fluorobiphenyl	81.2 %	50.0 - 150.

AMTEST Identification Number 18-A015828
Client Identification HC-20-S4
Sampling Date 08/28/18, 09:55

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	94.3	%		0.1	SM 2540G	SRW	08/30/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	5.42	ug/g		0.403	EPA 6020	KQ	09/27/18
Cadmium	< 0.403	ug/g		0.403	EPA 6020	KQ	09/27/18
Chromium	24.4	ug/g		0.807	EPA 6020	KQ	09/27/18
Lead	1.58	ug/g		0.807	EPA 6020	KQ	09/27/18
Acid Digestion	Y				SW-846 3050B	KQ	09/05/18
Mercury	0.0108	ug/g		0.01	EPA 7471B	JH	09/10/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 2	mg/kg		1.8	NWTPH-Dx	NNL	10/04/18
Heavy Oil	< 4	mg/kg		3.6	NWTPH-Dx	NNL	10/04/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/11/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	58.3 %	50.0 - 150.
2-Fluorobiphenyl	61.7 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Soil	< 111	ug/kg		110	WDOE NWTPH-Gx	AY	09/11/18
Benzene	< 1.1	ug/kg		1.1	EPA 8260	AY	09/11/18
Toluene	< 1.1	ug/kg		1.1	EPA 8260	AY	09/11/18
Ethyl Benzene	< 1.1	ug/kg		1.1	EPA 8260	AY	09/11/18
m+p-Xylene	< 1.1	ug/kg		1.1	EPA 8260	AY	09/11/18
o-Xylene	< 1.1	ug/kg		1.1	EPA 8260	AY	09/11/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
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Surrogate continued...

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	107. %	50.0 - 150.

Semi-Volatiles

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,2,4-Trichlorobenzene	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
1,2-Dichlorobenzene	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
1,3-Dichlorobenzene	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
1,4-Dichlorobenzene	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
2,4,5-Trichlorophenol	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
2,4,6-Trichlorophenol	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
2,4-Dichlorophenol	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
2,4-Dimethylphenol	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
2,4-Dinitrophenol	< 357	ug/kg		360	EPA 8270D	NNL	09/16/18
2,4-Dinitrotoluene	< 178	ug/kg		180	EPA 8270D	NNL	09/16/18
2,6-Dinitrotoluene	< 178	ug/kg		180	EPA 8270D	NNL	09/16/18
2-Chloronaphthalene	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
2-Chlorophenol	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
2-Methylphenol	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
2-Nitroaniline	< 178	ug/kg		180	EPA 8270D	NNL	09/16/18
2-Nitrophenol	< 178	ug/kg		180	EPA 8270D	NNL	09/16/18
3,3-Dichlorobenzidine	< 107	ug/kg		110	EPA 8270D	NNL	09/16/18
3-Nitroaniline	< 178	ug/kg		180	EPA 8270D	NNL	09/16/18
4,6-Dinitro-2-methylpheno	< 178	ug/kg		180	EPA 8270D	NNL	09/16/18
4-Bromophenyl-phenyl ethe	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
4-Chloro-3-methylphenol	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
4-Chloroaniline	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
4-Chlorophenyl-phenyl eth	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
4-Methylphenol (cresol)	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
4-Nitroaniline	< 178	ug/kg		180	EPA 8270D	NNL	09/16/18
4-Nitrophenol	< 357	ug/kg		360	EPA 8270D	NNL	09/16/18
Aniline	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
Azobenzene	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
Benzidine	< 1780	ug/kg		1800	EPA 8270D	NNL	09/16/18
Benzoic Acid	< 35.7	ug/kg		36.	EPA 8270D	NNL	09/16/18
Benzyl Alcohol	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
bis(2-Chloroethoxy)methan	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
bis(2-Chloroethyl)ether	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
bis(2-Chloroisopropyl)eth	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
bis(2-Ethylhexyl)phthalat	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
bis(2-Ethylhexyl)phthalat	11.4	ug/kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Butylbenzylphthalate	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
Butylbenzylphthalate	< 3.57	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18

Semi-Volatiles continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Carbazole	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
Dibenzofuran	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
Diethylphthalate	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
Diethylphthalate	< 3.57	ug/kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Dimethylphthalate	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
Di-n-butylphthalate	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
Di-n-butylphthalate	< 3.57	ug/kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Dimethylphthalate	< 3.57	ug/kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Di-n-octylphthalate	< 35.7	ug/kg		36.	EPA 8270D	NNL	09/16/18
Di-n-octylphthalate	< 3.57	ug/kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Hexachlorobenzene	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
Hexachlorobutadiene	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
Hexachlorocyclopentadiene	< 178	ug/kg		180	EPA 8270D	NNL	09/16/18
Hexachloroethane	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
Isophorone	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
Nitrobenzene	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
N-Nitrosodimethylamine	< 178	ug/kg		180	EPA 8270D	NNL	09/16/18
N-Nitroso-di-n-propylamin	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
N-nitrosodiphenylamine	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18
Pentachlorophenol	< 178	ug/kg		180	EPA 8270D	NNL	09/16/18
Pentachlorophenol	< 17.8	ug/kg		18.	EPA 8270D-SIM	NNL	09/19/18
Phenol	< 71.3	ug/kg		71.	EPA 8270D	NNL	09/16/18

Polynuclear Aromatic Hydrocarbons (PAH)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1-Methylnaphthalene	< 3.57	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
2-Methylnaphthalene	< 3.57	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Acenaphthene	< 3.57	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Acenaphthylene	< 3.57	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Anthracene	< 3.57	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Benzo(a)anthracene	< 3.57	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Benzo(a)pyrene	< 3.57	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Benzo(b)fluoranthene	< 3.57	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Benzo(ghi)perylene	< 3.57	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Benzo(k)fluoranthene	< 3.57	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Chrysene	< 3.57	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Dibenzo(ah)anthracene	< 3.57	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Fluoranthene	< 3.57	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Fluorene	< 3.57	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Indeno(123-cd)pyrene	< 3.57	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Naphthalene	< 3.57	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Phenanthrene	< 3.57	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Pyrene	< 3.57	ug/Kg		3.6	EPA 8270D-SIM	NNL	09/19/18
Sonnication Ext.	Y				SW-846 3550C	DP	09/10/18

Semi-Volatile Surrogates

ANALYTE	% RECOVERY	LIMITS
2-Fluorophenol	71.2 %	24.4 - 126.
D6-Phenol	74.0 %	20.0 - 140.
D5-Nitrobenzene	80.3 %	0.0 - 141.
2-Fluorobiphenyl	94.0 %	0.0 - 128.
2,4,6-Tribromophenol	50.9 %	0.0 - 130.
D14-Terphenyl	163. %	17.5 - 182.

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING SITE
 AmTest ID: 18-A015828

PCB's

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
PCB-1016	< 17.4	ug/kg		17.4	EPA 8082A	NNL	09/19/18
PCB-1221	< 17.4	ug/kg		17.4	EPA 8082A	NNL	09/19/18
PCB-1232	< 17.4	ug/kg		17.4	EPA 8082A	NNL	09/19/18
PCB-1242	< 17.4	ug/kg		17.4	EPA 8082A	NNL	09/19/18
PCB-1248	< 17.4	ug/kg		17.4	EPA 8082A	NNL	09/19/18
PCB-1254	< 17.4	ug/kg		17.4	EPA 8082A	NNL	09/19/18
PCB-1260	< 17.4	ug/kg		17.4	EPA 8082A	NNL	09/19/18
Soxhlet Ext.	Y				SW-846 3540C	DP	09/11/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Tetrachloro-M-xylene	92.9 % Rec	43.3 - 162.
Decachlorobiphenyl	92.9 % Rec	40.1 - 191.

AMTEST Identification Number 18-A015829
Client Identification HC-20-S5
Sampling Date 08/28/18, 10:00

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AS	08/29/18

AMTEST Identification Number 18-A015830
Client Identification HC-20-S6
Sampling Date 08/28/18, 10:05

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AS	08/29/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING SITE
 AmTest ID: 18-A015831

AMTEST Identification Number 18-A015831
Client Identification HC-15-S1
Sampling Date 08/28/18, 10:55

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AS	08/29/18

AMTEST Identification Number 18-A015832
Client Identification HC-15-S2
Sampling Date 08/28/18, 11:00

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	85.5	%		0.1	SM 2540G	SRW	08/30/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	6.42	ug/g		0.332	EPA 6020	KQ	09/27/18
Cadmium	< 0.332	ug/g		0.332	EPA 6020	KQ	09/27/18
Chromium	17.5	ug/g		0.663	EPA 6020	KQ	09/27/18
Lead	2.17	ug/g		0.663	EPA 6020	KQ	09/27/18
Acid Digestion	Y				SW-846 3050B	KQ	09/05/18
Mercury	0.0271	ug/g		0.01	EPA 7471B	JH	09/10/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 2	mg/kg		1.9	NWTPH-Dx	DP	10/08/18
Heavy Oil	< 4	mg/kg		3.8	NWTPH-Dx	DP	10/08/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/11/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	53.6 %	50.0 - 150.
2-Fluorobiphenyl	66.9 %	50.0 - 150.

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING SITE
 AmTest ID: 18-A015832

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Soil	< 116	ug/kg		120	WDOE NWTPH-Gx	AY	09/11/18
Benzene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/11/18
Toluene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/11/18
Ethyl Benzene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/11/18
m+p-Xylene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/11/18
o-Xylene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/11/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	109. %	50.0 - 150.

AMTEST Identification Number 18-A015833
Client Identification HC-15-S3
Sampling Date 08/28/18, 11:05

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AS	08/29/18

AMTEST Identification Number 18-A015834
Client Identification HC-15-S4
Sampling Date 08/28/18, 11:10

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AS	08/29/18

AMTEST Identification Number 18-A015835
Client Identification HC-15-S5
Sampling Date 08/28/18, 11:15

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AS	08/29/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING SITE
 AmTest ID: 18-A015836

AMTEST Identification Number 18-A015836
Client Identification HC-15-S6
Sampling Date 08/28/18, 11:20

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AS	08/29/18

AMTEST Identification Number 18-A015837
Client Identification HC-15-GW
Sampling Date 08/28/18, 11:25

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Suspended Solids	23.	mg/l		1	SM 2540D	SRW	08/31/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	0.909	ug/L		0.05	EPA 6020	KQ	09/25/18
Cadmium	< 0.05	ug/L		0.05	EPA 6020	KQ	09/25/18
Chromium	0.54	ug/L		0.1	EPA 6020	KQ	09/25/18
Lead	0.351	ug/L		0.1	EPA 6020	KQ	09/25/18
Acid Dig.(Tot Metals)	Y				EPA 3010	KQ	09/19/18

Total Metals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Mercury	< 0.00005	mg/l		0.00005	EPA 7471B	SRW	09/04/18

NWTPH-Dx (Water)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 50	ug/l		50.	NWTPH-Dx	DP	09/20/18
Heavy Oil	< 100	ug/l		100	NWTPH-Dx	DP	09/20/18
Sep Fun Ext	Y				EPA 3510	DP	09/06/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	87.0 %	50.0 - 150.
2-Fluorobiphenyl	91.1 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Water	< 100	ug/l		100	NWTPH-Gx	AY	09/11/18
Benzene	< 0.5	ug/l		0.5	EPA 624	AY	08/29/18
Toluene	< 0.5	ug/l		0.5	EPA 624	AY	08/29/18
Ethyl Benzene	< 0.5	ug/l		0.5	EPA 624	AY	08/29/18
Total Xylene	< 1	ug/l		1	EPA 624	AY	08/29/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	101. %	50.0 - 150.

Volatile Organic Analysis (VOA's)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,1,1,2-Tetrachloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,1,1-Trichloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,1,2,2-Tetrachloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,1,2-Trichloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,1-Dichloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,1-Dichloroethylene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,2,3-Trichloropropane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,2-Dibromo3Chloropropane	< 5	ug/l		5.0	EPA 624	AY	09/04/18
1,2-Dibromoethane (EDB)	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,2-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,2-Dichloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,2-Dichloropropane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,3-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,4-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
2-Butanone (MEK)	< 5	ug/l		5.0	EPA 624	AY	09/04/18
2-Hexanone	< 5	ug/l		5.0	EPA 624	AY	09/04/18
4-Methyl-2-Pentanone MIBK	< 5	ug/l		5.0	EPA 624	AY	09/04/18

Volatile Organic Analysis (VOA's) continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Acetone	< 5	ug/l		5.0	EPA 624	AY	09/04/18
Acrylonitrile	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Benzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Bromochloromethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Bromodichloromethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Bromoform	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Bromomethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Carbon Disulfide	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Carbon Tetrachloride	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Chlorobenzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Chlorodibromomethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Chloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Chloroform	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Chloromethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Cis-1,2-Dichloroethene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Cis-1,3-Dichloropropene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Dibromomethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Ethyl Benzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
m,p Xylene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Methyl Iodide	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Methylene Chloride	< 2	ug/l		2.0	EPA 624	AY	09/04/18
o-Xylene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Styrene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Tetrachloroethylene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Toluene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Trans-1,2-Dichloroethene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Trans-1,3-Dichloropropene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
trans-1,4-Dichloro2butene	< 5	ug/l		5.0	EPA 624	AY	09/04/18
Trichloroethylene	1.0	ug/l		1.0	EPA 624	AY	09/04/18
Trichlorofluoromethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Vinyl Acetate	< 5	ug/l		5.0	EPA 624	AY	09/04/18
Vinyl Chloride	1.4	ug/l		1.0	EPA 624	AY	09/04/18

VOA Surrogates

ANALYTE	% RECOVERY	LIMITS
D4-1,2,-Dichloroethane	97.4 %	82.8 - 113.
D8-Toluene	114. %	89.0 - 123.
4-Bromofluorobenzene	101. %	85.3 - 117.

Semi-Volatiles

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,2,4-Trichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
1,2-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
1,3-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
1,4-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2,4,5-Trichlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2,4,6-Trichlorophenol	< 2	ug/l	X	1.9	EPA 8270D	NNL	09/16/18
2,4-Dichlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2,4-Dimethylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2,4-Dinitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2,4-Dinitrotoluene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2,6-Dinitrotoluene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2-Chloronaphthalene	< 2	ug/l	X	1.9	EPA 8270D	NNL	09/16/18
2-Chlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2-Methylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2-Nitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
3,3-Dichlorobenzidine	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
3-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4,6-Dinitro-2-methylpheno	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Bromophenyl-phenyl ethe	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Chloro-3-methylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Chloroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Chlorophenyl-phenyl eth	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Methylphenol (P.Cresol)	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Nitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Aniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Azobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Benzidine	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Benzoic Acid	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Benzyl Alcohol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
bis(2-Chloroethoxy)methan	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
bis(2-Chloroethyl)ether	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
bis(2-Chloroisopropyl)eth	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
bis(2-Ethylhexyl)phthalat	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
bis(2-Ethylhexyl)phthalat	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Butylbenzylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Butylbenzylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Carbazole	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Dibenzofuran	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Diethylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Diethylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18

Semi-Volatiles continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Dimethylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Dimethylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Di-n-butylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Di-n-butylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Di-n-octylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Di-n-octylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Hexachlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Hexachlorobutadiene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Hexachlorocyclopentadiene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Hexachloroethane	< 1	ug/l		0.95	EPA 8270D	NNL	09/16/18
Isophorone	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Nitrobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
N-Nitrosodimethylamine	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
N-Nitroso-di-n-propylamin	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
N-nitrosodiphenylamine	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Pentachlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Pentachlorophenol	< 0.5	ug/l		0.48	EPA 8270D-SIM	NNL	09/14/18
Phenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18

Polynuclear Aromatic Hydrocarbons (PAH)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1-Methylnaphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
2-Methylnaphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Acenaphthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Acenaphthylene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Benzo(a)anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Benzo(a)pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Benzo(b)fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Benzo(ghi)perylene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Benzo(k)fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Chrysene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Dibenzo(ah)anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Fluorene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Indeno(123-cd)pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Naphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Phenanthrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Liq/Liq Ext.	Y				EPA 3520	DP	09/05/18

Hart Crowser
Project Name: KCIA LARGE AIRCRAFT PARKING SITE
AmTest ID: 18-A015837

Semi-Volatile Surrogates

ANALYTE	% RECOVERY	LIMITS
2-Fluorophenol	17.2 %	11.5 - 136.
D6-Phenol	49.2 %	0.0 - 105.
D5-Nitrobenzene	63.0 %	10.0 - 142.
2-Fluorobiphenyl	79.0 %	23.6 - 122.
2,4,6-Tribromophenol	40.5 %	0.0 - 145.
D14-Terphenyl	124. %	11.0 - 178.

AMTEST Identification Number 18-A015838
Client Identification HC-14-S1
Sampling Date 08/28/18, 12:10

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AS	08/29/18

AMTEST Identification Number 18-A015839
Client Identification HC-14-S2
Sampling Date 08/28/18, 12:15

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AS	08/29/18

AMTEST Identification Number 18-A015840
Client Identification HC-14-S3
Sampling Date 08/28/18, 12:20

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AS	08/29/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING SITE
 AmTest ID: 18-A015841

AMTEST Identification Number 18-A015841
Client Identification HC-14-S4
Sampling Date 08/28/18, 12:25

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AS	08/29/18

AMTEST Identification Number 18-A015842
Client Identification HC-14-S5
Sampling Date 08/28/18, 12:30

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	75.0	%		0.1	SM 2540G	SRW	08/30/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	6.	mg/kg		2.2	NWTPH-Dx	DP	10/08/18
Heavy Oil	21.	mg/kg		4.5	NWTPH-Dx	DP	10/08/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/11/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	61.9 %	50.0 - 150.
2-Fluorobiphenyl	77.8 %	50.0 - 150.

AMTEST Identification Number 18-A015843
Client Identification HC-14-S6
Sampling Date 08/28/18, 12:35

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	73.0	%		0.1	SM 2540G	SRW	08/30/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	11.5	ug/g		0.646	EPA 6020	KQ	09/27/18
Cadmium	< 0.645	ug/g		0.646	EPA 6020	KQ	09/27/18
Chromium	234.	ug/g		1.29	EPA 6020	KQ	09/27/18
Lead	3.36	ug/g		1.29	EPA 6020	KQ	09/27/18
Acid Digestion	Y				SW-846 3050B	KQ	09/05/18
Mercury	0.0521	ug/g		0.01	EPA 7471B	JH	09/10/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 2	mg/kg		2.2	NWTPH-Dx	DP	10/08/18
Heavy Oil	13.	mg/kg		4.5	NWTPH-Dx	DP	10/08/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/11/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	50.0 %	50.0 - 150.
2-Fluorobiphenyl	60.7 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Soil	< 145	ug/kg		140	WDOE NWTPH-Gx	AY	09/11/18
Benzene	< 1.4	ug/kg		1.4	EPA 8260	AY	09/11/18
Toluene	< 1.4	ug/kg		1.4	EPA 8260	AY	09/11/18
Ethyl Benzene	< 1.4	ug/kg		1.4	EPA 8260	AY	09/11/18
m+p-Xylene	< 1.4	ug/kg		1.4	EPA 8260	AY	09/11/18
o-Xylene	< 1.4	ug/kg		1.4	EPA 8260	AY	09/11/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
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Surrogate continued...

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	71.7 %	50.0 - 150.

Semi-Volatiles

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,2,4-Trichlorobenzene	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
1,2-Dichlorobenzene	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
1,3-Dichlorobenzene	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
1,4-Dichlorobenzene	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
2,4,5-Trichlorophenol	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
2,4,6-Trichlorophenol	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
2,4-Dichlorophenol	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
2,4-Dimethylphenol	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
2,4-Dinitrophenol	< 448	ug/kg		450	EPA 8270D	NNL	09/16/18
2,4-Dinitrotoluene	< 224	ug/kg		220	EPA 8270D	NNL	09/16/18
2,6-Dinitrotoluene	< 224	ug/kg		220	EPA 8270D	NNL	09/16/18
2-Chloronaphthalene	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
2-Chlorophenol	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
2-Methylphenol	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
2-Nitroaniline	< 224	ug/kg		220	EPA 8270D	NNL	09/16/18
2-Nitrophenol	< 224	ug/kg		220	EPA 8270D	NNL	09/16/18
3,3-Dichlorobenzidine	< 134	ug/kg		130	EPA 8270D	NNL	09/16/18
3-Nitroaniline	< 224	ug/kg		220	EPA 8270D	NNL	09/16/18
4,6-Dinitro-2-methylpheno	< 224	ug/kg		220	EPA 8270D	NNL	09/16/18
4-Bromophenyl-phenyl ethe	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
4-Chloro-3-methylphenol	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
4-Chloroaniline	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
4-Chlorophenyl-phenyl eth	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
4-Methylphenol (cresol)	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
4-Nitroaniline	< 224	ug/kg		220	EPA 8270D	NNL	09/16/18
4-Nitrophenol	< 448	ug/kg		450	EPA 8270D	NNL	09/16/18
Aniline	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
Azobenzene	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
Benzidine	< 2240	ug/kg		2200	EPA 8270D	NNL	09/16/18
Benzoic Acid	< 44.8	ug/kg		45.	EPA 8270D	NNL	09/16/18
Benzyl Alcohol	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
bis(2-Chloroethoxy)methan	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
bis(2-Chloroethyl)ether	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
bis(2-Chloroisopropyl)eth	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
bis(2-Ethylhexyl)phthalat	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
bis(2-Ethylhexyl)phthalat	17.9	ug/kg		4.5	EPA 8270D-SIM	NNL	09/19/18
Butylbenzylphthalate	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
Butylbenzylphthalate	< 4.48	ug/Kg		4.5	EPA 8270D-SIM	NNL	09/19/18

Semi-Volatiles continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Carbazole	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
Dibenzofuran	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
Diethylphthalate	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
Diethylphthalate	< 4.48	ug/kg		4.5	EPA 8270D-SIM	NNL	09/19/18
Dimethylphthalate	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
Di-n-butylphthalate	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
Di-n-butylphthalate	< 4.48	ug/kg		4.5	EPA 8270D-SIM	NNL	09/19/18
Dimethylphthalate	< 4.48	ug/kg		4.5	EPA 8270D-SIM	NNL	09/19/18
Di-n-octylphthalate	< 44.8	ug/kg		45.	EPA 8270D	NNL	09/16/18
Di-n-octylphthalate	< 4.48	ug/kg		4.5	EPA 8270D-SIM	NNL	09/19/18
Hexachlorobenzene	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
Hexachlorobutadiene	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
Hexachlorocyclopentadiene	< 224	ug/kg		220	EPA 8270D	NNL	09/16/18
Hexachloroethane	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
Isophorone	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
Nitrobenzene	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
N-Nitrosodimethylamine	< 224	ug/kg		220	EPA 8270D	NNL	09/16/18
N-Nitroso-di-n-propylamin	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
N-nitrosodiphenylamine	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18
Pentachlorophenol	< 224	ug/kg		220	EPA 8270D	NNL	09/16/18
Pentachlorophenol	< 22.4	ug/kg		22.	EPA 8270D-SIM	NNL	09/19/18
Phenol	< 89.5	ug/kg		90.	EPA 8270D	NNL	09/16/18

Polynuclear Aromatic Hydrocarbons (PAH)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1-Methylnaphthalene	< 4.48	ug/Kg		4.5	EPA 8270D-SIM	NNL	09/19/18
2-Methylnaphthalene	< 4.48	ug/Kg		4.5	EPA 8270D-SIM	NNL	09/19/18
Acenaphthene	< 4.48	ug/Kg		4.5	EPA 8270D-SIM	NNL	09/19/18
Acenaphthylene	< 4.48	ug/Kg		4.5	EPA 8270D-SIM	NNL	09/19/18
Anthracene	< 4.48	ug/Kg		4.5	EPA 8270D-SIM	NNL	09/19/18
Benzo(a)anthracene	< 4.48	ug/Kg		4.5	EPA 8270D-SIM	NNL	09/19/18
Benzo(a)pyrene	< 4.48	ug/Kg		4.5	EPA 8270D-SIM	NNL	09/19/18
Benzo(b)fluoranthene	< 4.48	ug/Kg		4.5	EPA 8270D-SIM	NNL	09/19/18
Benzo(ghi)perylene	< 4.48	ug/Kg		4.5	EPA 8270D-SIM	NNL	09/19/18
Benzo(k)fluoranthene	< 4.48	ug/Kg		4.5	EPA 8270D-SIM	NNL	09/19/18
Chrysene	< 4.48	ug/Kg		4.5	EPA 8270D-SIM	NNL	09/19/18
Dibenzo(ah)anthracene	< 4.48	ug/Kg		4.5	EPA 8270D-SIM	NNL	09/19/18
Fluoranthene	< 4.48	ug/Kg		4.5	EPA 8270D-SIM	NNL	09/19/18
Fluorene	< 4.48	ug/Kg		4.5	EPA 8270D-SIM	NNL	09/19/18
Indeno(123-cd)pyrene	< 4.48	ug/Kg		4.5	EPA 8270D-SIM	NNL	09/19/18
Naphthalene	< 4.48	ug/Kg		4.5	EPA 8270D-SIM	NNL	09/19/18
Phenanthrene	< 4.48	ug/Kg		4.5	EPA 8270D-SIM	NNL	09/19/18
Pyrene	< 4.48	ug/Kg		4.5	EPA 8270D-SIM	NNL	09/19/18
Sonnication Ext.	Y				SW-846 3550C	DP	09/10/18

Semi-Volatile Surrogates

ANALYTE	% RECOVERY	LIMITS
2-Fluorophenol	66.6 %	24.4 - 126.
D6-Phenol	66.9 %	20.0 - 140.
D5-Nitrobenzene	76.6 %	0.0 - 141.
2-Fluorobiphenyl	86.6 %	0.0 - 128.
2,4,6-Tribromophenol	82.4 %	0.0 - 130.
D14-Terphenyl	168. %	17.5 - 182.

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING SITE
 AmTest ID: 18-A015843

PCB's

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
PCB-1016	< 22.2	ug/kg		22.2	EPA 8082A	NNL	09/19/18
PCB-1221	< 22.2	ug/kg		22.2	EPA 8082A	NNL	09/19/18
PCB-1232	< 22.2	ug/kg		22.2	EPA 8082A	NNL	09/19/18
PCB-1242	< 22.2	ug/kg		22.2	EPA 8082A	NNL	09/19/18
PCB-1248	< 22.2	ug/kg		22.2	EPA 8082A	NNL	09/19/18
PCB-1254	< 22.2	ug/kg		22.2	EPA 8082A	NNL	09/19/18
PCB-1260	< 22.2	ug/kg		22.2	EPA 8082A	NNL	09/19/18
Soxhlet Ext.	Y				SW-846 3540C	DP	09/11/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Tetrachloro-M-xylene	94.0 % Rec	43.3 - 162.
Decachlorobiphenyl	98.3 % Rec	40.1 - 191.

AMTEST Identification Number 18-A015844
Client Identification HC-11-S1
Sampling Date 08/28/18, 13:00

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	93.5	%		0.1	SM 2540G	SRW	08/30/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	10.1	ug/g		0.486	EPA 6020	KQ	09/27/18
Cadmium	< 0.486	ug/g		0.486	EPA 6020	KQ	09/27/18
Chromium	31.6	ug/g		0.972	EPA 6020	KQ	09/27/18
Lead	6.69	ug/g		0.972	EPA 6020	KQ	09/27/18
Acid Digestion	Y				SW-846 3050B	KQ	09/05/18
Mercury	0.0910	ug/g		0.01	EPA 7471B	JH	09/10/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	15.	mg/kg		1.8	NWTPH-Dx	DP	10/08/18
Heavy Oil	25.	mg/kg		3.6	NWTPH-Dx	DP	10/08/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/11/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	101. %	50.0 - 150.
2-Fluorobiphenyl	98.1 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Soil	< 126	ug/kg		130	WDOE NWTPH-Gx	AY	09/11/18
Benzene	< 1.3	ug/kg		1.3	EPA 8260	AY	09/11/18
Toluene	4.8	ug/kg		1.3	EPA 8260	AY	09/11/18
Ethyl Benzene	1.6	ug/kg		1.3	EPA 8260	AY	09/11/18
m+p-Xylene	5.8	ug/kg		1.3	EPA 8260	AY	09/11/18
o-Xylene	2.1	ug/kg		1.3	EPA 8260	AY	09/11/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
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Surrogate continued...

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	86.5 %	50.0 - 150.

Semi-Volatiles

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,2,4-Trichlorobenzene	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
1,2-Dichlorobenzene	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
1,3-Dichlorobenzene	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
1,4-Dichlorobenzene	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
2,4,5-Trichlorophenol	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
2,4,6-Trichlorophenol	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
2,4-Dichlorophenol	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
2,4-Dimethylphenol	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
2,4-Dinitrophenol	< 347	ug/kg		350	EPA 8270D	NNL	09/16/18
2,4-Dinitrotoluene	< 173	ug/kg		170	EPA 8270D	NNL	09/16/18
2,6-Dinitrotoluene	< 173	ug/kg		170	EPA 8270D	NNL	09/16/18
2-Chloronaphthalene	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
2-Chlorophenol	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
2-Methylphenol	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
2-Nitroaniline	< 173	ug/kg		170	EPA 8270D	NNL	09/16/18
2-Nitrophenol	< 173	ug/kg		170	EPA 8270D	NNL	09/16/18
3,3-Dichlorobenzidine	< 104	ug/kg		100	EPA 8270D	NNL	09/16/18
3-Nitroaniline	< 173	ug/kg		170	EPA 8270D	NNL	09/16/18
4,6-Dinitro-2-methylpheno	< 173	ug/kg		170	EPA 8270D	NNL	09/16/18
4-Bromophenyl-phenyl ethe	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
4-Chloro-3-methylphenol	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
4-Chloroaniline	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
4-Chlorophenyl-phenyl eth	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
4-Methylphenol (cresol)	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
4-Nitroaniline	< 173	ug/kg		170	EPA 8270D	NNL	09/16/18
4-Nitrophenol	< 347	ug/kg		350	EPA 8270D	NNL	09/16/18
Aniline	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
Azobenzene	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
Benzidine	< 1730	ug/kg		1700	EPA 8270D	NNL	09/16/18
Benzoic Acid	< 34.7	ug/kg		35.	EPA 8270D	NNL	09/16/18
Benzyl Alcohol	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
bis(2-Chloroethoxy)methan	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
bis(2-Chloroethyl)ether	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
bis(2-Chloroisopropyl)eth	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
bis(2-Ethylhexyl)phthalat	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
bis(2-Ethylhexyl)phthalat	15.9	ug/kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Butylbenzylphthalate	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
Butylbenzylphthalate	3.47	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18

Semi-Volatiles continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Carbazole	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
Dibenzofuran	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
Diethylphthalate	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
Diethylphthalate	< 3.47	ug/kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Dimethylphthalate	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
Di-n-butylphthalate	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
Di-n-butylphthalate	< 3.47	ug/kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Dimethylphthalate	< 3.47	ug/kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Di-n-octylphthalate	< 34.7	ug/kg		35.	EPA 8270D	NNL	09/16/18
Di-n-octylphthalate	< 3.47	ug/kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Hexachlorobenzene	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
Hexachlorobutadiene	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
Hexachlorocyclopentadiene	< 173	ug/kg		170	EPA 8270D	NNL	09/16/18
Hexachloroethane	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
Isophorone	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
Nitrobenzene	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
N-Nitrosodimethylamine	< 173	ug/kg		170	EPA 8270D	NNL	09/16/18
N-Nitroso-di-n-propylamin	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
N-nitrosodiphenylamine	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
Pentachlorophenol	< 173	ug/kg		170	EPA 8270D	NNL	09/16/18
Pentachlorophenol	< 17.3	ug/kg		17.	EPA 8270D-SIM	NNL	09/19/18
Phenol	< 69.3	ug/kg		69.	EPA 8270D	NNL	09/16/18

Polynuclear Aromatic Hydrocarbons (PAH)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1-Methylnaphthalene	< 3.47	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
2-Methylnaphthalene	< 3.47	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Acenaphthene	< 3.47	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Acenaphthylene	< 3.47	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Anthracene	< 3.47	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Benzo(a)anthracene	17.3	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Benzo(a)pyrene	< 3.47	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Benzo(b)fluoranthene	< 3.47	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Benzo(ghi)perylene	< 3.47	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Benzo(k)fluoranthene	< 3.47	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Chrysene	24.3	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Dibenzo(ah)anthracene	< 3.47	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Fluoranthene	25.6	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Fluorene	< 3.47	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Indeno(123-cd)pyrene	< 3.47	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Naphthalene	< 3.47	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Phenanthrene	< 3.47	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Pyrene	49.9	ug/Kg		3.5	EPA 8270D-SIM	NNL	09/19/18
Sonnication Ext.	Y				SW-846 3550C	DP	09/10/18

Semi-Volatile Surrogates

ANALYTE	% RECOVERY	LIMITS
2-Fluorophenol	70.0 %	24.4 - 126.
D6-Phenol	70.0 %	20.0 - 140.
D5-Nitrobenzene	62.9 %	0.0 - 141.
2-Fluorobiphenyl	100. %	0.0 - 128.
2,4,6-Tribromophenol	116. %	0.0 - 130.
D14-Terphenyl	166. %	17.5 - 182.

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING SITE
 AmTest ID: 18-A015844

PCB's

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
PCB-1016	< 17.4	ug/kg		17.4	EPA 8082A	NNL	09/19/18
PCB-1221	< 17.4	ug/kg		17.4	EPA 8082A	NNL	09/19/18
PCB-1232	< 17.4	ug/kg		17.4	EPA 8082A	NNL	09/19/18
PCB-1242	< 17.4	ug/kg		17.4	EPA 8082A	NNL	09/19/18
PCB-1248	< 17.4	ug/kg		17.4	EPA 8082A	NNL	09/19/18
PCB-1254	< 17.4	ug/kg		17.4	EPA 8082A	NNL	09/19/18
PCB-1260	5.99	ug/kg	J	17.4	EPA 8082A	NNL	09/19/18
Soxhlet Ext.	Y				SW-846 3540C	DP	09/11/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Tetrachloro-M-xylene	93.5 % Rec	43.3 - 162.
Decachlorobiphenyl	90.2 % Rec	40.1 - 191.

AMTEST Identification Number 18-A015845
Client Identification HC-11-S2
Sampling Date 08/28/18, 13:05

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AS	08/29/18

AMTEST Identification Number 18-A015846
Client Identification HC-11-S3
Sampling Date 08/28/18, 13:10

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AS	08/29/18

Hart Crowser
Project Name: KCIA LARGE AIRCRAFT PARKING SITE
AmTest ID: 18-A015847

AMTEST Identification Number 18-A015847
Client Identification HC-11-S4
Sampling Date 08/28/18, 13:15

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AS	08/29/18

AMTEST Identification Number 18-A015848
Client Identification HC-11-S5
Sampling Date 08/28/18, 13:20

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AS	08/29/18

AMTEST Identification Number 18-A015849
Client Identification HC-11-S6
Sampling Date 08/28/18, 13:25

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AS	08/29/18

AMTEST Identification Number 18-A015850
Client Identification HC-10-S1
Sampling Date 08/28/18, 13:50

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	95.6	%		0.1	SM 2540G	SRW	08/30/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	7.20	ug/g		0.427	EPA 6020	KQ	09/27/18
Cadmium	< 0.427	ug/g		0.427	EPA 6020	KQ	09/27/18
Chromium	26.9	ug/g		0.854	EPA 6020	KQ	09/27/18
Lead	5.75	ug/g		0.854	EPA 6020	KQ	09/27/18
Acid Digestion	Y				SW-846 3050B	KQ	09/05/18
Mercury	0.0229	ug/g		0.01	EPA 7471B	JH	09/10/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	43.	mg/kg	D20	35.	NWTPH-Dx	DP	10/09/18
Heavy Oil	610	mg/kg	D20	70.	NWTPH-Dx	DP	10/09/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/11/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	108. %	50.0 - 150.
2-Fluorobiphenyl	75.2 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Soil	< 108	ug/kg		110	WDOE NWTPH-Gx	AY	09/11/18
Benzene	< 1.1	ug/kg		1.1	EPA 8260	AY	09/11/18
Toluene	< 1.1	ug/kg		1.1	EPA 8260	AY	09/11/18
Ethyl Benzene	< 1.1	ug/kg		1.1	EPA 8260	AY	09/11/18
m+p-Xylene	< 1.1	ug/kg		1.1	EPA 8260	AY	09/11/18
o-Xylene	< 1.1	ug/kg		1.1	EPA 8260	AY	09/11/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
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Surrogate continued...

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	94.4 %	50.0 - 150.

Semi-Volatiles

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,2,4-Trichlorobenzene	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
1,2-Dichlorobenzene	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
1,3-Dichlorobenzene	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
1,4-Dichlorobenzene	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
2,4,5-Trichlorophenol	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
2,4,6-Trichlorophenol	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
2,4-Dichlorophenol	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
2,4-Dimethylphenol	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
2,4-Dinitrophenol	< 344	ug/kg		340	EPA 8270D	NNL	09/16/18
2,4-Dinitrotoluene	< 172	ug/kg		170	EPA 8270D	NNL	09/16/18
2,6-Dinitrotoluene	< 172	ug/kg		170	EPA 8270D	NNL	09/16/18
2-Chloronaphthalene	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
2-Chlorophenol	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
2-Methylphenol	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
2-Nitroaniline	< 172	ug/kg		170	EPA 8270D	NNL	09/16/18
2-Nitrophenol	< 172	ug/kg		170	EPA 8270D	NNL	09/16/18
3,3-Dichlorobenzidine	< 103	ug/kg		100	EPA 8270D	NNL	09/16/18
3-Nitroaniline	< 172	ug/kg		170	EPA 8270D	NNL	09/16/18
4,6-Dinitro-2-methylpheno	< 172	ug/kg		170	EPA 8270D	NNL	09/16/18
4-Bromophenyl-phenyl ethe	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
4-Chloro-3-methylphenol	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
4-Chloroaniline	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
4-Chlorophenyl-phenyl eth	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
4-Methylphenol (cresol)	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
4-Nitroaniline	< 172	ug/kg		170	EPA 8270D	NNL	09/16/18
4-Nitrophenol	< 344	ug/kg		340	EPA 8270D	NNL	09/16/18
Aniline	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
Azobenzene	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
Benzidine	< 1720	ug/kg		1700	EPA 8270D	NNL	09/16/18
Benzoic Acid	< 34.4	ug/kg		34.	EPA 8270D	NNL	09/16/18
Benzyl Alcohol	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
bis(2-Chloroethoxy)methan	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
bis(2-Chloroethyl)ether	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
bis(2-Chloroisopropyl)eth	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
bis(2-Ethylhexyl)phthalat	93.3	ug/kg		69.	EPA 8270D	NNL	09/16/18
bis(2-Ethylhexyl)phthalat	89.2	ug/kg		3.4	EPA 8270D-SIM	NNL	09/19/18
Butylbenzylphthalate	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
Butylbenzylphthalate	< 3.44	ug/Kg		3.4	EPA 8270D-SIM	NNL	09/19/18

Semi-Volatiles continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Carbazole	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
Dibenzofuran	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
Diethylphthalate	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
Diethylphthalate	< 3.44	ug/kg		3.4	EPA 8270D-SIM	NNL	09/19/18
Dimethylphthalate	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
Di-n-butylphthalate	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
Di-n-butylphthalate	< 3.44	ug/kg		3.4	EPA 8270D-SIM	NNL	09/19/18
Dimethylphthalate	< 3.44	ug/kg		3.4	EPA 8270D-SIM	NNL	09/19/18
Di-n-octylphthalate	< 34.4	ug/kg		34.	EPA 8270D	NNL	09/16/18
Di-n-octylphthalate	< 3.44	ug/kg		3.4	EPA 8270D-SIM	NNL	09/19/18
Hexachlorobenzene	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
Hexachlorobutadiene	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
Hexachlorocyclopentadiene	< 172	ug/kg		170	EPA 8270D	NNL	09/16/18
Hexachloroethane	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
Isophorone	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
Nitrobenzene	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
N-Nitrosodimethylamine	< 172	ug/kg		170	EPA 8270D	NNL	09/16/18
N-Nitroso-di-n-propylamin	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
N-nitrosodiphenylamine	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18
Pentachlorophenol	< 172	ug/kg		170	EPA 8270D	NNL	09/16/18
Pentachlorophenol	< 17.2	ug/kg		17.	EPA 8270D-SIM	NNL	09/19/18
Phenol	< 68.9	ug/kg		69.	EPA 8270D	NNL	09/16/18

Polynuclear Aromatic Hydrocarbons (PAH)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1-Methylnaphthalene	< 3.44	ug/Kg		3.4	EPA 8270D-SIM	NNL	09/19/18
2-Methylnaphthalene	< 3.44	ug/Kg		3.4	EPA 8270D-SIM	NNL	09/19/18
Acenaphthene	< 3.44	ug/Kg		3.4	EPA 8270D-SIM	NNL	09/19/18
Acenaphthylene	< 3.44	ug/Kg		3.4	EPA 8270D-SIM	NNL	09/19/18
Anthracene	4.48	ug/Kg		3.4	EPA 8270D-SIM	NNL	09/19/18
Benzo(a)anthracene	35.8	ug/Kg		3.4	EPA 8270D-SIM	NNL	09/19/18
Benzo(a)pyrene	< 3.44	ug/Kg		3.4	EPA 8270D-SIM	NNL	09/19/18
Benzo(b)fluoranthene	< 3.44	ug/Kg		3.4	EPA 8270D-SIM	NNL	09/19/18
Benzo(ghi)perylene	< 3.44	ug/Kg		3.4	EPA 8270D-SIM	NNL	09/19/18
Benzo(k)fluoranthene	< 3.44	ug/Kg		3.4	EPA 8270D-SIM	NNL	09/19/18
Chrysene	57.9	ug/Kg		3.4	EPA 8270D-SIM	NNL	09/19/18
Dibenzo(ah)anthracene	< 3.44	ug/Kg		3.4	EPA 8270D-SIM	NNL	09/19/18
Fluoranthene	72.7	ug/Kg		3.4	EPA 8270D-SIM	NNL	09/19/18
Fluorene	< 3.44	ug/Kg		3.4	EPA 8270D-SIM	NNL	09/19/18
Indeno(123-cd)pyrene	< 3.44	ug/Kg		3.4	EPA 8270D-SIM	NNL	09/19/18
Naphthalene	< 3.44	ug/Kg		3.4	EPA 8270D-SIM	NNL	09/19/18
Phenanthrene	31.7	ug/Kg		3.4	EPA 8270D-SIM	NNL	09/19/18
Pyrene	160.	ug/Kg		3.4	EPA 8270D-SIM	NNL	09/19/18
Sonnication Ext.	Y				SW-846 3550C	DP	09/10/18

Semi-Volatile Surrogates

ANALYTE	% RECOVERY	LIMITS
2-Fluorophenol	44.9 %	24.4 - 126.
D6-Phenol	29.6 %	20.0 - 140.
D5-Nitrobenzene	41.4 %	0.0 - 141.
2-Fluorobiphenyl	66.4 %	0.0 - 128.
2,4,6-Tribromophenol	45.2 %	0.0 - 130.
D14-Terphenyl	107. %	17.5 - 182.

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING SITE
 AmTest ID: 18-A015850

PCB's

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
PCB-1016	< 17.3	ug/kg		17.3	EPA 8082A	NNL	09/19/18
PCB-1221	< 17.3	ug/kg		17.3	EPA 8082A	NNL	09/19/18
PCB-1232	< 17.3	ug/kg		17.3	EPA 8082A	NNL	09/19/18
PCB-1242	< 17.3	ug/kg		17.3	EPA 8082A	NNL	09/19/18
PCB-1248	< 17.3	ug/kg		17.3	EPA 8082A	NNL	09/19/18
PCB-1254	< 17.3	ug/kg		17.3	EPA 8082A	NNL	09/19/18
PCB-1260	3.91	ug/kg	J	17.3	EPA 8082A	NNL	09/19/18
Soxhlet Ext.	Y				SW-846 3540C	DP	09/11/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Tetrachloro-M-xylene	80.4 % Rec	43.3 - 162.
Decachlorobiphenyl	79.5 % Rec	40.1 - 191.

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING SITE
 AmTest ID: 18-A015851

AMTEST Identification Number 18-A015851
Client Identification HC-10-S2
Sampling Date 08/28/18, 13:55

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	96.1	%		0.1	SM 2540G	SRW	08/30/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 2	mg/kg		1.7	NWTPH-Dx	DP	10/08/18
Heavy Oil	< 3	mg/kg		3.4	NWTPH-Dx	DP	10/08/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/11/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	83.5 %	50.0 - 150.
2-Fluorobiphenyl	86.1 %	50.0 - 150.

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING SITE
 AmTest ID: 18-A015852

AMTEST Identification Number 18-A015852
Client Identification HC-10-S3
Sampling Date 08/28/18, 14:00

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	95.4	%		0.1	SM 2540G	SRW	08/30/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	12.	mg/kg		1.8	NWTPH-Dx	DP	10/08/18
Heavy Oil	14.	mg/kg		3.6	NWTPH-Dx	DP	10/08/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/11/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	91.0 %	50.0 - 150.
2-Fluorobiphenyl	83.1 %	50.0 - 150.

Hart Crowser
Project Name: KCIA LARGE AIRCRAFT PARKING SITE
AmTest ID: 18-A015853

AMTEST Identification Number 18-A015853
Client Identification HC-10-S4
Sampling Date 08/28/18, 14:05

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	94.8	%		0.1	SM 2540G	SRW	08/30/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 2	mg/kg		1.7	NWTPH-Dx	DP	10/08/18
Heavy Oil	< 3	mg/kg		3.4	NWTPH-Dx	DP	10/08/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/11/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	76.8 %	50.0 - 150.
2-Fluorobiphenyl	83.0 %	50.0 - 150.

AMTEST Identification Number 18-A015854
Client Identification HC-10-S5
Sampling Date 08/28/18, 14:10

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AS	08/29/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING SITE
 AmTest ID: 18-A015855

AMTEST Identification Number 18-A015855
Client Identification HC-10-S6
Sampling Date 08/28/18, 14:15

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AS	08/29/18

AMTEST Identification Number 18-A015856
Client Identification HC-10-GW
Sampling Date 08/28/18, 14:15

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Suspended Solids	210	mg/l		1	SM 2540D	SRW	08/31/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	4.88	ug/L		0.05	EPA 6020	KQ	09/25/18
Cadmium	< 0.05	ug/L		0.05	EPA 6020	KQ	09/25/18
Chromium	0.69	ug/L		0.1	EPA 6020	KQ	09/25/18
Lead	0.577	ug/L		0.1	EPA 6020	KQ	09/25/18
Acid Dig.(Tot Metals)	Y				EPA 3010	KQ	09/19/18

Total Metals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Mercury	< 0.00005	mg/l		0.00005	EPA 7471B	SRW	09/04/18

NWTPH-Dx (Water)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 50	ug/l		50.	NWTPH-Dx	DP	09/20/18
Heavy Oil	< 100	ug/l		100	NWTPH-Dx	DP	09/20/18
Sep Fun Ext	Y				EPA 3510	DP	09/06/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	92.3 %	50.0 - 150.
2-Fluorobiphenyl	98.5 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Water	< 100	ug/l		100	NWTPH-Gx	AY	09/11/18
Benzene	< 0.5	ug/l		0.5	EPA 624	AY	08/29/18
Toluene	< 0.5	ug/l		0.5	EPA 624	AY	08/29/18
Ethyl Benzene	< 0.5	ug/l		0.5	EPA 624	AY	08/29/18
Total Xylene	< 1	ug/l		1	EPA 624	AY	08/29/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	97.8 %	50.0 - 150.

Volatile Organic Analysis (VOA's)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,1,1,2-Tetrachloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,1,1-Trichloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,1,2,2-Tetrachloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,1,2-Trichloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,1-Dichloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,1-Dichloroethylene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,2,3-Trichloropropane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,2-Dibromo3Chloropropane	< 5	ug/l		5.0	EPA 624	AY	09/04/18
1,2-Dibromoethane (EDB)	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,2-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,2-Dichloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,2-Dichloropropane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,3-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,4-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
2-Butanone (MEK)	< 5	ug/l		5.0	EPA 624	AY	09/04/18
2-Hexanone	< 5	ug/l		5.0	EPA 624	AY	09/04/18
4-Methyl-2-Pentanone MIBK	< 5	ug/l		5.0	EPA 624	AY	09/04/18

Volatile Organic Analysis (VOA's) continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Acetone	< 5	ug/l		5.0	EPA 624	AY	09/04/18
Acrylonitrile	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Benzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Bromochloromethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Bromodichloromethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Bromoform	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Bromomethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Carbon Disulfide	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Carbon Tetrachloride	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Chlorobenzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Chlorodibromomethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Chloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Chloroform	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Chloromethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Cis-1,2-Dichloroethene	15.	ug/l		1.0	EPA 624	AY	09/04/18
Cis-1,3-Dichloropropene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Dibromomethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Ethyl Benzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
m,p Xylene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Methyl Iodide	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Methylene Chloride	< 2	ug/l		2.0	EPA 624	AY	09/04/18
o-Xylene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Styrene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Tetrachloroethylene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Toluene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Trans-1,2-Dichloroethene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Trans-1,3-Dichloropropene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
trans-1,4-Dichloro2butene	< 5	ug/l		5.0	EPA 624	AY	09/04/18
Trichloroethylene	32.4	ug/l	E	1.0	EPA 624	AY	09/04/18
Trichlorofluoromethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Vinyl Acetate	< 5	ug/l		5.0	EPA 624	AY	09/04/18
Vinyl Chloride	15.	ug/l		1.0	EPA 624	AY	09/04/18

VOA Surrogates

ANALYTE	% RECOVERY	LIMITS
D4-1,2,-Dichloroethane	98.2 %	82.8 - 113.
D8-Toluene	113. %	89.0 - 123.
4-Bromofluorobenzene	97.8 %	85.3 - 117.

Semi-Volatiles

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,2,4-Trichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
1,2-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
1,3-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
1,4-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2,4,5-Trichlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2,4,6-Trichlorophenol	< 2	ug/l	X	1.9	EPA 8270D	NNL	09/16/18
2,4-Dichlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2,4-Dimethylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2,4-Dinitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2,4-Dinitrotoluene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2,6-Dinitrotoluene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2-Chloronaphthalene	< 2	ug/l	X	1.9	EPA 8270D	NNL	09/16/18
2-Chlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2-Methylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2-Nitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
3,3-Dichlorobenzidine	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
3-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4,6-Dinitro-2-methylpheno	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Bromophenyl-phenyl ethe	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Chloro-3-methylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Chloroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Chlorophenyl-phenyl eth	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Methylphenol (P.Cresol)	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Nitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Aniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Azobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Benzidine	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Benzoic Acid	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Benzyl Alcohol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
bis(2-Chloroethoxy)methan	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
bis(2-Chloroethyl)ether	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
bis(2-Chloroisopropyl)eth	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
bis(2-Ethylhexyl)phthalat	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
bis(2-Ethylhexyl)phthalat	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Butylbenzylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Butylbenzylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Carbazole	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Dibenzofuran	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Diethylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Diethylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18

Semi-Volatiles continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Dimethylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Dimethylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Di-n-butylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Di-n-butylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Di-n-octylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Di-n-octylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Hexachlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Hexachlorobutadiene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Hexachlorocyclopentadiene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Hexachloroethane	< 1	ug/l		0.95	EPA 8270D	NNL	09/16/18
Isophorone	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Nitrobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
N-Nitrosodimethylamine	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
N-Nitroso-di-n-propylamin	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
N-nitrosodiphenylamine	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Pentachlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Pentachlorophenol	< 0.5	ug/l		0.48	EPA 8270D-SIM	NNL	09/14/18
Phenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18

Polynuclear Aromatic Hydrocarbons (PAH)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1-Methylnaphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
2-Methylnaphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Acenaphthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Acenaphthylene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Benzo(a)anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Benzo(a)pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Benzo(b)fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Benzo(ghi)perylene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Benzo(k)fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Chrysene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Dibenzo(ah)anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Fluorene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Indeno(123-cd)pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Naphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Phenanthrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Liq/Liq Ext.	Y				EPA 3520	DP	09/05/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING SITE
 AmTest ID: 18-A015856

Semi-Volatile Surrogates

ANALYTE	% RECOVERY	LIMITS
2-Fluorophenol	21.2 %	11.5 - 136.
D6-Phenol	52.8 %	0.0 - 105.
D5-Nitrobenzene	73.0 %	10.0 - 142.
2-Fluorobiphenyl	78.8 %	23.6 - 122.
2,4,6-Tribromophenol	36.9 %	0.0 - 145.
D14-Terphenyl	116. %	11.0 - 178.

AMTEST Identification Number 18-A015857
Client Identification HC-6-S1
Sampling Date 08/28/18, 14:50

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	94.8	%		0.1	SM 2540G	SRW	08/30/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	8.	mg/kg		1.7	NWTPH-Dx	DP	10/09/18
Heavy Oil	42.	mg/kg		3.4	NWTPH-Dx	DP	10/09/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/11/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	101. %	50.0 - 150.
2-Fluorobiphenyl	99.4 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Soil	< 125	ug/kg		120	WDOE NWTPH-Gx	AY	09/11/18
Benzene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/11/18
Toluene	1.6	ug/kg		1.2	EPA 8260	AY	09/11/18
Ethyl Benzene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/11/18
m+p-Xylene	2.8	ug/kg		1.2	EPA 8260	AY	09/11/18
o-Xylene	< 1.2	ug/kg		1.2	EPA 8260	AY	09/11/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
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Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING SITE
 AmTest ID: 18-A015857

Surrogate continued...

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	111. %	50.0 - 150.

AMTEST Identification Number 18-A015858
Client Identification HC-6-S2
Sampling Date 08/28/18, 14:55

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	95.2	%		0.1	SM 2540G	SRW	08/30/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	5.50	ug/g		0.313	EPA 6020	KQ	09/27/18
Cadmium	< 0.313	ug/g		0.313	EPA 6020	KQ	09/27/18
Chromium	19.5	ug/g		0.626	EPA 6020	KQ	09/27/18
Lead	4.22	ug/g		0.626	EPA 6020	KQ	09/27/18
Acid Digestion	Y				SW-846 3050B	KQ	09/05/18
Mercury	0.0157	ug/g		0.01	EPA 7471B	JH	09/10/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 2	mg/kg		1.8	NWTPH-Dx	DP	10/09/18
Heavy Oil	7.	mg/kg		3.5	NWTPH-Dx	DP	10/09/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/11/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	81.4 %	50.0 - 150.
2-Fluorobiphenyl	99.9 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Soil	< 113	ug/kg		110	WDOE NWTPH-Gx	AY	09/11/18
Benzene	< 1.1	ug/kg		1.1	EPA 8260	AY	09/11/18
Toluene	< 1.1	ug/kg		1.1	EPA 8260	AY	09/11/18
Ethyl Benzene	< 1.1	ug/kg		1.1	EPA 8260	AY	09/11/18
m+p-Xylene	< 1.1	ug/kg		1.1	EPA 8260	AY	09/11/18
o-Xylene	< 1.1	ug/kg		1.1	EPA 8260	AY	09/11/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	107. %	50.0 - 150.

Volatile Organic Analysis (VOA's)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,1,1-Trichloroethane	< 1.2	ug/kg		1.2	SW-846 8260C	NNL	08/29/18
1,1,2,2-Tetrachloroethane	< 1.2	ug/kg		1.2	SW-846 8260C	NNL	08/29/18
1,1,2-Trichloroethane	< 1.2	ug/kg		1.2	SW-846 8260C	NNL	08/29/18
1,1-Dichloroethane	< 1.2	ug/kg		1.2	SW-846 8260C	NNL	08/29/18
1,1-Dichloroethylene	< 1.2	ug/kg		1.2	SW-846 8260C	NNL	08/29/18
1,2-Dibromoethane	< 1.2	ug/kg		1.2	SW-846 8260C	NNL	08/29/18
1,2-Dichloroethane	< 1.2	ug/kg		1.2	SW-846 8260C	NNL	08/29/18
1,2-Dichloropropane	< 1.2	ug/kg		1.2	SW-846 8260C	NNL	08/29/18
1,4-Dichlorobenzene	< 1.2	ug/kg		1.2	SW-846 8260C	NNL	08/29/18
2-Butanone (MEK)	< 12.5	ug/kg		12.	SW-846 8260C	NNL	08/29/18
2-Hexanone	< 12.5	ug/kg		12.	SW-846 8260C	NNL	08/29/18
4-Methyl-2-Pentanone	< 12.5	ug/kg		12.	SW-846 8260C	NNL	08/29/18
Acetone	< 25	ug/kg		25.	SW-846 8260C	NNL	08/29/18
Benzene	< 1.2	ug/kg		1.2	SW-846 8260C	NNL	08/29/18
Bromodichloromethane	< 1.2	ug/kg		1.2	SW-846 8260C	NNL	08/29/18
Bromoform	< 1.2	ug/kg		1.2	SW-846 8260C	NNL	08/29/18
Bromomethane	< 6.2	ug/kg		6.2	SW-846 8260C	NNL	08/29/18
Carbon Disulfide	< 1.2	ug/kg		1.2	SW-846 8260C	NNL	08/29/18
Carbon Tetrachloride	< 1.2	ug/kg		1.2	SW-846 8260C	NNL	08/29/18
Chlorobenzene	< 1.2	ug/kg		1.2	SW-846 8260C	NNL	08/29/18
Chlorodibromomethane	< 1.2	ug/kg		1.2	SW-846 8260C	NNL	08/29/18
Chloroethane	< 6.2	ug/kg		6.2	SW-846 8260C	NNL	08/29/18
Chloroform	< 1.2	ug/kg		1.2	SW-846 8260C	NNL	08/29/18
Chloromethane	< 6.2	ug/kg		6.2	SW-846 8260C	NNL	08/29/18
Cis-1,3-Dichloropropene	< 1.2	ug/kg		1.2	SW-846 8260C	NNL	08/29/18
Ethyl Benzene	< 1.2	ug/kg		1.2	SW-846 8260C	NNL	08/29/18
Methylene Chloride	< 1.2	ug/kg		1.2	SW-846 8260C	NNL	08/29/18
Styrene	2.4	ug/kg		1.2	SW-846 8260C	NNL	08/29/18
Tetrachloroethylene	< 1.2	ug/kg		1.2	SW-846 8260C	NNL	08/29/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING SITE
 AmTest ID: 18-A015858

Volatile Organic Analysis (VOA's) continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Toluene	2.5	ug/kg	X	1.2	SW-846 8260C	NNL	08/29/18
Total Xylenes	< 1.2	ug/kg		1.2	SW-846 8260C	NNL	08/29/18
Trans-1,3-Dichloropropene	< 1.2	ug/kg		1.2	SW-846 8260C	NNL	08/29/18
Trichloroethylene	< 1.2	ug/kg		1.2	SW-846 8260C	NNL	08/29/18
Trichlorofluoromethane	< 1.2	ug/kg		1.2	SW-846 8260C	NNL	08/29/18
Vinyl Acetate	< 6.2	ug/kg		6.2	SW-846 8260C	NNL	08/29/18
Vinyl Chloride	< 1.2	ug/kg		1.2	SW-846 8260C	NNL	08/29/18

VOA Surrogates

ANALYTE	% RECOVERY	LIMITS
D4-1,2,-Dichloroethane	81.9 %	56.6 - 140.
D8-Toluene (Soil)	118. %	60.2 - 135.
4-Bromofluorobenzene S	105. %	65.3 - 127.

AMTEST Identification Number 18-A015859
Client Identification HC-6-S3
Sampling Date 08/28/18, 15:00

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AS	08/29/18

AMTEST Identification Number 18-A015860
Client Identification HC-6-S4
Sampling Date 08/28/18, 15:05

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AS	08/29/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING SITE
 AmTest ID: 18-A015861

AMTEST Identification Number 18-A015861
Client Identification HC-6-S5
Sampling Date 08/28/18, 15:10

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AS	08/29/18

AMTEST Identification Number 18-A015862
Client Identification HC-6-S6
Sampling Date 08/28/18, 15:15

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	81.5	%		0.1	SM 2540G	SRW	08/30/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 2	mg/kg		2.0	NWTPH-Dx	DP	10/09/18
Heavy Oil	5.	mg/kg		4.0	NWTPH-Dx	DP	10/09/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	DP	09/11/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	62.8 %	50.0 - 150.
2-Fluorobiphenyl	71.1 %	50.0 - 150.

AMTEST Identification Number 18-A015863
Client Identification HC-6-GW
Sampling Date 08/28/18, 15:15

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Suspended Solids	51.	mg/l		1	SM 2540D	SRW	08/31/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	0.954	ug/L		0.05	EPA 6020	KQ	09/25/18
Cadmium	< 0.05	ug/L		0.05	EPA 6020	KQ	09/25/18
Chromium	0.44	ug/L		0.1	EPA 6020	KQ	09/25/18
Lead	0.320	ug/L		0.1	EPA 6020	KQ	09/25/18
Acid Dig.(Tot Metals)	Y				EPA 3010	KQ	09/19/18

Total Metals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Mercury	0.00005	mg/l		0.00005	EPA 7471B	SRW	09/04/18

NWTPH-Dx (Water)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 50	ug/l		50.	NWTPH-Dx	DP	09/20/18
Heavy Oil	< 100	ug/l		100	NWTPH-Dx	DP	09/20/18
Sep Fun Ext	Y				EPA 3510	DP	09/06/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	82.9 %	50.0 - 150.
2-Fluorobiphenyl	87.2 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Water	< 100	ug/l		100	NWTPH-Gx	AY	09/11/18
Benzene	< 0.5	ug/l		0.5	EPA 624	AY	08/29/18
Toluene	< 0.5	ug/l		0.5	EPA 624	AY	08/29/18
Ethyl Benzene	< 0.5	ug/l		0.5	EPA 624	AY	08/29/18
Total Xylene	< 1	ug/l		1	EPA 624	AY	08/29/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	101. %	50.0 - 150.

Volatile Organic Analysis (VOA's)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,1,1,2-Tetrachloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,1,1-Trichloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,1,2,2-Tetrachloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,1,2-Trichloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,1-Dichloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,1-Dichloroethylene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,2,3-Trichloropropane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,2-Dibromo3Chloropropane	< 5	ug/l		5.0	EPA 624	AY	09/04/18
1,2-Dibromoethane (EDB)	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,2-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,2-Dichloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,2-Dichloropropane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,3-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,4-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
2-Butanone (MEK)	< 5	ug/l		5.0	EPA 624	AY	09/04/18
2-Hexanone	< 5	ug/l		5.0	EPA 624	AY	09/04/18
4-Methyl-2-Pentanone MIBK	< 5	ug/l		5.0	EPA 624	AY	09/04/18
Acetone	< 5	ug/l		5.0	EPA 624	AY	09/04/18
Acrylonitrile	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Benzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Bromochloromethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Bromodichloromethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Bromoform	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Bromomethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18

Volatile Organic Analysis (VOA's) continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Carbon Disulfide	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Carbon Tetrachloride	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Chlorobenzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Chlorodibromomethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Chloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Chloroform	1.1	ug/l		1.0	EPA 624	AY	09/04/18
Chloromethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Cis-1,2-Dichloroethene	5.0	ug/l		1.0	EPA 624	AY	09/04/18
Cis-1,3-Dichloropropene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Dibromomethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Ethyl Benzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
m,p Xylene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Methyl Iodide	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Methylene Chloride	< 2	ug/l		2.0	EPA 624	AY	09/04/18
o-Xylene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Styrene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Tetrachloroethylene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Toluene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Trans-1,2-Dichloroethene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Trans-1,3-Dichloropropene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
trans-1,4-Dichloro2butene	< 5	ug/l		5.0	EPA 624	AY	09/04/18
Trichloroethylene	2.3	ug/l		1.0	EPA 624	AY	09/04/18
Trichlorofluoromethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Vinyl Acetate	< 5	ug/l		5.0	EPA 624	AY	09/04/18
Vinyl Chloride	< 1	ug/l		1.0	EPA 624	AY	09/04/18

VOA Surrogates

ANALYTE	% RECOVERY	LIMITS
D4-1,2,-Dichloroethane	101. %	82.8 - 113.
D8-Toluene	113. %	89.0 - 123.
4-Bromofluorobenzene	101. %	85.3 - 117.

AMTEST Identification Number 18-A015864
Client Identification HC-20-GW
Sampling Date 08/28/18, 10:10

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Suspended Solids	660	mg/l		1	SM 2540D	SRW	08/31/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	0.763	ug/L		0.05	EPA 6020	KQ	09/25/18
Cadmium	< 0.05	ug/L		0.05	EPA 6020	KQ	09/25/18
Chromium	183.	ug/L		0.1	EPA 6020	KQ	09/25/18
Lead	0.951	ug/L		0.1	EPA 6020	KQ	09/25/18
Acid Dig.(Tot Metals)	Y				EPA 3010	KQ	09/19/18

Total Metals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Mercury	0.00008	mg/l		0.00005	EPA 7471B	SRW	09/04/18

NWTPH-Dx (Water)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 50	ug/l		50.	NWTPH-Dx	DP	09/20/18
Heavy Oil	< 100	ug/l		100	NWTPH-Dx	DP	09/20/18
Sep Fun Ext	Y				EPA 3510	DP	09/06/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	90.8 %	50.0 - 150.
2-Fluorobiphenyl	98.8 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Water	274.	ug/l	Z	100	NWTPH-Gx	AY	09/11/18
Benzene	< 0.5	ug/l		0.5	EPA 624	AY	08/29/18
Toluene	8.53	ug/l		0.5	EPA 624	AY	08/29/18
Ethyl Benzene	0.52	ug/l		0.5	EPA 624	AY	08/29/18
Total Xylene	1.73	ug/l		1	EPA 624	AY	08/29/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	98.0 %	50.0 - 150.

Volatile Organic Analysis (VOA's)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,1,1,2-Tetrachloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,1,1-Trichloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,1,2,2-Tetrachloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,1,2-Trichloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,1-Dichloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,1-Dichloroethylene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,2,3-Trichloropropane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,2-Dibromo3Chloropropane	< 5	ug/l		5.0	EPA 624	AY	09/04/18
1,2-Dibromoethane (EDB)	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,2-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,2-Dichloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,2-Dichloropropane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,3-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
1,4-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
2-Butanone (MEK)	5.2	ug/l		5.0	EPA 624	AY	09/04/18
2-Hexanone	< 5	ug/l		5.0	EPA 624	AY	09/04/18
4-Methyl-2-Pentanone MIBK	< 5	ug/l		5.0	EPA 624	AY	09/04/18
Acetone	< 5	ug/l		5.0	EPA 624	AY	09/04/18
Acrylonitrile	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Benzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Bromochloromethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Bromodichloromethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Bromoform	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Bromomethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18

Volatile Organic Analysis (VOA's) continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Carbon Disulfide	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Carbon Tetrachloride	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Chlorobenzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Chlorodibromomethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Chloroethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Chloroform	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Chloromethane	8.5	ug/l		1.0	EPA 624	AY	09/04/18
Cis-1,2-Dichloroethene	140	ug/l	D	50.	EPA 624	AY	09/05/18
Cis-1,3-Dichloropropene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Dibromomethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Ethyl Benzene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
m,p Xylene	1.2	ug/l		1.0	EPA 624	AY	09/04/18
Methyl Iodide	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Methylene Chloride	< 2	ug/l		2.0	EPA 624	AY	09/04/18
o-Xylene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Styrene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Tetrachloroethylene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Toluene	8.5	ug/l		1.0	EPA 624	AY	09/04/18
Trans-1,2-Dichloroethene	1.9	ug/l		1.0	EPA 624	AY	09/04/18
Trans-1,3-Dichloropropene	< 1	ug/l		1.0	EPA 624	AY	09/04/18
trans-1,4-Dichloro2butene	< 5	ug/l		5.0	EPA 624	AY	09/04/18
Trichloroethylene	23.3	ug/l		1.0	EPA 624	AY	09/04/18
Trichlorofluoromethane	< 1	ug/l		1.0	EPA 624	AY	09/04/18
Vinyl Acetate	< 5	ug/l		5.0	EPA 624	AY	09/04/18
Vinyl Chloride	810	ug/l	D	50.	EPA 624	AY	09/05/18

VOA Surrogates

ANALYTE	% RECOVERY	LIMITS
D4-1,2,-Dichloroethane	103. %	82.8 - 113.
D8-Toluene	113. %	89.0 - 123.
4-Bromofluorobenzene	98.0 %	85.3 - 117.

Semi-Volatiles

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,2,4-Trichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
1,2-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
1,3-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
1,4-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2,4,5-Trichlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2,4,6-Trichlorophenol	< 2	ug/l	X	1.9	EPA 8270D	NNL	09/16/18
2,4-Dichlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2,4-Dimethylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2,4-Dinitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2,4-Dinitrotoluene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2,6-Dinitrotoluene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2-Chloronaphthalene	< 2	ug/l	X	1.9	EPA 8270D	NNL	09/16/18
2-Chlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2-Methylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
2-Nitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
3,3-Dichlorobenzidine	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
3-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4,6-Dinitro-2-methylpheno	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Bromophenyl-phenyl ethe	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Chloro-3-methylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Chloroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Chlorophenyl-phenyl eth	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Methylphenol (P.Cresol)	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
4-Nitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Aniline	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Azobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Benzidine	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Benzoic Acid	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Benzyl Alcohol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
bis(2-Chloroethoxy)methan	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
bis(2-Chloroethyl)ether	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
bis(2-Chloroisopropyl)eth	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
bis(2-Ethylhexyl)phthalat	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
bis(2-Ethylhexyl)phthalat	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Butylbenzylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Butylbenzylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Carbazole	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Dibenzofuran	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Diethylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Diethylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18

Semi-Volatiles continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Dimethylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Dimethylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Di-n-butylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Di-n-butylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Di-n-octylphthalate	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Di-n-octylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Hexachlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Hexachlorobutadiene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Hexachlorocyclopentadiene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Hexachloroethane	< 1	ug/l		0.95	EPA 8270D	NNL	09/16/18
Isophorone	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Nitrobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
N-Nitrosodimethylamine	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
N-Nitroso-di-n-propylamin	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
N-nitrosodiphenylamine	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Pentachlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18
Pentachlorophenol	< 0.5	ug/l		0.48	EPA 8270D-SIM	NNL	09/14/18
Phenol	< 2	ug/l		1.9	EPA 8270D	NNL	09/16/18

Polynuclear Aromatic Hydrocarbons (PAH)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1-Methylnaphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
2-Methylnaphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Acenaphthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Acenaphthylene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Benzo(a)anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Benzo(a)pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Benzo(b)fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Benzo(ghi)perylene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Benzo(k)fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Chrysene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Dibenzo(ah)anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Fluorene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Indeno(123-cd)pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Naphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Phenanthrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/14/18
Liq/Liq Ext.	Y				EPA 3520	DP	09/05/18

Semi-Volatile Surrogates

ANALYTE	% RECOVERY	LIMITS
2-Fluorophenol	19.5 %	11.5 - 136.
D6-Phenol	58.6 %	0.0 - 105.
D5-Nitrobenzene	86.8 %	10.0 - 142.
2-Fluorobiphenyl	91.0 %	23.6 - 122.
2,4,6-Tribromophenol	28.1 %	0.0 - 145.
D14-Terphenyl	114. %	11.0 - 178.

D = The reported value is from a dilution.

X = See case narrative.

Z = The chromatographic fingerprint does not resemble a petroleum product.

Case Narrative:

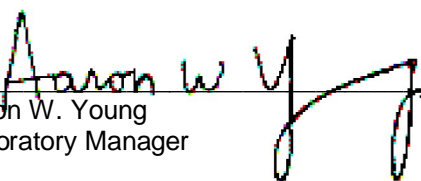
2-Chloronaphthalene and 2,4,6-Trichlorophenol in the water SVOC matrix spike was below the acceptable level. All associated data should be considered estimates due to the low recovery. The recovery was acceptable in the associated Known (SRM) sample, thus the loss is due to extraction.

Toluene was detected in the VOC blank and was above the acceptable limits for the VOC (8260) SRM analyses. Therefore, the soil Toluene VOC result should be considered an estimate.

The sample identified as HC-20-GW (AmTest ID 18-A015864) had a detectable Gasoline range concentration. This is due to the large cis-1,2-Dichloroethene result from the VOC results and thus qualified with a "Z" qualifier.

The soil NWTPH-Dx surrogate results for the samples identified as HC-19-S1 (AmTest ID 18-A015818) and HC-20-S1 (AmTest ID 18-A015825) are reported as 0% recovery due to the 40x dilution and high concentration of Heavy Oil.

No further corrective action was taken.


Aaron W. Young
Laboratory Manager

QC Summary for sample numbers: 18-A015818 to 18-A015864

DUPLICATES

SAMPLE #	ANALYTE	UNITS	SMPL VAL	DUP VAL	RPD	MAX RPD
18-A015765	Total Suspended Solids	mg/l	3.0	4.0	29.	50.
18-A015805	Total Suspended Solids	mg/l	1.0	1.0	0.00	50.
18-A015815	Total Suspended Solids	mg/l	5.0	6.0	18.	50.
18-A015884	Total Suspended Solids	mg/l	14.	14.	0.00	50.
18-A015940	Total Suspended Solids	mg/l	41.	39.	5.0	50.
18-A015955	Total Suspended Solids	mg/l	2.0	3.0	40.	50.
18-A016004	Total Suspended Solids	mg/l	< 1	< 1		50.
18-A016047	Total Suspended Solids	mg/l	17.	15.	12.	50.
18-A015719	Total Solids	%	94.9	95.3	0.42	15.
18-A015744	Total Solids	%	94.1	94.7	0.64	15.
18-A015842	Total Solids	%	75.0	73.5	2.0	15.
18-A015862	Total Solids	%	81.5	83.5	2.4	15.
18-A015837	Mercury	mg/l	< 0.00005	< 0.00005		30.
18-A015864	Mercury	mg/l	0.00008	0.00008	0.00	30.
18-A015718	Mercury	ug/g	0.0448	0.0421	6.2	50.
18-A016074	Mercury	ug/g	0.0108	0.0079	31.	50.
18-A016207	Mercury	ug/g	0.0101	0.0083	20.	50.
18-A015832	Arsenic	ug/g	5.49	5.62	2.3	25.
18-A016080	Arsenic	ug/g	9.41	9.53	1.3	25.
18-A016326	Arsenic	ug/g	10.8	10.8	0.00	25.
18-A016427	Arsenic	ug/g	2.87	2.69	6.5	25.
18-A016446	Arsenic	ug/g	3.05	3.46	13.	25.
18-A015832	Cadmium	ug/g	0.118	0.151	25.	39.
18-A016080	Cadmium	ug/g	0.356	0.312	13.	39.
18-A016326	Cadmium	ug/g	0.216	0.216	0.00	39.
18-A016427	Cadmium	ug/g	0.446	0.306	37.	39.
18-A016446	Cadmium	ug/g	0.187	0.146	25.	39.
18-A015832	Chromium	ug/g	15.0	16.2	7.7	42.
18-A016080	Chromium	ug/g	24.5	22.9	6.8	42.
18-A016326	Chromium	ug/g	22.2	20.4	8.5	42.
18-A016427	Chromium	ug/g	17.1	16.2	5.4	42.
18-A016446	Chromium	ug/g	14.4	14.9	3.4	42.
18-A015832	Lead	ug/g	1.858	1.839	1.0	27.
18-A016080	Lead	ug/g	10.08	9.803	2.8	27.
18-A016326	Lead	ug/g	4.417	4.417	0.00	27.
18-A016427	Lead	ug/g	2.446	2.874	16.	27.
18-A016446	Lead	ug/g	1.108	1.119	0.99	27.

QC Summary for sample numbers: 18-A015818 to 18-A015864...

MATRIX SPIKES

SAMPLE #	ANALYTE	UNITS	SMPL VAL	SMPL+SPK	SPK AMT	% REC	LIMITS
18-A015837	Mercury	mg/l	< 0.00005	0.00301	0.00250	120. %	70.0 - 130.
18-A015864	Mercury	mg/l	0.00008	0.00315	0.00250	123. %	70.0 - 130.
18-A015718	Mercury	ug/g	0.0448	0.248	0.186	109. %	23.0 - 163.
18-A015843	Mercury	ug/g	0.0380	0.176	0.152	90.8 %	23.0 - 163.
18-A016074	Mercury	ug/g	0.0108	0.182	0.179	95.6 %	23.0 - 163.
18-A016207	Mercury	ug/g	0.0101	0.154	0.176	81.8 %	23.0 - 163.
Blank	PCB-1260	ug/kg	< 16.6	0.30	0.25	120. %	45.0 - 150.
Blank	PCB-1260	ug/kg	< 16.6	0.31	0.25	124. %	45.0 - 150.
18-A015736	Chloromethane	ug/l	< 1	14.8	14.9	99.3 %	62.1 - 182.
18-A015736	Vinyl Chloride	ug/l	2.0	16.	15.	93.3 %	0.0 - 251.
18-A015736	Bromomethane	ug/l	< 1	18.4	14.9	123. %	66.1 - 164.
18-A015736	Chloroethane	ug/l	< 1	16.2	14.9	109. %	48.9 - 128.
18-A015736	Trichlorofluoromethane	ug/l	< 1	23.2	14.9	156. %	17.0 - 181.
18-A015736	1,1-Dichloroethylene	ug/l	< 1	16.7	14.9	112. %	3.0 - 234.
18-A015736	Carbon Disulfide	ug/l	< 1	18.2	14.9	122. %	61.2 - 156.
18-A015736	Methyl Iodide	ug/l	< 1	20.6	14.9	138. %	44.9 - 153.
18-A015736	Methylene Chloride	ug/l	< 2	17.6	14.9	118. %	52.0 - 156.
18-A015736	Trans-1,2-Dichloroethene	ug/l	< 1	13.	15.	86.7 %	62.0 - 150.
18-A015736	Cis-1,2-Dichloroethene	ug/l	1.5	18.	15.	110. %	59.4 - 147.
18-A015736	1,1-Dichloroethane	ug/l	< 1	17.4	14.9	117. %	82.0 - 138.
18-A015736	Vinyl Acetate	ug/l	< 5	9.4	14.9	63.1 %	30.0 - 167.
18-A015736	Acrylonitrile	ug/l	< 1	15.3	14.9	103. %	39.3 - 165.
18-A015736	2-Butanone (MEK)	ug/l	< 5	13.1	14.9	87.9 %	36.2 - 170.
18-A015736	Chloroform	ug/l	< 1	14.6	14.9	98.0 %	51.0 - 138.
18-A015736	1,1,1-Trichloroethane	ug/l	< 1	16.0	14.9	107. %	77.0 - 148.
18-A015736	Carbon Tetrachloride	ug/l	< 1	16.6	14.9	111. %	70.0 - 140.
18-A015736	Benzene	ug/l	< 1	15.5	14.9	104. %	37.0 - 151.
18-A015736	1,2-Dichloroethane	ug/l	< 1	13.1	14.9	87.9 %	57.0 - 143.
18-A015736	Trichloroethylene	ug/l	< 1	15.0	14.9	101. %	71.0 - 157.
18-A015736	Bromodichloromethane	ug/l	< 1	13.9	14.9	93.3 %	68.0 - 135.
18-A015736	Bromochloromethane	ug/l	< 1	16.	15.	107. %	75.8 - 136.
18-A015736	1,2-Dibromoethane (EDB)	ug/l	< 1	14.	15.	93.3 %	76.0 - 121.
18-A015736	Dibromomethane	ug/l	< 1	13.	15.	86.7 %	75.0 - 125.
18-A015736	1,2-Dichloropropane	ug/l	< 1	14.4	14.9	96.6 %	74.0 - 128.
18-A015736	4-Methyl-2-Pentanone MIBK	ug/l	< 5	11.6	14.9	77.9 %	43.7 - 147.
18-A015736	Toluene	ug/l	< 1	15.2	14.9	102. %	47.0 - 150.
18-A015736	Cis-1,3-Dichloropropene	ug/l	< 1	13.5	14.9	90.6 %	0.0 - 227.
18-A015736	1,1,2-Trichloroethane	ug/l	< 1	13.2	14.9	88.6 %	78.0 - 121.
18-A015736	Tetrachloroethylene	ug/l	< 1	13.0	14.9	87.2 %	50.4 - 167.
18-A015736	2-Hexanone	ug/l	< 5	11.2	14.9	75.2 %	44.8 - 139.
18-A015736	Chlorodibromomethane	ug/l	< 1	13.9	14.9	93.3 %	53.0 - 149.
18-A015736	Chlorobenzene	ug/l	< 1	13.8	14.9	92.6 %	37.0 - 160.
18-A015736	Ethyl Benzene	ug/l	< 1	14.6	14.9	98.0 %	79.0 - 125.
18-A015736	m,p Xylene	ug/l	< 1	31.5	29.8	106. %	55.8 - 130.
18-A015736	o-Xylene	ug/l	< 1	15.3	14.9	103. %	75.0 - 125.
18-A015736	Styrene	ug/l	< 1	12.3	14.9	82.6 %	52.9 - 120.
18-A015736	Bromoform	ug/l	< 1	13.	15.	86.7 %	63.0 - 139.
18-A015736	1,1,2,2-Tetrachloroethane	ug/l	< 1	14.	15.	93.3 %	63.0 - 121.
18-A015736	1,1,1,2-Tetrachloroethane	ug/l	< 1	16.	15.	107. %	75.8 - 122.

QC Summary for sample numbers: 18-A015818 to 18-A015864...

MATRIX SPIKES continued....

SAMPLE #	ANALYTE	UNITS	SMPL VAL	SMPL+SPK	SPK AMT	% REC	LIMITS
18-A015736	Trans-1,3-Dichloropropene	ug/l	< 1	15.	15.	100. %	17.0 - 183.
18-A015736	1,3-Dichlorobenzene	ug/l	< 1	14.	15.	93.3 %	59.0 - 156.
18-A015736	1,4-Dichlorobenzene	ug/l	< 1	13.6	14.9	91.3 %	77.5 - 127.
18-A015736	1,2-Dichlorobenzene	ug/l	< 1	13.3	14.9	89.3 %	18.0 - 190.
18-A015736	1,2-Dibromo3Chloropropene	ug/l	< 5	11.	15.	73.3 %	39.3 - 162.
18-A015736	trans-1,4-Dichloro2butene	ug/l	< 5	12.	15.	80.0 %	47.5 - 141.
18-A015736	1,2,3-Trichloropropene	ug/l	< 1	12.	15.	80.0 %	38.3 - 163.
Blank	Phenol	ug/l	< 2	2.4	10.0	24.0 %	5.0 - 112.
Blank	Phenol	ug/l	< 2	2.6	10.0	26.0 %	5.0 - 112.
Blank	Phenol	ug/kg	< 2	6.5	10.0	65.0 %	9.0 - 143.
Blank	Phenol	ug/kg	< 2	5.3	10.0	53.0 %	9.0 - 143.
Blank	bis(2-Chloroethyl)ether	ug/l	< 2	4.6	10.0	46.0 %	12.0 - 158.
Blank	bis(2-Chloroethyl)ether	ug/l	< 2	5.3	10.0	53.0 %	12.0 - 158.
Blank	2-Chlorophenol	ug/l	< 2	4.7	10.0	47.0 %	23.0 - 134.
Blank	2-Chlorophenol	ug/l	< 2	5.6	10.0	56.0 %	23.0 - 134.
Blank	2-Chlorophenol	ug/kg	< 2	6.5	10.0	65.0 %	21.0 - 128.
Blank	2-Chlorophenol	ug/kg	< 2	5.2	10.0	52.0 %	21.0 - 128.
Blank	1,3-Dichlorobenzene	ug/l	< 2	4.8	10.0	48.0 %	0.0 - 172.
Blank	1,3-Dichlorobenzene	ug/l	< 2	5.3	10.0	53.0 %	0.0 - 172.
Blank	1,4-Dichlorobenzene	ug/l	< 2	5.1	10.0	51.0 %	20.0 - 124.
Blank	1,4-Dichlorobenzene	ug/l	< 2	5.8	10.0	58.0 %	20.0 - 124.
Blank	1,4-Dichlorobenzene	ug/kg	< 2	6.4	10.0	64.0 %	28.0 - 113.
Blank	1,4-Dichlorobenzene	ug/kg	< 2	4.9	10.0	49.0 %	28.0 - 113.
Blank	1,2-Dichlorobenzene	ug/l	< 2	4.9	10.0	49.0 %	32.0 - 129.
Blank	1,2-Dichlorobenzene	ug/l	< 2	5.8	10.0	58.0 %	32.0 - 129.
Blank	bis(2-Chloroisopropyl)eth	ug/l	< 2	4.6	10.0	46.0 %	36.0 - 166.
Blank	bis(2-Chloroisopropyl)eth	ug/l	< 2	5.2	10.0	52.0 %	36.0 - 166.
Blank	N-Nitroso-di-n-propylamin	ug/l	< 2	5.2	10.0	52.0 %	0.0 - 230.
Blank	N-Nitroso-di-n-propylamin	ug/l	< 2	5.3	10.0	53.0 %	0.0 - 230.
Blank	N-Nitroso-di-n-propylamin	ug/kg	< 2	6.2	10.0	62.0 %	32.0 - 119.
Blank	N-Nitroso-di-n-propylamin	ug/kg	< 2	5.7	10.0	57.0 %	32.0 - 119.
Blank	Hexachloroethane	ug/l	< 1	4.8	10.0	48.0 %	40.0 - 113.
Blank	Hexachloroethane	ug/l	< 1	5.5	10.0	55.0 %	40.0 - 113.
Blank	Nitrobenzene	ug/l	< 2	5.4	10.0	54.0 %	35.0 - 180.
Blank	Nitrobenzene	ug/l	< 2	6.0	10.0	60.0 %	35.0 - 180.
Blank	Isophorone	ug/l	< 2	3.8	10.0	38.0 %	21.0 - 196.
Blank	Isophorone	ug/l	< 2	4.1	10.0	41.0 %	21.0 - 196.
Blank	2-Nitrophenol	ug/l	< 2	5.1	10.0	51.0 %	29.0 - 182.
Blank	2-Nitrophenol	ug/l	< 2	6.0	10.0	60.0 %	29.0 - 182.
Blank	bis(2-Chloroethoxy)methan	ug/l	< 2	5.0	10.0	50.0 %	33.0 - 184.
Blank	bis(2-Chloroethoxy)methan	ug/l	< 2	5.4	10.0	54.0 %	33.0 - 184.
Blank	2,4-Dichlorophenol	ug/l	< 2	4.2	10.0	42.0 %	39.0 - 135.
Blank	2,4-Dichlorophenol	ug/l	< 2	4.8	10.0	48.0 %	39.0 - 135.
Blank	1,2,4-Trichlorobenzene	ug/l	< 2	4.9	10.0	49.0 %	44.0 - 142.
Blank	1,2,4-Trichlorobenzene	ug/l	< 2	5.4	10.0	54.0 %	44.0 - 142.
Blank	1,2,4-Trichlorobenzene	ug/kg	< 2	6.2	10.0	62.0 %	15.0 - 116.
Blank	1,2,4-Trichlorobenzene	ug/kg	< 2	5.1	10.0	51.0 %	15.0 - 116.
Blank	Naphthalene	ug/l	< 2	5.2	10.0	52.0 %	21.0 - 133.
Blank	Naphthalene	ug/l	< 2	5.7	10.0	57.0 %	21.0 - 133.

QC Summary for sample numbers: 18-A015818 to 18-A015864...

MATRIX SPIKES continued....

SAMPLE #	ANALYTE	UNITS	SMPL VAL	SMPL+SPK	SPK AMT	% REC	LIMITS
Blank	Naphthalene	ug/l	< 0.1	5.27	10.0	52.7 %	25.5 - 134.
Blank	Naphthalene	ug/l	< 0.1	5.87	10.0	58.7 %	25.5 - 134.
Blank	Naphthalene	ug/Kg	< 3.33	7.32	10.0	73.2 %	21.0 - 133.
Blank	Naphthalene	ug/Kg	< 3.33	6.10	10.0	61.0 %	21.0 - 133.
Blank	Hexachlorobutadiene	ug/l	< 2	5.0	10.0	50.0 %	24.0 - 116.
Blank	Hexachlorobutadiene	ug/l	< 2	5.6	10.0	56.0 %	24.0 - 116.
Blank	4-Chloro-3-methylphenol	ug/l	< 2	2.4	10.0	24.0 %	22.0 - 147.
Blank	4-Chloro-3-methylphenol	ug/l	< 2	3.3	10.0	33.0 %	22.0 - 147.
Blank	4-Chloro-3-methylphenol	ug/kg	< 2	5.4	10.0	54.0 %	7.0 - 137.
Blank	4-Chloro-3-methylphenol	ug/kg	< 2	7.1	10.0	71.0 %	7.0 - 137.
Blank	2-Methylnaphthalene	ug/l	< 0.1	8.98	10.0	89.8 %	27.9 - 153.
Blank	2-Methylnaphthalene	ug/l	< 0.1	8.84	10.0	88.4 %	27.9 - 153.
Blank	2-Methylnaphthalene	ug/Kg	< 3.33	13.0	10.0	130. %	30.0 - 140.
Blank	2-Methylnaphthalene	ug/Kg	< 3.33	12.3	10.0	123. %	30.0 - 140.
Blank	2,4,6-Trichlorophenol	ug/l	< 2	3.5	10.0	35.0 %	37.0 - 144.
Blank	2,4,6-Trichlorophenol	ug/l	< 2	4.3	10.0	43.0 %	37.0 - 144.
Blank	2-Chloronaphthalene	ug/l	< 2	5.4	10.0	54.0 %	60.0 - 118.
Blank	2-Chloronaphthalene	ug/l	< 2	6.0	10.0	60.0 %	60.0 - 118.
Blank	Dimethylphthalate	ug/l	< 2	3.7	10.0	37.0 %	0.0 - 112.
Blank	Dimethylphthalate	ug/l	< 2	3.9	10.0	39.0 %	0.0 - 112.
Blank	Dimethylphthalate	ug/l	< 0.1	3.37	10.0	33.7 %	18.0 - 133.
Blank	Dimethylphthalate	ug/l	< 0.1	3.37	10.0	33.7 %	18.0 - 133.
Blank	Dimethylphthalate	ug/kg	< 3.33	7.38	10.0	73.8 %	0.0 - 112.
Blank	Dimethylphthalate	ug/kg	< 3.33	8.27	10.0	82.7 %	0.0 - 112.
Blank	Acenaphthylene	ug/l	< 2	5.7	10.0	57.0 %	33.0 - 145.
Blank	Acenaphthylene	ug/l	< 2	6.4	10.0	64.0 %	33.0 - 145.
Blank	Acenaphthylene	ug/l	< 0.1	4.98	10.0	49.8 %	20.0 - 112.
Blank	Acenaphthylene	ug/l	< 0.1	5.36	10.0	53.6 %	20.0 - 112.
Blank	Acenaphthylene	ug/Kg	< 3.33	6.43	10.0	64.3 %	33.0 - 145.
Blank	Acenaphthylene	ug/Kg	< 3.33	6.60	10.0	66.0 %	33.0 - 145.
Blank	2,6-Dinitrotoluene	ug/l	< 2	5.7	10.0	57.0 %	50.0 - 158.
Blank	2,6-Dinitrotoluene	ug/l	< 2	6.2	10.0	62.0 %	50.0 - 158.
Blank	Acenaphthene	ug/l	< 2	5.6	10.0	56.0 %	35.0 - 145.
Blank	Acenaphthene	ug/l	< 2	6.0	10.0	60.0 %	35.0 - 145.
Blank	Acenaphthene	ug/kg	< 2	6.8	10.0	68.0 %	25.0 - 108.
Blank	Acenaphthene	ug/kg	< 2	6.9	10.0	69.0 %	25.0 - 108.
Blank	Acenaphthene	ug/l	< 0.1	5.40	10.0	54.0 %	25.0 - 158.
Blank	Acenaphthene	ug/l	< 0.1	5.78	10.0	57.8 %	25.0 - 158.
Blank	Acenaphthene	ug/Kg	< 3.33	7.00	10.0	70.0 %	47.0 - 145.
Blank	Acenaphthene	ug/Kg	< 3.33	7.23	10.0	72.3 %	47.0 - 145.
Blank	2,4-Dinitrotoluene	ug/l	< 2	6.5	10.0	65.0 %	39.0 - 139.
Blank	2,4-Dinitrotoluene	ug/l	< 2	6.5	10.0	65.0 %	39.0 - 139.
Blank	2,4-Dinitrotoluene	ug/kg	< 5	7.2	10.0	72.0 %	16.0 - 145.
Blank	2,4-Dinitrotoluene	ug/kg	< 5	7.8	10.0	78.0 %	16.0 - 145.
Blank	Diethylphthalate	ug/l	< 2	5.5	10.0	55.0 %	0.0 - 114.
Blank	Diethylphthalate	ug/l	< 2	5.7	10.0	57.0 %	0.0 - 114.
Blank	Diethylphthalate	ug/l	< 0.1	4.61	10.0	46.1 %	31.6 - 136.
Blank	Diethylphthalate	ug/l	< 0.1	4.59	10.0	45.9 %	31.6 - 136.
Blank	Diethylphthalate	ug/kg	< 3.33	7.11	10.0	71.1 %	0.0 - 114.

QC Summary for sample numbers: 18-A015818 to 18-A015864...

MATRIX SPIKES continued....

SAMPLE #	ANALYTE	UNITS	SMPL VAL	SMPL+SPK	SPK AMT	% REC	LIMITS
Blank	Diethylphthalate	ug/kg	< 3.33	7.95	10.0	79.5 %	0.0 - 114.
Blank	4-Chlorophenyl-phenyl eth	ug/l	< 2	5.6	10.0	56.0 %	25.0 - 158.
Blank	4-Chlorophenyl-phenyl eth	ug/l	< 2	6.2	10.0	62.0 %	25.0 - 158.
Blank	Fluorene	ug/l	< 2	5.5	10.0	55.0 %	32.0 - 121.
Blank	Fluorene	ug/l	< 2	6.0	10.0	60.0 %	32.0 - 121.
Blank	Fluorene	ug/l	< 0.1	6.41	10.0	64.1 %	24.0 - 131.
Blank	Fluorene	ug/l	< 0.1	6.74	10.0	67.4 %	24.0 - 131.
Blank	Fluorene	ug/Kg	< 3.33	8.15	10.0	81.5 %	59.0 - 121.
Blank	Fluorene	ug/Kg	< 3.33	8.92	10.0	89.2 %	59.0 - 121.
Blank	4,6-Dinitro-2-methylpheno	ug/l	< 2	4.5	10.0	45.0 %	0.0 - 181.
Blank	4,6-Dinitro-2-methylpheno	ug/l	< 2	3.6	10.0	36.0 %	0.0 - 181.
Blank	4-Bromophenyl-phenyl ethe	ug/l	< 2	5.9	10.0	59.0 %	53.0 - 127.
Blank	4-Bromophenyl-phenyl ethe	ug/l	< 2	6.7	10.0	67.0 %	53.0 - 127.
Blank	Hexachlorobenzene	ug/l	< 2	6.4	10.0	64.0 %	0.0 - 152.
Blank	Hexachlorobenzene	ug/l	< 2	6.4	10.0	64.0 %	0.0 - 152.
Blank	Pentachlorophenol	ug/kg	< 16.7	4.04	10.0	40.4 %	14.0 - 176.
Blank	Pentachlorophenol	ug/kg	< 16.7	3.96	10.0	39.6 %	14.0 - 176.
Blank	Phenanthrene	ug/l	< 2	6.4	10.0	64.0 %	37.0 - 120.
Blank	Phenanthrene	ug/l	< 2	6.3	10.0	63.0 %	37.0 - 120.
Blank	Phenanthrene	ug/l	< 0.1	7.00	10.0	70.0 %	46.0 - 125.
Blank	Phenanthrene	ug/l	< 0.1	6.77	10.0	67.7 %	46.0 - 125.
Blank	Phenanthrene	ug/Kg	< 3.33	8.45	10.0	84.5 %	54.0 - 135.
Blank	Phenanthrene	ug/Kg	< 3.33	9.50	10.0	95.0 %	54.0 - 135.
Blank	Anthracene	ug/l	< 2	5.8	10.0	58.0 %	27.0 - 133.
Blank	Anthracene	ug/l	< 2	5.7	10.0	57.0 %	27.0 - 133.
Blank	Anthracene	ug/l	< 0.1	5.24	10.0	52.4 %	20.0 - 155.
Blank	Anthracene	ug/l	< 0.1	5.22	10.0	52.2 %	20.0 - 155.
Blank	Anthracene	ug/Kg	< 3.33	6.67	10.0	66.7 %	27.0 - 133.
Blank	Anthracene	ug/Kg	< 3.33	7.48	10.0	74.8 %	27.0 - 133.
Blank	Di-n-butylphthalate	ug/l	< 2	7.7	10.0	77.0 %	1.0 - 118.
Blank	Di-n-butylphthalate	ug/l	< 2	6.6	10.0	66.0 %	1.0 - 118.
Blank	Di-n-butylphthalate	ug/l	< 0.1	6.35	10.0	63.5 %	32.7 - 164.
Blank	Di-n-butylphthalate	ug/l	< 0.1	5.44	10.0	54.4 %	32.7 - 164.
Blank	Di-n-butylphthalate	ug/kg	< 3.33	7.09	10.0	70.9 %	1.0 - 118.
Blank	Di-n-butylphthalate	ug/kg	< 3.33	7.81	10.0	78.1 %	1.0 - 118.
Blank	Fluoranthene	ug/l	< 2	7.5	10.0	75.0 %	26.0 - 137.
Blank	Fluoranthene	ug/l	< 2	6.5	10.0	65.0 %	26.0 - 137.
Blank	Fluoranthene	ug/l	< 0.1	8.17	10.0	81.7 %	20.0 - 147.
Blank	Fluoranthene	ug/l	< 0.1	7.00	10.0	70.0 %	20.0 - 147.
Blank	Fluoranthene	ug/Kg	< 3.33	8.59	10.0	85.9 %	26.0 - 137.
Blank	Fluoranthene	ug/Kg	< 3.33	9.45	10.0	94.5 %	26.0 - 137.
Blank	Pyrene	ug/l	< 2	7.6	10.0	76.0 %	35.0 - 115.
Blank	Pyrene	ug/l	< 2	6.7	10.0	67.0 %	35.0 - 115.
Blank	Pyrene	ug/l	< 0.1	7.36	10.0	73.6 %	21.0 - 174.
Blank	Pyrene	ug/l	< 0.1	6.46	10.0	64.6 %	21.0 - 174.
Blank	Pyrene	ug/Kg	< 3.33	7.89	10.0	78.9 %	52.0 - 115.
Blank	Pyrene	ug/Kg	< 3.33	8.51	10.0	85.1 %	52.0 - 115.
Blank	Butylbenzylphthalate	ug/l	< 2	7.7	10.0	77.0 %	0.0 - 152.
Blank	Butylbenzylphthalate	ug/l	< 2	6.3	10.0	63.0 %	0.0 - 152.

QC Summary for sample numbers: 18-A015818 to 18-A015864...

MATRIX SPIKES continued....

SAMPLE #	ANALYTE	UNITS	SMPL VAL	SMPL+SPK	SPK AMT	% REC	LIMITS
Blank	Butylbenzylphthalate	ug/l	< 0.1	5.95	10.0	59.5 %	39.9 - 140.
Blank	Butylbenzylphthalate	ug/l	< 0.1	5.08	10.0	50.8 %	39.9 - 140.
Blank	Butylbenzylphthalate	ug/Kg	< 3.33	6.86	10.0	68.6 %	0.0 - 152.
Blank	Butylbenzylphthalate	ug/Kg	< 3.33	7.53	10.0	75.3 %	0.0 - 152.
Blank	Benzo(a)anthracene	ug/l	< 2	7.2	10.0	72.0 %	33.0 - 143.
Blank	Benzo(a)anthracene	ug/l	< 2	6.0	10.0	60.0 %	33.0 - 143.
Blank	Benzo(a)anthracene	ug/l	< 0.1	8.00	10.0	80.0 %	28.0 - 140.
Blank	Benzo(a)anthracene	ug/l	< 0.1	6.72	10.0	67.2 %	28.0 - 140.
Blank	Benzo(a)anthracene	ug/Kg	< 3.33	8.56	10.0	85.6 %	33.0 - 143.
Blank	Benzo(a)anthracene	ug/Kg	< 3.33	9.58	10.0	95.8 %	33.0 - 143.
Blank	Chrysene	ug/l	< 2	8.1	10.0	81.0 %	17.0 - 168.
Blank	Chrysene	ug/l	< 2	6.9	10.0	69.0 %	17.0 - 168.
Blank	Chrysene	ug/l	< 0.1	6.29	10.0	62.9 %	20.0 - 130.
Blank	Chrysene	ug/l	< 0.1	5.52	10.0	55.2 %	20.0 - 130.
Blank	Chrysene	ug/Kg	< 3.33	7.02	10.0	70.2 %	17.0 - 168.
Blank	Chrysene	ug/Kg	< 3.33	7.57	10.0	75.7 %	17.0 - 168.
Blank	bis(2-Ethylhexyl)phthalat	ug/l	< 2	8.4	10.0	84.0 %	8.0 - 158.
Blank	bis(2-Ethylhexyl)phthalat	ug/l	< 2	6.9	10.0	69.0 %	8.0 - 158.
Blank	bis(2-Ethylhexyl)phthalat	ug/l	0.11	5.99	10.0	58.8 %	37.2 - 165.
Blank	bis(2-Ethylhexyl)phthalat	ug/l	0.11	4.98	10.0	48.7 %	37.2 - 165.
Blank	bis(2-Ethylhexyl)phthalat	ug/kg	< 3.33	6.94	10.0	69.4 %	8.0 - 158.
Blank	bis(2-Ethylhexyl)phthalat	ug/kg	< 3.33	7.68	10.0	76.8 %	8.0 - 158.
Blank	Di-n-octylphthalate	ug/l	< 2	8.7	10.0	87.0 %	4.0 - 146.
Blank	Di-n-octylphthalate	ug/l	< 2	7.3	10.0	73.0 %	4.0 - 146.
Blank	Di-n-octylphthalate	ug/l	< 0.1	6.67	10.0	66.7 %	23.5 - 136.
Blank	Di-n-octylphthalate	ug/l	< 0.1	5.53	10.0	55.3 %	23.5 - 136.
Blank	Di-n-octylphthalate	ug/kg	< 3.33	7.43	10.0	74.3 %	4.0 - 155.
Blank	Di-n-octylphthalate	ug/kg	< 3.33	8.10	10.0	81.0 %	4.0 - 155.
Blank	Benzo(b)fluoranthene	ug/l	< 2	8.1	10.0	81.0 %	24.0 - 159.
Blank	Benzo(b)fluoranthene	ug/l	< 2	6.7	10.0	67.0 %	24.0 - 159.
Blank	Benzo(b)fluoranthene	ug/l	< 0.1	9.72	10.0	97.2 %	20.0 - 160.
Blank	Benzo(b)fluoranthene	ug/l	< 0.1	8.14	10.0	81.4 %	20.0 - 160.
Blank	Benzo(b)fluoranthene	ug/Kg	< 3.33	10.5	10.0	105. %	24.0 - 159.
Blank	Benzo(b)fluoranthene	ug/Kg	< 3.33	11.4	10.0	114. %	24.0 - 159.
Blank	Benzo(k)fluoranthene	ug/l	< 2	8.5	10.0	85.0 %	11.0 - 162.
Blank	Benzo(k)fluoranthene	ug/l	< 2	7.3	10.0	73.0 %	11.0 - 162.
Blank	Benzo(k)fluoranthene	ug/l	< 0.1	8.62	10.0	86.2 %	21.1 - 157.
Blank	Benzo(k)fluoranthene	ug/l	< 0.1	7.28	10.0	72.8 %	21.1 - 157.
Blank	Benzo(k)fluoranthene	ug/Kg	< 3.33	8.98	10.0	89.8 %	11.0 - 162.
Blank	Benzo(k)fluoranthene	ug/Kg	< 3.33	9.81	10.0	98.1 %	11.0 - 162.
Blank	Benzo(a)pyrene	ug/l	< 2	6.6	10.0	66.0 %	17.0 - 163.
Blank	Benzo(a)pyrene	ug/l	< 2	5.4	10.0	54.0 %	17.0 - 163.
Blank	Benzo(a)pyrene	ug/l	< 0.1	6.93	10.0	69.3 %	35.0 - 140.
Blank	Benzo(a)pyrene	ug/l	< 0.1	5.79	10.0	57.9 %	35.0 - 140.
Blank	Benzo(a)pyrene	ug/Kg	< 3.33	8.17	10.0	81.7 %	17.0 - 163.
Blank	Benzo(a)pyrene	ug/Kg	< 3.33	8.96	10.0	89.6 %	17.0 - 163.
Blank	Indeno(1,2,3-cd)pyrene	ug/l	< 2	7.3	10.0	73.0 %	0.0 - 171.
Blank	Indeno(1,2,3-cd)pyrene	ug/l	< 2	6.4	10.0	64.0 %	0.0 - 171.
Blank	Indeno(123-cd)pyrene	ug/l	< 0.1	8.12	10.0	81.2 %	31.1 - 163.

QC Summary for sample numbers: 18-A015818 to 18-A015864...

MATRIX SPIKES continued....

SAMPLE #	ANALYTE	UNITS	SMPL VAL	SMPL+SPK	SPK AMT	% REC	LIMITS
Blank	Indeno(123-cd)pyrene	ug/l	< 0.1	7.00	10.0	70.0 %	31.1 - 163.
Blank	Indeno(123-cd)pyrene	ug/Kg	< 3.33	10.1	10.0	101. %	0.0 - 171.
Blank	Indeno(123-cd)pyrene	ug/Kg	< 3.33	11.0	10.0	110. %	0.0 - 171.
Blank	Dibenzo(ah)anthracene	ug/l	< 2	7.0	10.0	70.0 %	0.0 - 227.
Blank	Dibenzo(ah)anthracene	ug/l	< 2	6.1	10.0	61.0 %	0.0 - 227.
Blank	Dibenzo(ah)anthracene	ug/l	< 0.1	8.22	10.0	82.2 %	20.0 - 170.
Blank	Dibenzo(ah)anthracene	ug/l	< 0.1	6.99	10.0	69.9 %	20.0 - 170.
Blank	Dibenzo(ah)anthracene	ug/Kg	< 3.33	9.81	10.0	98.1 %	0.0 - 227.
Blank	Dibenzo(ah)anthracene	ug/Kg	< 3.33	10.8	10.0	108. %	0.0 - 227.
Blank	Benzo(g,h,i)perylene	ug/l	< 2	6.8	10.0	68.0 %	0.0 - 219.
Blank	Benzo(g,h,i)perylene	ug/l	< 2	5.8	10.0	58.0 %	0.0 - 219.
Blank	Benzo(ghi)perylene	ug/l	< 0.1	7.34	10.0	73.4 %	20.6 - 175.
Blank	Benzo(ghi)perylene	ug/l	< 0.1	6.48	10.0	64.8 %	20.6 - 175.
Blank	Benzo(ghi)perylene	ug/Kg	< 3.33	9.54	10.0	95.4 %	0.0 - 219.
Blank	Benzo(ghi)perylene	ug/Kg	< 3.33	10.4	10.0	104. %	0.0 - 219.
18-A016449	Arsenic	ug/L	1.03	96.9	100.	95.9 %	70.0 - 130.
18-A016449	Arsenic	ug/L	1.03	96.7	100.	95.7 %	70.0 - 130.
18-A016685	Arsenic	ug/L	3.41	97.7	100.	94.3 %	70.0 - 130.
18-A016685	Arsenic	ug/L	3.41	104.	100.	101. %	70.0 - 130.
18-A015832	Arsenic	ug/g	5.49	254.	284.	87.5 %	22.0 - 154.
18-A016080	Arsenic	ug/g	9.41	525.	560.	92.1 %	22.0 - 154.
18-A016326	Arsenic	ug/g	10.8	290.	297.	94.0 %	22.0 - 154.
18-A016427	Arsenic	ug/g	2.87	345.	374.	91.5 %	22.0 - 154.
18-A016446	Arsenic	ug/g	3.05	518.	544.	94.7 %	22.0 - 154.
18-A016449	Cadmium	ug/L	< 0.05	96.9	100.	96.9 %	70.0 - 130.
18-A016449	Cadmium	ug/L	< 0.05	95.6	100.	95.6 %	70.0 - 130.
18-A015832	Cadmium	ug/g	0.118	254.	284.	89.4 %	66.7 - 132.
18-A016080	Cadmium	ug/g	0.356	517.	560.	92.3 %	66.7 - 132.
18-A016326	Cadmium	ug/g	0.216	284.	297.	95.6 %	66.7 - 132.
18-A016427	Cadmium	ug/g	0.446	361.	374.	96.4 %	66.7 - 132.
18-A016446	Cadmium	ug/g	0.187	528.	544.	97.0 %	66.7 - 132.
18-A015832	Chromium	ug/g	15.0	271.	284.	90.1 %	56.7 - 134.
18-A016080	Chromium	ug/g	24.5	528.	560.	89.9 %	56.7 - 134.
18-A016326	Chromium	ug/g	22.2	297.	297.	92.5 %	56.7 - 134.
18-A016427	Chromium	ug/g	17.1	350.	374.	89.0 %	56.7 - 134.
18-A016446	Chromium	ug/g	14.4	515.	544.	92.0 %	56.7 - 134.
18-A016449	Lead	ug/L	< 0.1	96.8	100.	96.8 %	70.0 - 130.
18-A016449	Lead	ug/L	< 0.1	96.5	100.	96.5 %	70.0 - 130.
18-A016821	Lead	ug/L	4.37	101.	100.	96.6 %	70.0 - 130.
18-A016821	Lead	ug/L	4.37	101.	100.	96.6 %	70.0 - 130.
18-A015832	Lead	ug/g	1.858	270.0	284.0	94.4 %	65.7 - 130.
18-A016080	Lead	ug/g	10.08	537.0	560.0	94.1 %	65.7 - 130.
18-A016326	Lead	ug/g	4.417	283.0	297.0	93.8 %	65.7 - 130.
18-A016427	Lead	ug/g	2.446	287.0	374.0	76.1 %	65.7 - 130.
18-A016446	Lead	ug/g	1.108	508.0	544.0	93.2 %	65.7 - 130.

QC Summary for sample numbers: 18-A015818 to 18-A015864...

MATRIX SPIKE DUPLICATES

SAMPLE #	ANALYTE	UNITS	SAM + SPK	MSD VALUE	RPD	LIMITS
Spike	PCB-1260	ug/kg	0.30	0.31	3.3	23.
Spike	Phenol	ug/l	2.4	2.6	8.0	40.
Spike	Phenol	ug/kg	6.5	5.3	20.	32.
Spike	bis(2-Chloroethyl)ether	ug/l	4.6	5.3	14.	40.
Spike	2-Chlorophenol	ug/l	4.7	5.6	17.	40.
Spike	2-Chlorophenol	ug/kg	6.5	5.2	22.	33.
Spike	1,3-Dichlorobenzene	ug/l	4.8	5.3	9.9	40.
Spike	1,4-Dichlorobenzene	ug/l	5.1	5.8	13.	40.
Spike	1,4-Dichlorobenzene	ug/kg	6.4	4.9	27.	35.
Spike	1,2-Dichlorobenzene	ug/l	4.9	5.8	17.	40.
Spike	bis(2-Chloroisopropyl)eth	ug/l	4.6	5.2	12.	40.
Spike	N-Nitroso-di-n-propylamin	ug/l	5.2	5.3	1.9	40.
Spike	N-Nitroso-di-n-propylamin	ug/kg	6.2	5.7	8.4	28.
Spike	Hexachloroethane	ug/l	4.8	5.5	14.	40.
Spike	Nitrobenzene	ug/l	5.4	6.0	11.	40.
Spike	Isophorone	ug/l	3.8	4.1	7.6	40.
Spike	2-Nitrophenol	ug/l	5.1	6.0	16.	40.
Spike	bis(2-Chloroethoxy)methan	ug/l	5.0	5.4	7.7	40.
Spike	2,4-Dichlorophenol	ug/l	4.2	4.8	13.	40.
Spike	1,2,4-Trichlorobenzene	ug/l	4.9	5.4	9.7	40.
Spike	1,2,4-Trichlorobenzene	ug/kg	6.2	5.1	19.	36.
Spike	Naphthalene	ug/l	5.2	5.7	9.2	40.
Spike	Naphthalene	ug/l	5.27	5.87	11.	40.
Spike	Naphthalene	ug/Kg	7.32	6.10	18.	40.
Spike	Hexachlorobutadiene	ug/l	5.0	5.6	11.	40.
Spike	4-Chloro-3-methylphenol	ug/l	2.4	3.3	32.	40.
Spike	4-Chloro-3-methylphenol	ug/kg	5.4	7.1	27.	42.
Spike	2-Methylnaphthalene	ug/l	8.98	8.84	1.6	40.
Spike	2-Methylnaphthalene	ug/Kg	13.0	12.3	5.5	40.
Spike	2,4,6-Trichlorophenol	ug/l	3.5	4.3	21.	40.
Spike	2-Chloronaphthalene	ug/l	5.4	6.0	11.	40.
Spike	Dimethylphthalate	ug/l	3.7	3.9	5.3	40.
Spike	Dimethylphthalate	ug/l	3.37	3.37	0.00	40.
Spike	Dimethylphthalate	ug/kg	7.38	8.27	11.	40.
Spike	Acenaphthylene	ug/l	5.7	6.4	12.	40.
Spike	Acenaphthylene	ug/l	4.98	5.36	7.4	40.
Spike	Acenaphthylene	ug/Kg	6.43	6.60	2.6	40.
Spike	2,6-Dinitrotoluene	ug/l	5.7	6.2	8.4	40.
Spike	Acenaphthene	ug/l	5.6	6.0	6.9	40.
Spike	Acenaphthene	ug/kg	6.8	6.9	1.5	36.
Spike	Acenaphthene	ug/l	5.40	5.78	6.8	40.
Spike	Acenaphthene	ug/Kg	7.00	7.23	3.2	40.
Spike	2,4-Dinitrotoluene	ug/l	6.5	6.5	0.00	40.
Spike	2,4-Dinitrotoluene	ug/kg	7.2	7.8	8.0	30.
Spike	Diethylphthalate	ug/l	5.5	5.7	3.6	40.
Spike	Diethylphthalate	ug/l	4.61	4.59	0.43	40.
Spike	Diethylphthalate	ug/kg	7.11	7.95	11.	40.
Spike	4-Chlorophenyl-phenyl eth	ug/l	5.6	6.2	10.	40.
Spike	Fluorene	ug/l	5.5	6.0	8.7	40.

QC Summary for sample numbers: 18-A015818 to 18-A015864...

MATRIX SPIKE DUPLICATES continued....

SAMPLE #	ANALYTE	UNITS	SAM + SPK	MSD VALUE	RPD	LIMITS
Spike	Fluorene	ug/l	6.41	6.74	5.0	40.
Spike	Fluorene	ug/Kg	8.15	8.92	9.0	40.
Spike	4,6-Dinitro-2-methylpheno	ug/l	4.5	3.6	22.	40.
Spike	4-Bromophenyl-phenyl ethe	ug/l	5.9	6.7	13.	40.
Spike	Hexachlorobenzene	ug/l	6.4	6.4	0.00	40.
Spike	Pentachlorophenol	ug/kg	4.04	3.96	2.0	40.
Spike	Phenanthrene	ug/l	6.4	6.3	1.6	40.
Spike	Phenanthrene	ug/l	7.00	6.77	3.3	40.
Spike	Phenanthrene	ug/Kg	8.45	9.50	12.	40.
Spike	Anthracene	ug/l	5.8	5.7	1.7	40.
Spike	Anthracene	ug/l	5.24	5.22	0.38	40.
Spike	Anthracene	ug/Kg	6.67	7.48	11.	40.
Spike	Di-n-butylphthalate	ug/l	7.7	6.6	15.	40.
Spike	Di-n-butylphthalate	ug/l	6.35	5.44	15.	40.
Spike	Di-n-butylphthalate	ug/kg	7.09	7.81	9.7	40.
Spike	Fluoranthene	ug/l	7.5	6.5	14.	40.
Spike	Fluoranthene	ug/l	8.17	7.00	15.	40.
Spike	Fluoranthene	ug/Kg	8.59	9.45	9.5	40.
Spike	Pyrene	ug/l	7.6	6.7	13.	40.
Spike	Pyrene	ug/l	7.36	6.46	13.	40.
Spike	Pyrene	ug/Kg	7.89	8.51	7.6	40.
Spike	Butylbenzylphthalate	ug/l	7.7	6.3	20.	40.
Spike	Butylbenzylphthalate	ug/l	5.95	5.08	16.	40.
Spike	Butylbenzylphthalate	ug/Kg	6.86	7.53	9.3	40.
Spike	Benzo(a)anthracene	ug/l	7.2	6.0	18.	40.
Spike	Benzo(a)anthracene	ug/l	8.00	6.72	17.	40.
Spike	Benzo(a)anthracene	ug/Kg	8.56	9.58	11.	40.
Spike	Chrysene	ug/l	8.1	6.9	16.	40.
Spike	Chrysene	ug/l	6.29	5.52	13.	40.
Spike	Chrysene	ug/Kg	7.02	7.57	7.5	40.
Spike	bis(2-Ethylhexyl)phthalat	ug/l	8.4	6.9	20.	40.
Spike	bis(2-Ethylhexyl)phthalat	ug/l	5.99	4.98	18.	40.
Spike	bis(2-Ethylhexyl)phthalat	ug/kg	6.94	7.68	10.	40.
Spike	Di-n-octylphthalate	ug/l	8.7	7.3	18.	40.
Spike	Di-n-octylphthalate	ug/l	6.67	5.53	19.	40.
Spike	Di-n-octylphthalate	ug/kg	7.43	8.10	8.6	40.
Spike	Benzo(b)fluoranthene	ug/l	8.1	6.7	19.	40.
Spike	Benzo(b)fluoranthene	ug/l	9.72	8.14	18.	40.
Spike	Benzo(b)fluoranthene	ug/Kg	10.5	11.4	8.2	40.
Spike	Benzo(k)fluoranthene	ug/l	8.5	7.3	15.	40.
Spike	Benzo(k)fluoranthene	ug/l	8.62	7.28	17.	40.
Spike	Benzo(k)fluoranthene	ug/Kg	8.98	9.81	8.8	40.
Spike	Benzo(a)pyrene	ug/l	6.6	5.4	20.	40.
Spike	Benzo(a)pyrene	ug/l	6.93	5.79	18.	40.
Spike	Benzo(a)pyrene	ug/Kg	8.17	8.96	9.2	40.
Spike	Indeno(1,2,3-cd)pyrene	ug/l	7.3	6.4	13.	40.
Spike	Indeno(123-cd)pyrene	ug/l	8.12	7.00	15.	40.
Spike	Indeno(123-cd)pyrene	ug/Kg	10.1	11.0	8.5	40.
Spike	Dibenzo(ah)anthracene	ug/l	7.0	6.1	14.	40.

QC Summary for sample numbers: 18-A015818 to 18-A015864...

MATRIX SPIKE DUPLICATES continued....

SAMPLE #	ANALYTE	UNITS	SAM + SPK	MSD VALUE	RPD	LIMITS
Spike	Dibenzo(ah)anthracene	ug/l	8.22	6.99	16.	40.
Spike	Dibenzo(ah)anthracene	ug/Kg	9.81	10.8	9.6	40.
Spike	Benzo(g,h,i)perylene	ug/l	6.8	5.8	16.	40.
Spike	Benzo(ghi)perylene	ug/l	7.34	6.48	12.	40.
Spike	Benzo(ghi)perylene	ug/Kg	9.54	10.4	8.6	40.
Spike	Arsenic	ug/L	96.9	96.7	0.21	16.
Spike	Arsenic	ug/L	97.7	104.	6.2	16.
Spike	Cadmium	ug/L	96.9	95.6	1.4	25.
Spike	Lead	ug/L	96.8	96.5	0.31	25.
Spike	Lead	ug/L	101.	101.	0.00	25.

STANDARD REFERENCE MATERIALS

ANALYTE	UNITS	TRUE VALUE	MEASURED VAL	% REC	LIMITS
Total Suspended Solids	mg/l	100	98.	98.0 %	81.0 - 122.
Total Suspended Solids	mg/l	100	98.	98.0 %	81.0 - 122.
Total Suspended Solids	mg/l	100	100	100. %	81.0 - 122.
Total Suspended Solids	mg/l	100	100	100. %	81.0 - 122.
Mercury	mg/l	0.00250	0.00271	108. %	90.0 - 110.
Mercury	mg/l	0.00250	0.00276	110. %	90.0 - 110.
Mercury	ug/g	0.250	0.263	105. %	51.2 - 148.
Mercury	ug/g	0.250	0.264	106. %	51.2 - 148.
Benzene	ug/l	10.0	10.6	106. %	85.0 - 115.
Benzene	ug/kg	10.0	11.4	114. %	70.0 - 130.
Toluene	ug/l	10.0	11.3	113. %	70.0 - 130.
Toluene	ug/kg	10.0	11.4	114. %	70.0 - 130.
Ethyl Benzene	ug/l	10.0	10.3	103. %	85.0 - 115.
Ethyl Benzene	ug/kg	10.0	10.0	100. %	70.0 - 130.
m+p-Xylene	ug/kg	20.0	20.7	104. %	70.0 - 130.
o-Xylene	ug/kg	10.0	10.4	104. %	70.0 - 130.
Total Xylene	ug/l	30.0	31.9	106. %	70.0 - 130.
PCB-1016	ug/kg	0.40	0.36	90.0 %	70.0 - 130.
PCB-1016	ug/kg	0.40	0.35	87.5 %	70.0 - 130.
PCB-1260	ug/kg	0.40	0.42	105. %	43.3 - 175.
PCB-1260	ug/kg	0.40	0.41	102. %	43.3 - 175.
Chloromethane	ug/kg	10.0	9.4	94.0 %	70.0 - 130.
Chloromethane	ug/kg	10.0	10.0	100. %	70.0 - 130.
Chloromethane	ug/l	10.0	10.0	100. %	70.0 - 130.
Vinyl Chloride	ug/l	10.	10.	100. %	70.0 - 130.
Vinyl Chloride	ug/l	10.	10.	100. %	70.0 - 130.
Vinyl Chloride	ug/kg	10.0	7.3	73.0 %	70.0 - 130.
Vinyl Chloride	ug/kg	10.0	10.5	105. %	70.0 - 130.
Bromomethane	ug/kg	10.0	8.4	84.0 %	70.0 - 130.
Bromomethane	ug/kg	10.0	11.0	110. %	70.0 - 130.
Bromomethane	ug/l	10.0	11.0	110. %	70.0 - 130.
Chloroethane	ug/kg	10.0	8.8	88.0 %	70.0 - 130.
Chloroethane	ug/kg	10.0	8.7	87.0 %	70.0 - 130.
Chloroethane	ug/l	10.0	8.7	87.0 %	70.0 - 130.

QC Summary for sample numbers: 18-A015818 to 18-A015864...

STANDARD REFERENCE MATERIALS continued....

ANALYTE	UNITS	TRUE VALUE	MEASURED VAL	% REC	LIMITS
Trichlorofluoromethane	ug/l	10.0	12.6	126. %	70.0 - 130.
Trichlorofluoromethane	ug/kg	10.0	7.9	79.0 %	70.0 - 130.
Trichlorofluoromethane	ug/kg	10.0	12.6	126. %	70.0 - 130.
1,1-Dichloroethylene	ug/l	10.0	11.1	111. %	70.0 - 130.
1,1-Dichloroethylene	ug/kg	10.0	7.9	79.0 %	70.0 - 130.
1,1-Dichloroethylene	ug/kg	10.0	11.1	111. %	70.0 - 130.
Carbon Disulfide	ug/l	10.0	11.0	110. %	70.0 - 130.
Carbon Disulfide	ug/kg	10.0	7.9	79.0 %	70.0 - 130.
Carbon Disulfide	ug/kg	10.0	11.0	110. %	70.0 - 130.
Methyl Iodide	ug/l	10.0	11.3	113. %	70.0 - 130.
Methylene Chloride	ug/kg	10.0	9.4	94.0 %	70.0 - 130.
Methylene Chloride	ug/kg	10.0	11.1	111. %	70.0 - 130.
Methylene Chloride	ug/l	10.0	11.1	111. %	70.0 - 130.
Trans-1,2-Dichloroethene	ug/l	10.	10.	100. %	70.0 - 130.
Cis-1,2-Dichloroethene	ug/l	10.	10.	100. %	70.0 - 130.
Cis-1,2-Dichloroethene	ug/l	10.	9.8	98.0 %	70.0 - 130.
1,1-Dichloroethane	ug/l	10.0	10.7	107. %	70.0 - 130.
1,1-Dichloroethane	ug/kg	10.0	7.8	78.0 %	70.0 - 130.
1,1-Dichloroethane	ug/kg	10.0	10.7	107. %	70.0 - 130.
Vinyl Acetate	ug/kg	10.0	8.3	83.0 %	70.0 - 130.
Vinyl Acetate	ug/kg	10.0	9.8	98.0 %	70.0 - 130.
Vinyl Acetate	ug/l	10.0	9.8	98.0 %	70.0 - 130.
Acrylonitrile	ug/l	10.0	8.5	85.0 %	70.0 - 130.
2-Butanone (MEK)	ug/l	10.0	7.8	78.0 %	70.0 - 130.
Chloroform	ug/l	10.0	10.5	105. %	70.0 - 130.
Chloroform	ug/kg	10.0	8.4	84.0 %	70.0 - 130.
Chloroform	ug/kg	10.0	10.5	105. %	70.0 - 130.
1,1,1-Trichloroethane	ug/l	10.0	10.7	107. %	70.0 - 130.
1,1,1-Trichloroethane	ug/kg	10.0	8.2	82.0 %	70.0 - 130.
1,1,1-Trichloroethane	ug/kg	10.0	10.7	107. %	70.0 - 130.
Carbon Tetrachloride	ug/l	10.0	11.6	116. %	70.0 - 130.
Carbon Tetrachloride	ug/kg	10.0	8.6	86.0 %	70.0 - 130.
Carbon Tetrachloride	ug/kg	10.0	11.6	116. %	70.0 - 130.
Benzene	ug/l	10.0	10.6	106. %	70.0 - 130.
Benzene	ug/kg	10.0	10.2	102. %	70.0 - 130.
Benzene	ug/kg	10.0	10.6	106. %	70.0 - 130.
1,2-Dichloroethane	ug/l	10.0	9.0	90.0 %	70.0 - 130.
1,2-Dichloroethane	ug/kg	10.0	9.4	94.0 %	70.0 - 130.
1,2-Dichloroethane	ug/kg	10.0	9.0	90.0 %	70.0 - 130.
Trichloroethylene	ug/kg	10.0	9.1	91.0 %	70.0 - 130.
Trichloroethylene	ug/kg	10.0	10.6	106. %	70.0 - 130.
Trichloroethylene	ug/l	10.0	10.6	106. %	70.0 - 130.
Bromodichloromethane	ug/l	10.0	9.6	96.0 %	70.0 - 130.
Bromodichloromethane	ug/kg	10.0	9.7	97.0 %	70.0 - 130.

QC Summary for sample numbers: 18-A015818 to 18-A015864...

STANDARD REFERENCE MATERIALS continued....

ANALYTE	UNITS	TRUE VALUE	MEASURED VAL	% REC	LIMITS
Bromodichloromethane	ug/kg	10.0	9.6	96.0 %	70.0 - 130.
Bromochloromethane	ug/l	10.	10.	100. %	70.0 - 130.
1,2-Dibromoethane (EDB)	ug/l	10.	9.6	96.0 %	70.0 - 130.
Dibromomethane	ug/l	10.	9.8	98.0 %	70.0 - 130.
1,2-Dichloropropane	ug/l	10.0	9.8	98.0 %	70.0 - 130.
1,2-Dichloropropane	ug/kg	10.0	9.5	95.0 %	70.0 - 130.
1,2-Dichloropropane	ug/kg	10.0	9.8	98.0 %	70.0 - 130.
4-Methyl-2-Pentanone MIBK	ug/l	10.0	7.4	74.0 %	70.0 - 130.
Toluene	ug/l	10.0	11.3	113. %	70.0 - 130.
Toluene	ug/kg	10.0	19.0	190. %	70.0 - 130.
Toluene	ug/kg	10.0	11.3	113. %	70.0 - 130.
Cis-1,3-Dichloropropene	ug/l	10.0	11.0	110. %	70.0 - 130.
Cis-1,3-Dichloropropene	ug/kg	10.0	10.7	107. %	70.0 - 130.
Cis-1,3-Dichloropropene	ug/kg	10.0	11.0	110. %	70.0 - 130.
1,1,2-Trichloroethane	ug/l	10.0	9.7	97.0 %	70.0 - 130.
1,1,2-Trichloroethane	ug/kg	10.0	7.0	70.0 %	70.0 - 130.
1,1,2-Trichloroethane	ug/kg	10.0	9.7	97.0 %	70.0 - 130.
Tetrachloroethylene	ug/l	10.0	10.7	107. %	70.0 - 130.
Tetrachloroethylene	ug/kg	10.0	7.6	76.0 %	70.0 - 130.
Tetrachloroethylene	ug/kg	10.0	10.7	107. %	70.0 - 130.
2-Hexanone	ug/l	10.0	7.2	72.0 %	70.0 - 130.
Chlorodibromomethane	ug/l	10.0	10.3	103. %	70.0 - 130.
Chlorodibromomethane	ug/kg	10.0	7.4	74.0 %	70.0 - 130.
Chlorodibromomethane	ug/kg	10.0	10.3	103. %	70.0 - 130.
1,2-Dibromoethane	ug/kg	10.0	9.6	96.0 %	70.0 - 130.
Chlorobenzene	ug/l	10.0	10.2	102. %	70.0 - 130.
Chlorobenzene	ug/kg	10.0	8.0	80.0 %	70.0 - 130.
Chlorobenzene	ug/kg	10.0	10.2	102. %	70.0 - 130.
Ethyl Benzene	ug/l	10.0	10.3	103. %	70.0 - 130.
Ethyl Benzene	ug/kg	10.0	8.2	82.0 %	70.0 - 130.
Ethyl Benzene	ug/kg	10.0	10.3	103. %	70.0 - 130.
Total Xylenes	ug/kg	30.0	23.9	79.7 %	70.0 - 130.
Total Xylenes	ug/kg	30.0	32.0	107. %	70.0 - 130.
m,p Xylene	ug/l	20.0	21.0	105. %	70.0 - 130.
o-Xylene	ug/l	10.0	10.9	109. %	70.0 - 130.
Styrene	ug/l	10.0	10.3	103. %	70.0 - 130.
Styrene	ug/kg	10.0	9.4	94.0 %	70.0 - 130.
Styrene	ug/kg	10.0	10.3	103. %	70.0 - 130.
Bromoform	ug/l	10.	10.	100. %	70.0 - 130.
Bromoform	ug/kg	10.0	7.4	74.0 %	70.0 - 130.
Bromoform	ug/kg	10.0	10.1	101. %	70.0 - 130.
1,1,2,2-Tetrachloroethane	ug/l	10.	9.1	91.0 %	70.0 - 130.
1,1,2,2-Tetrachloroethane	ug/kg	10.0	7.1	71.0 %	70.0 - 130.
1,1,2,2-Tetrachloroethane	ug/kg	10.0	9.1	91.0 %	70.0 - 130.

QC Summary for sample numbers: 18-A015818 to 18-A015864...

STANDARD REFERENCE MATERIALS continued....

ANALYTE	UNITS	TRUE VALUE	MEASURED VAL	% REC	LIMITS
1,1,1,2-Tetrachloroethane	ug/l	10.	12.	120. %	70.0 - 130.
Trans-1,3-Dichloropropene	ug/l	10.	11.	110. %	70.0 - 130.
Trans-1,3-Dichloropropene	ug/kg	10.0	8.2	82.0 %	70.0 - 130.
Trans-1,3-Dichloropropene	ug/kg	10.0	8.7	87.0 %	70.0 - 130.
1,4-Dichlorobenzene	ug/kg	10.0	7.3	73.0 %	70.0 - 130.
1,4-Dichlorobenzene	ug/kg	10.0	10.6	106. %	70.0 - 130.
1,3-Dichlorobenzene	ug/l	10.	11.	110. %	70.0 - 130.
1,4-Dichlorobenzene	ug/l	10.0	10.6	106. %	70.0 - 130.
1,2-Dichlorobenzene	ug/l	10.0	10.4	104. %	70.0 - 130.
1,2-Dibromo3Chloropropane	ug/l	10.	7.7	77.0 %	70.0 - 130.
trans-1,4-Dichloro2butene	ug/l	10.	8.7	87.0 %	70.0 - 130.
1,2,3-Trichloropropane	ug/l	10.	8.4	84.0 %	70.0 - 130.
Gasoline in Water	ug/l	350.	377.	108. %	70.0 - 130.
Gasoline in Water	ug/l	213.	220.	103. %	70.0 - 130.
Gasoline in Soil	ug/kg	350.	377.	108. %	70.0 - 130.
Gasoline in Soil	ug/kg	213.	220.	103. %	70.0 - 130.
Diesel	ug/l	400	380	95.0 %	85.0 - 115.
Diesel	ug/l	400	380	95.0 %	85.0 - 115.
Diesel	mg/kg	400	440	110. %	85.0 - 115.
Diesel	mg/kg	400	350	87.5 %	85.0 - 115.
Diesel	mg/kg	400	400	100. %	85.0 - 115.
Diesel	mg/kg	400	400	100. %	85.0 - 115.
Diesel	mg/kg	400	400	100. %	85.0 - 115.
Diesel	mg/kg	400	390	97.5 %	85.0 - 115.
Diesel	mg/kg	400	390	97.5 %	85.0 - 115.
Diesel	mg/kg	400	400	100. %	85.0 - 115.
Heavy Oil	ug/l	400	350	87.5 %	85.0 - 115.
Heavy Oil	ug/l	400	350	87.5 %	85.0 - 115.
Heavy Oil	mg/kg	400	440	110. %	85.0 - 115.
Heavy Oil	mg/kg	400	360	90.0 %	85.0 - 115.
Heavy Oil	mg/kg	400	390	97.5 %	85.0 - 115.
Heavy Oil	mg/kg	400	440	110. %	85.0 - 115.
Heavy Oil	mg/kg	400	440	110. %	85.0 - 115.
Heavy Oil	mg/kg	400	460	115. %	85.0 - 115.
Heavy Oil	mg/kg	400	460	115. %	85.0 - 115.
Heavy Oil	mg/kg	400	430	108. %	85.0 - 115.
N-Nitrosodimethylamine	ug/l	15.0	17.4	116. %	70.0 - 130.
N-Nitrosodimethylamine	ug/kg	15.0	15.2	101. %	70.0 - 130.
Aniline	ug/l	15.0	15.2	101. %	70.0 - 130.
Aniline	ug/kg	15.0	15.6	104. %	70.0 - 130.
Phenol	ug/l	15.0	15.0	100. %	70.0 - 130.
Phenol	ug/kg	15.0	14.9	99.3 %	70.0 - 130.
bis(2-Chloroethyl)ether	ug/l	15.0	14.1	94.0 %	70.0 - 130.
bis(2-Chloroethyl)ether	ug/kg	15.0	13.9	92.7 %	70.0 - 130.

QC Summary for sample numbers: 18-A015818 to 18-A015864...

STANDARD REFERENCE MATERIALS continued....

ANALYTE	UNITS	TRUE VALUE	MEASURED VAL	% REC	LIMITS
2-Chlorophenol	ug/l	15.0	14.8	98.7 %	70.0 - 130.
2-Chlorophenol	ug/kg	15.0	14.7	98.0 %	70.0 - 130.
1,3-Dichlorobenzene	ug/l	15.0	14.8	98.7 %	70.0 - 130.
1,3-Dichlorobenzene	ug/kg	15.0	14.6	97.3 %	70.0 - 130.
1,4-Dichlorobenzene	ug/l	15.0	14.6	97.3 %	70.0 - 130.
1,4-Dichlorobenzene	ug/kg	15.0	14.6	97.3 %	70.0 - 130.
Benzyl Alcohol	ug/l	15.0	15.1	101. %	70.0 - 130.
Benzyl Alcohol	ug/kg	15.0	14.5	96.7 %	70.0 - 130.
1,2-Dichlorobenzene	ug/l	15.0	14.7	98.0 %	70.0 - 130.
1,2-Dichlorobenzene	ug/kg	15.0	14.6	97.3 %	70.0 - 130.
2-Methylphenol	ug/l	15.0	14.5	96.7 %	70.0 - 130.
2-Methylphenol	ug/kg	15.0	14.5	96.7 %	70.0 - 130.
bis(2-Chloroisopropyl)eth	ug/l	15.0	14.6	97.3 %	70.0 - 130.
bis(2-Chloroisopropyl)eth	ug/kg	15.0	14.4	96.0 %	70.0 - 130.
4-Methylphenol (P.Cresol)	ug/l	15.0	15.5	103. %	70.0 - 130.
4-Methylphenol (cresol)	ug/kg	15.0	15.5	103. %	70.0 - 130.
N-Nitroso-di-n-propylamin	ug/l	15.0	14.9	99.3 %	70.0 - 130.
N-Nitroso-di-n-propylamin	ug/kg	15.0	14.6	97.3 %	70.0 - 130.
Hexachloroethane	ug/l	15.0	14.6	97.3 %	70.0 - 130.
Hexachloroethane	ug/kg	15.0	14.6	97.3 %	70.0 - 130.
Nitrobenzene	ug/l	15.0	14.8	98.7 %	70.0 - 130.
Nitrobenzene	ug/kg	15.0	14.8	98.7 %	70.0 - 130.
Isophorone	ug/l	15.0	14.6	97.3 %	70.0 - 130.
Isophorone	ug/kg	15.0	14.4	96.0 %	70.0 - 130.
2-Nitrophenol	ug/l	15.0	15.4	103. %	70.0 - 130.
2-Nitrophenol	ug/kg	15.0	15.0	100. %	70.0 - 130.
2,4-Dimethylphenol	ug/l	15.0	15.0	100. %	70.0 - 130.
2,4-Dimethylphenol	ug/kg	15.0	14.3	95.3 %	70.0 - 130.
Benzoic Acid	ug/l	15.0	17.9	119. %	70.0 - 130.
Benzoic Acid	ug/kg	15.0	16.2	108. %	70.0 - 130.
bis(2-Chloroethoxy)methan	ug/l	15.0	14.6	97.3 %	70.0 - 130.
bis(2-Chloroethoxy)methan	ug/kg	15.0	14.6	97.3 %	70.0 - 130.
2,4-Dichlorophenol	ug/l	15.0	14.8	98.7 %	70.0 - 130.
2,4-Dichlorophenol	ug/kg	15.0	14.4	96.0 %	70.0 - 130.
1,2,4-Trichlorobenzene	ug/l	15.0	14.6	97.3 %	70.0 - 130.
1,2,4-Trichlorobenzene	ug/kg	15.0	14.9	99.3 %	70.0 - 130.
Naphthalene	ug/l	15.0	14.8	98.7 %	70.0 - 130.
Naphthalene	ug/kg	15.0	14.9	99.3 %	70.0 - 130.
Naphthalene	ug/l	5.00	5.11	102. %	70.0 - 130.
Naphthalene	ug/Kg	5.00	4.94	98.8 %	70.0 - 130.
4-Chloroaniline	ug/l	15.0	14.8	98.7 %	70.0 - 130.
4-Chloroaniline	ug/kg	15.0	15.2	101. %	70.0 - 130.
Hexachlorobutadiene	ug/l	15.0	14.6	97.3 %	70.0 - 130.
Hexachlorobutadiene	ug/kg	15.0	14.8	98.7 %	70.0 - 130.

QC Summary for sample numbers: 18-A015818 to 18-A015864...

STANDARD REFERENCE MATERIALS continued....

ANALYTE	UNITS	TRUE VALUE	MEASURED VAL	% REC	LIMITS
4-Chloro-3-methylphenol	ug/l	15.0	15.4	103. %	70.0 - 130.
4-Chloro-3-methylphenol	ug/kg	15.0	14.8	98.7 %	70.0 - 130.
2-Methylnaphthalene	ug/l	15.0	14.5	96.7 %	70.0 - 130.
2-Methylnaphthalene	ug/kg	15.0	14.5	96.7 %	70.0 - 130.
2-Methylnaphthalene	ug/l	5.00	5.90	118. %	70.0 - 130.
2-Methylnaphthalene	ug/Kg	5.00	5.75	115. %	21.6 - 178.
Hexachlorocyclopentadiene	ug/l	15.0	15.3	102. %	70.0 - 130.
Hexachlorocyclopentadiene	ug/kg	15.0	15.2	101. %	70.0 - 130.
2,4,6-Trichlorophenol	ug/l	15.0	14.5	96.7 %	70.0 - 130.
2,4,6-Trichlorophenol	ug/kg	15.0	15.1	101. %	70.0 - 130.
2,4,5-Trichlorophenol	ug/l	15.0	14.5	96.7 %	70.0 - 130.
2,4,5-Trichlorophenol	ug/kg	15.0	14.8	98.7 %	70.0 - 130.
2-Chloronaphthalene	ug/l	15.0	14.5	96.7 %	70.0 - 130.
2-Chloronaphthalene	ug/kg	15.0	15.0	100. %	70.0 - 130.
2-Nitroaniline	ug/l	15.0	15.0	100. %	70.0 - 130.
2-Nitroaniline	ug/kg	15.0	15.3	102. %	70.0 - 130.
Dimethylphthalate	ug/l	15.0	14.3	95.3 %	70.0 - 130.
Dimethylphthalate	ug/kg	15.0	14.4	96.0 %	70.0 - 130.
Dimethylphthalate	ug/l	5.00	5.29	106. %	70.0 - 130.
Dimethylphthalate	ug/kg	5.00	5.32	106. %	70.0 - 130.
Acenaphthylene	ug/l	15.0	14.7	98.0 %	70.0 - 130.
Acenaphthylene	ug/kg	15.0	14.9	99.3 %	70.0 - 130.
Acenaphthylene	ug/l	5.00	5.06	101. %	70.0 - 130.
Acenaphthylene	ug/Kg	5.00	4.87	97.4 %	70.0 - 130.
2,6-Dinitrotoluene	ug/l	15.0	14.8	98.7 %	70.0 - 130.
2,6-Dinitrotoluene	ug/kg	15.0	14.8	98.7 %	70.0 - 130.
3-Nitroaniline	ug/l	15.0	14.7	98.0 %	70.0 - 130.
3-Nitroaniline	ug/kg	15.0	14.5	96.7 %	70.0 - 130.
Acenaphthene	ug/l	15.0	14.7	98.0 %	70.0 - 130.
Acenaphthene	ug/kg	15.0	14.9	99.3 %	70.0 - 130.
Acenaphthene	ug/l	5.00	4.73	94.6 %	70.0 - 130.
Acenaphthene	ug/Kg	5.00	4.58	91.6 %	70.0 - 130.
2,4-Dinitrophenol	ug/l	15.0	14.5	96.7 %	70.0 - 130.
2,4-Dinitrophenol	ug/kg	15.0	14.3	95.3 %	70.0 - 130.
4-Nitrophenol	ug/l	15.0	14.7	98.0 %	70.0 - 130.
4-Nitrophenol	ug/kg	15.0	15.4	103. %	70.0 - 130.
Dibenzofuran	ug/l	15.0	14.6	97.3 %	70.0 - 130.
Dibenzofuran	ug/kg	15.0	14.8	98.7 %	70.0 - 130.
2,4-Dinitrotoluene	ug/l	15.0	14.3	95.3 %	70.0 - 130.
2,4-Dinitrotoluene	ug/kg	15.0	14.9	99.3 %	70.0 - 130.
Diethylphthalate	ug/l	15.0	14.4	96.0 %	70.0 - 130.
Diethylphthalate	ug/kg	15.0	14.8	98.7 %	70.0 - 130.
Diethylphthalate	ug/l	5.00	4.91	98.2 %	70.0 - 130.
Diethylphthalate	ug/kg	5.00	5.08	102. %	70.0 - 130.

QC Summary for sample numbers: 18-A015818 to 18-A015864...

STANDARD REFERENCE MATERIALS continued....

ANALYTE	UNITS	TRUE VALUE	MEASURED VAL	% REC	LIMITS
4-Chlorophenyl-phenyl eth	ug/l	15.0	14.4	96.0 %	70.0 - 130.
4-Chlorophenyl-phenyl eth	ug/kg	15.0	14.5	96.7 %	70.0 - 130.
Fluorene	ug/l	15.0	14.2	94.7 %	70.0 - 130.
Fluorene	ug/kg	15.0	14.6	97.3 %	70.0 - 130.
Fluorene	ug/l	5.00	4.95	99.0 %	70.0 - 130.
Fluorene	ug/Kg	5.00	4.99	99.8 %	70.0 - 130.
4-Nitroaniline	ug/l	15.0	15.5	103. %	70.0 - 130.
4-Nitroaniline	ug/kg	15.0	14.5	96.7 %	70.0 - 130.
4,6-Dinitro-2-methylpheno	ug/l	15.0	15.7	105. %	70.0 - 130.
4,6-Dinitro-2-methylpheno	ug/kg	15.0	15.2	101. %	70.0 - 130.
N-nitrosodiphenylamine	ug/l	15.0	14.8	98.7 %	70.0 - 130.
N-nitrosodiphenylamine	ug/kg	15.0	14.9	99.3 %	70.0 - 130.
Azobenzene	ug/l	15.0	14.4	96.0 %	70.0 - 130.
Azobenzene	ug/kg	15.0	14.2	94.7 %	70.0 - 130.
4-Bromophenyl-phenyl ethe	ug/l	15.0	14.8	98.7 %	70.0 - 130.
4-Bromophenyl-phenyl ethe	ug/kg	15.0	14.7	98.0 %	70.0 - 130.
Hexachlorobenzene	ug/l	15.0	14.8	98.7 %	70.0 - 130.
Hexachlorobenzene	ug/kg	15.0	14.8	98.7 %	70.0 - 130.
Pentachlorophenol	ug/l	15.0	16.9	113. %	70.0 - 130.
Pentachlorophenol	ug/kg	15.0	16.5	110. %	70.0 - 130.
Pentachlorophenol	ug/l	5.00	5.71	114. %	70.0 - 130.
Pentachlorophenol	ug/kg	5.00	5.13	103. %	0.0 - 208.
Phenanthrene	ug/l	15.0	14.8	98.7 %	70.0 - 130.
Phenanthrene	ug/kg	15.0	14.7	98.0 %	70.0 - 130.
Phenanthrene	ug/l	5.00	5.16	103. %	70.0 - 130.
Phenanthrene	ug/Kg	5.00	4.97	99.4 %	70.0 - 130.
Anthracene	ug/l	15.0	14.7	98.0 %	70.0 - 130.
Anthracene	ug/kg	15.0	14.7	98.0 %	70.0 - 130.
Anthracene	ug/l	5.00	4.78	95.6 %	70.0 - 130.
Anthracene	ug/Kg	5.00	4.61	92.2 %	70.0 - 130.
Carbazole	ug/l	15.0	14.8	98.7 %	70.0 - 130.
Carbazole	ug/kg	15.0	14.6	97.3 %	70.0 - 130.
Di-n-butylphthalate	ug/l	15.0	15.0	100. %	70.0 - 130.
Di-n-butylphthalate	ug/kg	15.0	14.3	95.3 %	70.0 - 130.
Di-n-butylphthalate	ug/l	5.00	4.88	97.6 %	70.0 - 130.
Di-n-butylphthalate	ug/kg	5.00	4.98	99.6 %	70.0 - 130.
Fluoranthene	ug/l	15.0	14.9	99.3 %	70.0 - 130.
Fluoranthene	ug/kg	15.0	14.6	97.3 %	70.0 - 130.
Fluoranthene	ug/l	5.00	4.95	99.0 %	70.0 - 130.
Fluoranthene	ug/Kg	5.00	5.07	101. %	70.0 - 130.
Benzidine	ug/l	15.0	15.4	103. %	70.0 - 130.
Pyrene	ug/l	15.0	14.9	99.3 %	70.0 - 130.
Pyrene	ug/kg	15.0	15.4	103. %	70.0 - 130.
Pyrene	ug/l	5.00	5.11	102. %	70.0 - 130.

QC Summary for sample numbers: 18-A015818 to 18-A015864...

STANDARD REFERENCE MATERIALS continued....

ANALYTE	UNITS	TRUE VALUE	MEASURED VAL	% REC	LIMITS
Pyrene	ug/Kg	5.00	4.58	91.6 %	70.0 - 130.
Butylbenzylphthalate	ug/l	15.0	14.8	98.7 %	70.0 - 130.
Butylbenzylphthalate	ug/kg	15.0	15.2	101. %	70.0 - 130.
Butylbenzylphthalate	ug/l	5.00	4.95	99.0 %	70.0 - 130.
Butylbenzylphthalate	ug/Kg	5.00	4.71	94.2 %	70.0 - 130.
3,3-Dichlorobenzidine	ug/l	15.0	15.4	103. %	70.0 - 130.
3,3-Dichlorobenzidine	ug/kg	15.0	15.5	103. %	70.0 - 130.
Benzo(a)anthracene	ug/l	15.0	14.9	99.3 %	70.0 - 130.
Benzo(a)anthracene	ug/kg	15.0	15.2	101. %	70.0 - 130.
Benzo(a)anthracene	ug/l	5.00	4.92	98.4 %	70.0 - 130.
Benzo(a)anthracene	ug/Kg	5.00	4.77	95.4 %	70.0 - 130.
Chrysene	ug/l	15.0	14.6	97.3 %	70.0 - 130.
Chrysene	ug/kg	15.0	14.5	96.7 %	70.0 - 130.
Chrysene	ug/l	5.00	4.34	86.8 %	70.0 - 130.
Chrysene	ug/Kg	5.00	4.29	85.8 %	70.0 - 130.
bis(2-Ethylhexyl)phthalat	ug/l	15.0	14.8	98.7 %	70.0 - 130.
bis(2-Ethylhexyl)phthalat	ug/kg	15.0	15.1	101. %	70.0 - 130.
bis(2-Ethylhexyl)phthalat	ug/l	5.00	4.62	92.4 %	70.0 - 130.
bis(2-Ethylhexyl)phthalat	ug/kg	5.00	4.67	93.4 %	70.0 - 130.
Di-n-octylphthalate	ug/l	15.0	15.0	100. %	70.0 - 130.
Di-n-octylphthalate	ug/kg	15.0	17.3	115. %	70.0 - 130.
Di-n-octylphthalate	ug/l	5.00	4.84	96.8 %	70.0 - 130.
Di-n-octylphthalate	ug/kg	5.00	4.69	93.8 %	70.0 - 130.
Benzo(b)fluoranthene	ug/l	15.0	15.2	101. %	70.0 - 130.
Benzo(b)fluoranthene	ug/kg	15.0	15.7	105. %	70.0 - 130.
Benzo(b)fluoranthene	ug/l	5.00	5.36	107. %	70.0 - 130.
Benzo(b)fluoranthene	ug/Kg	5.00	5.23	105. %	70.0 - 130.
Benzo(k)fluoranthene	ug/l	15.0	15.1	101. %	70.0 - 130.
Benzo(k)fluoranthene	ug/kg	15.0	15.9	106. %	70.0 - 130.
Benzo(k)fluoranthene	ug/l	5.00	4.96	99.2 %	70.0 - 130.
Benzo(k)fluoranthene	ug/Kg	5.00	4.78	95.6 %	70.0 - 130.
Benzo(a)pyrene	ug/l	15.0	15.1	101. %	70.0 - 130.
Benzo(a)pyrene	ug/kg	15.0	15.1	101. %	70.0 - 130.
Benzo(a)pyrene	ug/l	5.00	4.93	98.6 %	70.0 - 130.
Benzo(a)pyrene	ug/Kg	5.00	4.88	97.6 %	70.0 - 130.
Indeno(1,2,3-cd)pyrene	ug/l	15.0	15.3	102. %	70.0 - 130.
Indeno(1,2,3-cd)pyrene	ug/kg	15.0	13.1	87.3 %	70.0 - 130.
Indeno(123-cd)pyrene	ug/l	5.00	5.05	101. %	70.0 - 130.
Indeno(123-cd)pyrene	ug/Kg	5.00	5.40	108. %	70.0 - 130.
Dibenzo(ah)anthracene	ug/l	15.0	15.0	100. %	70.0 - 130.
Dibenzo(a,h)anthracene	ug/kg	15.0	13.4	89.3 %	70.0 - 130.
Dibenzo(ah)anthracene	ug/l	5.00	5.07	101. %	70.0 - 130.
Dibenzo(ah)anthracene	ug/Kg	5.00	5.45	109. %	70.0 - 130.
Benzo(g,h,i)perylene	ug/l	15.0	15.0	100. %	70.0 - 130.

QC Summary for sample numbers: 18-A015818 to 18-A015864...

STANDARD REFERENCE MATERIALS continued....

ANALYTE	UNITS	TRUE VALUE	MEASURED VAL	% REC	LIMITS
Benzo(g,h,i)perylene	ug/kg	15.0	13.8	92.0 %	70.0 - 130.
Benzo(ghi)perylene	ug/l	5.00	4.87	97.4 %	70.0 - 130.
Benzo(ghi)perylene	ug/Kg	5.00	5.19	104. %	70.0 - 130.
1-Methylnaphthalene	ug/l	5.00	4.38	87.6 %	70.0 - 130.
1-Methylnaphthalene	ug/Kg	5.00	4.39	87.8 %	78.6 - 146.
Arsenic	ug/L	25.0	26.8	107. %	90.0 - 110.
Arsenic	ug/L	25.0	26.8	107. %	90.0 - 110.
Arsenic	ug/L	25.0	25.4	102. %	90.0 - 110.
Arsenic	ug/L	25.0	26.0	104. %	90.0 - 110.
Arsenic	ug/g	25.0	25.5	102. %	65.9 - 129.
Arsenic	ug/g	25.0	25.5	102. %	65.9 - 129.
Arsenic	ug/g	25.0	27.8	111. %	65.9 - 129.
Arsenic	ug/g	25.0	27.8	111. %	65.9 - 129.
Cadmium	ug/L	25.0	25.0	100. %	90.0 - 110.
Cadmium	ug/L	25.0	25.0	100. %	90.0 - 110.
Cadmium	ug/g	25.0	24.7	98.8 %	73.0 - 126.
Cadmium	ug/g	25.0	24.4	97.6 %	73.0 - 126.
Cadmium	ug/g	25.0	24.3	97.2 %	73.0 - 126.
Cadmium	ug/g	25.0	27.8	111. %	73.0 - 126.
Cadmium	ug/g	25.0	27.8	111. %	73.0 - 126.
Chromium	ug/L	25.0	23.3	93.2 %	90.0 - 110.
Chromium	ug/g	25.0	25.0	100. %	69.0 - 130.
Chromium	ug/g	25.0	24.6	98.4 %	69.0 - 130.
Chromium	ug/g	25.0	24.4	97.6 %	69.0 - 130.
Chromium	ug/g	25.0	27.8	111. %	69.0 - 130.
Chromium	ug/g	25.0	27.8	111. %	69.0 - 130.
Lead	ug/L	25.0	23.7	94.8 %	90.0 - 110.
Lead	ug/L	25.0	23.7	94.8 %	90.0 - 110.
Lead	ug/L	25.0	23.9	95.6 %	90.0 - 110.
Lead	ug/L	25.0	24.2	96.8 %	90.0 - 110.
Lead	ug/g	25.00	24.30	97.2 %	74.3 - 126.
Lead	ug/g	25.00	24.13	96.5 %	74.3 - 126.
Lead	ug/g	25.00	24.10	96.4 %	74.3 - 126.
Lead	ug/g	25.00	27.75	111. %	74.3 - 126.
Lead	ug/g	25.00	27.50	110. %	74.3 - 126.

BLANKS

ANALYTE	UNITS	RESULT
Total Suspended Solids	mg/l	< 1
Total Suspended Solids	mg/l	< 1
Total Suspended Solids	mg/l	< 1
Total Suspended Solids	mg/l	< 1
Mercury	mg/l	< 0.00005
Mercury	mg/l	< 0.00005

QC Summary for sample numbers: 18-A015818 to 18-A015864...

BLANKS continued....

ANALYTE	UNITS	RESULT
Mercury	ug/g	< 0.01
Mercury	ug/g	< 0.01
Benzene	ug/l	< 0.5
Benzene	ug/kg	< 1
Toluene	ug/l	0.77
Toluene	ug/kg	< 1
Ethyl Benzene	ug/l	< 0.5
Ethyl Benzene	ug/kg	< 1
m+p-Xylene	ug/kg	< 1
o-Xylene	ug/kg	< 1
Total Xylene	ug/l	< 1
PCB-1016	ug/kg	< 16.6
PCB-1221	ug/kg	< 16.6
PCB-1232	ug/kg	< 16.6
PCB-1242	ug/kg	< 16.6
PCB-1248	ug/kg	< 16.6
PCB-1254	ug/kg	< 16.6
PCB-1260	ug/kg	< 16.6
Tetrachloro-M-xylene	% Rec	90.6
Decachlorobiphenyl	% Rec	88.0
Chloromethane	ug/kg	< 5
Chloromethane	ug/kg	< 5
Chloromethane	ug/l	< 1
Vinyl Chloride	ug/l	< 1
Vinyl Chloride	ug/l	< 1
Vinyl Chloride	ug/kg	< 1
Vinyl Chloride	ug/kg	< 1
Bromomethane	ug/kg	< 5
Bromomethane	ug/kg	< 5
Bromomethane	ug/l	< 1
Chloroethane	ug/kg	< 5
Chloroethane	ug/kg	< 5
Chloroethane	ug/l	< 1
Trichlorofluoromethane	ug/l	< 1
Trichlorofluoromethane	ug/kg	< 1
Trichlorofluoromethane	ug/kg	< 1
1,1-Dichloroethylene	ug/l	< 1
1,1-Dichloroethylene	ug/kg	< 1
1,1-Dichloroethylene	ug/kg	< 1
Acetone	ug/kg	< 20
Acetone	ug/kg	< 20

QC Summary for sample numbers: 18-A015818 to 18-A015864...

BLANKS continued....

ANALYTE	UNITS	RESULT
Acetone	ug/l	< 5
Carbon Disulfide	ug/l	< 1
Carbon Disulfide	ug/kg	< 1
Carbon Disulfide	ug/kg	< 1
Methyl Iodide	ug/l	< 1
Methylene Chloride	ug/kg	< 1
Methylene Chloride	ug/kg	< 1
Methylene Chloride	ug/l	< 2
Trans-1,2-Dichloroethene	ug/l	< 1
Cis-1,2-Dichloroethene	ug/l	< 1
Cis-1,2-Dichloroethene	ug/l	< 1
1,1-Dichloroethane	ug/l	< 1
1,1-Dichlorethane	ug/kg	< 1
1,1-Dichlorethane	ug/kg	< 1
Vinyl Acetate	ug/kg	< 5
Vinyl Acetate	ug/kg	< 5
Vinyl Acetate	ug/l	< 5
Acrylonitrile	ug/l	< 1
2-Butanone (MEK)	ug/l	< 5
2-Butanone (MEK)	ug/kg	< 10
2-Butanone (MEK)	ug/kg	< 10
Chloroform	ug/l	< 1
Chloroform	ug/kg	< 1
Chloroform	ug/kg	< 1
1,1,1-Trichloroethane	ug/l	< 1
1,1,1-Trichloroethane	ug/kg	< 1
1,1,1-Trichloroethane	ug/kg	< 1
Carbon Tetrachloride	ug/l	< 1
Carbon Tetrachloride	ug/kg	< 1
Carbon Tetrachloride	ug/kg	< 1
Benzene	ug/l	< 1
Benzene	ug/kg	< 1
Benzene	ug/kg	< 1
1,2-Dichloroethane	ug/l	< 1
1,2-Dichloroethane	ug/kg	< 1
1,2-Dichloroethane	ug/kg	< 1
Trichloroethylene	ug/kg	< 1
Trichloroethylene	ug/kg	< 1
Trichloroethylene	ug/l	< 1
Bromodichloromethane	ug/l	< 1
Bromodichloromethane	ug/kg	< 1

QC Summary for sample numbers: 18-A015818 to 18-A015864...

BLANKS continued....

ANALYTE	UNITS	RESULT
Bromodichloromethane	ug/kg	< 1
Bromochloromethane	ug/l	< 1
1,2-Dibromoethane (EDB)	ug/l	< 1
Dibromomethane	ug/l	< 1
1,2-Dichloropropane	ug/l	< 1
1,2-Dichloropropane	ug/kg	< 1
1,2-Dichloropropane	ug/kg	< 1
4-Methyl-2-Pentanone MIBK	ug/l	< 5
4-Methyl-2-Pentanone	ug/kg	< 10
4-Methyl-2-Pentanone	ug/kg	< 10
Toluene	ug/l	< 1
Toluene	ug/kg	1.4
Toluene	ug/kg	< 1
Cis-1,3-Dichloropropene	ug/l	< 1
Cis-1,3-Dichloropropene	ug/kg	< 1
Cis-1,3-Dichloropropene	ug/kg	< 1
1,1,2-Trichloroethane	ug/l	< 1
1,1,2-Trichloroethane	ug/kg	< 1
1,1,2-Trichloroethane	ug/kg	< 1
Tetrachloroethylene	ug/l	< 1
Tetrachloroethylene	ug/kg	< 1
Tetrachloroethylene	ug/kg	< 1
2-Hexanone	ug/l	< 5
2-Hexanone	ug/kg	< 10
2-Hexanone	ug/kg	< 10
Chlorodibromomethane	ug/l	< 1
Chlorodibromomethane	ug/kg	< 1
Chlorodibromomethane	ug/kg	< 1
1,2-Dibromoethane	ug/kg	< 1
Chlorobenzene	ug/l	< 1
Chlorobenzene	ug/kg	< 1
Chlorobenzene	ug/kg	< 1
Ethyl Benzene	ug/l	< 1
Ethyl Benzene	ug/kg	< 1
Ethyl Benzene	ug/kg	< 1
Total Xylenes	ug/kg	< 1
Total Xylenes	ug/kg	< 1
m,p Xylene	ug/l	< 1
o-Xylene	ug/l	< 1
Styrene	ug/l	< 1
Styrene	ug/kg	< 1

QC Summary for sample numbers: 18-A015818 to 18-A015864...

BLANKS continued....

ANALYTE	UNITS	RESULT
Styrene	ug/kg	< 1
Bromoform	ug/l	< 1
Bromoform	ug/kg	< 1
Bromoform	ug/kg	< 1
1,1,2,2-Tetrachloroethane	ug/l	< 1
1,1,2,2-Tetrachloroethane	ug/kg	< 1
1,1,2,2-Tetrachloroethane	ug/kg	< 1
1,1,1,2-Tetrachloroethane	ug/l	< 1
Trans-1,3-Dichloropropene	ug/l	< 1
Trans-1,3-Dichloropropene	ug/kg	< 1
Trans-1,3-Dichloropropene	ug/kg	< 1
1,4-Dichlorobenzene	ug/kg	< 1
1,4-Dichlorobenzene	ug/kg	< 1
1,3-Dichlorobenzene	ug/l	< 1
1,4-Dichlorobenzene	ug/l	< 1
1,2-Dichlorobenzene	ug/l	< 1
1,2-Dibromo3Chloropropane	ug/l	< 5
trans-1,4-Dichloro2butene	ug/l	< 5
1,2,3-Trichloropropane	ug/l	< 1
D4-1,2,-Dichloroethane	%	96.2
D4-1,2,-Dichloroethane	%	95.0
D4-1,2,-Dichloroethane	%	96.2
D8-Toluene	%	102.
D8-Toluene (Soil)	%	108.
D8-Toluene (Soil)	%	102.
4-Bromofluorobenzene	%	111.
4-Bromofluorobenzene S	%	106.
4-Bromofluorobenzene S	%	111.
Gasoline in Water	ug/l	< 100
Gasoline in Soil	ug/kg	< 100
Bromofluorobenzene	%	111.
Bromofluorobenzene	%	74.3
Diesel	ug/l	< 50
Diesel	mg/kg	< 2
Diesel	mg/kg	< 2
Heavy Oil	ug/l	< 100
Heavy Oil	mg/kg	< 4
Heavy Oil	mg/kg	< 4
Bromofluorobenzene	%	69.1
Bromofluorobenzene	%	65.9
2-Fluorobiphenyl	%	71.0

QC Summary for sample numbers: 18-A015818 to 18-A015864...

BLANKS continued....

ANALYTE	UNITS	RESULT
2-Fluorobiphenyl	%	68.5
N-Nitrosodimethylamine	ug/l	< 2
N-Nitrosodimethylamine	ug/kg	< 5
Aniline	ug/l	< 2
Aniline	ug/kg	< 2
Phenol	ug/l	< 2
Phenol	ug/kg	< 2
bis(2-Chloroethyl)ether	ug/l	< 2
bis(2-Chloroethyl)ether	ug/kg	< 2
2-Chlorophenol	ug/l	< 2
2-Chlorophenol	ug/kg	< 2
1,3-Dichlorobenzene	ug/l	< 2
1,3-Dichlorobenzene	ug/kg	< 2
1,4-Dichlorobenzene	ug/l	< 2
1,4-Dichlorobenzene	ug/kg	< 2
Benzyl Alcohol	ug/l	< 2
Benzyl Alcohol	ug/kg	< 2
1,2-Dichlorobenzene	ug/l	< 2
1,2-Dichlorobenzene	ug/kg	< 2
2-Methylphenol	ug/l	< 2
2-Methylphenol	ug/kg	< 2
bis(2-Chloroisopropyl)eth	ug/l	< 2
bis(2-Chloroisopropyl)eth	ug/kg	< 2
4-Methylphenol (P.Cresol)	ug/l	< 2
4-Methylphenol (cresol)	ug/kg	< 2
N-Nitroso-di-n-propylamin	ug/l	< 2
N-Nitroso-di-n-propylamin	ug/kg	< 2
Hexachloroethane	ug/l	< 1
Hexachloroethane	ug/kg	< 2
Nitrobenzene	ug/l	< 2
Nitrobenzene	ug/kg	< 2
Isophorone	ug/l	< 2
Isophorone	ug/kg	< 2
2-Nitrophenol	ug/l	< 2
2-Nitrophenol	ug/kg	< 5
2,4-Dimethylphenol	ug/l	< 2
2,4-Dimethylphenol	ug/kg	< 2
Benzoic Acid	ug/l	< 2
Benzoic Acid	ug/kg	< 1
bis(2-Chloroethoxy)methan	ug/l	< 2
bis(2-Chloroethoxy)methan	ug/kg	< 2

QC Summary for sample numbers: 18-A015818 to 18-A015864...

BLANKS continued....

ANALYTE	UNITS	RESULT
2,4-Dichlorophenol	ug/l	< 2
2,4-Dichlorophenol	ug/kg	< 2
1,2,4-Trichlorobenzene	ug/l	< 2
1,2,4-Trichlorobenzene	ug/kg	< 2
Naphthalene	ug/l	< 2
Naphthalene	ug/kg	< 2
Naphthalene	ug/l	< 0.1
Naphthalene	ug/Kg	< 3.33
4-Chloroaniline	ug/l	< 2
4-Chloroaniline	ug/kg	< 2
Hexachlorobutadiene	ug/l	< 2
Hexachlorobutadiene	ug/kg	< 2
4-Chloro-3-methylphenol	ug/l	< 2
4-Chloro-3-methylphenol	ug/kg	< 2
2-Methylnaphthalene	ug/l	< 2
2-Methylnaphthalene	ug/kg	< 2
2-Methylnaphthalene	ug/l	< 0.1
2-Methylnaphthalene	ug/Kg	< 3.33
Hexachlorocyclopentadiene	ug/l	< 2
Hexachlorocyclopentadiene	ug/kg	< 5
2,4,6-Trichlorophenol	ug/l	< 2
2,4,6-Trichlorophenol	ug/kg	< 2
2,4,5-Trichlorophenol	ug/l	< 2
2,4,5-Trichlorophenol	ug/kg	< 2
2-Chloronaphthalene	ug/l	< 2
2-Chloronaphthalene	ug/kg	< 2
2-Nitroaniline	ug/l	< 2
2-Nitroaniline	ug/kg	< 5
Dimethylphthalate	ug/l	< 2
Dimethylphthalate	ug/kg	< 2
Dimethylphthalate	ug/l	< 0.1
Dimethylphthalate	ug/kg	< 3.33
Acenaphthylene	ug/l	< 2
Acenaphthylene	ug/kg	< 2
Acenaphthylene	ug/l	< 0.1
Acenaphthylene	ug/Kg	< 3.33
2,6-Dinitrotoluene	ug/l	< 2
2,6-Dinitrotoluene	ug/kg	< 5
3-Nitroaniline	ug/l	< 2
3-Nitroaniline	ug/kg	< 5
Acenaphthene	ug/l	< 2

QC Summary for sample numbers: 18-A015818 to 18-A015864...

BLANKS continued....

ANALYTE	UNITS	RESULT
Acenaphthene	ug/kg	< 2
Acenaphthene	ug/l	< 0.1
Acenaphthene	ug/Kg	< 3.33
2,4-Dinitrophenol	ug/l	< 2
2,4-Dinitrophenol	ug/kg	< 10
4-Nitrophenol	ug/l	< 2
4-Nitrophenol	ug/kg	< 10
Dibenzofuran	ug/l	< 2
Dibenzofuran	ug/kg	< 2
2,4-Dinitrotoluene	ug/l	< 2
2,4-Dinitrotoluene	ug/kg	< 5
Diethylphthalate	ug/l	< 2
Diethylphthalate	ug/kg	< 2
Diethylphthalate	ug/l	< 0.1
Diethylphthalate	ug/kg	< 3.33
4-Chlorophenyl-phenyl eth	ug/l	< 2
4-Chlorophenyl-phenyl eth	ug/kg	< 2
Fluorene	ug/l	< 2
Fluorene	ug/kg	< 2
Fluorene	ug/l	< 0.1
Fluorene	ug/Kg	< 3.33
4-Nitroaniline	ug/l	< 2
4-Nitroaniline	ug/kg	< 5
4,6-Dinitro-2-methylpheno	ug/l	< 2
4,6-Dinitro-2-methylpheno	ug/kg	< 5
N-nitrosodiphenylamine	ug/l	< 2
N-nitrosodiphenylamine	ug/kg	< 2
Azobenzene	ug/l	< 2
Azobenzene	ug/kg	< 2
4-Bromophenyl-phenyl ethe	ug/l	< 2
4-Bromophenyl-phenyl ethe	ug/kg	< 2
Hexachlorobenzene	ug/l	< 2
Hexachlorobenzene	ug/kg	< 2
Pentachlorophenol	ug/l	< 2
Pentachlorophenol	ug/kg	< 5
Pentachlorophenol	ug/l	< 0.5
Pentachlorophenol	ug/kg	< 16.7
Phenanthrene	ug/l	< 2
Phenanthrene	ug/kg	< 2
Phenanthrene	ug/l	< 0.1
Phenanthrene	ug/Kg	< 3.33

QC Summary for sample numbers: 18-A015818 to 18-A015864...

BLANKS continued....

ANALYTE	UNITS	RESULT
Anthracene	ug/l	< 2
Anthracene	ug/kg	< 2
Anthracene	ug/l	< 0.1
Anthracene	ug/Kg	< 3.33
Carbazole	ug/l	< 2
Carbazole	ug/kg	< 2
Di-n-butylphthalate	ug/l	< 2
Di-n-butylphthalate	ug/kg	< 2
Di-n-butylphthalate	ug/l	< 0.1
Di-n-butylphthalate	ug/kg	< 3.33
Fluoranthene	ug/l	< 2
Fluoranthene	ug/kg	< 2
Fluoranthene	ug/l	< 0.1
Fluoranthene	ug/Kg	< 3.33
Benzidine	ug/l	< 2
Benzidine	ug/kg	< 50
Pyrene	ug/l	< 2
Pyrene	ug/kg	< 2
Pyrene	ug/l	< 0.1
Pyrene	ug/Kg	< 3.33
Butylbenzylphthalate	ug/l	< 2
Butylbenzylphthalate	ug/kg	< 2
Butylbenzylphthalate	ug/l	< 0.1
Butylbenzylphthalate	ug/Kg	< 3.33
3,3-Dichlorobenzidine	ug/l	< 2
3,3-Dichlorobenzidine	ug/kg	< 3
Benzo(a)anthracene	ug/l	< 2
Benzo(a)anthracene	ug/kg	< 2
Benzo(a)anthracene	ug/l	< 0.1
Benzo(a)anthracene	ug/Kg	< 3.33
Chrysene	ug/l	< 2
Chrysene	ug/kg	< 2
Chrysene	ug/l	< 0.1
Chrysene	ug/Kg	< 3.33
bis(2-Ethylhexyl)phthalat	ug/l	< 2
bis(2-Ethylhexyl)phthalat	ug/kg	< 2
bis(2-Ethylhexyl)phthalat	ug/l	0.11
bis(2-Ethylhexyl)phthalat	ug/kg	< 3.33
Di-n-octylphthalate	ug/l	< 2
Di-n-octylphthalate	ug/kg	< 1
Di-n-octylphthalate	ug/l	< 0.1

QC Summary for sample numbers: 18-A015818 to 18-A015864...

BLANKS continued....

ANALYTE	UNITS	RESULT
Di-n-octylphthalate	ug/kg	< 3.33
Benzo(b)fluoranthene	ug/l	< 2
Benzo(b)fluoranthene	ug/kg	< 2
Benzo(b)fluoranthene	ug/l	< 0.1
Benzo(b)fluoranthene	ug/Kg	< 3.33
Benzo(k)fluoranthene	ug/l	< 2
Benzo(k)fluoranthene	ug/kg	< 2
Benzo(k)fluoranthene	ug/l	< 0.1
Benzo(k)fluoranthene	ug/Kg	< 3.33
Benzo(a)pyrene	ug/l	< 2
Benzo(a)pyrene	ug/kg	< 2
Benzo(a)pyrene	ug/l	< 0.1
Benzo(a)pyrene	ug/Kg	< 3.33
Indeno(1,2,3-cd)pyrene	ug/l	< 2
Indeno(1,2,3-cd)pyrene	ug/kg	< 2
Indeno(123-cd)pyrene	ug/l	< 0.1
Indeno(123-cd)pyrene	ug/Kg	< 3.33
Dibenzo(ah)anthracene	ug/l	< 2
Dibenzo(a,h)anthracene	ug/kg	< 2
Dibenzo(ah)anthracene	ug/l	< 0.1
Dibenzo(ah)anthracene	ug/Kg	< 3.33
Benzo(g,h,i)perylene	ug/l	< 2
Benzo(g,h,i)perylene	ug/kg	< 2
Benzo(ghi)perylene	ug/l	< 0.1
Benzo(ghi)perylene	ug/Kg	< 3.33
1-Methylnaphthalene	ug/l	< 0.1
1-Methylnaphthalene	ug/Kg	< 3.33
2-Fluorophenol	%	85.8
D6-Phenol	%	86.0
D5-Nitrobenzene	%	81.2
2-Fluorobiphenyl	%	80.8
2,4,6-Tribromophenol	%	26.0
D14-Terphenyl	%	114.
Arsenic	ug/L	< 0.05
Arsenic	ug/L	< 0.05
Arsenic	ug/L	< 0.05
Arsenic	ug/L	< 0.05
Arsenic	ug/g	< 0.00005
Arsenic	ug/g	< 0.00005
Arsenic	ug/g	< 0.00005
Arsenic	ug/g	< 0.00005

QC Summary for sample numbers: 18-A015818 to 18-A015864...

BLANKS continued....

ANALYTE	UNITS	RESULT
Arsenic	ug/g	< 0.00005
Cadmium	ug/L	< 0.05
Cadmium	ug/L	< 0.05
Cadmium	ug/g	< 0.00005
Cadmium	ug/g	< 0.00005
Cadmium	ug/g	< 0.00005
Cadmium	ug/g	< 0.00005
Cadmium	ug/g	< 0.00005
Chromium	ug/L	< 0.1
Chromium	ug/g	0.00012
Chromium	ug/g	< 0.0001
Chromium	ug/g	< 0.0001
Chromium	ug/g	< 0.0001
Chromium	ug/g	< 0.0001
Lead	ug/L	< 0.1
Lead	ug/L	< 0.1
Lead	ug/L	< 0.1
Lead	ug/L	< 0.1
Lead	ug/g	< 0.0001
Lead	ug/g	< 0.0001
Lead	ug/g	< 0.0001
Lead	ug/g	< 0.0001
Lead	ug/g	< 0.0001

Sample Custody Record

Samples Shipped to: Am Test



10f4

Hart Crowser, Inc.
3131 Elliott Avenue, Suite 600
Seattle, Washington 98121
Office: 206.324.9530 • Fax 206.328.5581

JOB <u>19282-10</u> LAB NUMBER _____						REQUESTED ANALYSIS												NO. OF CONTAINERS	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS	
PROJECT NAME <u>KLIA Large Aircraft Parking Site</u>						NWTPH-D	NWTPH-G	PCBs by 8082 A	SVOCs PAHs by 8210/82103 (M)	Total Metals As, Cd, Cr, Pb by 8010	Total Mercury by 7171B	VOCs by 8210 B	Lowlevel PCBs by 8082 A	TSS						
HART CROWSER CONTACT <u>Andrea Wong</u>																				
SAMPLED BY: <u>Keylin H.</u>																				
LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX															
15818	HC-19-S1		8/28/18	8:25	Soil	X												4	HOLD REST	
19	HC-19-S2			8:30														2	HOLD	
20	HC-19-S3			8:35		X	X	X	X	X	X							2		
21	HC-19-S4			8:40														2	HOLD	
22	HC-19-S5			8:45														2	HOLD	
23	HC-19-S6			8:50														2	HOLD	
24	HC-19-6W			8:50	Water	X	X		X	X	X	X	X	X				9		
25	HC-20-S1			9:40	Soil	X												2	HOLD REST	
26	HC-20-S2			9:45														4	HOLD	
27	HC-20-S3			9:50		X												2	HOLD REST	
28	HC-20-S4			9:55		X	X	X	X	X	X							2		
29	HC-20-S5			10:00														2	HOLD	

RELINQUISHED BY <u>A. Wong</u>	DATE 8/29/18	RECEIVED BY <u>A. Staab</u>	DATE 8/29/18	SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS: will send email with samples for analysis	TOTAL NUMBER OF CONTAINERS
SIGNATURE <u>Andrea Wong</u>	TIME 1:00	SIGNATURE <u>A. STAAB</u>	TIME 11:50		
PRINT NAME <u>Hart Crowser</u>		PRINT NAME <u>AMTEST</u>			
COMPANY		COMPANY			
RELINQUISHED BY	DATE	RECEIVED BY	DATE	COOLER NO.: _____ STORAGE LOCATION: _____	TURNAROUND TIME: <input type="checkbox"/> 24 HOURS <input type="checkbox"/> 1 WEEK <input type="checkbox"/> 48 HOURS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> 72 HOURS OTHER <u>P.115</u>
SIGNATURE	TIME	SIGNATURE	TIME		
PRINT NAME		PRINT NAME			
COMPANY		COMPANY			

Sample Custody Record

Samples Shipped to: Am Test



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Hart Crowser, Inc.
3131 Elliott Avenue, Suite 600
Seattle, Washington 98121
Office: 206.324.9530 • Fax 206.328.5581

JOB <u>19282-10</u> LAB NUMBER _____						REQUESTED ANALYSIS											NO. OF CONTAINERS	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS							
PROJECT NAME <u>KLIA Large Aircraft Parking</u>						NMTPH-Dx	NMTPH-Glx	PbS by 8202A	Svcs & PATEs by 8210 & 8210 SIM	Total Metals Ubs, Cal, up by 8210	Total Mercury by 8210	Vcs by 8200B	LowLevel PbEs	TSS											
LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX																				
	HART CROWSER CONTACT <u>Andrea Wong</u>																								
SAMPLED BY: <u>Keylin Huddleston</u>																									
15830	HC-20-SL		8/28/18	10:05	Soil																			2	HOLD
31	HC-15-S1			10:55																				2	HOLD
32	HC-15-S2			10:00		X	X			X	X													2	
33	HC-15-S3			11:05																				4	HOLD
34	HC-15-S4			11:10																				2	HOLD
35	HC-15-S5			11:15																				2	HOLD
36	HC-15-S6			11:20																				2	HOLD
37	HC-15-WW			11:25	Water	X	X		X	X	X	X	X	X										9	
38	HC-14-S1			12:10																				2	HOLD
39	HC-14-S2			12:15																				2	HOLD
40	HC-14-S3			12:20																				2	HOLD
41	HC-14-S4			12:25																				4	HOLD
RELINQUISHED BY		DATE	RECEIVED BY		DATE	SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS:											TOTAL NUMBER OF CONTAINERS								
SIGNATURE <u>Andrea Wong</u>		8/29/18	SIGNATURE <u>A. Staab</u>		8/29/18	will send email with samples for analysis											SAMPLE RECEIPT INFORMATION								
PRINT NAME <u>Andrea Wong</u>		TIME <u>11:50</u>	PRINT NAME <u>A. Staab</u>		TIME <u>11:50</u>												CUSTODY SEALS:								
COMPANY <u>Hart Crowser</u>			COMPANY <u>AMTEST</u>			<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A GOOD CONDITION <input type="checkbox"/> YES <input type="checkbox"/> NO TEMPERATURE _____ SHIPMENT METHOD: <input type="checkbox"/> HAND <input type="checkbox"/> COURIER <input type="checkbox"/> OVERNIGHT																			
RELINQUISHED BY		DATE	RECEIVED BY		DATE	COOLER NO.:					STORAGE LOCATION:						TURNAROUND TIME:								
SIGNATURE			SIGNATURE														<input type="checkbox"/> 24 HOURS <input type="checkbox"/> 1 WEEK <input type="checkbox"/> 48 HOURS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> 72 HOURS OTHER <u>P.116</u>								
PRINT NAME			PRINT NAME			See Lab Work Order No. _____																			
COMPANY			COMPANY			for Other Contract Requirements																			

Sample Custody Record

Samples Shipped to: AmTest



3 of 4

Hart Crowser, Inc.
3131 Elliott Avenue, Suite 600
Seattle, Washington 98121
Office: 206.324.9530 • Fax 206.328.5581

JOB <u>19282-10</u> LAB NUMBER _____						REQUESTED ANALYSIS												NO. OF CONTAINERS	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS									
PROJECT NAME <u>KCIA Large Aircraft Parking</u>						NWTPH-Dx	NWTPH-Gx	PCBs by 8052A	SVOCs by 8052A	ST of 827051M	Total Hydrocarbons (As, cat, cyc, PCB) by 7471	Total Mercury by 7471	VOCs by 8052A	Lowlevel PCBs	TSS													
HART CROWSER CONTACT <u>Andrea Wong</u>																												
SAMPLED BY: <u>Keylin Huddleston</u>																												
LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX																							
15842	HC-14-S5		8/28/18	12:30	Soil	X																					2	HOLD REST
43	HC-14-S6			12:35		X	X	X	X	X	X																2	
44	HC-11-S1			13:00		X	X	X	X	X	X																2	
45	HC-11-S2			13:05																							2	HOLD
46	HC-11-S3			13:10																							2	HOLD
47	HC-11-S4			13:15																							2	HOLD
48	HC-11-S5			13:20																							4	HOLD
49	HC-11-S6			13:25																							2	HOLD
50	HC-10-S1			13:50		X	X	X	X	X	X																2	
51	HC-10-S2			13:55		X																					2	HOLD REST
52	HC-10-S3			14:00		X																					2	HOLD REST
53	HC-10-S4			14:05		X																					2	HOLD REST
RELINQUISHED BY		DATE	RECEIVED BY		DATE	SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS:												TOTAL NUMBER OF CONTAINERS										
SIGNATURE <u>Andrea Wong</u>		8/29/18	SIGNATURE <u>A. Staab</u>		8/29/18	will send email with samples for analysis												SAMPLE RECEIPT INFORMATION										
PRINT NAME <u>Andrea Wong</u>		TIME <u>1150</u>	PRINT NAME <u>A. STAAB</u>		TIME <u>11:50</u>													CUSTODY SEALS:										
COMPANY <u>Hart Crowser</u>			COMPANY <u>AMTEST</u>															<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A GOOD CONDITION <input type="checkbox"/> YES <input type="checkbox"/> NO TEMPERATURE _____ SHIPMENT METHOD: <input type="checkbox"/> HAND <input type="checkbox"/> COURIER <input type="checkbox"/> OVERNIGHT										
RELINQUISHED BY		DATE	RECEIVED BY		DATE	COOLER NO.:				STORAGE LOCATION:				TURNAROUND TIME:														
SIGNATURE			SIGNATURE											<input type="checkbox"/> 24 HOURS <input type="checkbox"/> 1 WEEK <input type="checkbox"/> 48 HOURS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> 72 HOURS OTHER <u>P.117</u>														
PRINT NAME			PRINT NAME			See Lab Work Order No. _____																						
COMPANY			COMPANY			for Other Contract Requirements																						

Sample Custody Record

Samples Shipped to: AmTest



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Hart Crowser, Inc.
3131 Elliott Avenue, Suite 600
Seattle, Washington 98121
Office: 206.324.9530 • Fax 206.328.5581

JOB <u>19282-10</u> LAB NUMBER _____						REQUESTED ANALYSIS											NO. OF CONTAINERS	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS					
PROJECT NAME <u>KCIA Large Aircraft Parking</u>						NWTPH-DX	NWTPH-GX	PCBs by 802A	SVOCs by PATE by 82101 & 2105 PM	Total PCBs (As, Cr, Cu, Pb) by 8210	Total Mercury by 8210	VOCs by 8260 B	Low Level PCBs	TSS									
HART CROWSER CONTACT <u>Andrea Wong</u>																							
SAMPLED BY: <u>Keylin Huddleston</u>																							
LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX																		
5853	5853	HC-10-S5	8/28/18	14:10	Soil																	2	HOLD
5855	54	HC-10-S6		14:15	↓																	4	HOLD
56	55	HC-10-GW		14:15	Water	X	X		X	X	X	X	X	X								9	
57	56	HC-6-S1		14:50	Soil	X	X															4	HOLD REST
58	57	HC-6-S2		14:55		X	X		X	X	X											4	
59	58	HC-6-S3		15:00																		4	HOLD
60	59	HC-6-S4		15:05																		4	HOLD
61	60	HC-6-S5		15:10																		4	HOLD
62	61	HC-6-S6		15:15		X																4	HOLD REST
63	62	HC-6-GW		15:15	Water	X	X		X	X	X	X	X	X								9	
64	63	HC-20-GW	8/28/18	10:10	Water	X	X		X	X	X	X	X	X								9	
RELINQUISHED BY		DATE	RECEIVED BY		DATE	SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS:											TOTAL NUMBER OF CONTAINERS						
SIGNATURE <u>[Signature]</u>		8/29/18	SIGNATURE <u>[Signature]</u>		8/29/18	will send email with samples for analysis											SAMPLE RECEIPT INFORMATION						
PRINT NAME <u>Andrea Wong</u>		TIME <u>1:50</u>	PRINT NAME <u>A. STAAH</u>		TIME <u>11:50</u>												CUSTODY SEALS: <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A						
COMPANY <u>Hart Crowser</u>			COMPANY <u>AMTEST</u>			GOOD CONDITION <input type="checkbox"/> YES <input type="checkbox"/> NO																	
RELINQUISHED BY		DATE	RECEIVED BY		DATE	TEMPERATURE _____																	
SIGNATURE			SIGNATURE			SHIPMENT METHOD: <input type="checkbox"/> HAND <input type="checkbox"/> COURIER <input type="checkbox"/> OVERNIGHT																	
PRINT NAME			PRINT NAME			TURNAROUND TIME:																	
COMPANY			COMPANY			<input type="checkbox"/> 24 HOURS <input type="checkbox"/> 1 WEEK																	
						<input type="checkbox"/> 48 HOURS <input checked="" type="checkbox"/> STANDARD																	
						<input type="checkbox"/> 72 HOURS OTHER <u>P.118</u>																	
See Lab Work Order No. _____ for Other Contract Requirements																							



14 September 2018

Aaron Young
AmTest Laboratories
13600 NE 126th PI Suite C
Kirkland, WA 98034

RE: Hart Crowser

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)
18H0419

Associated SDG ID(s)
N/A


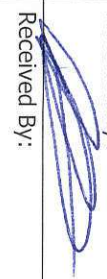
I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Client Name & Address: Amtest				Invoice To:			
Contact Person: Avron Young				Invoice Contact:			
Phone No:				PO Number: 18-422			
Fax No:				Invoice Ph/Fax:			
E-mail: garony@amtestlab.com				Invoice E-mail:			
Report Delivery: (Choose all that apply) Mail / Fax / <u>Email</u> / Posted Online				Data posted to online account: YES / NO			
Special Instructions:				Web Login ID:			
Requested FAT Standard (Rush must be pre-approved by lab) RUSH (5 Day / 3 Day / 48 HR / 24 HR)				Temperature upon Receipt:			
Project Name: HA14 - Crowder				Analysis Requested			
Project Number: ARIS# : 18H0419				QA/QC			
AmTest ID	Client ID (35 characters max)	Date Sampled	Time Sampled	Matrix	No. of containers		
	15824	8/28	8:50	W	1	X	
	15837		11:25	W	1	X	
	15856		14:20	W	1	X	
	15863		15:20	W	1	X	
	15864		10:05	W	1	X	
Collected/Relinquished By:	Date	Time	Received By:	Date	Time		
	8/30/18	14:30		8/30/18	14:50		
Relinquished By:	Date	Time	Received By:	Date	Time		
Relinquished By:	Date	Time	Received By:	Date	Time		

COMMENTS:



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
14-Sep-2018 12:43

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
15824	18H0419-01	Water	28-Aug-2018 08:50	30-Aug-2018 14:50
15837	18H0419-02	Water	28-Aug-2018 11:25	30-Aug-2018 14:50
15856	18H0419-03	Water	28-Aug-2018 14:20	30-Aug-2018 14:50
15863	18H0419-04	Water	28-Aug-2018 15:20	30-Aug-2018 14:50
15864	18H0419-05	Water	28-Aug-2018 10:05	30-Aug-2018 14:50



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
14-Sep-2018 12:43

Case Narrative

Sample receipt

Samples as listed on the preceding page were received August 30, 2018 under ARI work order 18H0419. For details regarding sample receipt, please refer to the Cooler Receipt Form.

PCB Aroclors - EPA Method SW8082A

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.



Cooler Receipt Form

ARI Client: Am TEST

Project Name: _____

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 18H0419

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? _____

YES NO

Were custody papers included with the cooler? _____

YES NO

Were custody papers properly filled out (ink, signed, etc.) _____

YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time: 1450

10.9°C

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 0005206

Cooler Accepted by: J.B

Date: 8/30/18

Time: 1450

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? _____

YES NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? _____

NA YES NO

Were all bottles sealed in individual plastic bags? _____

YES NO

Did all bottles arrive in good condition (unbroken)? _____

YES NO

Were all bottle labels complete and legible? _____

YES NO

Did the number of containers listed on COC match with the number of containers received? _____

YES NO

Did all bottle labels and tags agree with custody papers? _____

YES NO

Were all bottles used correct for the requested analyses? _____

YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...

NA YES NO

Were all VOC vials free of air bubbles? _____

NA YES NO

Was sufficient amount of sample sent in each bottle? _____

YES NO

Date VOC Trip Blank was made at ARI: _____

NA

Was Sample Split by ARI: NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: JOB Date: 8/30/18 Time: 1508

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____

<p>Small Air Bubbles ~2mm</p>	<p>Peabubbles 2-4 mm</p>	<p>LARGE Air Bubbles > 4 mm</p>	Small → "sm" (< 2 mm)
			Peabubbles → "pb" (2 to < 4 mm)
			Large → "lg" (4 to < 6 mm)
			Headspace → "hs" (> 6 mm)



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
14-Sep-2018 12:43

15824
18H0419-01 (Water)

Aroclor PCB

Method: EPA 8082A

Sampled: 08/28/2018 08:50

Instrument: ECD7

Analyzed: 13-Sep-2018 16:21

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BGI0008 Sample Size: 1000 mL
Prepared: 04-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CGI0094 Initial Volume: 0.5 mL
Cleaned: 13-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfuric Acid
Cleanup Batch: CGI0092 Initial Volume: 0.5 mL
Cleaned: 12-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfur
Cleanup Batch: CGI0093 Initial Volume: 0.5 mL
Cleaned: 12-Sep-2018 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
<i>Surrogate: Decachlorobiphenyl</i>					29-120 %	57.1	%
<i>Surrogate: Tetrachlorometaxylene</i>					32-120 %	52.5	%
<i>Surrogate: Decachlorobiphenyl [2C]</i>					29-120 %	51.8	%
<i>Surrogate: Tetrachlorometaxylene [2C]</i>					32-120 %	51.1	%



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
14-Sep-2018 12:43

15837

18H0419-02 (Water)

Aroclor PCB

Method: EPA 8082A

Sampled: 08/28/2018 11:25

Instrument: ECD7

Analyzed: 13-Sep-2018 16:43

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BGI0008 Sample Size: 1000 mL
Prepared: 04-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CGI0094 Initial Volume: 0.5 mL
Cleaned: 13-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfuric Acid
Cleanup Batch: CGI0092 Initial Volume: 0.5 mL
Cleaned: 12-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfur
Cleanup Batch: CGI0093 Initial Volume: 0.5 mL
Cleaned: 12-Sep-2018 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
<i>Surrogate: Decachlorobiphenyl</i>					29-120 %	56.4 %	
<i>Surrogate: Tetrachlorometaxylene</i>					32-120 %	49.8 %	
<i>Surrogate: Decachlorobiphenyl [2C]</i>					29-120 %	53.5 %	
<i>Surrogate: Tetrachlorometaxylene [2C]</i>					32-120 %	50.7 %	



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
14-Sep-2018 12:43

15856
18H0419-03 (Water)

Aroclor PCB

Method: EPA 8082A

Sampled: 08/28/2018 14:20

Instrument: ECD7

Analyzed: 13-Sep-2018 17:05

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BGI0008 Sample Size: 1000 mL
Prepared: 04-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CGI0094 Initial Volume: 0.5 mL
Cleaned: 13-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfuric Acid
Cleanup Batch: CGI0092 Initial Volume: 0.5 mL
Cleaned: 12-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfur
Cleanup Batch: CGI0093 Initial Volume: 0.5 mL
Cleaned: 12-Sep-2018 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
<i>Surrogate: Decachlorobiphenyl</i>					29-120 %	61.4 %	
<i>Surrogate: Tetrachlorometaxylene</i>					32-120 %	57.8 %	
<i>Surrogate: Decachlorobiphenyl [2C]</i>					29-120 %	58.7 %	
<i>Surrogate: Tetrachlorometaxylene [2C]</i>					32-120 %	54.0 %	



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
14-Sep-2018 12:43

15863

18H0419-04 (Water)

Aroclor PCB

Method: EPA 8082A

Sampled: 08/28/2018 15:20

Instrument: ECD7

Analyzed: 13-Sep-2018 17:28

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BGI0008 Sample Size: 1000 mL
Prepared: 04-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CGI0094 Initial Volume: 0.5 mL
Cleaned: 13-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfuric Acid
Cleanup Batch: CGI0092 Initial Volume: 0.5 mL
Cleaned: 12-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfur
Cleanup Batch: CGI0093 Initial Volume: 0.5 mL
Cleaned: 12-Sep-2018 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
<i>Surrogate: Decachlorobiphenyl</i>					29-120 %	55.2 %	
<i>Surrogate: Tetrachlorometaxylene</i>					32-120 %	54.1 %	
<i>Surrogate: Decachlorobiphenyl [2C]</i>					29-120 %	53.9 %	
<i>Surrogate: Tetrachlorometaxylene [2C]</i>					32-120 %	51.8 %	



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
14-Sep-2018 12:43

15864
18H0419-05 (Water)

Aroclor PCB

Method: EPA 8082A

Sampled: 08/28/2018 10:05

Instrument: ECD7

Analyzed: 13-Sep-2018 17:50

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BGI0008 Sample Size: 1000 mL
Prepared: 04-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CGI0094 Initial Volume: 0.5 mL
Cleaned: 13-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfuric Acid
Cleanup Batch: CGI0092 Initial Volume: 0.5 mL
Cleaned: 12-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfur
Cleanup Batch: CGI0093 Initial Volume: 0.5 mL
Cleaned: 12-Sep-2018 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
<i>Surrogate: Decachlorobiphenyl</i>					29-120 %	64.3 %	
<i>Surrogate: Tetrachlorometaxylene</i>					32-120 %	56.5 %	
<i>Surrogate: Decachlorobiphenyl [2C]</i>					29-120 %	60.8 %	
<i>Surrogate: Tetrachlorometaxylene [2C]</i>					32-120 %	54.4 %	



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
14-Sep-2018 12:43

Aroclor PCB - Quality Control

Batch BGI0008 - EPA 3510C SepF

Instrument: ECD7 Analyst: JGR

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BGI0008-BLK1)						Prepared: 04-Sep-2018 Analyzed: 13-Sep-2018 15:36					
Aroclor 1016	ND	0.002	0.010	ug/L							U
Aroclor 1221	ND	0.002	0.010	ug/L							U
Aroclor 1232	ND	0.002	0.010	ug/L							U
Aroclor 1242	ND	0.002	0.010	ug/L							U
Aroclor 1248	ND	0.002	0.010	ug/L							U
Aroclor 1254	ND	0.002	0.010	ug/L							U
Aroclor 1260	ND	0.003	0.010	ug/L							U
Aroclor 1262	ND	0.003	0.010	ug/L							U
Aroclor 1268	ND	0.003	0.010	ug/L							U
Surrogate: Decachlorobiphenyl	0.0138			ug/L	0.0200		68.9	29-120			
Surrogate: Tetrachlorometaxylene	0.0101			ug/L	0.0200		50.3	32-120			
Surrogate: Decachlorobiphenyl [2C]	0.0138			ug/L	0.0200		68.9	29-120			
Surrogate: Tetrachlorometaxylene [2C]	0.00884			ug/L	0.0200		44.2	32-120			
LCS (BGI0008-BS1)						Prepared: 04-Sep-2018 Analyzed: 13-Sep-2018 15:59					
Aroclor 1016	0.045	0.002	0.010	ug/L	0.0500		89.8	54-120			
Aroclor 1260	0.038	0.003	0.010	ug/L	0.0500		76.4	51-128			
Surrogate: Decachlorobiphenyl	0.0135			ug/L	0.0200		67.6	29-120			
Surrogate: Tetrachlorometaxylene	0.0100			ug/L	0.0200		50.2	32-120			
Surrogate: Decachlorobiphenyl [2C]	0.0130			ug/L	0.0200		64.8	29-120			
Surrogate: Tetrachlorometaxylene [2C]	0.00994			ug/L	0.0200		49.7	32-120			



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
14-Sep-2018 12:43

Certified Analyses included in this Report

Analyte	Certifications
EPA 8082A in Water	
Aroclor 1016	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1016 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1221	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1221 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1232	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1232 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1242	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1242 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1248	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1248 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1254	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1254 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1260	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1260 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1262	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1262 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1268	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1268 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	02/07/2019
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	02/07/2019
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-011	05/12/2019
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
14-Sep-2018 12:43

Notes and Definitions

- U This analyte is not detected above the applicable reporting or detection limit.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- [2C] Indicates this result was quantified on the second column on a dual column analysis.

September 11, 2018

*Andrea Wong
Hart Crowser, Inc.
3131 Elliott Avenue, Suite 600
Seattle, WA 98121*

Dear Ms. Wong:

Please find enclosed the analytical data report for the *KCIA Large Aircraft 19282-10 (C80830-1)* Project.

Samples were received on *August 30, 2018*. The results of the analyses are presented in the attached tables. Applicable reporting limits, QA/QC data and data qualifiers are included. A copy of the chain-of-custody and an invoice for the work is also enclosed.

ADVANCED ANALYTICAL LABORATORY appreciates the opportunity to provide analytical services for this project. Should there be any questions regarding this report, please contact me at (425) 702-8571.

It was a pleasure working with you, and we are looking forward to the next opportunity to work together.

Sincerely,



Val G. Ivanov, Ph.D.
Laboratory Manager

AAL Job Number: C80830-1
Client: Hart Crowser, Inc.
Project Manager: Andrea Wong
Client Project Name: KCIA Large Aircraft
Client Project Number: 19282-10
Date received: 08/30/18

AAL Job Number: C80830-1
 Client: Hart Crowser, Inc.
 Project Manager: Andrea Wong
 Client Project Name: KCIA Large Aircraft
 Client Project Number: 19282-10
 Date received: 08/30/18

Analytical Results

8260B, µg/kg	MTH BLK	LCS	HC5-S1	HC9-S4	HC10-S1	HC10-S3	
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	
Date extracted	Reporting	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18
Date analyzed	Limits	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18
MTBE	100	nd		nd	nd	nd	nd
Dichlorodifluoromethane	50	nd		nd	nd	nd	nd
Chloromethane	50	nd		nd	nd	nd	nd
Vinyl chloride	50	nd		nd	nd	nd	nd
Bromomethane	50	nd		nd	nd	nd	nd
Chloroethane	50	nd		nd	nd	nd	nd
Trichlorofluoromethane	50	nd		nd	nd	nd	nd
1,1-Dichloroethene	50	nd		nd	nd	nd	nd
Methylene chloride	20	nd		nd	nd	nd	nd
trans-1,2-Dichloroethene	50	nd		nd	nd	nd	nd
1,1-Dichloroethane	50	nd		nd	nd	nd	nd
2,2-Dichloropropane	50	nd		nd	nd	nd	nd
cis-1,2-Dichloroethene	50	nd		nd	nd	nd	nd
Chloroform	50	nd		nd	nd	nd	nd
1,1,1-Trichloroethane	50	nd		nd	nd	nd	nd
Carbontetrachloride	50	nd		nd	nd	nd	nd
1,1-Dichloropropene	50	nd		nd	nd	nd	nd
Benzene	20	nd	104%	nd	nd	nd	nd
1,2-Dichloroethane(EDC)	20	nd		nd	nd	nd	nd
Trichloroethene	20	nd	101%	nd	nd	nd	nd
1,2-Dichloropropane	50	nd		nd	nd	nd	nd
Dibromomethane	50	nd		nd	nd	nd	nd
Bromodichloromethane	50	nd		nd	nd	nd	nd
cis-1,3-Dichloropropene	50	nd		nd	nd	nd	nd
Toluene	50	nd	102%	nd	nd	nd	nd
trans-1,3-Dichloropropene	50	nd		nd	nd	nd	nd
1,1,2-Trichloroethane	50	nd		nd	nd	nd	nd
Tetrachloroethene	50	nd		nd	nd	nd	nd
1,3-Dichloropropane	50	nd		nd	nd	nd	nd
Dibromochloromethane	20	nd		nd	nd	nd	nd
1,2-Dibromoethane (EDB)*	5	nd		nd	nd	nd	nd
Chlorobenzene	50	nd	98%	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	50	nd		nd	nd	nd	nd
Ethylbenzene	50	nd		nd	nd	nd	nd
Xylenes	50	nd		nd	nd	nd	nd
Styrene	50	nd		nd	nd	nd	nd
Bromoform	50	nd		nd	nd	nd	nd
Isopropylbenzene	50	nd		nd	nd	nd	nd
1,2,3-Trichloropropane	50	nd		nd	nd	nd	nd
Bromobenzene	50	nd		nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	50	nd		nd	nd	nd	nd
n-Propylbenzene	50	nd		nd	nd	nd	nd
2-Chlorotoluene	50	nd		nd	nd	nd	nd
4-Chlorotoluene	50	nd		nd	nd	nd	nd
1,3,5-Trimethylbenzene	50	nd		nd	nd	nd	nd
tert-Butylbenzene	50	nd		nd	nd	nd	nd
1,2,4-Trimethylbenzene	50	nd		nd	nd	nd	nd

AAL Job Number: C80830-1
 Client: Hart Crowser, Inc.
 Project Manager: Andrea Wong
 Client Project Name: KCIA Large Aircraft
 Client Project Number: 19282-10
 Date received: 08/30/18

Analytical Results

8260B, µg/kg		MTH BLK	LCS	HC5-S1	HC9-S4	HC10-S1	HC10-S3
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18
Date analyzed	Limits	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18
sec-Butylbenzene	50	nd		nd	nd	nd	nd
1,3-Dichlorobenzene	50	nd		nd	nd	nd	nd
Isopropyltoluene	50	nd		nd	nd	nd	nd
1,4-Dichlorobenzene	50	nd		nd	nd	nd	nd
1,2-Dichlorobenzene	50	nd		nd	nd	nd	nd
n-Butylbenzene	50	nd		nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	50	nd		nd	nd	nd	nd
1,2,4-Trichlorobenzene	50	nd		nd	nd	nd	nd
Hexachloro-1,3-butadiene	50	nd		nd	nd	nd	nd
1,2,3-Trichlorobenzene	50	nd		nd	nd	nd	nd

*-instrument detection limits

Surrogate recoveries

Dibromofluoromethane	116%	110%	109%	109%	111%	107%
Toluene-d8	130%	114%	120%	117%	122%	118%
1,2-Dichloroethane-d4	100%	102%	97%	101%	100%	99%
4-Bromofluorobenzene	107%	108%	119%	104%	103%	106%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
 Results reported on wet weight basis
 M-matrix interference
 C - coelution with sample peaks
 Acceptable Recovery limits: 70% TO 130%
 Acceptable RPD limit: 30%

AAL Job Number: C80830-1
 Client: Hart Crowser, Inc.
 Project Manager: Andrea Wong
 Client Project Name: KCIA Large Aircraft
 Client Project Number: 19282-10
 Date received: 08/30/18

Analytical Results

8260B, µg/kg		HC10-S4	HC11-S1	HC11-S4	HC13-S4	HC14-S5	HC14-S6
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18
Date analyzed	Limits	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18
MTBE	100	nd	nd	nd	nd	nd	nd
Dichlorodifluoromethane	50	nd	nd	nd	nd	nd	nd
Chloromethane	50	nd	nd	nd	nd	nd	nd
Vinyl chloride	50	nd	nd	nd	nd	nd	nd
Bromomethane	50	nd	nd	nd	nd	nd	nd
Chloroethane	50	nd	nd	nd	nd	nd	nd
Trichlorofluoromethane	50	nd	nd	nd	nd	nd	nd
1,1-Dichloroethene	50	nd	nd	nd	nd	nd	nd
Methylene chloride	20	nd	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	50	nd	nd	nd	nd	nd	nd
1,1-Dichloroethane	50	nd	nd	nd	nd	nd	nd
2,2-Dichloropropane	50	nd	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	50	nd	nd	nd	nd	nd	nd
Chloroform	50	nd	nd	nd	nd	nd	nd
1,1,1-Trichloroethane	50	nd	nd	nd	nd	nd	nd
Carbontetrachloride	50	nd	nd	nd	nd	nd	nd
1,1-Dichloropropene	50	nd	nd	nd	nd	nd	nd
Benzene	20	nd	nd	nd	nd	nd	nd
1,2-Dichloroethane(EDC)	20	nd	nd	nd	nd	nd	nd
Trichloroethene	20	nd	83	50	nd	55	50
1,2-Dichloropropane	50	nd	nd	nd	nd	nd	nd
Dibromomethane	50	nd	nd	nd	nd	nd	nd
Bromodichloromethane	50	nd	nd	nd	nd	nd	nd
cis-1,3-Dichloropropene	50	nd	nd	nd	nd	nd	nd
Toluene	50	nd	nd	nd	nd	nd	nd
trans-1,3-Dichloropropene	50	nd	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	50	nd	nd	nd	nd	nd	nd
Tetrachloroethene	50	nd	nd	nd	nd	nd	nd
1,3-Dichloropropane	50	nd	nd	nd	nd	nd	nd
Dibromochloromethane	20	nd	nd	nd	nd	nd	nd
1,2-Dibromoethane (EDB)*	5	nd	nd	nd	nd	nd	nd
Chlorobenzene	50	nd	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	50	nd	nd	nd	nd	nd	nd
Ethylbenzene	50	nd	nd	nd	nd	nd	nd
Xylenes	50	nd	nd	nd	nd	nd	nd
Styrene	50	nd	nd	nd	nd	nd	nd
Bromoform	50	nd	nd	nd	nd	nd	nd
Isopropylbenzene	50	nd	nd	nd	nd	nd	nd
1,2,3-Trichloropropane	50	nd	nd	nd	nd	nd	nd
Bromobenzene	50	nd	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	50	nd	nd	nd	nd	nd	nd
n-Propylbenzene	50	nd	nd	nd	nd	nd	nd
2-Chlorotoluene	50	nd	nd	nd	nd	nd	nd
4-Chlorotoluene	50	nd	nd	nd	nd	nd	nd
1,3,5-Trimethylbenzene	50	nd	nd	nd	nd	nd	nd
tert-Butylbenzene	50	nd	nd	nd	nd	nd	nd
1,2,4-Trimethylbenzene	50	nd	nd	nd	nd	nd	nd

AAL Job Number: C80830-1
 Client: Hart Crowser, Inc.
 Project Manager: Andrea Wong
 Client Project Name: KCIA Large Aircraft
 Client Project Number: 19282-10
 Date received: 08/30/18

Analytical Results

8260B, µg/kg		HC10-S4	HC11-S1	HC11-S4	HC13-S4	HC14-S5	HC14-S6
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18
Date analyzed	Limits	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18
sec-Butylbenzene	50	nd	nd	nd	nd	nd	nd
1,3-Dichlorobenzene	50	nd	nd	nd	nd	nd	nd
Isopropyltoluene	50	nd	nd	nd	nd	nd	nd
1,4-Dichlorobenzene	50	nd	nd	nd	nd	nd	nd
1,2-Dichlorobenzene	50	nd	nd	nd	nd	nd	nd
n-Butylbenzene	50	nd	nd	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	50	nd	nd	nd	nd	nd	nd
1,2,4-Trichlorobenzene	50	nd	nd	nd	nd	nd	nd
Hexachloro-1,3-butadiene	50	nd	nd	nd	nd	nd	nd
1,2,3-Trichlorobenzene	50	nd	nd	nd	nd	nd	nd

*-instrument detection limits

Surrogate recoveries

Dibromofluoromethane	110%	107%	107%	113%	112%	110%
Toluene-d8	113%	118%	117%	124%	124%	118%
1,2-Dichloroethane-d4	98%	98%	99%	98%	97%	100%
4-Bromofluorobenzene	114%	107%	106%	104%	111%	106%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
 Results reported on wet weight basis
 M-matrix interference
 C - coelution with sample peaks
 Acceptable Recovery limits: 70% TO 130%
 Acceptable RPD limit: 30%

AAL Job Number: C80830-1
 Client: Hart Crowser, Inc.
 Project Manager: Andrea Wong
 Client Project Name: KCIA Large Aircraft
 Client Project Number: 19282-10
 Date received: 08/30/18

Analytical Results

8260B, µg/kg		HC15-S2	HC16-S2	HC16-S4	HC17-S4	HC18-S5	HC19-S3
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18
Date analyzed	Limits	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18
MTBE	100	nd	nd	nd	nd	nd	nd
Dichlorodifluoromethane	50	nd	nd	nd	nd	nd	nd
Chloromethane	50	nd	nd	nd	nd	nd	nd
Vinyl chloride	50	nd	nd	nd	nd	nd	nd
Bromomethane	50	nd	nd	nd	nd	nd	nd
Chloroethane	50	nd	nd	nd	nd	nd	nd
Trichlorofluoromethane	50	nd	nd	nd	nd	nd	nd
1,1-Dichloroethene	50	nd	nd	nd	nd	nd	nd
Methylene chloride	20	nd	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	50	nd	nd	nd	nd	nd	nd
1,1-Dichloroethane	50	nd	nd	nd	nd	nd	nd
2,2-Dichloropropane	50	nd	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	50	nd	nd	nd	nd	nd	nd
Chloroform	50	nd	nd	nd	nd	nd	nd
1,1,1-Trichloroethane	50	nd	nd	nd	nd	nd	nd
Carbontetrachloride	50	nd	nd	nd	nd	nd	nd
1,1-Dichloropropene	50	nd	nd	nd	nd	nd	nd
Benzene	20	nd	nd	nd	nd	nd	nd
1,2-Dichloroethane(EDC)	20	nd	nd	nd	nd	nd	nd
Trichloroethene	20	nd	nd	nd	nd	nd	nd
1,2-Dichloropropane	50	nd	nd	nd	nd	nd	nd
Dibromomethane	50	nd	nd	nd	nd	nd	nd
Bromodichloromethane	50	nd	nd	nd	nd	nd	nd
cis-1,3-Dichloropropene	50	nd	nd	nd	nd	nd	nd
Toluene	50	nd	nd	nd	nd	nd	nd
trans-1,3-Dichloropropene	50	nd	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	50	nd	nd	nd	nd	nd	nd
Tetrachloroethene	50	nd	nd	nd	nd	nd	nd
1,3-Dichloropropane	50	nd	nd	nd	nd	nd	nd
Dibromochloromethane	20	nd	nd	nd	nd	nd	nd
1,2-Dibromoethane (EDB)*	5	nd	nd	nd	nd	nd	nd
Chlorobenzene	50	nd	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	50	nd	nd	nd	nd	nd	nd
Ethylbenzene	50	nd	nd	nd	nd	nd	nd
Xylenes	50	nd	nd	nd	nd	nd	nd
Styrene	50	nd	nd	nd	nd	nd	nd
Bromoform	50	nd	nd	nd	nd	nd	nd
Isopropylbenzene	50	nd	nd	nd	nd	nd	nd
1,2,3-Trichloropropane	50	nd	nd	nd	nd	nd	nd
Bromobenzene	50	nd	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	50	nd	nd	nd	nd	nd	nd
n-Propylbenzene	50	nd	nd	nd	nd	nd	nd
2-Chlorotoluene	50	nd	nd	nd	nd	nd	nd
4-Chlorotoluene	50	nd	nd	nd	nd	nd	nd
1,3,5-Trimethylbenzene	50	nd	nd	nd	nd	nd	nd
tert-Butylbenzene	50	nd	nd	nd	nd	nd	nd
1,2,4-Trimethylbenzene	50	nd	nd	nd	nd	nd	nd

AAL Job Number: C80830-1
 Client: Hart Crowser, Inc.
 Project Manager: Andrea Wong
 Client Project Name: KCIA Large Aircraft
 Client Project Number: 19282-10
 Date received: 08/30/18

Analytical Results

8260B, µg/kg		HC15-S2	HC16-S2	HC16-S4	HC17-S4	HC18-S5	HC19-S3
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18
Date analyzed	Limits	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18
sec-Butylbenzene	50	nd	nd	nd	nd	nd	nd
1,3-Dichlorobenzene	50	nd	nd	nd	nd	nd	nd
Isopropyltoluene	50	nd	nd	nd	nd	nd	nd
1,4-Dichlorobenzene	50	nd	nd	nd	nd	nd	nd
1,2-Dichlorobenzene	50	nd	nd	nd	nd	nd	nd
n-Butylbenzene	50	nd	nd	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	50	nd	nd	nd	nd	nd	nd
1,2,4-Trichlorobenzene	50	nd	nd	nd	nd	nd	nd
Hexachloro-1,3-butadiene	50	nd	nd	nd	nd	nd	nd
1,2,3-Trichlorobenzene	50	nd	nd	nd	nd	nd	nd

*-instrument detection limits

Surrogate recoveries

Dibromofluoromethane	105%	108%	107%	110%	109%	108%
Toluene-d8	114%	118%	121%	120%	119%	117%
1,2-Dichloroethane-d4	97%	92%	97%	98%	101%	99%
4-Bromofluorobenzene	119%	105%	109%	105%	112%	105%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
 Results reported on wet weight basis
 M-matrix interference
 C - coelution with sample peaks
 Acceptable Recovery limits: 70% TO 130%
 Acceptable RPD limit: 30%

AAL Job Number: C80830-1
 Client: Hart Crowser, Inc.
 Project Manager: Andrea Wong
 Client Project Name: KCIA Large Aircraft
 Client Project Number: 19282-10
 Date received: 08/30/18

Analytical Results		MS		MSD		RPD	
8260B, µg/kg		HC20-S4		HC20-S4		HC20-S4	
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18
Date analyzed	Limits	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18

MTBE	100	nd			
Dichlorodifluoromethane	50	nd			
Chloromethane	50	nd			
Vinyl chloride	50	nd			
Bromomethane	50	nd			
Chloroethane	50	nd			
Trichlorofluoromethane	50	nd			
1,1-Dichloroethene	50	nd			
Methylene chloride	20	nd			
trans-1,2-Dichloroethene	50	nd			
1,1-Dichloroethane	50	nd			
2,2-Dichloropropane	50	nd			
cis-1,2-Dichloroethene	50	nd			
Chloroform	50	nd			
1,1,1-Trichloroethane	50	nd			
Carbontetrachloride	50	nd			
1,1-Dichloropropene	50	nd			
Benzene	20	nd	112%	114%	1%
1,2-Dichloroethane(EDC)	20	nd			
Trichloroethene	20	44	108%	108%	0%
1,2-Dichloropropane	50	nd			
Dibromomethane	50	nd			
Bromodichloromethane	50	nd			
cis-1,3-Dichloropropene	50	nd			
Toluene	50	nd	94%	113%	18%
trans-1,3-Dichloropropene	50	nd			
1,1,2-Trichloroethane	50	nd			
Tetrachloroethene	50	nd			
1,3-Dichloropropane	50	nd			
Dibromochloromethane	20	nd			
1,2-Dibromoethane (EDB)*	5	nd			
Chlorobenzene	50	nd	94%	108%	13%
1,1,1,2-Tetrachloroethane	50	nd			
Ethylbenzene	50	nd			
Xylenes	50	nd			
Styrene	50	nd			
Bromoform	50	nd			
Isopropylbenzene	50	nd			
1,2,3-Trichloropropane	50	nd			
Bromobenzene	50	nd			
1,1,2,2-Tetrachloroethane	50	nd			
n-Propylbenzene	50	nd			
2-Chlorotoluene	50	nd			
4-Chlorotoluene	50	nd			
1,3,5-Trimethylbenzene	50	nd			
tert-Butylbenzene	50	nd			
1,2,4-Trimethylbenzene	50	nd			

AAL Job Number: C80830-1
 Client: Hart Crowser, Inc.
 Project Manager: Andrea Wong
 Client Project Name: KCIA Large Aircraft
 Client Project Number: 19282-10
 Date received: 08/30/18

Analytical Results		MS		MSD		RPD	
8260B, µg/kg		HC20-S4	HC20-S4	HC20-S4	HC20-S4	HC20-S4	HC20-S4
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18
Date analyzed	Limits	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18	08/30/18

sec-Butylbenzene	50	nd
1,3-Dichlorobenzene	50	nd
Isopropyltoluene	50	nd
1,4-Dichlorobenzene	50	nd
1,2-Dichlorobenzene	50	nd
n-Butylbenzene	50	nd
1,2-Dibromo-3-Chloropropane	50	nd
1,2,4-Trichlorobenzene	50	nd
Hexachloro-1,3-butadiene	50	nd
1,2,3-Trichlorobenzene	50	nd

*-instrument detection limits

Surrogate recoveries

Dibromofluoromethane	111%	118%	111%
Toluene-d8	124%	129%	113%
1,2-Dichloroethane-d4	95%	97%	99%
4-Bromofluorobenzene	106%	112%	108%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
 Results reported on wet weight basis
 M-matrix interference
 C - coelution with sample peaks
 Acceptable Recovery limits: 70% TO 130%
 Acceptable RPD limit: 30%

Sample Custody Record

Samples Shipped to: AAL



C80830-1 2 of 3
 Hart Crowser, Inc.
 3131 Elliott Avenue, Suite 600
 Seattle, Washington 98121
 Office: 206.324.9530 • Fax 206.328.5581

JOB <u>19282-10</u>	LAB NUMBER _____	REQUESTED ANALYSIS
PROJECT NAME <u>KCIA Large Aircraft</u>	HART CROWSER CONTACT <u>Andrea Wong</u>	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS
SAMPLED BY: <u>J. Green</u>		

LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX	NO. OF CONTAINERS
	HC12-SS		8/27/18	1120	SOIL	1
	HC12-S6			1125		1
	HC18-S1			1215		1
	HC18-S2			1220		1
	HC18-S3			1225		1
	HC18-S5			1235	X	1
	HC18-S6			1240		1
	HC16-S1			1330		1
	HC16-S2			1335	X	1
	HC16-S3			1340		1
	HC16-S4			1345	X	1
	HC16-S6			1355		1

JRG 8/27/18

RELINQUISHED BY	DATE	RECEIVED BY	DATE	SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS:	TOTAL NUMBER OF CONTAINERS
<i>J. Green</i>	8/30/18	<i>V. HULLER</i>	8/30/18		SAMPLE RECEIPT INFORMATION CUSTODY SEALS: <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A GOOD CONDITION <input type="checkbox"/> YES <input type="checkbox"/> NO TEMPERATURE _____ SHIPMENT METHOD: <input type="checkbox"/> HAND <input type="checkbox"/> COURIER <input type="checkbox"/> OVERNIGHT
<i>J. Blanchette</i>	1015	<i>AAL</i>	1015		
RELINQUISHED BY	DATE	RECEIVED BY	DATE	COOLER NO.:	STORAGE LOCATION:
SIGNATURE	TIME	SIGNATURE	TIME		
PRINT NAME		PRINT NAME		See Lab Work Order No. _____	TURNAROUND TIME:
COMPANY		COMPANY		for Other Contract Requirements	<input type="checkbox"/> 24 HOURS <input type="checkbox"/> 1 WEEK <input type="checkbox"/> 48 HOURS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> 72 HOURS OTHER _____

Sample Custody Record

Samples Shipped to: AAL

④



C80830-1

lot 3

Hart Crowser, Inc.
3131 Elliott Avenue, Suite 600
Seattle, Washington 98121
Office: 206.324.9530 • Fax 206.328.5581

JOB <u>19282-10</u> LAB NUMBER _____ PROJECT NAME <u>KCIA Large Aircraft Parking Site</u> HART CROWSER CONTACT <u>Andrea Wang</u> SAMPLED BY: <u>Keylin Huelleston</u>	REQUESTED ANALYSIS VOs by SWOB	NO. OF CONTAINERS	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS
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LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX													
	HC-15-51		8/28/18	10:55	Soil													
	HC-15-52			11:00		X												
	HC-15-54			11:10														
	HC-15-55			11:15														
	HC-15-56			11:20														
	HC-19-52			8:30														
	HC-19-53			8:35		X												
	HC-19-54			8:40														
	HC-19-55			8:45														
	HC-19-56			8:50														
	HC-20-51			9:40														
	HC-20-52			9:45														

RELINQUISHED BY	DATE	RECEIVED BY	DATE	SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS:	TOTAL NUMBER OF CONTAINERS
<u>J. Blanche</u>	<u>8/30/18</u>	<u>V. Huelleston</u>	<u>08/30/18</u>	will send permit with samples for analysis	SAMPLE RECEIPT INFORMATION CUSTODY SEALS: <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A GOOD CONDITION <input type="checkbox"/> YES <input type="checkbox"/> NO TEMPERATURE _____ SHIPMENT METHOD: <input type="checkbox"/> HAND <input type="checkbox"/> COURIER <input type="checkbox"/> OVERNIGHT
SIGNATURE	TIME	SIGNATURE	TIME		
PRINT NAME		PRINT NAME			
COMPANY		COMPANY			
RELINQUISHED BY	DATE	RECEIVED BY	DATE	COOLER NO.:	STORAGE LOCATION:
SIGNATURE	TIME	SIGNATURE	TIME	See Lab Work Order No. _____ for Other Contract Requirements	TURNAROUND TIME:
PRINT NAME		PRINT NAME			<input type="checkbox"/> 24 HOURS <input type="checkbox"/> 1 WEEK
COMPANY		COMPANY			<input type="checkbox"/> 48 HOURS <input checked="" type="checkbox"/> STANDARD
					<input type="checkbox"/> 72 HOURS OTHER _____

White to Lab Yellow to Project Manager Pink to Sample Custodian

Sample Custody Record

Samples Shipped to: AAL

⑥



3 of 3 C80830-1

Hart Crowser, Inc.
3131 Elliott Avenue, Suite 600
Seattle, Washington 98121
Office: 206.324.9530 • Fax 206.328.5581

JOB <u>K1282-10</u>	LAB NUMBER _____	REQUESTED ANALYSIS	NO. OF CONTAINERS	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS
PROJECT NAME <u>KCIA Large Aircraft Parking</u>				
HART CROWSER CONTACT <u>Andrea Wang</u>				
SAMPLED BY: <u>Keylin Huddleston</u>				

LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX														
	HC-14-S3		8/28/18	12:20	Soil														
	HC-14-S5			12:30		X													
	HC-14-S6			12:35		X													
	HC-11-S1			13:00		X													
	HC-11-S2			13:05															
	HC-11-S3			13:10															
	HC-11-S4			13:15		X													
	HC-11-S6			13:25															
	HC-10-S1			13:50		X													
	HC-10-S2			13:55															
	HC-10-S3			14:00		X													
	HC-10-S4			14:05		X													

RELINQUISHED BY <u>[Signature]</u> SIGNATURE <u>J. Blanchette</u> PRINT NAME HC COMPANY	DATE <u>8/30/18</u> TIME <u>10:15</u>	RECEIVED BY <u>[Signature]</u> SIGNATURE <u>Keylin Huddleston</u> PRINT NAME AAL COMPANY	DATE <u>08/30/18</u> TIME <u>10:15</u>	SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS:	TOTAL NUMBER OF CONTAINERS	
RELINQUISHED BY	DATE	RECEIVED BY	DATE	COOLER NO.:	STORAGE LOCATION:	TURNAROUND TIME:
SIGNATURE	TIME	SIGNATURE	TIME	See Lab Work Order No. _____		<input type="checkbox"/> 24 HOURS <input type="checkbox"/> 1 WEEK <input type="checkbox"/> 48 HOURS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> 72 HOURS OTHER _____
PRINT NAME		PRINT NAME		for Other Contract Requirements		
COMPANY		COMPANY				



Am Test Inc.
 13600 NE 126TH PL
 Suite C
 Kirkland, WA 98034
 (425) 885-1664

*Professional
 Analytical
 Services*

Oct 17 2018
 Hart Crowser
 3131 Elliot Ave
 Suite 200
 Seattle, WA 98109
 Attention: ANDREA WONG

Dear ANDREA WONG:

Enclosed please find the analytical data for your KCIA LARGE AIRCRAFT PARKING project.

The following is a cross correlation of client and laboratory identifications for your convenience.

CLIENT ID	MATRIX	AMTEST ID	TEST
HC-7-S1	Soil	18-A016408	NWTPH-Dx, CONV
HC-7-S2	Soil	18-A016409	HOLD
HC-7-S3	Soil	18-A016410	s8270, PCB, NWTPH-Gx, NWTPH-Dx, s8270-SIM, sICP-MS, CONV, Hg-CV, MET, MET
HC-7-S4	Soil	18-A016411	NWTPH-Dx, sICP-MS, CONV, Hg-CV, MET, MET
HC-7-S5	Soil	18-A016412	HOLD
HC-7-S6	Soil	18-A016413	HOLD
HC-4-S1	Soil	18-A016414	s8270, PCB, NWTPH-Gx, NWTPH-Dx, s8270-SIM, sICP-MS, CONV, Hg-CV, MET, MET
HC-4-S2	Soil	18-A016415	HOLD
HC-4-S3	Soil	18-A016416	NWTPH-Dx, CONV
HC-4-S4	Soil	18-A016417	HOLD
HC-4-S5	Soil	18-A016418	HOLD
HC-4-S6	Soil	18-A016419	NWTPH-Dx, CONV
HC-4-GW	Water	18-A016420	Semi-Vol, VOA, NWTPH-Gx, NWTPH-Dx, w625-SIM, CONV, Hg-CV, MET
HC-3-S1	Soil	18-A016421	HOLD
HC-3-S2	Soil	18-A016422	s8270, PCB, NWTPH-Gx, NWTPH-Dx, s8270-SIM, sICP-MS, CONV, Hg-CV, MET, MET
HC-3-S3	Soil	18-A016423	NWTPH-Dx, CONV
HC-3-S4	Soil	18-A016424	HOLD
HC-3-S5	Soil	18-A016425	NWTPH-Dx, CONV
HC-3-S6	Soil	18-A016426	HOLD
HC-2-S1	Soil	18-A016427	s8270, PCB, NWTPH-Gx, NWTPH-Dx, s8270-SIM, sICP-MS, CONV, Hg-CV, MET, MET

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Oct 17 2018
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 continued . . .

CLIENT ID	MATRIX	AMTEST ID	TEST
HC-2-S2	Soil	18-A016428	HOLD
HC-2-S3	Soil	18-A016429	HOLD
HC-2-S4	Soil	18-A016430	NWTPH-Dx, CONV
HC-2-S5	Soil	18-A016431	HOLD
HC-2-S6	Soil	18-A016432	NWTPH-Gx, NWTPH-Dx, CONV
HC-8-S1	Soil	18-A016433	HOLD
HC-8-S2	Soil	18-A016434	HOLD
HC-8-S3	Soil	18-A016435	HOLD
HC-8-S4	Soil	18-A016436	HOLD
HC-8-S5	Soil	18-A016437	HOLD
HC-8-GW	Water	18-A016438	Semi-Vol, VOA, NWTPH-Gx, NWTPH-Dx, w625-SIM, CONV, Hg-CV, MET
HC-1-S1	Soil	18-A016439	s8270, PCB, NWTPH-Gx, NWTPH-Dx, s8270-SIM, sICP-MS, CONV, Hg-CV, MET, MET
HC-1-S2	Soil	18-A016440	HOLD
HC-1-S3	Soil	18-A016441	HOLD
HC-1-S4	Soil	18-A016442	HOLD
HC-1-S5	Soil	18-A016443	HOLD
HC-1-S6	Soil	18-A016444	NWTPH-Dx, CONV
HC-1-GW	Water	18-A016445	Semi-Vol, VOA, NWTPH-Gx, NWTPH-Dx, w625-SIM, CONV, Hg-CV, MET
HC-8-S6	Soil	18-A016446	s8270, PCB, NWTPH-Gx, NWTPH-Dx, s8270-SIM, sICP-MS, CONV, Hg-CV, MET, MET

Your samples were received on Thursday, September 6, 2018. At the time of receipt, the samples were logged in and properly maintained prior to the subsequent analysis.

The analytical procedures used at AmTest are well documented and are typically derived from the protocols of the EPA, USDA, FDA or the Army Corps of Engineers.

Am Test Inc.
13600 NE 126TH PL
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Kirkland, WA 98034
(425) 885-1664

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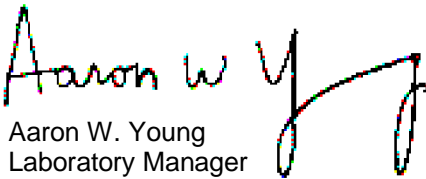
Oct 17 2018
Hart Crowser
continued . . .

Following the analytical data you will find the Quality Control (QC) results.

Please note that the detection limits that are listed in the body of the report refer to the Practical Quantitation Limits (PQL's), as opposed to the Method Detection Limits (MDL's).

If you should have any questions pertaining to the data package, please feel free to contact me.

Sincerely,


Aaron W. Young
Laboratory Manager

Project #: 19282-10

BACT = Bacteriological
CONV = Conventional

MET = Metals
ORG = Organics

NUT=Nutrients
DEM=Demand

MIN=Minerals

Am Test Inc.
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Kirkland, WA 98034
(425) 885-1664
www.amtestlab.com



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ANALYSIS REPORT

Hart Crowser
3131 Elliot Ave
Seattle, WA 98109
Attention: ANDREA WONG
Project Name: KCIA LARGE AIRCRAFT PARKING
Project #: 19282-10
All results reported on a dry weight basis.

Date Received: 09/06/18
Date Reported: 6/7/18

AMTEST Identification Number 18-A016408
Client Identification HC-7-S1
Sampling Date 09/05/18, 08:00

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	97.0	%		0.1	SM 2540G	JH	09/14/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 17	mg/kg	D10	17.	NWTPH-Dx	DP	10/15/18
Heavy Oil	110	mg/kg	D10	35.	NWTPH-Dx	DP	10/15/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	JDM	09/19/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	99.8 %	50.0 - 150.
2-Fluorobiphenyl	59.2 %	50.0 - 150.

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING
 AmTest ID: 18-A016409

AMTEST Identification Number 18-A016409
Client Identification HC-7-S2
Sampling Date 09/05/18, 08:05

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AY	09/12/18

AMTEST Identification Number 18-A016410
Client Identification HC-7-S3
Sampling Date 09/05/18, 08:10

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	96.3	%		0.1	SM 2540G	JH	09/14/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	3.99	ug/g		0.399	EPA 6020	KQ	09/27/18
Cadmium	1.14	ug/g		0.399	EPA 6020	KQ	09/27/18
Chromium	25.6	ug/g		0.798	EPA 6020	KQ	09/27/18
Lead	1.12	ug/g		0.798	EPA 6020	KQ	09/27/18
Acid Digestion	Y				SW-846 3050B	KQ	09/18/18
Mercury	< 0.0104	ug/g		0.01	EPA 7471B	JH	09/19/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 2	mg/kg		1.7	NWTPH-Dx	DP	10/15/18
Heavy Oil	6.	mg/kg		3.4	NWTPH-Dx	DP	10/15/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	JDM	09/19/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	74.6 %	50.0 - 150.
2-Fluorobiphenyl	85.4 %	50.0 - 150.

Hart Crowser
Project Name: KCIA LARGE AIRCRAFT PARKING
AmTest ID: 18-A016410

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Soil	< 241	ug/kg		240	WDOE NWTPH-Gx	NNL	09/18/18
Benzene	< 2.4	ug/kg		2.4	EPA 8260	NNL	09/18/18
Toluene	< 2.4	ug/kg		2.4	EPA 8260	NNL	09/18/18
Ethyl Benzene	< 2.4	ug/kg		2.4	EPA 8260	NNL	09/18/18
m+p-Xylene	< 2.4	ug/kg		2.4	EPA 8260	NNL	09/18/18
o-Xylene	< 2.4	ug/kg		2.4	EPA 8260	NNL	09/18/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	107. %	50.0 - 150.

Semi-Volatiles

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,2,4-Trichlorobenzene	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
1,2-Dichlorobenzene	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
1,3-Dichlorobenzene	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
1,4-Dichlorobenzene	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
2,4,5-Trichlorophenol	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
2,4,6-Trichlorophenol	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
2,4-Dichlorophenol	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
2,4-Dimethylphenol	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
2,4-Dinitrophenol	< 343	ug/kg		340	EPA 8270D	NNL	10/14/18
2,4-Dinitrotoluene	< 172	ug/kg		170	EPA 8270D	NNL	10/14/18
2,6-Dinitrotoluene	< 172	ug/kg		170	EPA 8270D	NNL	10/14/18
2-Chloronaphthalene	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
2-Chlorophenol	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
2-Methylphenol	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
2-Nitroaniline	< 172	ug/kg		170	EPA 8270D	NNL	10/14/18
2-Nitrophenol	< 172	ug/kg		170	EPA 8270D	NNL	10/14/18
3,3-Dichlorobenzidine	< 103	ug/kg		100	EPA 8270D	NNL	10/14/18
3-Nitroaniline	< 172	ug/kg		170	EPA 8270D	NNL	10/14/18
4,6-Dinitro-2-methylpheno	< 172	ug/kg		170	EPA 8270D	NNL	10/14/18
4-Bromophenyl-phenyl ethe	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
4-Chloro-3-methylphenol	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
4-Chloroaniline	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
4-Chlorophenyl-phenyl eth	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
4-Methylphenol (cresol)	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
4-Nitroaniline	< 172	ug/kg		170	EPA 8270D	NNL	10/14/18
4-Nitrophenol	< 343	ug/kg		340	EPA 8270D	NNL	10/14/18
Aniline	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
Azobenzene	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
Benzidine	< 1720	ug/kg		1700	EPA 8270D	NNL	10/14/18
Benzoic Acid	< 34.3	ug/kg		34.	EPA 8270D	NNL	10/14/18
Benzyl Alcohol	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
bis(2-Chloroethoxy)methan	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
bis(2-Chloroethyl)ether	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
bis(2-Chloroisopropyl)eth	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
bis(2-Ethylhexyl)phthalat	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
Butylbenzylphthalate	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
Carbazole	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
Dibenzofuran	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
Diethylphthalate	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
Dimethylphthalate	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
Di-n-butylphthalate	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
Di-n-octylphthalate	< 34.3	ug/kg		34.	EPA 8270D	NNL	10/14/18

Semi-Volatiles continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Hexachlorobenzene	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
Hexachlorobutadiene	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
Hexachlorocyclopentadiene	< 172	ug/kg		170	EPA 8270D	NNL	10/14/18
Hexachloroethane	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
Isophorone	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
Nitrobenzene	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
N-Nitrosodimethylamine	< 172	ug/kg		170	EPA 8270D	NNL	10/14/18
N-Nitroso-di-n-propylamin	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
N-nitrosodiphenylamine	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18
Pentachlorophenol	< 172	ug/kg		170	EPA 8270D	NNL	10/14/18
Phenol	< 68.7	ug/kg		69.	EPA 8270D	NNL	10/14/18

Polynuclear Aromatic Hydrocarbons (PAH)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1-Methylnaphthalene	< 3.43	ug/Kg		3.4	EPA 8270D-SIM	NNL	10/15/18
2-Methylnaphthalene	< 3.43	ug/Kg		3.4	EPA 8270D-SIM	NNL	10/15/18
Acenaphthene	< 3.43	ug/Kg	N	3.4	EPA 8270D-SIM	NNL	10/15/18
Acenaphthylene	< 3.43	ug/Kg		3.4	EPA 8270D-SIM	NNL	10/15/18
Anthracene	< 3.43	ug/Kg		3.4	EPA 8270D-SIM	NNL	10/15/18
Benzo(a)anthracene	< 3.43	ug/Kg		3.4	EPA 8270D-SIM	NNL	10/15/18
Benzo(a)pyrene	< 3.43	ug/Kg		3.4	EPA 8270D-SIM	NNL	10/15/18
Benzo(b)fluoranthene	< 3.43	ug/Kg		3.4	EPA 8270D-SIM	NNL	10/15/18
Benzo(ghi)perylene	< 3.43	ug/Kg		3.4	EPA 8270D-SIM	NNL	10/15/18
Benzo(k)fluoranthene	< 3.43	ug/Kg		3.4	EPA 8270D-SIM	NNL	10/15/18
Chrysene	< 3.43	ug/Kg		3.4	EPA 8270D-SIM	NNL	10/15/18
Dibenzo(ah)anthracene	< 3.43	ug/Kg		3.4	EPA 8270D-SIM	NNL	10/15/18
Fluoranthene	< 3.43	ug/Kg		3.4	EPA 8270D-SIM	NNL	10/15/18
Fluorene	< 3.43	ug/Kg	N	3.4	EPA 8270D-SIM	NNL	10/15/18
Indeno(123-cd)pyrene	< 3.43	ug/Kg		3.4	EPA 8270D-SIM	NNL	10/15/18
Naphthalene	< 3.43	ug/Kg		3.4	EPA 8270D-SIM	NNL	10/15/18
Phenanthrene	< 3.43	ug/Kg	N	3.4	EPA 8270D-SIM	NNL	10/15/18
Pyrene	< 3.43	ug/Kg		3.4	EPA 8270D-SIM	NNL	10/15/18
Sonnication Ext.	Y				SW-846 3550C	DP	09/18/18

Semi-Volatile Surrogates

ANALYTE	% RECOVERY	LIMITS
2-Fluorophenol	56.6 %	24.4 - 126.
D6-Phenol	66.2 %	20.0 - 140.
D5-Nitrobenzene	77.1 %	0.0 - 141.
2-Fluorobiphenyl	84.4 %	0.0 - 128.
2,4,6-Tribromophenol	74.7 %	0.0 - 130.
D14-Terphenyl	147. %	17.5 - 182.

PCB's

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
PCB-1016	< 17.5	ug/kg		17.5	EPA 8082A	NNL	10/02/18
PCB-1221	< 17.5	ug/kg		17.5	EPA 8082A	NNL	10/02/18
PCB-1232	< 17.5	ug/kg		17.5	EPA 8082A	NNL	10/02/18
PCB-1242	< 17.5	ug/kg		17.5	EPA 8082A	NNL	10/02/18
PCB-1248	< 17.5	ug/kg		17.5	EPA 8082A	NNL	10/02/18
PCB-1254	< 17.5	ug/kg		17.5	EPA 8082A	NNL	10/02/18
PCB-1260	< 17.5	ug/kg		17.5	EPA 8082A	NNL	10/02/18
Soxhlet Ext.	Y				SW-846 3540C	DP	09/17/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Tetrachloro-M-xylene	80.7 % Rec	43.3 - 162.
Decachlorobiphenyl	74.5 % Rec	40.1 - 191.

AMTEST Identification Number 18-A016411
Client Identification HC-7-S4
Sampling Date 09/05/18, 08:15

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	93.1	%		0.1	SM 2540G	JH	09/14/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	4.70	ug/g		0.591	EPA 6020	KQ	09/27/18
Cadmium	< 0.591	ug/g		0.591	EPA 6020	KQ	09/27/18
Chromium	26.1	ug/g		1.18	EPA 6020	KQ	09/27/18
Lead	1.49	ug/g		1.18	EPA 6020	KQ	09/27/18
Acid Digestion	Y				SW-846 3050B	KQ	09/18/18
Mercury	< 0.0107	ug/g		0.01	EPA 7471B	JH	09/19/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 2	mg/kg		1.8	NWTPH-Dx	DP	10/15/18
Heavy Oil	< 4	mg/kg		3.6	NWTPH-Dx	DP	10/15/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	JDM	09/19/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	78.1 %	50.0 - 150.
2-Fluorobiphenyl	76.0 %	50.0 - 150.

Hart Crowser
Project Name: KCIA LARGE AIRCRAFT PARKING
AmTest ID: 18-A016412

AMTEST Identification Number 18-A016412
Client Identification HC-7-S5
Sampling Date 09/05/18, 08:20

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AY	09/12/18

AMTEST Identification Number 18-A016413
Client Identification HC-7-S6
Sampling Date 09/05/18, 08:25

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AY	09/12/18

AMTEST Identification Number 18-A016414
Client Identification HC-4-S1
Sampling Date 09/05/18, 09:10

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	84.0	%		0.1	SM 2540G	JH	09/14/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	9.80	ug/g		0.384	EPA 6020	KQ	09/27/18
Cadmium	< 0.385	ug/g		0.384	EPA 6020	KQ	09/27/18
Chromium	21.1	ug/g		0.768	EPA 6020	KQ	09/27/18
Lead	12.6	ug/g		0.768	EPA 6020	KQ	09/27/18
Acid Digestion	Y				SW-846 3050B	KQ	09/18/18
Mercury	0.0881	ug/g		0.01	EPA 7471B	JH	09/19/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 20	mg/kg	D10	20.	NWTPH-Dx	DP	10/15/18
Heavy Oil	240	mg/kg	D10	40.	NWTPH-Dx	DP	10/15/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	JDM	09/19/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	102. %	50.0 - 150.
2-Fluorobiphenyl	52.2 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Soil	< 246	ug/kg		250	WDOE NWTPH-Gx	NNL	09/18/18
Benzene	< 2.5	ug/kg		2.5	EPA 8260	NNL	09/18/18
Toluene	< 2.5	ug/kg		2.5	EPA 8260	NNL	09/18/18
Ethyl Benzene	< 2.5	ug/kg		2.5	EPA 8260	NNL	09/18/18
m+p-Xylene	< 2.5	ug/kg		2.5	EPA 8260	NNL	09/18/18
o-Xylene	< 2.5	ug/kg		2.5	EPA 8260	NNL	09/18/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
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Surrogate continued...

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	81.6 %	50.0 - 150.

Semi-Volatiles

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,2,4-Trichlorobenzene	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
1,2-Dichlorobenzene	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
1,3-Dichlorobenzene	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
1,4-Dichlorobenzene	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
2,4,5-Trichlorophenol	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
2,4,6-Trichlorophenol	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
2,4-Dichlorophenol	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
2,4-Dimethylphenol	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
2,4-Dinitrophenol	< 395	ug/kg		400	EPA 8270D	NNL	10/14/18
2,4-Dinitrotoluene	< 198	ug/kg		200	EPA 8270D	NNL	10/14/18
2,6-Dinitrotoluene	< 198	ug/kg		200	EPA 8270D	NNL	10/14/18
2-Chloronaphthalene	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
2-Chlorophenol	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
2-Methylphenol	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
2-Nitroaniline	< 198	ug/kg		200	EPA 8270D	NNL	10/14/18
2-Nitrophenol	< 198	ug/kg		200	EPA 8270D	NNL	10/14/18
3,3-Dichlorobenzidine	< 119	ug/kg		120	EPA 8270D	NNL	10/14/18
3-Nitroaniline	< 198	ug/kg		200	EPA 8270D	NNL	10/14/18
4,6-Dinitro-2-methylpheno	< 198	ug/kg		200	EPA 8270D	NNL	10/14/18
4-Bromophenyl-phenyl ethe	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
4-Chloro-3-methylphenol	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
4-Chloroaniline	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
4-Chlorophenyl-phenyl eth	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
4-Methylphenol (cresol)	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
4-Nitroaniline	< 198	ug/kg		200	EPA 8270D	NNL	10/14/18
4-Nitrophenol	< 395	ug/kg		400	EPA 8270D	NNL	10/14/18
Aniline	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
Azobenzene	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
Benzidine	< 1980	ug/kg		2000	EPA 8270D	NNL	10/14/18
Benzoic Acid	< 39.5	ug/kg		40.	EPA 8270D	NNL	10/14/18
Benzyl Alcohol	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
bis(2-Chloroethoxy)methan	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
bis(2-Chloroethyl)ether	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
bis(2-Chloroisopropyl)eth	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
bis(2-Ethylhexyl)phthalat	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
Butylbenzylphthalate	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
Carbazole	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
Dibenzofuran	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18

Semi-Volatiles continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diethylphthalate	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
Dimethylphthalate	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
Di-n-butylphthalate	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
Di-n-octylphthalate	< 39.5	ug/kg		40.	EPA 8270D	NNL	10/14/18
Hexachlorobenzene	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
Hexachlorobutadiene	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
Hexachlorocyclopentadiene	< 198	ug/kg		200	EPA 8270D	NNL	10/14/18
Hexachloroethane	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
Isophorone	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
Nitrobenzene	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
N-Nitrosodimethylamine	< 198	ug/kg		200	EPA 8270D	NNL	10/14/18
N-Nitroso-di-n-propylamin	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
N-nitrosodiphenylamine	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18
Pentachlorophenol	< 198	ug/kg		200	EPA 8270D	NNL	10/14/18
Phenol	< 79.1	ug/kg		79.	EPA 8270D	NNL	10/14/18

Polynuclear Aromatic Hydrocarbons (PAH)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1-Methylnaphthalene	< 3.95	ug/Kg		4.0	EPA 8270D-SIM	NNL	10/15/18
2-Methylnaphthalene	< 3.95	ug/Kg		4.0	EPA 8270D-SIM	NNL	10/15/18
Acenaphthene	< 3.95	ug/Kg	N	4.0	EPA 8270D-SIM	NNL	10/15/18
Acenaphthylene	< 3.95	ug/Kg		4.0	EPA 8270D-SIM	NNL	10/15/18
Anthracene	< 3.95	ug/Kg		4.0	EPA 8270D-SIM	NNL	10/15/18
Benzo(a)anthracene	4.35	ug/Kg		4.0	EPA 8270D-SIM	NNL	10/15/18
Benzo(a)pyrene	< 3.95	ug/Kg		4.0	EPA 8270D-SIM	NNL	10/15/18
Benzo(b)fluoranthene	< 3.95	ug/Kg		4.0	EPA 8270D-SIM	NNL	10/15/18
Benzo(ghi)perylene	< 3.95	ug/Kg		4.0	EPA 8270D-SIM	NNL	10/15/18
Benzo(k)fluoranthene	< 3.95	ug/Kg		4.0	EPA 8270D-SIM	NNL	10/15/18
Chrysene	6.72	ug/Kg		4.0	EPA 8270D-SIM	NNL	10/15/18
Dibenzo(ah)anthracene	< 3.95	ug/Kg		4.0	EPA 8270D-SIM	NNL	10/15/18
Fluoranthene	5.14	ug/Kg		4.0	EPA 8270D-SIM	NNL	10/15/18
Fluorene	< 3.95	ug/Kg	N	4.0	EPA 8270D-SIM	NNL	10/15/18
Indeno(123-cd)pyrene	< 3.95	ug/Kg		4.0	EPA 8270D-SIM	NNL	10/15/18
Naphthalene	< 3.95	ug/Kg		4.0	EPA 8270D-SIM	NNL	10/15/18
Phenanthrene	4.75	ug/Kg	N	4.0	EPA 8270D-SIM	NNL	10/15/18
Pyrene	16.2	ug/Kg		4.0	EPA 8270D-SIM	NNL	10/15/18
Sonnication Ext.	Y				SW-846 3550C	DP	09/18/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING
 AmTest ID: 18-A016414

Semi-Volatile Surrogates

ANALYTE	% RECOVERY	LIMITS
2-Fluorophenol	64.2 %	24.4 - 126.
D6-Phenol	67.2 %	20.0 - 140.
D5-Nitrobenzene	75.4 %	0.0 - 141.
2-Fluorobiphenyl	90.2 %	0.0 - 128.
2,4,6-Tribromophenol	104. %	0.0 - 130.
D14-Terphenyl	126. %	17.5 - 182.

PCB's

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
PCB-1016	< 19.7	ug/kg		19.7	EPA 8082A	NNL	10/02/18
PCB-1221	< 19.7	ug/kg		19.7	EPA 8082A	NNL	10/02/18
PCB-1232	< 19.7	ug/kg		19.7	EPA 8082A	NNL	10/02/18
PCB-1242	< 19.7	ug/kg		19.7	EPA 8082A	NNL	10/02/18
PCB-1248	< 19.7	ug/kg		19.7	EPA 8082A	NNL	10/02/18
PCB-1254	< 19.7	ug/kg		19.7	EPA 8082A	NNL	10/02/18
PCB-1260	< 19.7	ug/kg		19.7	EPA 8082A	NNL	10/02/18
Soxhlet Ext.	Y				SW-846 3540C	DP	09/17/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Tetrachloro-M-xylene	93.5 % Rec	43.3 - 162.
Decachlorobiphenyl	85.9 % Rec	40.1 - 191.

AMTEST Identification Number 18-A016415
Client Identification HC-4-S2
Sampling Date 09/05/18, 09:15

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AY	09/12/18

Hart Crowser
Project Name: KCIA LARGE AIRCRAFT PARKING
AmTest ID: 18-A016416

AMTEST Identification Number 18-A016416
Client Identification HC-4-S3
Sampling Date 09/05/18, 09:20

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	97.7	%		0.1	SM 2540G	JH	09/14/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 2	mg/kg		1.7	NWTPH-Dx	DP	10/15/18
Heavy Oil	< 3	mg/kg		3.4	NWTPH-Dx	DP	10/15/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	JDM	09/19/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	85.0 %	50.0 - 150.
2-Fluorobiphenyl	78.6 %	50.0 - 150.

AMTEST Identification Number 18-A016417
Client Identification HC-4-S4
Sampling Date 09/05/18, 09:25

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AY	09/12/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING
 AmTest ID: 18-A016418

AMTEST Identification Number 18-A016418
Client Identification HC-4-S5
Sampling Date 09/05/18, 09:30

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AY	09/12/18

AMTEST Identification Number 18-A016419
Client Identification HC-4-S6
Sampling Date 09/05/18, 09:35

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	83.4	%		0.1	SM 2540G	JH	09/14/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 2	mg/kg		2.0	NWTPH-Dx	DP	10/15/18
Heavy Oil	< 4	mg/kg		3.9	NWTPH-Dx	DP	10/15/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	JDM	09/19/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	57.4 %	50.0 - 150.
2-Fluorobiphenyl	65.5 %	50.0 - 150.

AMTEST Identification Number 18-A016420
Client Identification HC-4-GW
Sampling Date 09/05/18, 09:40

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Suspended Solids	290	mg/l	M	1	SM 2540D	JH	09/13/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	1.12	ug/L		0.05	EPA 6020	KQ	09/25/18
Cadmium	0.066	ug/L		0.05	EPA 6020	KQ	09/25/18
Chromium	1.34	ug/L		0.1	EPA 6020	KQ	09/25/18
Lead	0.950	ug/L		0.1	EPA 6020	KQ	09/25/18
Acid Dig.(Tot Metals)	Y				EPA 3010	KQ	09/13/18

Total Metals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Mercury	0.00028	mg/l		0.00005	EPA 7471B	JH	10/05/18

NWTPH-Dx (Water)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 50	ug/l		50.	NWTPH-Dx	DP	10/16/18
Heavy Oil	< 100	ug/l		100	NWTPH-Dx	DP	10/16/18
Sep Fun Ext	Y				EPA 3510	JDM	09/19/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	68.6 %	50.0 - 150.
2-Fluorobiphenyl	72.1 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Water	< 100	ug/l		100	NWTPH-Gx	NNL	09/14/18
Benzene	< 0.5	ug/l		0.5	EPA 624	NNL	09/14/18
Toluene	< 0.5	ug/l		0.5	EPA 624	NNL	09/14/18
Ethyl Benzene	< 0.5	ug/l		0.5	EPA 624	NNL	09/14/18
Total Xylene	< 1	ug/l		1	EPA 624	NNL	09/14/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	108. %	50.0 - 150.

Volatile Organic Analysis (VOA's)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,1,1,2-Tetrachloroethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,1,1-Trichloroethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,1,2,2-Tetrachloroethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,1,2-Trichloroethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,1-Dichloroethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,1-Dichloroethylene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,2,3-Trichloropropane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,2-Dibromo3Chloropropane	< 5	ug/l		5.0	EPA 624	NNL	09/17/18
1,2-Dibromoethane (EDB)	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,2-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,2-Dichloroethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,2-Dichloropropane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,3-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,4-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
2-Butanone (MEK)	< 5	ug/l		5.0	EPA 624	NNL	09/17/18
2-Hexanone	< 5	ug/l		5.0	EPA 624	NNL	09/17/18
4-Methyl-2-Pentanone MIBK	< 5	ug/l		5.0	EPA 624	NNL	09/17/18
Acetone	< 5	ug/l		5.0	EPA 624	NNL	09/17/18
Acrylonitrile	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Benzene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Bromochloromethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Bromodichloromethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Bromoform	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Bromomethane	< 1	ug/l	N	1.0	EPA 624	NNL	09/17/18

Volatile Organic Analysis (VOA's) continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Carbon Disulfide	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Carbon Tetrachloride	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Chlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Chlorodibromomethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Chloroethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Chloroform	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Chloromethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Cis-1,2-Dichloroethene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Cis-1,3-Dichloropropene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Dibromomethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Ethyl Benzene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
m,p Xylene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Methyl Iodide	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Methylene Chloride	< 2	ug/l		2.0	EPA 624	NNL	09/17/18
o-Xylene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Styrene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Tetrachloroethylene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Toluene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Trans-1,2-Dichloroethene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Trans-1,3-Dichloropropene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
trans-1,4-Dichloro2butene	< 5	ug/l		5.0	EPA 624	NNL	09/17/18
Trichloroethylene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Trichlorofluoromethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Vinyl Acetate	< 5	ug/l		5.0	EPA 624	NNL	09/17/18
Vinyl Chloride	< 1	ug/l		1.0	EPA 624	NNL	09/17/18

VOA Surrogates

ANALYTE	% RECOVERY	LIMITS
D4-1,2,-Dichloroethane	89.6 %	82.8 - 113.
D8-Toluene	113. %	89.0 - 123.
4-Bromofluorobenzene	104. %	85.3 - 117.

Semi-Volatiles

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,2,4-Trichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
1,2-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
1,3-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
1,4-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2,4,5-Trichlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2,4,6-Trichlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2,4-Dichlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2,4-Dimethylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2,4-Dinitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2,4-Dinitrotoluene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2,6-Dinitrotoluene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2-Chloronaphthalene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2-Chlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2-Methylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2-Nitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
3,3-Dichlorobenzidine	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
3-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
4,6-Dinitro-2-methylpheno	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
4-Bromophenyl-phenyl ethe	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
4-Chloro-3-methylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
4-Chloroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
4-Chlorophenyl-phenyl eth	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
4-Methylphenol (P.Cresol)	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
4-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
4-Nitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Aniline	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Azobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Benzidine	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Benzoic Acid	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Benzyl Alcohol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
bis(2-Chloroethoxy)methan	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
bis(2-Chloroethyl)ether	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
bis(2-Chloroisopropyl)eth	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
bis(2-Ethylhexyl)phthalat	0.42	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Butylbenzylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Carbazole	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Dibenzofuran	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Diethylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Dimethylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Di-n-butylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Di-n-octylphthalate	< 0.1	ug/l	N	0.10	EPA 8270D-SIM	NNL	09/26/18

Semi-Volatiles continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Hexachlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Hexachlorobutadiene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Hexachlorocyclopentadiene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Hexachloroethane	< 1	ug/l		0.95	EPA 8270D	NNL	10/15/18
Isophorone	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Nitrobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
N-Nitrosodimethylamine	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
N-Nitroso-di-n-propylamin	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
N-nitrosodiphenylamine	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Pentachlorophenol	< 0.5	ug/l		0.48	EPA 8270D-SIM	NNL	09/26/18
Phenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18

Polynuclear Aromatic Hydrocarbons (PAH)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1-Methylnaphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
2-Methylnaphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Acenaphthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Acenaphthylene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Benzo(a)anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Benzo(a)pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Benzo(b)fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Benzo(ghi)perylene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Benzo(k)fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Chrysene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Dibenzo(ah)anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Fluorene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Indeno(123-cd)pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Naphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Phenanthrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Liq/Liq Ext.	Y				EPA 3520	DP	09/14/18

Hart Crowser
Project Name: KCIA LARGE AIRCRAFT PARKING
AmTest ID: 18-A016420

Semi-Volatile Surrogates

ANALYTE	% RECOVERY	LIMITS
2-Fluorophenol	54.1 %	11.5 - 136.
D6-Phenol	88.4 %	0.0 - 105.
D5-Nitrobenzene	107. %	10.0 - 142.
2-Fluorobiphenyl	109. %	23.6 - 122.
2,4,6-Tribromophenol	87.2 %	0.0 - 145.
D14-Terphenyl	154. %	11.0 - 178.

AMTEST Identification Number 18-A016421
Client Identification HC-3-S1
Sampling Date 09/05/18, 11:25

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AY	09/12/18

AMTEST Identification Number 18-A016422
Client Identification HC-3-S2
Sampling Date 09/05/18, 11:30

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	75.4	%		0.1	SM 2540G	JH	09/14/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	6.91	ug/g		0.358	EPA 6020	KQ	09/27/18
Cadmium	0.540	ug/g		0.358	EPA 6020	KQ	09/27/18
Chromium	18.4	ug/g		0.716	EPA 6020	KQ	09/27/18
Lead	3.30	ug/g		0.716	EPA 6020	KQ	09/27/18
Acid Digestion	Y				SW-846 3050B	KQ	09/18/18
Mercury	0.0613	ug/g		0.01	EPA 7471B	JH	09/19/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 2	mg/kg		2.2	NWTPH-Dx	DP	10/15/18
Heavy Oil	5.	mg/kg		4.4	NWTPH-Dx	DP	10/15/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	JDM	09/19/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	59.8 %	50.0 - 150.
2-Fluorobiphenyl	67.1 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Soil	< 251	ug/kg		250	WDOE NWTPH-Gx	NNL	09/18/18
Benzene	< 2.5	ug/kg		2.5	EPA 8260	NNL	09/18/18
Toluene	< 2.5	ug/kg		2.5	EPA 8260	NNL	09/18/18
Ethyl Benzene	< 2.5	ug/kg		2.5	EPA 8260	NNL	09/18/18
m+p-Xylene	< 2.5	ug/kg		2.5	EPA 8260	NNL	09/18/18
o-Xylene	< 2.5	ug/kg		2.5	EPA 8260	NNL	09/18/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
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Surrogate continued...

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	101. %	50.0 - 150.

Semi-Volatiles

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,2,4-Trichlorobenzene	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
1,2-Dichlorobenzene	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
1,3-Dichlorobenzene	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
1,4-Dichlorobenzene	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
2,4,5-Trichlorophenol	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
2,4,6-Trichlorophenol	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
2,4-Dichlorophenol	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
2,4-Dimethylphenol	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
2,4-Dinitrophenol	< 447	ug/kg		450	EPA 8270D	NNL	10/14/18
2,4-Dinitrotoluene	< 224	ug/kg		220	EPA 8270D	NNL	10/14/18
2,6-Dinitrotoluene	< 224	ug/kg		220	EPA 8270D	NNL	10/14/18
2-Chloronaphthalene	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
2-Chlorophenol	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
2-Methylphenol	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
2-Nitroaniline	< 224	ug/kg		220	EPA 8270D	NNL	10/14/18
2-Nitrophenol	< 224	ug/kg		220	EPA 8270D	NNL	10/14/18
3,3-Dichlorobenzidine	< 134	ug/kg		130	EPA 8270D	NNL	10/14/18
3-Nitroaniline	< 224	ug/kg		220	EPA 8270D	NNL	10/14/18
4,6-Dinitro-2-methylpheno	< 224	ug/kg		220	EPA 8270D	NNL	10/14/18
4-Bromophenyl-phenyl ethe	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
4-Chloro-3-methylphenol	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
4-Chloroaniline	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
4-Chlorophenyl-phenyl eth	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
4-Methylphenol (cresol)	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
4-Nitroaniline	< 224	ug/kg		220	EPA 8270D	NNL	10/14/18
4-Nitrophenol	< 447	ug/kg		450	EPA 8270D	NNL	10/14/18
Aniline	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
Azobenzene	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
Benzidine	< 2240	ug/kg		2200	EPA 8270D	NNL	10/14/18
Benzoic Acid	< 44.7	ug/kg		45.	EPA 8270D	NNL	10/14/18
Benzyl Alcohol	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
bis(2-Chloroethoxy)methan	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
bis(2-Chloroethyl)ether	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
bis(2-Chloroisopropyl)eth	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
bis(2-Ethylhexyl)phthalat	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
Butylbenzylphthalate	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
Carbazole	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
Dibenzofuran	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18

Semi-Volatiles continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diethylphthalate	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
Dimethylphthalate	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
Di-n-butylphthalate	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
Di-n-octylphthalate	< 44.7	ug/kg		45.	EPA 8270D	NNL	10/14/18
Hexachlorobenzene	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
Hexachlorobutadiene	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
Hexachlorocyclopentadiene	< 224	ug/kg		220	EPA 8270D	NNL	10/14/18
Hexachloroethane	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
Isophorone	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
Nitrobenzene	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
N-Nitrosodimethylamine	< 224	ug/kg		220	EPA 8270D	NNL	10/14/18
N-Nitroso-di-n-propylamin	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
N-nitrosodiphenylamine	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18
Pentachlorophenol	< 224	ug/kg		220	EPA 8270D	NNL	10/14/18
Phenol	< 89.5	ug/kg		89.	EPA 8270D	NNL	10/14/18

Polynuclear Aromatic Hydrocarbons (PAH)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1-Methylnaphthalene	< 4.47	ug/Kg		4.5	EPA 8270D-SIM	NNL	10/15/18
2-Methylnaphthalene	< 4.47	ug/Kg		4.5	EPA 8270D-SIM	NNL	10/15/18
Acenaphthene	< 4.47	ug/Kg	N	4.5	EPA 8270D-SIM	NNL	10/15/18
Acenaphthylene	< 4.47	ug/Kg		4.5	EPA 8270D-SIM	NNL	10/15/18
Anthracene	< 4.47	ug/Kg		4.5	EPA 8270D-SIM	NNL	10/15/18
Benzo(a)anthracene	< 4.47	ug/Kg		4.5	EPA 8270D-SIM	NNL	10/15/18
Benzo(a)pyrene	< 4.47	ug/Kg		4.5	EPA 8270D-SIM	NNL	10/15/18
Benzo(b)fluoranthene	< 4.47	ug/Kg		4.5	EPA 8270D-SIM	NNL	10/15/18
Benzo(ghi)perylene	< 4.47	ug/Kg		4.5	EPA 8270D-SIM	NNL	10/15/18
Benzo(k)fluoranthene	< 4.47	ug/Kg		4.5	EPA 8270D-SIM	NNL	10/15/18
Chrysene	< 4.47	ug/Kg		4.5	EPA 8270D-SIM	NNL	10/15/18
Dibenzo(ah)anthracene	< 4.47	ug/Kg		4.5	EPA 8270D-SIM	NNL	10/15/18
Fluoranthene	< 4.47	ug/Kg		4.5	EPA 8270D-SIM	NNL	10/15/18
Fluorene	< 4.47	ug/Kg	N	4.5	EPA 8270D-SIM	NNL	10/15/18
Indeno(123-cd)pyrene	< 4.47	ug/Kg		4.5	EPA 8270D-SIM	NNL	10/15/18
Naphthalene	< 4.47	ug/Kg		4.5	EPA 8270D-SIM	NNL	10/15/18
Phenanthrene	< 4.47	ug/Kg	N	4.5	EPA 8270D-SIM	NNL	10/15/18
Pyrene	< 4.47	ug/Kg		4.5	EPA 8270D-SIM	NNL	10/15/18
Sonnication Ext.	Y				SW-846 3550C	DP	09/18/18

Semi-Volatile Surrogates

ANALYTE	% RECOVERY	LIMITS
2-Fluorophenol	41.8 %	24.4 - 126.
D6-Phenol	45.2 %	20.0 - 140.
D5-Nitrobenzene	49.4 %	0.0 - 141.
2-Fluorobiphenyl	68.5 %	0.0 - 128.
2,4,6-Tribromophenol	61.7 %	0.0 - 130.
D14-Terphenyl	132. %	17.5 - 182.

PCB's

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
PCB-1016	< 21.4	ug/kg		21.4	EPA 8082A	NNL	10/02/18
PCB-1221	< 21.4	ug/kg		21.4	EPA 8082A	NNL	10/02/18
PCB-1232	< 21.4	ug/kg		21.4	EPA 8082A	NNL	10/02/18
PCB-1242	< 21.4	ug/kg		21.4	EPA 8082A	NNL	10/02/18
PCB-1248	< 21.4	ug/kg		21.4	EPA 8082A	NNL	10/02/18
PCB-1254	< 21.4	ug/kg		21.4	EPA 8082A	NNL	10/02/18
PCB-1260	< 21.4	ug/kg		21.4	EPA 8082A	NNL	10/02/18
Soxhlet Ext.	Y				SW-846 3540C	DP	09/17/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Tetrachloro-M-xylene	162. % Rec	43.3 - 162.
Decachlorobiphenyl	67.5 % Rec	40.1 - 191.

Hart Crowser
Project Name: KCIA LARGE AIRCRAFT PARKING
AmTest ID: 18-A016423

AMTEST Identification Number 18-A016423
Client Identification HC-3-S3
Sampling Date 09/05/18, 11:35

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	79.3	%		0.1	SM 2540G	JH	09/14/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 2	mg/kg		2.1	NWTPH-Dx	DP	10/15/18
Heavy Oil	8.	mg/kg		4.2	NWTPH-Dx	DP	10/15/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	JDM	09/19/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	77.0 %	50.0 - 150.
2-Fluorobiphenyl	89.9 %	50.0 - 150.

AMTEST Identification Number 18-A016424
Client Identification HC-3-S4
Sampling Date 09/05/18, 11:40

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AY	09/12/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING
 AmTest ID: 18-A016425

AMTEST Identification Number 18-A016425
Client Identification HC-3-S5
Sampling Date 09/05/18, 11:45

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	84.8	%		0.1	SM 2540G	JH	09/14/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 2	mg/kg		2.0	NWTPH-Dx	DP	10/15/18
Heavy Oil	< 4	mg/kg		4.0	NWTPH-Dx	DP	10/15/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	JDM	09/19/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	74.7 %	50.0 - 150.
2-Fluorobiphenyl	81.0 %	50.0 - 150.

AMTEST Identification Number 18-A016426
Client Identification HC-3-S6
Sampling Date 09/05/18, 11:50

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AY	09/12/18

AMTEST Identification Number 18-A016427
Client Identification HC-2-S1
Sampling Date 09/05/18, 12:00

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	96.4	%		0.1	SM 2540G	JH	09/14/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	2.98	ug/g		0.388	EPA 6020	KQ	09/27/18
Cadmium	0.463	ug/g		0.388	EPA 6020	KQ	09/27/18
Chromium	17.7	ug/g		0.776	EPA 6020	KQ	09/27/18
Lead	2.54	ug/g		0.776	EPA 6020	KQ	09/27/18
Acid Digestion	Y				SW-846 3050B	KQ	09/18/18
Mercury	0.0241	ug/g		0.01	EPA 7471B	JH	09/19/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	3.	mg/kg		1.7	NWTPH-Dx	DP	10/15/18
Heavy Oil	9.	mg/kg		3.4	NWTPH-Dx	DP	10/15/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	JDM	09/19/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	84.1 %	50.0 - 150.
2-Fluorobiphenyl	88.4 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Soil	< 219	ug/kg		220	WDOE NWTPH-Gx	NNL	09/18/18
Benzene	< 2.2	ug/kg		2.2	EPA 8260	NNL	09/18/18
Toluene	< 2.2	ug/kg		2.2	EPA 8260	NNL	09/18/18
Ethyl Benzene	< 2.2	ug/kg		2.2	EPA 8260	NNL	09/18/18
m+p-Xylene	< 2.2	ug/kg		2.2	EPA 8260	NNL	09/18/18
o-Xylene	< 2.2	ug/kg		2.2	EPA 8260	NNL	09/18/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
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Surrogate continued...

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	117. %	50.0 - 150.

Semi-Volatiles

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,2,4-Trichlorobenzene	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
1,2-Dichlorobenzene	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
1,3-Dichlorobenzene	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
1,4-Dichlorobenzene	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
2,4,5-Trichlorophenol	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
2,4,6-Trichlorophenol	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
2,4-Dichlorophenol	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
2,4-Dimethylphenol	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
2,4-Dinitrophenol	< 353	ug/kg		350	EPA 8270D	NNL	10/14/18
2,4-Dinitrotoluene	< 177	ug/kg		180	EPA 8270D	NNL	10/14/18
2,6-Dinitrotoluene	< 177	ug/kg		180	EPA 8270D	NNL	10/14/18
2-Chloronaphthalene	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
2-Chlorophenol	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
2-Methylphenol	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
2-Nitroaniline	< 177	ug/kg		180	EPA 8270D	NNL	10/14/18
2-Nitrophenol	< 177	ug/kg		180	EPA 8270D	NNL	10/14/18
3,3-Dichlorobenzidine	< 106	ug/kg		110	EPA 8270D	NNL	10/14/18
3-Nitroaniline	< 177	ug/kg		180	EPA 8270D	NNL	10/14/18
4,6-Dinitro-2-methylpheno	< 177	ug/kg		180	EPA 8270D	NNL	10/14/18
4-Bromophenyl-phenyl ethe	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
4-Chloro-3-methylphenol	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
4-Chloroaniline	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
4-Chlorophenyl-phenyl eth	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
4-Methylphenol (cresol)	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
4-Nitroaniline	< 177	ug/kg		180	EPA 8270D	NNL	10/14/18
4-Nitrophenol	< 353	ug/kg		350	EPA 8270D	NNL	10/14/18
Aniline	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
Azobenzene	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
Benzidine	< 1770	ug/kg		1800	EPA 8270D	NNL	10/14/18
Benzoic Acid	< 35.3	ug/kg		35.	EPA 8270D	NNL	10/14/18
Benzyl Alcohol	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
bis(2-Chloroethoxy)methan	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
bis(2-Chloroethyl)ether	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
bis(2-Chloroisopropyl)eth	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
bis(2-Ethylhexyl)phthalat	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
Butylbenzylphthalate	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
Carbazole	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
Dibenzofuran	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18

Semi-Volatiles continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diethylphthalate	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
Dimethylphthalate	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
Di-n-butylphthalate	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
Di-n-octylphthalate	< 35.3	ug/kg		35.	EPA 8270D	NNL	10/14/18
Hexachlorobenzene	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
Hexachlorobutadiene	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
Hexachlorocyclopentadiene	< 177	ug/kg		180	EPA 8270D	NNL	10/14/18
Hexachloroethane	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
Isophorone	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
Nitrobenzene	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
N-Nitrosodimethylamine	< 177	ug/kg		180	EPA 8270D	NNL	10/14/18
N-Nitroso-di-n-propylamin	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
N-nitrosodiphenylamine	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18
Pentachlorophenol	< 177	ug/kg		180	EPA 8270D	NNL	10/14/18
Phenol	< 70.6	ug/kg		71.	EPA 8270D	NNL	10/14/18

Polynuclear Aromatic Hydrocarbons (PAH)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1-Methylnaphthalene	< 3.53	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/15/18
2-Methylnaphthalene	< 3.53	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/15/18
Acenaphthene	< 3.53	ug/Kg	N	3.5	EPA 8270D-SIM	NNL	10/15/18
Acenaphthylene	< 3.53	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/15/18
Anthracene	< 3.53	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/15/18
Benzo(a)anthracene	< 3.53	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/15/18
Benzo(a)pyrene	< 3.53	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/15/18
Benzo(b)fluoranthene	< 3.53	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/15/18
Benzo(ghi)perylene	< 3.53	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/15/18
Benzo(k)fluoranthene	< 3.53	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/15/18
Chrysene	< 3.53	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/15/18
Dibenzo(ah)anthracene	< 3.53	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/15/18
Fluoranthene	< 3.53	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/15/18
Fluorene	< 3.53	ug/Kg	N	3.5	EPA 8270D-SIM	NNL	10/15/18
Indeno(123-cd)pyrene	< 3.53	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/15/18
Naphthalene	< 3.53	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/15/18
Phenanthrene	< 3.53	ug/Kg	N	3.5	EPA 8270D-SIM	NNL	10/15/18
Pyrene	< 3.53	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/15/18
Sonnication Ext.	Y				SW-846 3550C	DP	09/18/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING
 AmTest ID: 18-A016427

Semi-Volatile Surrogates

ANALYTE	% RECOVERY	LIMITS
2-Fluorophenol	66.2 %	24.4 - 126.
D6-Phenol	72.2 %	20.0 - 140.
D5-Nitrobenzene	83.2 %	0.0 - 141.
2-Fluorobiphenyl	90.8 %	0.0 - 128.
2,4,6-Tribromophenol	83.4 %	0.0 - 130.
D14-Terphenyl	142. %	17.5 - 182.

PCB's

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
PCB-1016	< 17.4	ug/kg		17.4	EPA 8082A	NNL	10/02/18
PCB-1221	< 17.4	ug/kg		17.4	EPA 8082A	NNL	10/02/18
PCB-1232	< 17.4	ug/kg		17.4	EPA 8082A	NNL	10/02/18
PCB-1242	< 17.4	ug/kg		17.4	EPA 8082A	NNL	10/02/18
PCB-1248	< 17.4	ug/kg		17.4	EPA 8082A	NNL	10/02/18
PCB-1254	< 17.4	ug/kg		17.4	EPA 8082A	NNL	10/02/18
PCB-1260	< 17.4	ug/kg		17.4	EPA 8082A	NNL	10/02/18
Soxhlet Ext.	Y				SW-846 3540C	DP	09/17/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Tetrachloro-M-xylene	96.2 % Rec	43.3 - 162.
Decachlorobiphenyl	94.3 % Rec	40.1 - 191.

AMTEST Identification Number 18-A016428
Client Identification HC-2-S2
Sampling Date 09/05/18, 12:05

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AY	09/12/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING
 AmTest ID: 18-A016429

AMTEST Identification Number 18-A016429
Client Identification HC-2-S3
Sampling Date 09/05/18, 12:10

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AY	09/12/18

AMTEST Identification Number 18-A016430
Client Identification HC-2-S4
Sampling Date 09/05/18, 12:15

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	92.9	%		0.1	SM 2540G	JH	09/14/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 2	mg/kg		1.8	NWTPH-Dx	DP	10/15/18
Heavy Oil	< 4	mg/kg		3.6	NWTPH-Dx	DP	10/15/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	JDM	09/19/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	81.7 %	50.0 - 150.
2-Fluorobiphenyl	87.2 %	50.0 - 150.

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING
 AmTest ID: 18-A016431

AMTEST Identification Number 18-A016431
Client Identification HC-2-S5
Sampling Date 09/05/18, 12:20

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AY	09/12/18

AMTEST Identification Number 18-A016432
Client Identification HC-2-S6
Sampling Date 09/05/18, 12:25

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	72.7	%		0.1	SM 2540G	JH	09/14/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	7.	mg/kg		2.3	NWTPH-Dx	DP	10/15/18
Heavy Oil	19.	mg/kg		4.6	NWTPH-Dx	DP	10/15/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	JDM	09/19/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	87.0 %	50.0 - 150.
2-Fluorobiphenyl	92.9 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Soil	< 196	ug/kg		200	WDOE NWTPH-Gx	NNL	09/18/18
Benzene	< 2	ug/kg		2.0	EPA 8260	NNL	09/18/18
Toluene	< 2	ug/kg		2.0	EPA 8260	NNL	09/18/18
Ethyl Benzene	< 2	ug/kg		2.0	EPA 8260	NNL	09/18/18
m+p-Xylene	< 2	ug/kg		2.0	EPA 8260	NNL	09/18/18
o-Xylene	< 2	ug/kg		2.0	EPA 8260	NNL	09/18/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
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Hart Crowser
Project Name: KCIA LARGE AIRCRAFT PARKING
AmTest ID: 18-A016432

Surrogate continued...

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	97.7 %	50.0 - 150.

AMTEST Identification Number 18-A016433
Client Identification HC-8-S1
Sampling Date 09/05/18, 14:00

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AY	09/12/18

AMTEST Identification Number 18-A016434
Client Identification HC-8-S2
Sampling Date 09/05/18, 14:05

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AY	09/12/18

AMTEST Identification Number 18-A016435
Client Identification HC-8-S3
Sampling Date 09/05/18, 14:10

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AY	09/12/18

AMTEST Identification Number 18-A016436
Client Identification HC-8-S4
Sampling Date 09/05/18, 14:15

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AY	09/12/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING
 AmTest ID: 18-A016437

AMTEST Identification Number 18-A016437
Client Identification HC-8-S5
Sampling Date 09/05/18, 14:20

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AY	09/12/18

AMTEST Identification Number 18-A016438
Client Identification HC-8-GW
Sampling Date 09/05/18, 14:30

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Suspended Solids	70.	mg/l	M	1	SM 2540D	JH	09/13/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	1.14	ug/L		0.05	EPA 6020	KQ	09/25/18
Cadmium	< 0.05	ug/L		0.05	EPA 6020	KQ	09/25/18
Chromium	0.49	ug/L		0.1	EPA 6020	KQ	09/25/18
Lead	0.252	ug/L		0.1	EPA 6020	KQ	09/25/18
Acid Dig.(Tot Metals)	Y				EPA 3010	KQ	09/13/18

Total Metals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Mercury	0.00006	mg/l		0.00005	EPA 7471B	JH	10/05/18

NWTPH-Dx (Water)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 50	ug/l		50.	NWTPH-Dx	DP	10/16/18
Heavy Oil	< 100	ug/l		100	NWTPH-Dx	DP	10/16/18
Sep Fun Ext	Y				EPA 3510	JDM	09/19/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	54.5 %	50.0 - 150.
2-Fluorobiphenyl	61.4 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Water	< 100	ug/l		100	NWTPH-Gx	NNL	09/14/18
Benzene	< 0.5	ug/l		0.5	EPA 624	NNL	09/14/18
Toluene	< 0.5	ug/l		0.5	EPA 624	NNL	09/14/18
Ethyl Benzene	< 0.5	ug/l		0.5	EPA 624	NNL	09/14/18
Total Xylene	< 1	ug/l		1	EPA 624	NNL	09/14/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	109. %	50.0 - 150.

Volatile Organic Analysis (VOA's)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,1,1,2-Tetrachloroethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,1,1-Trichloroethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,1,2,2-Tetrachloroethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,1,2-Trichloroethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,1-Dichloroethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,1-Dichloroethylene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,2,3-Trichloropropane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,2-Dibromo3Chloropropane	< 5	ug/l		5.0	EPA 624	NNL	09/17/18
1,2-Dibromoethane (EDB)	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,2-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,2-Dichloroethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,2-Dichloropropane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,3-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,4-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
2-Butanone (MEK)	< 5	ug/l		5.0	EPA 624	NNL	09/17/18
2-Hexanone	< 5	ug/l		5.0	EPA 624	NNL	09/17/18
4-Methyl-2-Pentanone MIBK	< 5	ug/l		5.0	EPA 624	NNL	09/17/18

Volatile Organic Analysis (VOA's) continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Acetone	< 5	ug/l		5.0	EPA 624	NNL	09/17/18
Acrylonitrile	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Benzene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Bromochloromethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Bromodichloromethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Bromoform	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Bromomethane	< 1	ug/l	N	1.0	EPA 624	NNL	09/17/18
Carbon Disulfide	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Carbon Tetrachloride	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Chlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Chlorodibromomethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Chloroethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Chloroform	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Chloromethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Cis-1,2-Dichloroethene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Cis-1,3-Dichloropropene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Dibromomethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Ethyl Benzene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
m,p Xylene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Methyl Iodide	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Methylene Chloride	< 2	ug/l		2.0	EPA 624	NNL	09/17/18
o-Xylene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Styrene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Tetrachloroethylene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Toluene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Trans-1,2-Dichloroethene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Trans-1,3-Dichloropropene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
trans-1,4-Dichloro2butene	< 5	ug/l		5.0	EPA 624	NNL	09/17/18
Trichloroethylene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Trichlorofluoromethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Vinyl Acetate	< 5	ug/l		5.0	EPA 624	NNL	09/17/18
Vinyl Chloride	< 1	ug/l		1.0	EPA 624	NNL	09/17/18

VOA Surrogates

ANALYTE	% RECOVERY	LIMITS
D4-1,2,-Dichloroethane	96.7 %	82.8 - 113.
D8-Toluene	111. %	89.0 - 123.
4-Bromofluorobenzene	103. %	85.3 - 117.

Semi-Volatiles

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,2,4-Trichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
1,2-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
1,3-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
1,4-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2,4,5-Trichlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2,4,6-Trichlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2,4-Dichlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2,4-Dimethylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2,4-Dinitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2,4-Dinitrotoluene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2,6-Dinitrotoluene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2-Chloronaphthalene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2-Chlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2-Methylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2-Nitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
3,3-Dichlorobenzidine	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
3-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
4,6-Dinitro-2-methylpheno	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
4-Bromophenyl-phenyl ethe	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
4-Chloro-3-methylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
4-Chloroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
4-Chlorophenyl-phenyl eth	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
4-Methylphenol (P.Cresol)	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
4-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
4-Nitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Aniline	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Azobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Benzidine	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Benzoic Acid	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Benzyl Alcohol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
bis(2-Chloroethoxy)methan	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
bis(2-Chloroethyl)ether	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
bis(2-Chloroisopropyl)eth	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
bis(2-Ethylhexyl)phthalat	1.11	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Butylbenzylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Carbazole	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Dibenzofuran	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Diethylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Dimethylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Di-n-butylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Di-n-octylphthalate	< 0.1	ug/l	N	0.10	EPA 8270D-SIM	NNL	09/26/18

Semi-Volatiles continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Hexachlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Hexachlorobutadiene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Hexachlorocyclopentadiene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Hexachloroethane	< 1	ug/l		0.95	EPA 8270D	NNL	10/15/18
Isophorone	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Nitrobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
N-Nitrosodimethylamine	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
N-Nitroso-di-n-propylamin	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
N-nitrosodiphenylamine	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Pentachlorophenol	< 0.5	ug/l		0.48	EPA 8270D-SIM	NNL	09/26/18
Phenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18

Polynuclear Aromatic Hydrocarbons (PAH)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1-Methylnaphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
2-Methylnaphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Acenaphthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Acenaphthylene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Benzo(a)anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Benzo(a)pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Benzo(b)fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Benzo(ghi)perylene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Benzo(k)fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Chrysene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Dibenzo(ah)anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Fluorene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Indeno(123-cd)pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Naphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Phenanthrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Liq/Liq Ext.	Y				EPA 3520	DP	09/14/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING
 AmTest ID: 18-A016438

Semi-Volatile Surrogates

ANALYTE	% RECOVERY	LIMITS
2-Fluorophenol	53.8 %	11.5 - 136.
D6-Phenol	91.2 %	0.0 - 105.
D5-Nitrobenzene	112. %	10.0 - 142.
2-Fluorobiphenyl	122. %	23.6 - 122.
2,4,6-Tribromophenol	83.8 %	0.0 - 145.
D14-Terphenyl	164. %	11.0 - 178.

AMTEST Identification Number 18-A016439
 Client Identification HC-1-S1
 Sampling Date 09/05/18, 13:00

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	96.7	%		0.1	SM 2540G	JH	09/14/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	3.46	ug/g		0.358	EPA 6020	KQ	09/27/18
Cadmium	< 0.358	ug/g		0.358	EPA 6020	KQ	09/27/18
Chromium	19.6	ug/g		0.717	EPA 6020	KQ	09/27/18
Lead	3.94	ug/g		0.717	EPA 6020	KQ	09/27/18
Acid Digestion	Y				SW-846 3050B	KQ	09/18/18
Mercury	0.0162	ug/g		0.01	EPA 7471B	JH	09/19/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 17	mg/kg	D10	17.	NWTPH-Dx	DP	10/15/18
Heavy Oil	140	mg/kg	D10	35.	NWTPH-Dx	DP	10/15/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	JDM	09/19/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING
 AmTest ID: 18-A016439

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	94.3 %	50.0 - 150.
2-Fluorobiphenyl	71.2 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Soil	< 217	ug/kg		220	WDOE NWTPH-Gx	NNL	09/18/18
Benzene	< 2.2	ug/kg		2.2	EPA 8260	NNL	09/18/18
Toluene	< 2.2	ug/kg		2.2	EPA 8260	NNL	09/18/18
Ethyl Benzene	< 2.2	ug/kg		2.2	EPA 8260	NNL	09/18/18
m+p-Xylene	< 2.2	ug/kg		2.2	EPA 8260	NNL	09/18/18
o-Xylene	< 2.2	ug/kg		2.2	EPA 8260	NNL	09/18/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	103. %	50.0 - 150.

Semi-Volatiles

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,2,4-Trichlorobenzene	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
1,2-Dichlorobenzene	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
1,3-Dichlorobenzene	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
1,4-Dichlorobenzene	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
2,4,5-Trichlorophenol	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
2,4,6-Trichlorophenol	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
2,4-Dichlorophenol	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
2,4-Dimethylphenol	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
2,4-Dinitrophenol	< 348	ug/kg		350	EPA 8270D	NNL	10/14/18
2,4-Dinitrotoluene	< 174	ug/kg		170	EPA 8270D	NNL	10/14/18
2,6-Dinitrotoluene	< 174	ug/kg		170	EPA 8270D	NNL	10/14/18
2-Chloronaphthalene	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
2-Chlorophenol	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
2-Methylphenol	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
2-Nitroaniline	< 174	ug/kg		170	EPA 8270D	NNL	10/14/18
2-Nitrophenol	< 174	ug/kg		170	EPA 8270D	NNL	10/14/18
3,3-Dichlorobenzidine	< 104	ug/kg		100	EPA 8270D	NNL	10/14/18
3-Nitroaniline	< 174	ug/kg		170	EPA 8270D	NNL	10/14/18
4,6-Dinitro-2-methylpheno	< 174	ug/kg		170	EPA 8270D	NNL	10/14/18
4-Bromophenyl-phenyl ethe	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
4-Chloro-3-methylphenol	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
4-Chloroaniline	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
4-Chlorophenyl-phenyl eth	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
4-Methylphenol (cresol)	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
4-Nitroaniline	< 174	ug/kg		170	EPA 8270D	NNL	10/14/18
4-Nitrophenol	< 348	ug/kg		350	EPA 8270D	NNL	10/14/18
Aniline	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
Azobenzene	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
Benzidine	< 1740	ug/kg		1700	EPA 8270D	NNL	10/14/18
Benzoic Acid	< 34.8	ug/kg		35.	EPA 8270D	NNL	10/14/18
Benzyl Alcohol	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
bis(2-Chloroethoxy)methan	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
bis(2-Chloroethyl)ether	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
bis(2-Chloroisopropyl)eth	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
bis(2-Ethylhexyl)phthalat	< 3.48	ug/kg		3.5	EPA 8270D-SIM	NNL	10/16/18
Butylbenzylphthalate	< 3.48	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/16/18
Carbazole	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
Dibenzofuran	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
Diethylphthalate	< 3.48	ug/kg		3.5	EPA 8270D-SIM	NNL	10/16/18
Di-n-butylphthalate	< 3.48	ug/kg		3.5	EPA 8270D-SIM	NNL	10/16/18
Dimethylphthalate	< 3.48	ug/kg		3.5	EPA 8270D-SIM	NNL	10/16/18
Di-n-octylphthalate	< 3.48	ug/kg		3.5	EPA 8270D-SIM	NNL	10/16/18

Semi-Volatiles continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Hexachlorobenzene	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
Hexachlorobutadiene	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
Hexachlorocyclopentadiene	< 174	ug/kg		170	EPA 8270D	NNL	10/14/18
Hexachloroethane	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
Isophorone	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
Nitrobenzene	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
N-Nitrosodimethylamine	< 174	ug/kg		170	EPA 8270D	NNL	10/14/18
N-Nitroso-di-n-propylamin	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
N-nitrosodiphenylamine	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18
Pentachlorophenol	< 17.4	ug/kg		17.	EPA 8270D-SIM	NNL	10/16/18
Phenol	< 69.5	ug/kg		70.	EPA 8270D	NNL	10/14/18

Polynuclear Aromatic Hydrocarbons (PAH)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1-Methylnaphthalene	< 3.48	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/16/18
2-Methylnaphthalene	< 3.48	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/16/18
Acenaphthene	< 3.48	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/16/18
Acenaphthylene	< 3.48	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/16/18
Anthracene	< 3.48	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/16/18
Benzo(a)anthracene	< 3.48	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/16/18
Benzo(a)pyrene	< 3.48	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/16/18
Benzo(b)fluoranthene	< 3.48	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/16/18
Benzo(ghi)perylene	< 3.48	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/16/18
Benzo(k)fluoranthene	< 3.48	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/16/18
Chrysene	< 3.48	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/16/18
Dibenzo(ah)anthracene	< 3.48	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/16/18
Fluoranthene	< 3.48	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/16/18
Fluorene	< 3.48	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/16/18
Indeno(123-cd)pyrene	< 3.48	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/16/18
Naphthalene	< 3.48	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/16/18
Phenanthrene	< 3.48	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/16/18
Pyrene	< 3.48	ug/Kg		3.5	EPA 8270D-SIM	NNL	10/16/18
Sonnication Ext.	Y				SW-846 3550C	DP	09/18/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING
 AmTest ID: 18-A016439

Semi-Volatile Surrogates

ANALYTE	% RECOVERY	LIMITS
2-Fluorophenol	79.7 %	24.4 - 126.
D6-Phenol	79.8 %	20.0 - 140.
D5-Nitrobenzene	88.8 %	0.0 - 141.
2-Fluorobiphenyl	113. %	0.0 - 128.
2,4,6-Tribromophenol	88.9 %	0.0 - 130.
D14-Terphenyl	125. %	17.5 - 182.

PCB's

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
PCB-1016	< 17.1	ug/kg		17.1	EPA 8082A	NNL	10/02/18
PCB-1221	< 17.1	ug/kg		17.1	EPA 8082A	NNL	10/02/18
PCB-1232	< 17.1	ug/kg		17.1	EPA 8082A	NNL	10/02/18
PCB-1242	< 17.1	ug/kg		17.1	EPA 8082A	NNL	10/02/18
PCB-1248	< 17.1	ug/kg		17.1	EPA 8082A	NNL	10/02/18
PCB-1254	< 17.1	ug/kg		17.1	EPA 8082A	NNL	10/02/18
PCB-1260	< 17.1	ug/kg		17.1	EPA 8082A	NNL	10/02/18
Soxhlet Ext.	Y				SW-846 3540C	DP	09/17/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Tetrachloro-M-xylene	102. % Rec	43.3 - 162.
Decachlorobiphenyl	94.5 % Rec	40.1 - 191.

AMTEST Identification Number 18-A016440
Client Identification HC-1-S2
Sampling Date 09/05/18, 13:05

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AY	09/12/18

Hart Crowser
Project Name: KCIA LARGE AIRCRAFT PARKING
AmTest ID: 18-A016441

AMTEST Identification Number 18-A016441
Client Identification HC-1-S3
Sampling Date 09/05/18, 13:10

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AY	09/12/18

AMTEST Identification Number 18-A016442
Client Identification HC-1-S4
Sampling Date 09/05/18, 13:15

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AY	09/12/18

AMTEST Identification Number 18-A016443
Client Identification HC-1-S5
Sampling Date 09/05/18, 13:20

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Hold	HOLD					AY	09/12/18

Hart Crowser
Project Name: KCIA LARGE AIRCRAFT PARKING
AmTest ID: 18-A016444

AMTEST Identification Number 18-A016444
Client Identification HC-1-S6
Sampling Date 09/05/18, 13:25

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	82.4	%		0.1	SM 2540G	JH	09/14/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 2	mg/kg		2.0	NWTPH-Dx	DP	10/15/18
Heavy Oil	< 4	mg/kg		3.9	NWTPH-Dx	DP	10/15/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	JDM	09/19/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	91.9 %	50.0 - 150.
2-Fluorobiphenyl	91.8 %	50.0 - 150.

AMTEST Identification Number 18-A016445
Client Identification HC-1-GW
Sampling Date 09/05/18, 13:30

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Suspended Solids	230	mg/l	M	1	SM 2540D	JH	09/13/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	1.69	ug/L		0.05	EPA 6020	KQ	09/25/18
Cadmium	< 0.05	ug/L		0.05	EPA 6020	KQ	09/25/18
Chromium	0.47	ug/L		0.1	EPA 6020	KQ	09/25/18
Lead	1.03	ug/L		0.1	EPA 6020	KQ	09/25/18
Acid Dig.(Tot Metals)	Y				EPA 3010	KQ	09/13/18

Total Metals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Mercury	0.00006	mg/l		0.00005	EPA 7471B	JH	10/05/18

NWTPH-Dx (Water)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 50	ug/l		50.	NWTPH-Dx	DP	10/16/18
Heavy Oil	< 100	ug/l		100	NWTPH-Dx	DP	10/16/18
Sep Fun Ext	Y				EPA 3510	JDM	09/19/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	60.7 %	50.0 - 150.
2-Fluorobiphenyl	71.4 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Water	< 100	ug/l		100	NWTPH-Gx	NNL	09/14/18
Benzene	< 0.5	ug/l		0.5	EPA 624	NNL	09/14/18
Toluene	< 0.5	ug/l		0.5	EPA 624	NNL	09/14/18
Ethyl Benzene	< 0.5	ug/l		0.5	EPA 624	NNL	09/14/18
Total Xylene	< 1	ug/l		1	EPA 624	NNL	09/14/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	109. %	50.0 - 150.

Volatile Organic Analysis (VOA's)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,1,1,2-Tetrachloroethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,1,1-Trichloroethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,1,2,2-Tetrachloroethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,1,2-Trichloroethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,1-Dichloroethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,1-Dichloroethylene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,2,3-Trichloropropane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,2-Dibromo3Chloropropane	< 5	ug/l		5.0	EPA 624	NNL	09/17/18
1,2-Dibromoethane (EDB)	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,2-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,2-Dichloroethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,2-Dichloropropane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,3-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
1,4-Dichlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
2-Butanone (MEK)	< 5	ug/l		5.0	EPA 624	NNL	09/17/18
2-Hexanone	< 5	ug/l		5.0	EPA 624	NNL	09/17/18
4-Methyl-2-Pentanone MIBK	< 5	ug/l		5.0	EPA 624	NNL	09/17/18
Acetone	< 5	ug/l		5.0	EPA 624	NNL	09/17/18
Acrylonitrile	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Benzene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Bromochloromethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Bromodichloromethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Bromoform	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Bromomethane	< 1	ug/l	N	1.0	EPA 624	NNL	09/17/18

Volatile Organic Analysis (VOA's) continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Carbon Disulfide	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Carbon Tetrachloride	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Chlorobenzene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Chlorodibromomethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Chloroethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Chloroform	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Chloromethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Cis-1,2-Dichloroethene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Cis-1,3-Dichloropropene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Dibromomethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Ethyl Benzene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
m,p Xylene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Methyl Iodide	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Methylene Chloride	< 2	ug/l		2.0	EPA 624	NNL	09/17/18
o-Xylene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Styrene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Tetrachloroethylene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Toluene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Trans-1,2-Dichloroethene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Trans-1,3-Dichloropropene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
trans-1,4-Dichloro2butene	< 5	ug/l		5.0	EPA 624	NNL	09/17/18
Trichloroethylene	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Trichlorofluoromethane	< 1	ug/l		1.0	EPA 624	NNL	09/17/18
Vinyl Acetate	< 5	ug/l		5.0	EPA 624	NNL	09/17/18
Vinyl Chloride	< 1	ug/l		1.0	EPA 624	NNL	09/17/18

VOA Surrogates

ANALYTE	% RECOVERY	LIMITS
D4-1,2,-Dichloroethane	100. %	82.8 - 113.
D8-Toluene	108. %	89.0 - 123.
4-Bromofluorobenzene	107. %	85.3 - 117.

Semi-Volatiles

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,2,4-Trichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
1,2-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
1,3-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
1,4-Dichlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2,4,5-Trichlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2,4,6-Trichlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2,4-Dichlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2,4-Dimethylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2,4-Dinitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2,4-Dinitrotoluene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2,6-Dinitrotoluene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2-Chloronaphthalene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2-Chlorophenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2-Methylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
2-Nitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
3,3-Dichlorobenzidine	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
3-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
4,6-Dinitro-2-methylpheno	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
4-Bromophenyl-phenyl ethe	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
4-Chloro-3-methylphenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
4-Chloroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
4-Chlorophenyl-phenyl eth	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
4-Methylphenol (P.Cresol)	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
4-Nitroaniline	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
4-Nitrophenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Aniline	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Azobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Benzidine	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Benzoic Acid	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Benzyl Alcohol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
bis(2-Chloroethoxy)methan	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
bis(2-Chloroethyl)ether	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
bis(2-Chloroisopropyl)eth	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
bis(2-Ethylhexyl)phthalat	0.24	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Butylbenzylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Carbazole	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Dibenzofuran	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Diethylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Dimethylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Di-n-butylphthalate	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Di-n-octylphthalate	< 0.1	ug/l	N	0.10	EPA 8270D-SIM	NNL	09/26/18

Semi-Volatiles continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Hexachlorobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Hexachlorobutadiene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Hexachlorocyclopentadiene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Hexachloroethane	< 1	ug/l		0.95	EPA 8270D	NNL	10/15/18
Isophorone	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Nitrobenzene	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
N-Nitrosodimethylamine	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
N-Nitroso-di-n-propylamin	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
N-nitrosodiphenylamine	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18
Pentachlorophenol	< 0.5	ug/l		0.48	EPA 8270D-SIM	NNL	09/26/18
Phenol	< 2	ug/l		1.9	EPA 8270D	NNL	10/15/18

Polynuclear Aromatic Hydrocarbons (PAH)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1-Methylnaphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
2-Methylnaphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Acenaphthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Acenaphthylene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Benzo(a)anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Benzo(a)pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Benzo(b)fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Benzo(ghi)perylene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Benzo(k)fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Chrysene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Dibenzo(ah)anthracene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Fluoranthene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Fluorene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Indeno(123-cd)pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Naphthalene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Phenanthrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Pyrene	< 0.1	ug/l		0.10	EPA 8270D-SIM	NNL	09/26/18
Liq/Liq Ext.	Y				EPA 3520	DP	09/14/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING
 AmTest ID: 18-A016445

Semi-Volatile Surrogates

ANALYTE	% RECOVERY	LIMITS
2-Fluorophenol	41.6 %	11.5 - 136.
D6-Phenol	82.0 %	0.0 - 105.
D5-Nitrobenzene	101. %	10.0 - 142.
2-Fluorobiphenyl	106. %	23.6 - 122.
2,4,6-Tribromophenol	66.0 %	0.0 - 145.
D14-Terphenyl	146. %	11.0 - 178.

AMTEST Identification Number 18-A016446
Client Identification HC-8-S6
Sampling Date 09/05/18, 14:25

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Total Solids	78.1	%		0.1	SM 2540G	JH	09/14/18

ICP/MS Metals 6020

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Arsenic	3.91	ug/g		0.698	EPA 6020	KQ	09/27/18
Cadmium	< 0.698	ug/g		0.698	EPA 6020	KQ	09/27/18
Chromium	18.4	ug/g		1.40	EPA 6020	KQ	09/27/18
Lead	1.42	ug/g		1.40	EPA 6020	KQ	09/27/18
Acid Digestion	Y				SW-846 3050B	KQ	09/18/18
Mercury	< 0.0128	ug/g		0.01	EPA 7471B	JH	09/19/18

NWTPH-Dx (Soil)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Diesel	< 2	mg/kg		2.1	NWTPH-Dx	DP	10/15/18
Heavy Oil	4.	mg/kg		4.2	NWTPH-Dx	DP	10/15/18
Sonnication Ext. NWTPHDx	Y				SW-846 3550C	JDM	09/19/18

Hart Crowser
 Project Name: KCIA LARGE AIRCRAFT PARKING
 AmTest ID: 18-A016446

Surrogates

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	75.0 %	50.0 - 150.
2-Fluorobiphenyl	81.8 %	50.0 - 150.

NWTPH-Gx and BTEX

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Gasoline in Soil	< 242	ug/kg		240	WDOE NWTPH-Gx	NNL	09/18/18
Benzene	< 2.4	ug/kg		2.4	EPA 8260	NNL	09/18/18
Toluene	< 2.4	ug/kg		2.4	EPA 8260	NNL	09/18/18
Ethyl Benzene	< 2.4	ug/kg		2.4	EPA 8260	NNL	09/18/18
m+p-Xylene	< 2.4	ug/kg		2.4	EPA 8260	NNL	09/18/18
o-Xylene	< 2.4	ug/kg		2.4	EPA 8260	NNL	09/18/18

Surrogate

ANALYTE	% RECOVERY	LIMITS
Bromofluorobenzene	88.3 %	50.0 - 150.

Semi-Volatiles

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1,2,4-Trichlorobenzene	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
1,2-Dichlorobenzene	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
1,3-Dichlorobenzene	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
1,4-Dichlorobenzene	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
2,4,5-Trichlorophenol	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
2,4,6-Trichlorophenol	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
2,4-Dichlorophenol	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
2,4-Dimethylphenol	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
2,4-Dinitrophenol	< 426	ug/kg		430	EPA 8270D	NNL	10/14/18
2,4-Dinitrotoluene	< 213	ug/kg		210	EPA 8270D	NNL	10/14/18
2,6-Dinitrotoluene	< 213	ug/kg		210	EPA 8270D	NNL	10/14/18
2-Chloronaphthalene	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
2-Chlorophenol	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
2-Methylphenol	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
2-Nitroaniline	< 213	ug/kg		210	EPA 8270D	NNL	10/14/18
2-Nitrophenol	< 213	ug/kg		210	EPA 8270D	NNL	10/14/18
3,3-Dichlorobenzidine	< 128	ug/kg		130	EPA 8270D	NNL	10/14/18
3-Nitroaniline	< 213	ug/kg		210	EPA 8270D	NNL	10/14/18
4,6-Dinitro-2-methylpheno	< 213	ug/kg		210	EPA 8270D	NNL	10/14/18
4-Bromophenyl-phenyl ethe	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
4-Chloro-3-methylphenol	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
4-Chloroaniline	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
4-Chlorophenyl-phenyl eth	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
4-Methylphenol (cresol)	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
4-Nitroaniline	< 213	ug/kg		210	EPA 8270D	NNL	10/14/18
4-Nitrophenol	< 426	ug/kg		430	EPA 8270D	NNL	10/14/18
Aniline	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
Azobenzene	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
Benzidine	< 2130	ug/kg		2100	EPA 8270D	NNL	10/14/18
Benzoic Acid	< 42.6	ug/kg		43.	EPA 8270D	NNL	10/14/18
Benzyl Alcohol	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
bis(2-Chloroethoxy)methan	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
bis(2-Chloroethyl)ether	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
bis(2-Chloroisopropyl)eth	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
bis(2-Ethylhexyl)phthalat	< 4.26	ug/kg		4.3	EPA 8270D-SIM	NNL	10/16/18
Butylbenzylphthalate	< 4.26	ug/Kg		4.3	EPA 8270D-SIM	NNL	10/16/18
Carbazole	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
Dibenzofuran	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
Diethylphthalate	< 4.26	ug/kg		4.3	EPA 8270D-SIM	NNL	10/16/18
Di-n-butylphthalate	< 4.26	ug/kg		4.3	EPA 8270D-SIM	NNL	10/16/18
Dimethylphthalate	< 4.26	ug/kg		4.3	EPA 8270D-SIM	NNL	10/16/18
Di-n-octylphthalate	< 4.26	ug/kg		4.3	EPA 8270D-SIM	NNL	10/16/18

Semi-Volatiles continued...

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Hexachlorobenzene	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
Hexachlorobutadiene	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
Hexachlorocyclopentadiene	< 213	ug/kg		210	EPA 8270D	NNL	10/14/18
Hexachloroethane	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
Isophorone	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
Nitrobenzene	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
N-Nitrosodimethylamine	< 213	ug/kg		210	EPA 8270D	NNL	10/14/18
N-Nitroso-di-n-propylamin	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
N-nitrosodiphenylamine	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18
Pentachlorophenol	< 21.3	ug/kg		21.	EPA 8270D-SIM	NNL	10/16/18
Phenol	< 85.2	ug/kg		85.	EPA 8270D	NNL	10/14/18

Polynuclear Aromatic Hydrocarbons (PAH)

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
1-Methylnaphthalene	< 4.26	ug/Kg		4.3	EPA 8270D-SIM	NNL	10/16/18
2-Methylnaphthalene	< 4.26	ug/Kg		4.3	EPA 8270D-SIM	NNL	10/16/18
Acenaphthene	< 4.26	ug/Kg		4.3	EPA 8270D-SIM	NNL	10/16/18
Acenaphthylene	< 4.26	ug/Kg		4.3	EPA 8270D-SIM	NNL	10/16/18
Anthracene	< 4.26	ug/Kg		4.3	EPA 8270D-SIM	NNL	10/16/18
Benzo(a)anthracene	< 4.26	ug/Kg		4.3	EPA 8270D-SIM	NNL	10/16/18
Benzo(a)pyrene	< 4.26	ug/Kg		4.3	EPA 8270D-SIM	NNL	10/16/18
Benzo(b)fluoranthene	< 4.26	ug/Kg		4.3	EPA 8270D-SIM	NNL	10/16/18
Benzo(ghi)perylene	< 4.26	ug/Kg		4.3	EPA 8270D-SIM	NNL	10/16/18
Benzo(k)fluoranthene	< 4.26	ug/Kg		4.3	EPA 8270D-SIM	NNL	10/16/18
Chrysene	< 4.26	ug/Kg		4.3	EPA 8270D-SIM	NNL	10/16/18
Dibenzo(ah)anthracene	< 4.26	ug/Kg		4.3	EPA 8270D-SIM	NNL	10/16/18
Fluoranthene	< 4.26	ug/Kg		4.3	EPA 8270D-SIM	NNL	10/16/18
Fluorene	< 4.26	ug/Kg		4.3	EPA 8270D-SIM	NNL	10/16/18
Indeno(123-cd)pyrene	< 4.26	ug/Kg		4.3	EPA 8270D-SIM	NNL	10/16/18
Naphthalene	< 4.26	ug/Kg		4.3	EPA 8270D-SIM	NNL	10/16/18
Phenanthrene	< 4.26	ug/Kg		4.3	EPA 8270D-SIM	NNL	10/16/18
Pyrene	< 4.26	ug/Kg		4.3	EPA 8270D-SIM	NNL	10/16/18
Sonnication Ext.	Y				SW-846 3550C	DP	09/18/18

Semi-Volatile Surrogates

ANALYTE	% RECOVERY	LIMITS
2-Fluorophenol	69.9 %	24.4 - 126.
D6-Phenol	73.4 %	20.0 - 140.
D5-Nitrobenzene	81.0 %	0.0 - 141.
2-Fluorobiphenyl	89.1 %	0.0 - 128.
2,4,6-Tribromophenol	89.7 %	0.0 - 130.
D14-Terphenyl	127. %	17.5 - 182.

PCB's

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
PCB-1016	< 20.8	ug/kg		20.8	EPA 8082A	NNL	10/02/18
PCB-1221	< 20.8	ug/kg		20.8	EPA 8082A	NNL	10/02/18
PCB-1232	< 20.8	ug/kg		20.8	EPA 8082A	NNL	10/02/18
PCB-1242	< 20.8	ug/kg		20.8	EPA 8082A	NNL	10/02/18
PCB-1248	< 20.8	ug/kg		20.8	EPA 8082A	NNL	10/02/18
PCB-1254	< 20.8	ug/kg		20.8	EPA 8082A	NNL	10/02/18
PCB-1260	< 20.8	ug/kg		20.8	EPA 8082A	NNL	10/02/18
Soxhlet Ext.	Y				SW-846 3540C	DP	09/17/18

Surrogates

ANALYTE	% RECOVERY	LIMITS
Tetrachloro-M-xylene	85.4 % Rec	43.3 - 162.
Decachlorobiphenyl	81.3 % Rec	40.1 - 191.

D = The reported value is from a dilution.

N = The Matrix Spike sample recovery is not within control limits. See case narrative.

M = The duplicate precision was not met. The sample results were within five times the detection limit, therefore the control limits are not applicable.

Hart Crowser
Project Name: KCIA LARGE AIRCRAFT PARKING
AmTest ID: 18-A016446

Case Narrative:


The temperature of the samples upon arrival at the laboratory was 9.2 degrees Celcius.

Acenaphthene, Fluorene and Phenanthrene in the soil SVOC_SIM matrix spike analyzed on 10/15/18 was below the acceptable level. All associated data should be considered estimates due to the low recovery. The recovery was acceptable in the associated Known (SRM) sample, thus the loss is due to extraction.

One of the matrix spike recoveries for Bromomethane in the VOC-Water analysis was below the acceptable levels. All other QA/QC was within limits, therefore they are attributed to matrix interference.

Di-n-octylphthalate in the water SVOC_SIM matrix spike was above the acceptable level. All associated data should be considered estimates due to the high recovery. The recovery was acceptable in the associated Known (SRM) sample.

No further corrective action was taken


Aaron W. Young
Laboratory Manager

QC Summary for sample numbers: 18-A016408 to 18-A016446

DUPLICATES

SAMPLE #	ANALYTE	UNITS	SMPL VAL	DUP VAL	RPD	MAX RPD
18-A016851	Total Suspended Solids	mg/l	180	180	0.00	50.
18-A016927	Total Suspended Solids	mg/l	2.0	1.0	67.	50.
18-A016964	Total Suspended Solids	mg/l	< 1	< 1		50.
18-A016427	Total Solids	%	96.4	96.6	0.21	15.
18-A016585	Total Solids	%	75.3	75.3	0.00	15.
18-A016599	Total Solids	%	78.6	79.1	0.63	15.
18-A016612	Total Solids	%	84.0	83.6	0.48	15.
18-A016359	Mercury	mg/l	< 0.00005	0.00006		30.
18-A016916	Mercury	mg/l	< 0.00005	0.00000		30.
18-A017804	Mercury	mg/l	< 0.00005	0.00000		30.
18-A017990	Mercury	mg/l	0.00005	< 0.00005		30.
18-A016347	Mercury	ug/g	0.0294	0.0209	34.	50.
18-A016689	Mercury	ug/g	0.0118	0.0199	51.	50.
18-A016993	Mercury	ug/g	0.0140	0.0144	2.8	50.
18-A015832	Arsenic	ug/g	5.49	5.62	2.3	25.
18-A016080	Arsenic	ug/g	9.41	9.53	1.3	25.
18-A016326	Arsenic	ug/g	10.8	10.8	0.00	25.
18-A016427	Arsenic	ug/g	2.87	2.69	6.5	25.
18-A016446	Arsenic	ug/g	3.05	3.46	13.	25.
18-A015832	Cadmium	ug/g	0.118	0.151	25.	39.
18-A016080	Cadmium	ug/g	0.356	0.312	13.	39.
18-A016326	Cadmium	ug/g	0.216	0.216	0.00	39.
18-A016427	Cadmium	ug/g	0.446	0.306	37.	39.
18-A016446	Cadmium	ug/g	0.187	0.146	25.	39.
18-A015832	Chromium	ug/g	15.0	16.2	7.7	42.
18-A016080	Chromium	ug/g	24.5	22.9	6.8	42.
18-A016326	Chromium	ug/g	22.2	20.4	8.5	42.
18-A016427	Chromium	ug/g	17.1	16.2	5.4	42.
18-A016446	Chromium	ug/g	14.4	14.9	3.4	42.
18-A015832	Lead	ug/g	1.858	1.839	1.0	27.
18-A016080	Lead	ug/g	10.08	9.803	2.8	27.
18-A016326	Lead	ug/g	4.417	4.417	0.00	27.
18-A016427	Lead	ug/g	2.446	2.874	16.	27.
18-A016446	Lead	ug/g	1.108	1.119	0.99	27.

QC Summary for sample numbers: 18-A016408 to 18-A016446...

MATRIX SPIKES

SAMPLE #	ANALYTE	UNITS	SMPL VAL	SMPL+SPK	SPK AMT	% REC	LIMITS
18-A016359	Mercury	mg/l	< 0.00005	0.00107	0.00100	107. %	70.0 - 130.
18-A016916	Mercury	mg/l	< 0.00005	0.00106	0.00100	106. %	70.0 - 130.
18-A017804	Mercury	mg/l	< 0.00005	0.00098	0.00100	98.0 %	70.0 - 130.
18-A017990	Mercury	mg/l	0.00005	0.00100	0.00100	95.0 %	70.0 - 130.
18-A016347	Mercury	ug/g	0.0294	0.258	0.219	104. %	23.0 - 163.
18-A016689	Mercury	ug/g	0.0118	0.168	0.146	107. %	23.0 - 163.
18-A016993	Mercury	ug/g	0.0140	0.162	0.192	77.1 %	23.0 - 163.
Blank	PCB-1260	ug/kg	< 16.6	0.30	0.25	120. %	45.0 - 150.
Blank	PCB-1260	ug/kg	< 16.6	0.30	0.25	120. %	45.0 - 150.
Blank	Chloromethane	ug/l	< 1	9.3	10.0	93.0 %	62.1 - 182.
18-A016613	Chloromethane	ug/l	< 1	8.9	11.9	74.8 %	62.1 - 182.
18-A016613	Chloromethane	ug/l	< 1	8.9	11.9	74.8 %	62.1 - 182.
Blank	Vinyl Chloride	ug/l	< 1	9.2	10.	92.0 %	0.0 - 251.
18-A016613	Vinyl Chloride	ug/l	< 1	9.3	12.	77.5 %	0.0 - 251.
18-A016613	Vinyl Chloride	ug/l	< 1	7.6	12.	63.3 %	0.0 - 251.
Blank	Bromomethane	ug/l	< 1	9.2	10.0	92.0 %	66.1 - 164.
18-A016613	Bromomethane	ug/l	< 1	7.7	11.9	64.7 %	66.1 - 164.
18-A016613	Bromomethane	ug/l	< 1	8.2	11.9	68.9 %	66.1 - 164.
Blank	Chloroethane	ug/l	< 1	9.2	10.0	92.0 %	48.9 - 128.
18-A016613	Chloroethane	ug/l	< 1	9.8	11.9	82.4 %	48.9 - 128.
18-A016613	Chloroethane	ug/l	< 1	8.3	11.9	69.7 %	48.9 - 128.
Blank	Trichlorofluoromethane	ug/l	< 1	10.1	10.0	101. %	17.0 - 181.
18-A016613	Trichlorofluoromethane	ug/l	< 1	9.3	11.9	78.2 %	17.0 - 181.
18-A016613	Trichlorofluoromethane	ug/l	< 1	9.9	11.9	83.2 %	17.0 - 181.
Blank	1,1-Dichloroethylene	ug/l	< 1	9.4	10.0	94.0 %	3.0 - 234.
18-A016613	1,1-Dichloroethylene	ug/l	< 1	9.6	11.9	80.7 %	3.0 - 234.
18-A016613	1,1-Dichloroethylene	ug/l	< 1	9.5	11.9	79.8 %	3.0 - 234.
Blank	Acetone	ug/l	< 5	9.6	10.0	96.0 %	38.9 - 165.
18-A016613	Acetone	ug/l	< 5	16.4	11.9	138. %	38.9 - 165.
18-A016613	Acetone	ug/l	< 5	15.8	11.9	133. %	38.9 - 165.
Blank	Carbon Disulfide	ug/l	< 1	9.2	10.0	92.0 %	61.2 - 156.
18-A016613	Carbon Disulfide	ug/l	< 1	10.2	11.9	85.7 %	61.2 - 156.
18-A016613	Carbon Disulfide	ug/l	< 1	9.0	11.9	75.6 %	61.2 - 156.
Blank	Methyl Iodide	ug/l	< 1	8.0	10.0	80.0 %	44.9 - 153.
18-A016613	Methyl Iodide	ug/l	< 1	9.0	11.9	75.6 %	44.9 - 153.
18-A016613	Methyl Iodide	ug/l	< 1	9.0	11.9	75.6 %	44.9 - 153.
Blank	Methylene Chloride	ug/l	< 2	9.3	10.0	93.0 %	52.0 - 156.
18-A016613	Methylene Chloride	ug/l	< 2	9.6	11.9	80.7 %	52.0 - 156.
18-A016613	Methylene Chloride	ug/l	< 2	9.2	11.9	77.3 %	52.0 - 156.
Blank	Trans-1,2-Dichloroethene	ug/l	< 1	9.5	10.	95.0 %	62.0 - 150.
18-A016613	Trans-1,2-Dichloroethene	ug/l	< 1	9.8	12.	81.7 %	62.0 - 150.
18-A016613	Trans-1,2-Dichloroethene	ug/l	< 1	8.6	12.	71.7 %	62.0 - 150.
Blank	Cis-1,2-Dichloroethene	ug/l	< 1	10.	10.	100. %	59.4 - 147.
18-A016613	Cis-1,2-Dichloroethene	ug/l	< 1	10.	12.	83.3 %	59.4 - 147.
18-A016613	Cis-1,2-Dichloroethene	ug/l	< 1	11.	12.	91.7 %	59.4 - 147.
Blank	1,1-Dichloroethane	ug/l	< 1	10.0	10.0	100. %	82.0 - 138.
18-A016613	1,1-Dichloroethane	ug/l	< 1	10.5	11.9	88.2 %	82.0 - 138.
18-A016613	1,1-Dichloroethane	ug/l	< 1	9.8	11.9	82.4 %	82.0 - 138.
Blank	Vinyl Acetate	ug/l	< 5	11.2	10.0	112. %	30.0 - 167.

QC Summary for sample numbers: 18-A016408 to 18-A016446...

MATRIX SPIKES continued....

SAMPLE #	ANALYTE	UNITS	SMPL VAL	SMPL+SPK	SPK AMT	% REC	LIMITS
18-A016613	Vinyl Acetate	ug/l	< 5	6.9	11.9	58.0 %	30.0 - 167.
18-A016613	Vinyl Acetate	ug/l	< 5	7.0	11.9	58.8 %	30.0 - 167.
Blank	Acrylonitrile	ug/l	< 1	8.7	10.0	87.0 %	39.3 - 165.
18-A016613	Acrylonitrile	ug/l	< 1	7.5	11.9	63.0 %	39.3 - 165.
18-A016613	Acrylonitrile	ug/l	< 1	7.9	11.9	66.4 %	39.3 - 165.
Blank	2-Butanone (MEK)	ug/l	< 5	9.5	10.0	95.0 %	36.2 - 170.
18-A016613	2-Butanone (MEK)	ug/l	< 5	13.9	11.9	117. %	36.2 - 170.
18-A016613	2-Butanone (MEK)	ug/l	< 5	12.0	11.9	101. %	36.2 - 170.
Blank	Chloroform	ug/l	< 1	9.3	10.0	93.0 %	51.0 - 138.
18-A016613	Chloroform	ug/l	< 1	10.0	11.9	84.0 %	51.0 - 138.
18-A016613	Chloroform	ug/l	< 1	9.7	11.9	81.5 %	51.0 - 138.
Blank	1,1,1-Trichloroethane	ug/l	< 1	9.8	10.0	98.0 %	77.0 - 148.
18-A016613	1,1,1-Trichloroethane	ug/l	< 1	10.8	11.9	90.8 %	77.0 - 148.
18-A016613	1,1,1-Trichloroethane	ug/l	< 1	10.4	11.9	87.4 %	77.0 - 148.
Blank	Carbon Tetrachloride	ug/l	< 1	10.2	10.0	102. %	70.0 - 140.
18-A016613	Carbon Tetrachloride	ug/l	< 1	11.0	11.9	92.4 %	70.0 - 140.
18-A016613	Carbon Tetrachloride	ug/l	< 1	10.6	11.9	89.1 %	70.0 - 140.
Blank	Benzene	ug/l	< 1	11.2	10.0	112. %	37.0 - 151.
18-A016613	Benzene	ug/l	< 1	12.4	11.9	104. %	37.0 - 151.
18-A016613	Benzene	ug/l	< 1	12.7	11.9	107. %	37.0 - 151.
Blank	1,2-Dichloroethane	ug/l	< 1	9.5	10.0	95.0 %	57.0 - 143.
18-A016613	1,2-Dichloroethane	ug/l	< 1	9.9	11.9	83.2 %	57.0 - 143.
18-A016613	1,2-Dichloroethane	ug/l	< 1	10.2	11.9	85.7 %	57.0 - 143.
Blank	Trichloroethylene	ug/l	< 1	11.0	10.0	110. %	71.0 - 157.
18-A016613	Trichloroethylene	ug/l	< 1	11.1	11.9	93.3 %	71.0 - 157.
18-A016613	Trichloroethylene	ug/l	< 1	11.8	11.9	99.2 %	71.0 - 157.
Blank	Bromodichloromethane	ug/l	< 1	10.1	10.0	101. %	68.0 - 135.
18-A016613	Bromodichloromethane	ug/l	< 1	10.4	11.9	87.4 %	68.0 - 135.
18-A016613	Bromodichloromethane	ug/l	< 1	11.4	11.9	95.8 %	68.0 - 135.
Blank	Bromochloromethane	ug/l	< 1	10.	10.	100. %	75.8 - 136.
18-A016613	Bromochloromethane	ug/l	< 1	10.	12.	83.3 %	75.8 - 136.
18-A016613	Bromochloromethane	ug/l	< 1	10.	12.	83.3 %	75.8 - 136.
Blank	1,2-Dibromoethane (EDB)	ug/l	< 1	11.	10.	110. %	76.0 - 121.
18-A016613	1,2-Dibromoethane (EDB)	ug/l	< 1	11.	12.	91.7 %	76.0 - 121.
18-A016613	1,2-Dibromoethane (EDB)	ug/l	< 1	10.	12.	83.3 %	76.0 - 121.
Blank	Dibromomethane	ug/l	< 1	10.	10.	100. %	75.0 - 125.
18-A016613	Dibromomethane	ug/l	< 1	10.	12.	83.3 %	75.0 - 125.
18-A016613	Dibromomethane	ug/l	< 1	10.	12.	83.3 %	75.0 - 125.
Blank	1,2-Dichloropropane	ug/l	< 1	10.7	10.0	107. %	74.0 - 128.
18-A016613	1,2-Dichloropropane	ug/l	< 1	11.2	11.9	94.1 %	74.0 - 128.
18-A016613	1,2-Dichloropropane	ug/l	< 1	12.3	11.9	103. %	74.0 - 128.
Blank	4-Methyl-2-Pentanone MIBK	ug/l	< 5	9.7	10.0	97.0 %	43.7 - 147.
18-A016613	4-Methyl-2-Pentanone MIBK	ug/l	< 5	10.3	11.9	86.6 %	43.7 - 147.
18-A016613	4-Methyl-2-Pentanone MIBK	ug/l	< 5	11.0	11.9	92.4 %	43.7 - 147.
Blank	Toluene	ug/l	< 1	10.1	10.0	101. %	47.0 - 150.
18-A016613	Toluene	ug/l	1.1	17.3	11.9	136. %	47.0 - 150.
18-A016613	Toluene	ug/l	1.1	17.3	11.9	136. %	47.0 - 150.
Blank	Cis-1,3-Dichloropropene	ug/l	< 1	11.4	10.0	114. %	0.0 - 227.
18-A016613	Cis-1,3-Dichloropropene	ug/l	< 1	10.7	11.9	89.9 %	0.0 - 227.

QC Summary for sample numbers: 18-A016408 to 18-A016446...

MATRIX SPIKES continued....

SAMPLE #	ANALYTE	UNITS	SMPL VAL	SMPL+SPK	SPK AMT	% REC	LIMITS
18-A016613	Cis-1,3-Dichloropropene	ug/l	< 1	12.1	11.9	102. %	0.0 - 227.
Blank	1,1,2-Trichloroethane	ug/l	< 1	10.0	10.0	100. %	78.0 - 121.
18-A016613	1,1,2-Trichloroethane	ug/l	< 1	10.6	11.9	89.1 %	78.0 - 121.
18-A016613	1,1,2-Trichloroethane	ug/l	< 1	10.7	11.9	89.9 %	78.0 - 121.
Blank	Tetrachloroethylene	ug/l	< 1	9.9	10.0	99.0 %	50.4 - 167.
18-A016613	Tetrachloroethylene	ug/l	< 1	10.4	11.9	87.4 %	50.4 - 167.
18-A016613	Tetrachloroethylene	ug/l	< 1	10.1	11.9	84.9 %	50.4 - 167.
Blank	2-Hexanone	ug/l	< 5	9.9	10.0	99.0 %	44.8 - 139.
18-A016613	2-Hexanone	ug/l	< 5	10.2	11.9	85.7 %	44.8 - 139.
18-A016613	2-Hexanone	ug/l	< 5	10.8	11.9	90.8 %	44.8 - 139.
Blank	Chlorodibromomethane	ug/l	< 1	10.1	10.0	101. %	53.0 - 149.
18-A016613	Chlorodibromomethane	ug/l	< 1	10.5	11.9	88.2 %	53.0 - 149.
18-A016613	Chlorodibromomethane	ug/l	< 1	10.5	11.9	88.2 %	53.0 - 149.
Blank	Chlorobenzene	ug/l	< 1	9.7	10.0	97.0 %	37.0 - 160.
18-A016613	Chlorobenzene	ug/l	< 1	11.0	11.9	92.4 %	37.0 - 160.
18-A016613	Chlorobenzene	ug/l	< 1	10.5	11.9	88.2 %	37.0 - 160.
Blank	Ethyl Benzene	ug/l	< 1	9.8	10.0	98.0 %	79.0 - 125.
18-A016613	Ethyl Benzene	ug/l	< 1	11.2	11.9	94.1 %	79.0 - 125.
18-A016613	Ethyl Benzene	ug/l	< 1	10.9	11.9	91.6 %	79.0 - 125.
Blank	m,p Xylene	ug/l	< 1	19.8	20.0	99.0 %	55.8 - 130.
18-A016613	m,p Xylene	ug/l	< 1	24.0	23.8	101. %	55.8 - 130.
18-A016613	m,p Xylene	ug/l	< 1	22.6	23.8	95.0 %	55.8 - 130.
Blank	o-Xylene	ug/l	< 1	10.8	10.0	108. %	75.0 - 125.
18-A016613	o-Xylene	ug/l	< 1	12.8	11.9	108. %	75.0 - 125.
18-A016613	o-Xylene	ug/l	< 1	12.5	11.9	105. %	75.0 - 125.
Blank	Styrene	ug/l	< 1	10.2	10.0	102. %	52.9 - 120.
18-A016613	Styrene	ug/l	< 1	8.6	11.9	72.3 %	52.9 - 120.
18-A016613	Styrene	ug/l	< 1	8.6	11.9	72.3 %	52.9 - 120.
Blank	Bromoform	ug/l	< 1	11.	10.	110. %	63.0 - 139.
18-A016613	Bromoform	ug/l	< 1	10.	12.	83.3 %	63.0 - 139.
18-A016613	Bromoform	ug/l	< 1	10.	12.	83.3 %	63.0 - 139.
Blank	1,1,2,2-Tetrachloroethane	ug/l	< 1	9.6	10.	96.0 %	63.0 - 121.
18-A016613	1,1,2,2-Tetrachloroethane	ug/l	< 1	10.	12.	83.3 %	63.0 - 121.
18-A016613	1,1,2,2-Tetrachloroethane	ug/l	< 1	9.7	12.	80.8 %	63.0 - 121.
Blank	1,1,1,2-Tetrachloroethane	ug/l	< 1	10.	10.	100. %	75.8 - 122.
18-A016613	1,1,1,2-Tetrachloroethane	ug/l	< 1	11.	12.	91.7 %	75.8 - 122.
18-A016613	1,1,1,2-Tetrachloroethane	ug/l	< 1	11.	12.	91.7 %	75.8 - 122.
Blank	Trans-1,3-Dichloropropene	ug/l	< 1	10.	10.	100. %	17.0 - 183.
18-A016613	Trans-1,3-Dichloropropene	ug/l	< 1	11.	12.	91.7 %	17.0 - 183.
18-A016613	Trans-1,3-Dichloropropene	ug/l	< 1	11.	12.	91.7 %	17.0 - 183.
Blank	1,3-Dichlorobenzene	ug/l	< 1	9.9	10.	99.0 %	59.0 - 156.
18-A016613	1,3-Dichlorobenzene	ug/l	< 1	11.	12.	91.7 %	59.0 - 156.
18-A016613	1,3-Dichlorobenzene	ug/l	< 1	11.	12.	91.7 %	59.0 - 156.
Blank	1,4-Dichlorobenzene	ug/l	< 1	9.6	10.0	96.0 %	77.5 - 127.
18-A016613	1,4-Dichlorobenzene	ug/l	< 1	10.4	11.9	87.4 %	77.5 - 127.
18-A016613	1,4-Dichlorobenzene	ug/l	< 1	10.1	11.9	84.9 %	77.5 - 127.
Blank	1,2-Dichlorobenzene	ug/l	< 1	9.8	10.0	98.0 %	18.0 - 190.
18-A016613	1,2-Dichlorobenzene	ug/l	< 1	10.5	11.9	88.2 %	18.0 - 190.
18-A016613	1,2-Dichlorobenzene	ug/l	< 1	10.5	11.9	88.2 %	18.0 - 190.

QC Summary for sample numbers: 18-A016408 to 18-A016446...

MATRIX SPIKES continued....

SAMPLE #	ANALYTE	UNITS	SMPL VAL	SMPL+SPK	SPK AMT	% REC	LIMITS
Blank	1,2-Dibromo3Chloropropane	ug/l	< 5	9.4	10.	94.0 %	39.3 - 162.
18-A016613	1,2-Dibromo3Chloropropane	ug/l	< 5	8.0	12.	66.7 %	39.3 - 162.
18-A016613	1,2-Dibromo3Chloropropane	ug/l	< 5	9.1	12.	75.8 %	39.3 - 162.
Blank	trans-1,4-Dichloro2butene	ug/l	< 5	9.0	10.	90.0 %	47.5 - 141.
18-A016613	trans-1,4-Dichloro2butene	ug/l	< 5	8.6	12.	71.7 %	47.5 - 141.
18-A016613	trans-1,4-Dichloro2butene	ug/l	< 5	8.6	12.	71.7 %	47.5 - 141.
Blank	1,2,3-Trichloropropane	ug/l	< 1	9.0	10.	90.0 %	38.3 - 163.
18-A016613	1,2,3-Trichloropropane	ug/l	< 1	9.2	12.	76.7 %	38.3 - 163.
18-A016613	1,2,3-Trichloropropane	ug/l	< 1	8.8	12.	73.3 %	38.3 - 163.
Blank	Phenol	ug/l	< 2	4.0	10.0	40.0 %	5.0 - 112.
Blank	Phenol	ug/l	< 2	4.0	10.0	40.0 %	5.0 - 112.
Blank	bis(2-Chloroethyl)ether	ug/l	< 2	6.5	10.0	65.0 %	12.0 - 158.
Blank	bis(2-Chloroethyl)ether	ug/l	< 2	6.6	10.0	66.0 %	12.0 - 158.
Blank	2-Chlorophenol	ug/l	< 2	7.9	10.0	79.0 %	23.0 - 134.
Blank	2-Chlorophenol	ug/l	< 2	8.1	10.0	81.0 %	23.0 - 134.
Blank	1,3-Dichlorobenzene	ug/l	< 2	7.2	10.0	72.0 %	0.0 - 172.
Blank	1,3-Dichlorobenzene	ug/l	< 2	7.7	10.0	77.0 %	0.0 - 172.
Blank	1,4-Dichlorobenzene	ug/l	< 2	7.4	10.0	74.0 %	20.0 - 124.
Blank	1,4-Dichlorobenzene	ug/l	< 2	7.8	10.0	78.0 %	20.0 - 124.
Blank	1,2-Dichlorobenzene	ug/l	< 2	7.3	10.0	73.0 %	32.0 - 129.
Blank	1,2-Dichlorobenzene	ug/l	< 2	7.8	10.0	78.0 %	32.0 - 129.
Blank	bis(2-Chloroisopropyl)eth	ug/l	< 2	7.0	10.0	70.0 %	36.0 - 166.
Blank	bis(2-Chloroisopropyl)eth	ug/l	< 2	7.5	10.0	75.0 %	36.0 - 166.
Blank	N-Nitroso-di-n-propylamin	ug/l	< 2	7.9	10.0	79.0 %	0.0 - 230.
Blank	N-Nitroso-di-n-propylamin	ug/l	< 2	8.4	10.0	84.0 %	0.0 - 230.
Blank	Hexachloroethane	ug/l	< 1	6.3	10.0	63.0 %	40.0 - 113.
Blank	Hexachloroethane	ug/l	< 1	7.0	10.0	70.0 %	40.0 - 113.
Blank	Nitrobenzene	ug/l	< 2	8.4	10.0	84.0 %	35.0 - 180.
Blank	Nitrobenzene	ug/l	< 2	9.1	10.0	91.0 %	35.0 - 180.
Blank	Isophorone	ug/l	< 2	6.5	10.0	65.0 %	21.0 - 196.
Blank	Isophorone	ug/l	< 2	7.0	10.0	70.0 %	21.0 - 196.
Blank	2-Nitrophenol	ug/l	< 2	7.2	10.0	72.0 %	29.0 - 182.
Blank	2-Nitrophenol	ug/l	< 2	7.3	10.0	73.0 %	29.0 - 182.
Blank	bis(2-Chloroethoxy)methan	ug/l	< 2	7.5	10.0	75.0 %	33.0 - 184.
Blank	bis(2-Chloroethoxy)methan	ug/l	< 2	7.7	10.0	77.0 %	33.0 - 184.
Blank	2,4-Dichlorophenol	ug/l	< 2	8.0	10.0	80.0 %	39.0 - 135.
Blank	2,4-Dichlorophenol	ug/l	< 2	8.0	10.0	80.0 %	39.0 - 135.
Blank	1,2,4-Trichlorobenzene	ug/l	< 2	7.6	10.0	76.0 %	44.0 - 142.
Blank	1,2,4-Trichlorobenzene	ug/l	< 2	8.0	10.0	80.0 %	44.0 - 142.
Blank	Naphthalene	ug/l	< 0.1	6.26	10.0	62.6 %	25.5 - 134.
Blank	Naphthalene	ug/l	< 0.1	7.22	10.0	72.2 %	25.5 - 134.
Blank	Naphthalene	ug/Kg	< 3.33	4.42	10.0	44.2 %	21.0 - 133.
Blank	Naphthalene	ug/Kg	< 3.33	3.74	10.0	37.4 %	21.0 - 133.
Blank	Hexachlorobutadiene	ug/l	< 2	7.8	10.0	78.0 %	24.0 - 116.
Blank	Hexachlorobutadiene	ug/l	< 2	8.2	10.0	82.0 %	24.0 - 116.
Blank	4-Chloro-3-methylphenol	ug/l	< 2	6.6	10.0	66.0 %	22.0 - 147.
Blank	4-Chloro-3-methylphenol	ug/l	< 2	6.2	10.0	62.0 %	22.0 - 147.
Blank	2-Methylnaphthalene	ug/l	< 0.1	9.19	10.0	91.9 %	27.9 - 153.
Blank	2-Methylnaphthalene	ug/l	< 0.1	10.3	10.0	103. %	27.9 - 153.

QC Summary for sample numbers: 18-A016408 to 18-A016446...

MATRIX SPIKES continued....

SAMPLE #	ANALYTE	UNITS	SMPL VAL	SMPL+SPK	SPK AMT	% REC	LIMITS
Blank	2-Methylnaphthalene	ug/Kg	< 3.33	5.93	10.0	59.3 %	30.0 - 140.
Blank	2-Methylnaphthalene	ug/Kg	< 3.33	5.01	10.0	50.1 %	30.0 - 140.
Blank	2,4,6-Trichlorophenol	ug/l	< 2	8.3	10.0	83.0 %	37.0 - 144.
Blank	2,4,6-Trichlorophenol	ug/l	< 2	8.0	10.0	80.0 %	37.0 - 144.
Blank	2-Chloronaphthalene	ug/l	< 2	8.9	10.0	89.0 %	60.0 - 118.
Blank	2-Chloronaphthalene	ug/l	< 2	9.1	10.0	91.0 %	60.0 - 118.
Blank	Dimethylphthalate	ug/l	< 0.1	5.19	10.0	51.9 %	18.0 - 133.
Blank	Dimethylphthalate	ug/l	< 0.1	6.00	10.0	60.0 %	18.0 - 133.
Blank	Acenaphthylene	ug/l	< 0.1	5.92	10.0	59.2 %	20.0 - 112.
Blank	Acenaphthylene	ug/l	< 0.1	6.65	10.0	66.5 %	20.0 - 112.
Blank	Acenaphthylene	ug/Kg	< 3.33	4.23	10.0	42.3 %	33.0 - 145.
Blank	Acenaphthylene	ug/Kg	< 3.33	3.80	10.0	38.0 %	33.0 - 145.
Blank	2,6-Dinitrotoluene	ug/l	< 2	8.1	10.0	81.0 %	50.0 - 158.
Blank	2,6-Dinitrotoluene	ug/l	< 2	8.5	10.0	85.0 %	50.0 - 158.
Blank	Acenaphthene	ug/l	< 0.1	6.23	10.0	62.3 %	25.0 - 158.
Blank	Acenaphthene	ug/l	< 0.1	7.05	10.0	70.5 %	25.0 - 158.
Blank	Acenaphthene	ug/Kg	< 3.33	4.48	10.0	44.8 %	47.0 - 145.
Blank	Acenaphthene	ug/Kg	< 3.33	3.96	10.0	39.6 %	47.0 - 145.
Blank	2,4-Dinitrotoluene	ug/l	< 2	7.3	10.0	73.0 %	39.0 - 139.
Blank	2,4-Dinitrotoluene	ug/l	< 2	8.4	10.0	84.0 %	39.0 - 139.
Blank	Diethylphthalate	ug/l	< 0.1	5.92	10.0	59.2 %	31.6 - 136.
Blank	Diethylphthalate	ug/l	< 0.1	6.47	10.0	64.7 %	31.6 - 136.
Blank	4-Chlorophenyl-phenyl eth	ug/l	< 2	8.9	10.0	89.0 %	25.0 - 158.
Blank	4-Chlorophenyl-phenyl eth	ug/l	< 2	9.3	10.0	93.0 %	25.0 - 158.
Blank	Fluorene	ug/l	< 0.1	7.01	10.0	70.1 %	24.0 - 131.
Blank	Fluorene	ug/l	< 0.1	7.67	10.0	76.7 %	24.0 - 131.
Blank	Fluorene	ug/Kg	< 3.33	5.02	10.0	50.2 %	59.0 - 121.
Blank	Fluorene	ug/Kg	< 3.33	4.29	10.0	42.9 %	59.0 - 121.
Blank	4-Bromophenyl-phenyl ethe	ug/l	< 2	9.4	10.0	94.0 %	53.0 - 127.
Blank	4-Bromophenyl-phenyl ethe	ug/l	< 2	10.0	10.0	100. %	53.0 - 127.
Blank	Hexachlorobenzene	ug/l	< 2	9.5	10.0	95.0 %	0.0 - 152.
Blank	Hexachlorobenzene	ug/l	< 2	9.8	10.0	98.0 %	0.0 - 152.
Blank	Phenanthrene	ug/l	< 0.1	7.11	10.0	71.1 %	46.0 - 125.
Blank	Phenanthrene	ug/l	< 0.1	7.67	10.0	76.7 %	46.0 - 125.
Blank	Phenanthrene	ug/Kg	< 3.33	5.21	10.0	52.1 %	54.0 - 135.
Blank	Phenanthrene	ug/Kg	< 3.33	4.58	10.0	45.8 %	54.0 - 135.
Blank	Anthracene	ug/l	< 0.1	6.16	10.0	61.6 %	20.0 - 155.
Blank	Anthracene	ug/l	< 0.1	6.61	10.0	66.1 %	20.0 - 155.
Blank	Anthracene	ug/Kg	< 3.33	4.48	10.0	44.8 %	27.0 - 133.
Blank	Anthracene	ug/Kg	< 3.33	3.99	10.0	39.9 %	27.0 - 133.
Blank	Di-n-butylphthalate	ug/l	< 0.1	6.49	10.0	64.9 %	32.7 - 164.
Blank	Di-n-butylphthalate	ug/l	< 0.1	6.91	10.0	69.1 %	32.7 - 164.
Blank	Fluoranthene	ug/l	< 0.1	6.16	10.0	61.6 %	20.0 - 147.
Blank	Fluoranthene	ug/l	< 0.1	6.58	10.0	65.8 %	20.0 - 147.
Blank	Fluoranthene	ug/Kg	< 3.33	4.33	10.0	43.3 %	26.0 - 137.
Blank	Fluoranthene	ug/Kg	< 3.33	4.07	10.0	40.7 %	26.0 - 137.
Blank	Pyrene	ug/l	< 0.1	11.0	10.0	110. %	21.0 - 174.
Blank	Pyrene	ug/l	< 0.1	12.4	10.0	124. %	21.0 - 174.
Blank	Pyrene	ug/Kg	< 3.33	7.31	10.0	73.1 %	52.0 - 115.

QC Summary for sample numbers: 18-A016408 to 18-A016446...

MATRIX SPIKES continued....

SAMPLE #	ANALYTE	UNITS	SMPL VAL	SMPL+SPK	SPK AMT	% REC	LIMITS
Blank	Pyrene	ug/Kg	< 3.33	6.67	10.0	66.7 %	52.0 - 115.
Blank	Butylbenzylphthalate	ug/l	< 0.1	10.0	10.0	100. %	39.9 - 140.
Blank	Butylbenzylphthalate	ug/l	< 0.1	11.0	10.0	110. %	39.9 - 140.
Blank	3,3-Dichlorobenzidine	ug/l	< 2	5.4	10.0	54.0 %	0.0 - 262.
Blank	3,3-Dichlorobenzidine	ug/l	< 2	6.1	10.0	61.0 %	0.0 - 262.
Blank	Benzo(a)anthracene	ug/l	< 0.1	7.07	10.0	70.7 %	28.0 - 140.
Blank	Benzo(a)anthracene	ug/l	< 0.1	7.60	10.0	76.0 %	28.0 - 140.
Blank	Benzo(a)anthracene	ug/Kg	< 3.33	5.28	10.0	52.8 %	33.0 - 143.
Blank	Benzo(a)anthracene	ug/Kg	< 3.33	4.78	10.0	47.8 %	33.0 - 143.
Blank	Chrysene	ug/l	< 0.1	6.57	10.0	65.7 %	20.0 - 130.
Blank	Chrysene	ug/l	< 0.1	7.24	10.0	72.4 %	20.0 - 130.
Blank	Chrysene	ug/Kg	< 3.33	4.14	10.0	41.4 %	17.0 - 168.
Blank	Chrysene	ug/Kg	< 3.33	4.24	10.0	42.4 %	17.0 - 168.
Blank	bis(2-Ethylhexyl)phthalat	ug/l	0.31	10.1	10.0	97.9 %	37.2 - 165.
Blank	bis(2-Ethylhexyl)phthalat	ug/l	0.31	11.1	10.0	108. %	37.2 - 165.
Blank	Di-n-octylphthalate	ug/l	< 0.1	15.0	10.0	150. %	23.5 - 136.
Blank	Di-n-octylphthalate	ug/l	< 0.1	18.0	10.0	180. %	23.5 - 136.
Blank	Benzo(b)fluoranthene	ug/l	< 0.1	8.61	10.0	86.1 %	20.0 - 160.
Blank	Benzo(b)fluoranthene	ug/l	< 0.1	9.34	10.0	93.4 %	20.0 - 160.
Blank	Benzo(b)fluoranthene	ug/Kg	< 3.33	6.41	10.0	64.1 %	24.0 - 159.
Blank	Benzo(b)fluoranthene	ug/Kg	< 3.33	5.69	10.0	56.9 %	24.0 - 159.
Blank	Benzo(k)fluoranthene	ug/l	< 0.1	9.05	10.0	90.5 %	21.1 - 157.
Blank	Benzo(k)fluoranthene	ug/l	< 0.1	10.2	10.0	102. %	21.1 - 157.
Blank	Benzo(k)fluoranthene	ug/Kg	< 3.33	5.54	10.0	55.4 %	11.0 - 162.
Blank	Benzo(k)fluoranthene	ug/Kg	< 3.33	5.61	10.0	56.1 %	11.0 - 162.
Blank	Benzo(a)pyrene	ug/l	< 0.1	7.27	10.0	72.7 %	35.0 - 140.
Blank	Benzo(a)pyrene	ug/l	< 0.1	7.85	10.0	78.5 %	35.0 - 140.
Blank	Benzo(a)pyrene	ug/Kg	< 3.33	4.82	10.0	48.2 %	17.0 - 163.
Blank	Benzo(a)pyrene	ug/Kg	< 3.33	4.88	10.0	48.8 %	17.0 - 163.
Blank	Indeno(123-cd)pyrene	ug/l	< 0.1	5.33	10.0	53.3 %	31.1 - 163.
Blank	Indeno(123-cd)pyrene	ug/l	< 0.1	5.58	10.0	55.8 %	31.1 - 163.
Blank	Indeno(123-cd)pyrene	ug/Kg	< 3.33	3.89	10.0	38.9 %	0.0 - 171.
Blank	Indeno(123-cd)pyrene	ug/Kg	< 3.33	3.97	10.0	39.7 %	0.0 - 171.
Blank	Dibenzo(ah)anthracene	ug/l	< 0.1	5.34	10.0	53.4 %	20.0 - 170.
Blank	Dibenzo(ah)anthracene	ug/l	< 0.1	5.57	10.0	55.7 %	20.0 - 170.
Blank	Dibenzo(ah)anthracene	ug/Kg	< 3.33	3.84	10.0	38.4 %	0.0 - 227.
Blank	Dibenzo(ah)anthracene	ug/Kg	< 3.33	4.01	10.0	40.1 %	0.0 - 227.
Blank	Benzo(ghi)perylene	ug/l	< 0.1	4.72	10.0	47.2 %	20.6 - 175.
Blank	Benzo(ghi)perylene	ug/l	< 0.1	5.03	10.0	50.3 %	20.6 - 175.
Blank	Benzo(ghi)perylene	ug/Kg	< 3.33	3.49	10.0	34.9 %	0.0 - 219.
Blank	Benzo(ghi)perylene	ug/Kg	< 3.33	3.69	10.0	36.9 %	0.0 - 219.
18-A016449	Arsenic	ug/L	1.03	96.9	100.	95.9 %	70.0 - 130.
18-A016449	Arsenic	ug/L	1.03	96.7	100.	95.7 %	70.0 - 130.
18-A016685	Arsenic	ug/L	3.41	97.7	100.	94.3 %	70.0 - 130.
18-A016685	Arsenic	ug/L	3.41	104.	100.	101. %	70.0 - 130.
18-A015832	Arsenic	ug/g	5.49	254.	284.	87.5 %	22.0 - 154.
18-A016080	Arsenic	ug/g	9.41	525.	560.	92.1 %	22.0 - 154.
18-A016326	Arsenic	ug/g	10.8	290.	297.	94.0 %	22.0 - 154.
18-A016427	Arsenic	ug/g	2.87	345.	374.	91.5 %	22.0 - 154.

QC Summary for sample numbers: 18-A016408 to 18-A016446...

MATRIX SPIKES continued....

SAMPLE #	ANALYTE	UNITS	SMPL VAL	SMPL+SPK	SPK AMT	% REC	LIMITS
18-A016446	Arsenic	ug/g	3.05	518.	544.	94.7 %	22.0 - 154.
18-A016449	Cadmium	ug/L	< 0.05	96.9	100.	96.9 %	70.0 - 130.
18-A016449	Cadmium	ug/L	< 0.05	95.6	100.	95.6 %	70.0 - 130.
18-A015832	Cadmium	ug/g	0.118	254.	284.	89.4 %	66.7 - 132.
18-A016080	Cadmium	ug/g	0.356	517.	560.	92.3 %	66.7 - 132.
18-A016326	Cadmium	ug/g	0.216	284.	297.	95.6 %	66.7 - 132.
18-A016427	Cadmium	ug/g	0.446	361.	374.	96.4 %	66.7 - 132.
18-A016446	Cadmium	ug/g	0.187	528.	544.	97.0 %	66.7 - 132.
18-A015832	Chromium	ug/g	15.0	271.	284.	90.1 %	56.7 - 134.
18-A016080	Chromium	ug/g	24.5	528.	560.	89.9 %	56.7 - 134.
18-A016326	Chromium	ug/g	22.2	297.	297.	92.5 %	56.7 - 134.
18-A016427	Chromium	ug/g	17.1	350.	374.	89.0 %	56.7 - 134.
18-A016446	Chromium	ug/g	14.4	515.	544.	92.0 %	56.7 - 134.
18-A016449	Lead	ug/L	< 0.1	96.8	100.	96.8 %	70.0 - 130.
18-A016449	Lead	ug/L	< 0.1	96.5	100.	96.5 %	70.0 - 130.
18-A016821	Lead	ug/L	4.37	101.	100.	96.6 %	70.0 - 130.
18-A016821	Lead	ug/L	4.37	101.	100.	96.6 %	70.0 - 130.
18-A015832	Lead	ug/g	1.858	270.0	284.0	94.4 %	65.7 - 130.
18-A016080	Lead	ug/g	10.08	537.0	560.0	94.1 %	65.7 - 130.
18-A016326	Lead	ug/g	4.417	283.0	297.0	93.8 %	65.7 - 130.
18-A016427	Lead	ug/g	2.446	287.0	374.0	76.1 %	65.7 - 130.
18-A016446	Lead	ug/g	1.108	508.0	544.0	93.2 %	65.7 - 130.

MATRIX SPIKE DUPLICATES

SAMPLE #	ANALYTE	UNITS	SAM + SPK	MSD VALUE	RPD	LIMITS
Spike	PCB-1260	ug/kg	0.30	0.30	0.00	23.
Spike	Chloromethane	ug/l	8.9	8.9	0.00	34.
Spike	Vinyl Chloride	ug/l	9.3	7.6	20.	33.
Spike	Bromomethane	ug/l	7.7	8.2	6.3	27.
Spike	Chloroethane	ug/l	9.8	8.3	17.	25.
Spike	Trichlorofluoromethane	ug/l	9.3	9.9	6.2	34.
Spike	1,1-Dichloroethylene	ug/l	9.6	9.5	1.0	21.
Spike	Acetone	ug/l	16.4	15.8	3.7	15.
Spike	Carbon Disulfide	ug/l	10.2	9.0	12.	35.
Spike	Methyl Iodide	ug/l	9.0	9.0	0.00	35.
Spike	Methylene Chloride	ug/l	9.6	9.2	4.3	38.
Spike	Trans-1,2-Dichloroethene	ug/l	9.8	8.6	13.	23.
Spike	Cis-1,2-Dichloroethene	ug/l	10.	11.	9.5	25.
Spike	1,1-Dichloroethane	ug/l	10.5	9.8	6.9	31.
Spike	Vinyl Acetate	ug/l	6.9	7.0	1.4	45.
Spike	Acrylonitrile	ug/l	7.5	7.9	5.2	20.
Spike	2-Butanone (MEK)	ug/l	13.9	12.0	15.	25.
Spike	Chloroform	ug/l	10.0	9.7	3.0	23.
Spike	1,1,1-Trichloroethane	ug/l	10.8	10.4	3.8	36.
Spike	Carbon Tetrachloride	ug/l	11.0	10.6	3.7	37.
Spike	Benzene	ug/l	12.4	12.7	2.4	29.
Spike	1,2-Dichloroethane	ug/l	9.9	10.2	3.0	24.
Spike	Trichloroethylene	ug/l	11.1	11.8	6.1	35.
Spike	Bromodichloromethane	ug/l	10.4	11.4	9.2	22.
Spike	Bromochloromethane	ug/l	10.	10.	0.00	36.
Spike	1,2-Dibromoethane (EDB)	ug/l	11.	10.	9.5	28.
Spike	Dibromomethane	ug/l	10.	10.	0.00	20.

QC Summary for sample numbers: 18-A016408 to 18-A016446...

MATRIX SPIKE DUPLICATES continued....

SAMPLE #	ANALYTE	UNITS	SAM + SPK	MSD VALUE	RPD	LIMITS
Spike	1,2-Dichloropropane	ug/l	11.2	12.3	9.4	24.
Spike	4-Methyl-2-Pentanone MIBK	ug/l	10.3	11.0	6.6	39.
Spike	Toluene	ug/l	17.3	17.3	0.00	26.
Spike	Cis-1,3-Dichloropropene	ug/l	10.7	12.1	12.	39.
Spike	1,1,2-Trichloroethane	ug/l	10.6	10.7	0.94	22.
Spike	Tetrachloroethylene	ug/l	10.4	10.1	2.9	21.
Spike	2-Hexanone	ug/l	10.2	10.8	5.7	40.
Spike	Chlorodibromomethane	ug/l	10.5	10.5	0.00	30.
Spike	Chlorobenzene	ug/l	11.0	10.5	4.7	14.
Spike	Ethyl Benzene	ug/l	11.2	10.9	2.7	18.
Spike	m,p Xylene	ug/l	24.0	22.6	6.0	38.
Spike	o-Xylene	ug/l	12.8	12.5	2.4	20.
Spike	Styrene	ug/l	8.6	8.6	0.00	29.
Spike	Bromoform	ug/l	10.	10.	0.00	26.
Spike	1,1,2,2-Tetrachloroethane	ug/l	10.	9.7	3.0	28.
Spike	1,1,1,2-Tetrachloroethane	ug/l	11.	11.	0.00	37.
Spike	Trans-1,3-Dichloropropene	ug/l	11.	11.	0.00	29.
Spike	1,3-Dichlorobenzene	ug/l	11.	11.	0.00	20.
Spike	1,4-Dichlorobenzene	ug/l	10.4	10.1	2.9	27.
Spike	1,2-Dichlorobenzene	ug/l	10.5	10.5	0.00	25.
Spike	1,2-Dibromo3Chloropropane	ug/l	8.0	9.1	13.	39.
Spike	trans-1,4-Dichloro2butene	ug/l	8.6	8.6	0.00	35.
Spike	1,2,3-Trichloropropane	ug/l	9.2	8.8	4.4	45.
Spike	Phenol	ug/l	4.0	4.0	0.00	40.
Spike	bis(2-Chloroethyl)ether	ug/l	6.5	6.6	1.5	40.
Spike	2-Chlorophenol	ug/l	7.9	8.1	2.5	40.
Spike	1,3-Dichlorobenzene	ug/l	7.2	7.7	6.7	40.
Spike	1,4-Dichlorobenzene	ug/l	7.4	7.8	5.3	40.
Spike	1,2-Dichlorobenzene	ug/l	7.3	7.8	6.6	40.
Spike	bis(2-Chloroisopropyl)eth	ug/l	7.0	7.5	6.9	40.
Spike	N-Nitroso-di-n-propylamin	ug/l	7.9	8.4	6.1	40.
Spike	Hexachloroethane	ug/l	6.3	7.0	11.	40.
Spike	Nitrobenzene	ug/l	8.4	9.1	8.0	40.
Spike	Isophorone	ug/l	6.5	7.0	7.4	40.
Spike	2-Nitrophenol	ug/l	7.2	7.3	1.4	40.
Spike	bis(2-Chloroethoxy)methan	ug/l	7.5	7.7	2.6	40.
Spike	2,4-Dichlorophenol	ug/l	8.0	8.0	0.00	40.
Spike	1,2,4-Trichlorobenzene	ug/l	7.6	8.0	5.1	40.
Spike	Naphthalene	ug/l	6.26	7.22	14.	40.
Spike	Naphthalene	ug/Kg	4.42	3.74	17.	40.
Spike	Hexachlorobutadiene	ug/l	7.8	8.2	5.0	40.
Spike	4-Chloro-3-methylphenol	ug/l	6.6	6.2	6.2	40.
Spike	2-Methylnaphthalene	ug/l	9.19	10.3	11.	40.
Spike	2-Methylnaphthalene	ug/Kg	5.93	5.01	17.	40.
Spike	2,4,6-Trichlorophenol	ug/l	8.3	8.0	3.7	40.
Spike	2-Chloronaphthalene	ug/l	8.9	9.1	2.2	40.
Spike	Dimethylphthalate	ug/l	5.19	6.00	14.	40.
Spike	Acenaphthylene	ug/l	5.92	6.65	12.	40.
Spike	Acenaphthylene	ug/Kg	4.23	3.80	11.	40.

QC Summary for sample numbers: 18-A016408 to 18-A016446...

MATRIX SPIKE DUPLICATES continued....

SAMPLE #	ANALYTE	UNITS	SAM + SPK	MSD VALUE	RPD	LIMITS
Spike	2,6-Dinitrotoluene	ug/l	8.1	8.5	4.8	40.
Spike	Acenaphthene	ug/l	6.23	7.05	12.	40.
Spike	Acenaphthene	ug/Kg	4.48	3.96	12.	40.
Spike	2,4-Dinitrotoluene	ug/l	7.3	8.4	14.	40.
Spike	Diethylphthalate	ug/l	5.92	6.47	8.9	40.
Spike	4-Chlorophenyl-phenyl eth	ug/l	8.9	9.3	4.4	40.
Spike	Fluorene	ug/l	7.01	7.67	9.0	40.
Spike	Fluorene	ug/Kg	5.02	4.29	16.	40.
Spike	4-Bromophenyl-phenyl ethe	ug/l	9.4	10.0	6.2	40.
Spike	Hexachlorobenzene	ug/l	9.5	9.8	3.1	40.
Spike	Phenanthrene	ug/l	7.11	7.67	7.6	40.
Spike	Phenanthrene	ug/Kg	5.21	4.58	13.	40.
Spike	Anthracene	ug/l	6.16	6.61	7.0	40.
Spike	Anthracene	ug/Kg	4.48	3.99	12.	40.
Spike	Di-n-butylphthalate	ug/l	6.49	6.91	6.3	40.
Spike	Fluoranthene	ug/l	6.16	6.58	6.6	40.
Spike	Fluoranthene	ug/Kg	4.33	4.07	6.2	40.
Spike	Pyrene	ug/l	11.0	12.4	12.	40.
Spike	Pyrene	ug/Kg	7.31	6.67	9.2	40.
Spike	Butylbenzylphthalate	ug/l	10.0	11.0	9.5	40.
Spike	3,3-Dichlorobenzidine	ug/l	5.4	6.1	12.	40.
Spike	Benzo(a)anthracene	ug/l	7.07	7.60	7.2	40.
Spike	Benzo(a)anthracene	ug/Kg	5.28	4.78	9.9	40.
Spike	Chrysene	ug/l	6.57	7.24	9.7	40.
Spike	Chrysene	ug/Kg	4.14	4.24	2.4	40.
Spike	bis(2-Ethylhexyl)phthalat	ug/l	10.1	11.1	9.4	40.
Spike	Di-n-octylphthalate	ug/l	15.0	18.0	18.	40.
Spike	Benzo(b)fluoranthene	ug/l	8.61	9.34	8.1	40.
Spike	Benzo(b)fluoranthene	ug/Kg	6.41	5.69	12.	40.
Spike	Benzo(k)fluoranthene	ug/l	9.05	10.2	12.	40.
Spike	Benzo(k)fluoranthene	ug/Kg	5.54	5.61	1.3	40.
Spike	Benzo(a)pyrene	ug/l	7.27	7.85	7.7	40.
Spike	Benzo(a)pyrene	ug/Kg	4.82	4.88	1.2	40.
Spike	Indeno(123-cd)pyrene	ug/l	5.33	5.58	4.6	40.
Spike	Indeno(123-cd)pyrene	ug/Kg	3.89	3.97	2.0	40.
Spike	Dibenzo(ah)anthracene	ug/l	5.34	5.57	4.2	40.
Spike	Dibenzo(ah)anthracene	ug/Kg	3.84	4.01	4.3	40.
Spike	Benzo(ghi)perylene	ug/l	4.72	5.03	6.4	40.
Spike	Benzo(ghi)perylene	ug/Kg	3.49	3.69	5.6	40.
Spike	Arsenic	ug/L	96.9	96.7	0.21	16.
Spike	Arsenic	ug/L	97.7	104.	6.2	16.
Spike	Cadmium	ug/L	96.9	95.6	1.4	25.
Spike	Lead	ug/L	96.8	96.5	0.31	25.
Spike	Lead	ug/L	101.	101.	0.00	25.

QC Summary for sample numbers: 18-A016408 to 18-A016446...

STANDARD REFERENCE MATERIALS

ANALYTE	UNITS	TRUE VALUE	MEASURED VAL	% REC	LIMITS
Total Suspended Solids	mg/l	100	99.	99.0 %	81.0 - 122.
Total Suspended Solids	mg/l	100	97.	97.0 %	81.0 - 122.
Total Suspended Solids	mg/l	100	97.	97.0 %	81.0 - 122.
Mercury	mg/l	0.00250	0.00240	96.0 %	90.0 - 110.
Mercury	mg/l	0.00250	0.00270	108. %	90.0 - 110.
Mercury	mg/l	0.00250	0.00272	109. %	90.0 - 110.
Mercury	mg/l	0.00250	0.00258	103. %	90.0 - 110.
Mercury	mg/l	0.00250	0.00254	102. %	90.0 - 110.
Mercury	mg/l	0.00250	0.00254	102. %	90.0 - 110.
Mercury	ug/g	0.0250	0.0269	108. %	51.2 - 148.
Mercury	ug/g	0.0250	0.0247	98.8 %	51.2 - 148.
Benzene	ug/l	10.0	10.1	101. %	85.0 - 115.
Benzene	ug/kg	10.0	8.9	89.0 %	70.0 - 130.
Toluene	ug/l	10.0	9.57	95.7 %	70.0 - 130.
Toluene	ug/kg	10.0	8.4	84.0 %	70.0 - 130.
Ethyl Benzene	ug/l	10.0	8.69	86.9 %	85.0 - 115.
Ethyl Benzene	ug/kg	10.0	8.5	85.0 %	70.0 - 130.
m+p-Xylene	ug/kg	20.0	17.4	87.0 %	70.0 - 130.
o-Xylene	ug/kg	10.0	9.4	94.0 %	70.0 - 130.
Total Xylene	ug/l	30.0	27.1	90.3 %	70.0 - 130.
PCB-1016	ug/kg	0.40	0.39	97.5 %	70.0 - 130.
PCB-1016	ug/kg	0.40	0.37	92.5 %	70.0 - 130.
PCB-1016	ug/kg	0.40	0.37	92.5 %	70.0 - 130.
PCB-1260	ug/kg	0.40	0.45	112. %	43.3 - 175.
PCB-1260	ug/kg	0.40	0.41	102. %	43.3 - 175.
PCB-1260	ug/kg	0.40	0.44	110. %	43.3 - 175.
Chloromethane	ug/l	10.0	10.4	104. %	70.0 - 130.
Vinyl Chloride	ug/l	10.	9.4	94.0 %	70.0 - 130.
Bromomethane	ug/l	10.0	8.6	86.0 %	70.0 - 130.
Chloroethane	ug/l	10.0	11.5	115. %	70.0 - 130.
Trichlorofluoromethane	ug/l	10.0	8.5	85.0 %	70.0 - 130.
1,1-Dichloroethylene	ug/l	10.0	10.1	101. %	70.0 - 130.
Acetone	ug/l	10.0	11.2	112. %	70.0 - 130.
Carbon Disulfide	ug/l	10.0	10.5	105. %	70.0 - 130.
Methyl Iodide	ug/l	10.0	10.1	101. %	70.0 - 130.
Methylene Chloride	ug/l	10.0	10.8	108. %	70.0 - 130.
Trans-1,2-Dichloroethene	ug/l	10.	9.4	94.0 %	70.0 - 130.
Cis-1,2-Dichloroethene	ug/l	10.	10.	100. %	70.0 - 130.
1,1-Dichloroethane	ug/l	10.0	10.2	102. %	70.0 - 130.
Vinyl Acetate	ug/l	10.0	10.6	106. %	70.0 - 130.
Acrylonitrile	ug/l	10.0	8.3	83.0 %	70.0 - 130.
2-Butanone (MEK)	ug/l	10.0	9.6	96.0 %	70.0 - 130.
Chloroform	ug/l	10.0	9.8	98.0 %	70.0 - 130.
1,1,1-Trichloroethane	ug/l	10.0	10.0	100. %	70.0 - 130.

QC Summary for sample numbers: 18-A016408 to 18-A016446...

STANDARD REFERENCE MATERIALS continued....

ANALYTE	UNITS	TRUE VALUE	MEASURED VAL	% REC	LIMITS
Carbon Tetrachloride	ug/l	10.0	10.5	105. %	70.0 - 130.
Benzene	ug/l	10.0	11.0	110. %	70.0 - 130.
1,2-Dichloroethane	ug/l	10.0	9.7	97.0 %	70.0 - 130.
Trichloroethylene	ug/l	10.0	10.8	108. %	70.0 - 130.
Bromodichloromethane	ug/l	10.0	10.2	102. %	70.0 - 130.
Bromochloromethane	ug/l	10.	10.	100. %	70.0 - 130.
1,2-Dibromoethane (EDB)	ug/l	10.	10.	100. %	70.0 - 130.
Dibromomethane	ug/l	10.	10.	100. %	70.0 - 130.
1,2-Dichloropropane	ug/l	10.0	10.4	104. %	70.0 - 130.
4-Methyl-2-Pentanone MIBK	ug/l	10.0	10.4	104. %	70.0 - 130.
Toluene	ug/l	10.0	10.0	100. %	70.0 - 130.
Cis-1,3-Dichloropropene	ug/l	10.0	11.5	115. %	70.0 - 130.
1,1,2-Trichloroethane	ug/l	10.0	10.4	104. %	70.0 - 130.
Tetrachloroethylene	ug/l	10.0	10.0	100. %	70.0 - 130.
2-Hexanone	ug/l	10.0	10.5	105. %	70.0 - 130.
Chlorodibromomethane	ug/l	10.0	10.5	105. %	70.0 - 130.
Chlorobenzene	ug/l	10.0	9.8	98.0 %	70.0 - 130.
Ethyl Benzene	ug/l	10.0	9.9	99.0 %	70.0 - 130.
m,p Xylene	ug/l	20.0	20.5	102. %	70.0 - 130.
o-Xylene	ug/l	10.0	11.2	112. %	70.0 - 130.
Styrene	ug/l	10.0	10.4	104. %	70.0 - 130.
Bromoform	ug/l	10.	11.	110. %	70.0 - 130.
1,1,2,2-Tetrachloroethane	ug/l	10.	10.	100. %	70.0 - 130.
1,1,1,2-Tetrachloroethane	ug/l	10.	11.	110. %	70.0 - 130.
Trans-1,3-Dichloropropene	ug/l	10.	10.	100. %	70.0 - 130.
1,3-Dichlorobenzene	ug/l	10.	10.	100. %	70.0 - 130.
1,4-Dichlorobenzene	ug/l	10.0	9.4	94.0 %	70.0 - 130.
1,2-Dichlorobenzene	ug/l	10.0	10.0	100. %	70.0 - 130.
1,2-Dibromo3Chloropropane	ug/l	10.	8.8	88.0 %	70.0 - 130.
trans-1,4-Dichloro2butene	ug/l	10.	11.	110. %	70.0 - 130.
1,2,3-Trichloropropane	ug/l	10.	9.6	96.0 %	70.0 - 130.
Gasoline in Water	ug/l	350.	400.	114. %	70.0 - 130.
Gasoline in Water	ug/l	350.	305.	87.1 %	70.0 - 130.
Gasoline in Soil	ug/kg	350.	388.	111. %	70.0 - 130.
Gasoline in Soil	ug/kg	350.	342.	97.7 %	70.0 - 130.
Diesel	ug/l	400	390	97.5 %	85.0 - 115.
Diesel	ug/l	400	400	100. %	85.0 - 115.
Diesel	mg/kg	400	370	92.5 %	85.0 - 115.
Diesel	mg/kg	400	410	102. %	85.0 - 115.
Heavy Oil	ug/l	400	360	90.0 %	85.0 - 115.
Heavy Oil	ug/l	400	370	92.5 %	85.0 - 115.
Heavy Oil	mg/kg	400	340	85.0 %	85.0 - 115.
Heavy Oil	mg/kg	400	380	95.0 %	85.0 - 115.
N-Nitrosodimethylamine	ug/l	15.0	13.4	89.3 %	70.0 - 130.

QC Summary for sample numbers: 18-A016408 to 18-A016446...

STANDARD REFERENCE MATERIALS continued....

ANALYTE	UNITS	TRUE VALUE	MEASURED VAL	% REC	LIMITS
N-Nitrosodimethylamine	ug/kg	15.0	13.4	89.3 %	70.0 - 130.
Aniline	ug/l	15.0	15.7	105. %	70.0 - 130.
Aniline	ug/kg	15.0	15.7	105. %	70.0 - 130.
Phenol	ug/l	15.0	14.1	94.0 %	70.0 - 130.
Phenol	ug/kg	15.0	14.1	94.0 %	70.0 - 130.
bis(2-Chloroethyl)ether	ug/l	15.0	12.9	86.0 %	70.0 - 130.
bis(2-Chloroethyl)ether	ug/kg	15.0	12.9	86.0 %	70.0 - 130.
2-Chlorophenol	ug/l	15.0	14.3	95.3 %	70.0 - 130.
2-Chlorophenol	ug/kg	15.0	14.3	95.3 %	70.0 - 130.
1,3-Dichlorobenzene	ug/l	15.0	15.2	101. %	70.0 - 130.
1,3-Dichlorobenzene	ug/kg	15.0	15.2	101. %	70.0 - 130.
1,4-Dichlorobenzene	ug/l	15.0	14.6	97.3 %	70.0 - 130.
1,4-Dichlorobenzene	ug/kg	15.0	14.6	97.3 %	70.0 - 130.
Benzyl Alcohol	ug/l	15.0	16.7	111. %	70.0 - 130.
Benzyl Alcohol	ug/kg	15.0	16.7	111. %	70.0 - 130.
1,2-Dichlorobenzene	ug/l	15.0	14.6	97.3 %	70.0 - 130.
1,2-Dichlorobenzene	ug/kg	15.0	14.6	97.3 %	70.0 - 130.
2-Methylphenol	ug/l	15.0	13.8	92.0 %	70.0 - 130.
2-Methylphenol	ug/kg	15.0	13.8	92.0 %	70.0 - 130.
bis(2-Chloroisopropyl)eth	ug/l	15.0	13.8	92.0 %	70.0 - 130.
bis(2-Chloroisopropyl)eth	ug/kg	15.0	13.8	92.0 %	70.0 - 130.
4-Methylphenol (P.Cresol)	ug/l	15.0	14.3	95.3 %	70.0 - 130.
4-Methylphenol (cresol)	ug/kg	15.0	14.3	95.3 %	70.0 - 130.
N-Nitroso-di-n-propylamin	ug/l	15.0	14.5	96.7 %	70.0 - 130.
N-Nitroso-di-n-propylamin	ug/kg	15.0	14.5	96.7 %	70.0 - 130.
Hexachloroethane	ug/l	15.0	14.8	98.7 %	70.0 - 130.
Hexachloroethane	ug/kg	15.0	14.8	98.7 %	70.0 - 130.
Nitrobenzene	ug/l	15.0	14.4	96.0 %	70.0 - 130.
Nitrobenzene	ug/kg	15.0	14.4	96.0 %	70.0 - 130.
Isophorone	ug/l	15.0	13.8	92.0 %	70.0 - 130.
Isophorone	ug/kg	15.0	13.8	92.0 %	70.0 - 130.
2-Nitrophenol	ug/l	15.0	14.5	96.7 %	70.0 - 130.
2-Nitrophenol	ug/kg	15.0	14.5	96.7 %	70.0 - 130.
2,4-Dimethylphenol	ug/l	15.0	14.2	94.7 %	70.0 - 130.
2,4-Dimethylphenol	ug/kg	15.0	14.2	94.7 %	70.0 - 130.
Benzoic Acid	ug/l	15.0	15.6	104. %	70.0 - 130.
Benzoic Acid	ug/kg	15.0	15.6	104. %	70.0 - 130.
bis(2-Chloroethoxy)methan	ug/l	15.0	13.4	89.3 %	70.0 - 130.
bis(2-Chloroethoxy)methan	ug/kg	15.0	13.4	89.3 %	70.0 - 130.
2,4-Dichlorophenol	ug/l	15.0	14.9	99.3 %	70.0 - 130.
2,4-Dichlorophenol	ug/kg	15.0	14.9	99.3 %	70.0 - 130.
1,2,4-Trichlorobenzene	ug/l	15.0	15.0	100. %	70.0 - 130.
1,2,4-Trichlorobenzene	ug/kg	15.0	15.0	100. %	70.0 - 130.
Naphthalene	ug/l	5.00	4.75	95.0 %	70.0 - 130.

QC Summary for sample numbers: 18-A016408 to 18-A016446...

STANDARD REFERENCE MATERIALS continued....

ANALYTE	UNITS	TRUE VALUE	MEASURED VAL	% REC	LIMITS
Naphthalene	ug/Kg	5.00	4.90	98.0 %	70.0 - 130.
4-Chloroaniline	ug/l	15.0	14.4	96.0 %	70.0 - 130.
4-Chloroaniline	ug/kg	15.0	14.4	96.0 %	70.0 - 130.
Hexachlorobutadiene	ug/l	15.0	15.4	103. %	70.0 - 130.
Hexachlorobutadiene	ug/kg	15.0	15.4	103. %	70.0 - 130.
4-Chloro-3-methylphenol	ug/l	15.0	14.8	98.7 %	70.0 - 130.
4-Chloro-3-methylphenol	ug/kg	15.0	14.8	98.7 %	70.0 - 130.
2-Methylnaphthalene	ug/l	5.00	5.45	109. %	70.0 - 130.
2-Methylnaphthalene	ug/Kg	5.00	5.67	113. %	21.6 - 178.
Hexachlorocyclopentadiene	ug/l	15.0	14.4	96.0 %	70.0 - 130.
Hexachlorocyclopentadiene	ug/kg	15.0	14.4	96.0 %	70.0 - 130.
2,4,6-Trichlorophenol	ug/l	15.0	13.8	92.0 %	70.0 - 130.
2,4,6-Trichlorophenol	ug/kg	15.0	13.8	92.0 %	70.0 - 130.
2,4,5-Trichlorophenol	ug/l	15.0	14.4	96.0 %	70.0 - 130.
2,4,5-Trichlorophenol	ug/kg	15.0	14.4	96.0 %	70.0 - 130.
2-Chloronaphthalene	ug/l	15.0	13.9	92.7 %	70.0 - 130.
2-Chloronaphthalene	ug/kg	15.0	13.9	92.7 %	70.0 - 130.
2-Nitroaniline	ug/l	15.0	13.8	92.0 %	70.0 - 130.
2-Nitroaniline	ug/kg	15.0	13.8	92.0 %	70.0 - 130.
Dimethylphthalate	ug/kg	15.0	14.1	94.0 %	70.0 - 130.
Dimethylphthalate	ug/l	5.00	4.97	99.4 %	70.0 - 130.
Acenaphthylene	ug/l	5.00	4.67	93.4 %	70.0 - 130.
Acenaphthylene	ug/Kg	5.00	4.92	98.4 %	70.0 - 130.
2,6-Dinitrotoluene	ug/l	15.0	14.6	97.3 %	70.0 - 130.
2,6-Dinitrotoluene	ug/kg	15.0	14.6	97.3 %	70.0 - 130.
3-Nitroaniline	ug/l	15.0	15.5	103. %	70.0 - 130.
3-Nitroaniline	ug/kg	15.0	15.5	103. %	70.0 - 130.
Acenaphthene	ug/l	5.00	4.41	88.2 %	70.0 - 130.
Acenaphthene	ug/Kg	5.00	4.64	92.8 %	70.0 - 130.
2,4-Dinitrophenol	ug/l	15.0	13.4	89.3 %	70.0 - 130.
2,4-Dinitrophenol	ug/kg	15.0	13.4	89.3 %	70.0 - 130.
4-Nitrophenol	ug/l	15.0	15.6	104. %	70.0 - 130.
4-Nitrophenol	ug/kg	15.0	15.6	104. %	70.0 - 130.
Dibenzofuran	ug/l	15.0	14.5	96.7 %	70.0 - 130.
Dibenzofuran	ug/kg	15.0	14.5	96.7 %	70.0 - 130.
2,4-Dinitrotoluene	ug/l	15.0	14.4	96.0 %	70.0 - 130.
2,4-Dinitrotoluene	ug/kg	15.0	14.4	96.0 %	70.0 - 130.
Diethylphthalate	ug/kg	15.0	14.6	97.3 %	70.0 - 130.
Diethylphthalate	ug/l	5.00	4.71	94.2 %	70.0 - 130.
4-Chlorophenyl-phenyl eth	ug/l	15.0	16.0	107. %	70.0 - 130.
4-Chlorophenyl-phenyl eth	ug/kg	15.0	16.0	107. %	70.0 - 130.
Fluorene	ug/l	5.00	4.65	93.0 %	70.0 - 130.
Fluorene	ug/Kg	5.00	4.91	98.2 %	70.0 - 130.
4-Nitroaniline	ug/l	15.0	15.1	101. %	70.0 - 130.

QC Summary for sample numbers: 18-A016408 to 18-A016446...

STANDARD REFERENCE MATERIALS continued....

ANALYTE	UNITS	TRUE VALUE	MEASURED VAL	% REC	LIMITS
4-Nitroaniline	ug/kg	15.0	15.1	101. %	70.0 - 130.
4,6-Dinitro-2-methylpheno	ug/l	15.0	14.2	94.7 %	70.0 - 130.
4,6-Dinitro-2-methylpheno	ug/kg	15.0	14.2	94.7 %	70.0 - 130.
N-nitrosodiphenylamine	ug/l	15.0	14.7	98.0 %	70.0 - 130.
N-nitrosodiphenylamine	ug/kg	15.0	14.7	98.0 %	70.0 - 130.
Azobenzene	ug/l	15.0	13.7	91.3 %	70.0 - 130.
Azobenzene	ug/kg	15.0	13.7	91.3 %	70.0 - 130.
4-Bromophenyl-phenyl ethe	ug/l	15.0	14.6	97.3 %	70.0 - 130.
4-Bromophenyl-phenyl ethe	ug/kg	15.0	14.6	97.3 %	70.0 - 130.
Hexachlorobenzene	ug/l	15.0	15.4	103. %	70.0 - 130.
Hexachlorobenzene	ug/kg	15.0	15.4	103. %	70.0 - 130.
Pentachlorophenol	ug/kg	15.0	16.2	108. %	70.0 - 130.
Pentachlorophenol	ug/l	5.00	5.78	116. %	70.0 - 130.
Phenanthrene	ug/l	5.00	4.67	93.4 %	70.0 - 130.
Phenanthrene	ug/Kg	5.00	4.90	98.0 %	70.0 - 130.
Anthracene	ug/l	5.00	4.51	90.2 %	70.0 - 130.
Anthracene	ug/Kg	5.00	4.69	93.8 %	70.0 - 130.
Carbazole	ug/l	15.0	13.4	89.3 %	70.0 - 130.
Carbazole	ug/kg	15.0	13.3	88.7 %	70.0 - 130.
Di-n-butylphthalate	ug/kg	15.0	13.2	88.0 %	70.0 - 130.
Di-n-butylphthalate	ug/l	5.00	4.72	94.4 %	70.0 - 130.
Fluoranthene	ug/l	5.00	4.68	93.6 %	70.0 - 130.
Fluoranthene	ug/Kg	5.00	4.91	98.2 %	70.0 - 130.
Benzidine	ug/l	15.0	16.6	111. %	70.0 - 130.
Pyrene	ug/l	5.00	4.66	93.2 %	70.0 - 130.
Pyrene	ug/Kg	5.00	5.05	101. %	70.0 - 130.
Butylbenzylphthalate	ug/kg	15.0	14.8	98.7 %	70.0 - 130.
Butylbenzylphthalate	ug/l	5.00	4.67	93.4 %	70.0 - 130.
3,3-Dichlorobenzidine	ug/l	15.0	14.3	95.3 %	70.0 - 130.
3,3-Dichlorobenzidine	ug/kg	15.0	14.3	95.3 %	70.0 - 130.
Benzo(a)anthracene	ug/l	5.00	4.88	97.6 %	70.0 - 130.
Benzo(a)anthracene	ug/Kg	5.00	4.92	98.4 %	70.0 - 130.
Chrysene	ug/l	5.00	4.23	84.6 %	70.0 - 130.
Chrysene	ug/Kg	5.00	4.36	87.2 %	70.0 - 130.
bis(2-Ethylhexyl)phthalat	ug/kg	15.0	13.0	86.7 %	70.0 - 130.
bis(2-Ethylhexyl)phthalat	ug/l	5.00	4.55	91.0 %	70.0 - 130.
Di-n-octylphthalate	ug/kg	15.0	16.5	110. %	70.0 - 130.
Di-n-octylphthalate	ug/l	5.00	4.57	91.4 %	70.0 - 130.
Benzo(b)fluoranthene	ug/l	5.00	4.92	98.4 %	70.0 - 130.
Benzo(b)fluoranthene	ug/Kg	5.00	5.35	107. %	70.0 - 130.
Benzo(k)fluoranthene	ug/l	5.00	4.40	88.0 %	70.0 - 130.
Benzo(k)fluoranthene	ug/Kg	5.00	4.78	95.6 %	70.0 - 130.
Benzo(a)pyrene	ug/l	5.00	4.81	96.2 %	70.0 - 130.
Benzo(a)pyrene	ug/Kg	5.00	4.85	97.0 %	70.0 - 130.

QC Summary for sample numbers: 18-A016408 to 18-A016446...

STANDARD REFERENCE MATERIALS continued....

ANALYTE	UNITS	TRUE VALUE	MEASURED VAL	% REC	LIMITS
Indeno(123-cd)pyrene	ug/l	5.00	4.77	95.4 %	70.0 - 130.
Indeno(123-cd)pyrene	ug/Kg	5.00	4.93	98.6 %	70.0 - 130.
Dibenzo(ah)anthracene	ug/l	5.00	4.82	96.4 %	70.0 - 130.
Dibenzo(ah)anthracene	ug/Kg	5.00	4.91	98.2 %	70.0 - 130.
Benzo(ghi)perylene	ug/l	5.00	4.83	96.6 %	70.0 - 130.
Benzo(ghi)perylene	ug/Kg	5.00	4.87	97.4 %	70.0 - 130.
1-Methylnaphthalene	ug/l	5.00	4.15	83.0 %	70.0 - 130.
1-Methylnaphthalene	ug/Kg	5.00	4.39	87.8 %	78.6 - 146.
Arsenic	ug/L	25.0	26.8	107. %	90.0 - 110.
Arsenic	ug/L	25.0	26.8	107. %	90.0 - 110.
Arsenic	ug/L	25.0	25.4	102. %	90.0 - 110.
Arsenic	ug/L	25.0	26.0	104. %	90.0 - 110.
Arsenic	ug/g	25.0	25.5	102. %	65.9 - 129.
Arsenic	ug/g	25.0	25.5	102. %	65.9 - 129.
Arsenic	ug/g	25.0	27.8	111. %	65.9 - 129.
Arsenic	ug/g	25.0	27.8	111. %	65.9 - 129.
Cadmium	ug/L	25.0	25.0	100. %	90.0 - 110.
Cadmium	ug/L	25.0	25.0	100. %	90.0 - 110.
Cadmium	ug/g	25.0	24.7	98.8 %	73.0 - 126.
Cadmium	ug/g	25.0	24.4	97.6 %	73.0 - 126.
Cadmium	ug/g	25.0	24.3	97.2 %	73.0 - 126.
Cadmium	ug/g	25.0	27.8	111. %	73.0 - 126.
Cadmium	ug/g	25.0	27.8	111. %	73.0 - 126.
Chromium	ug/L	25.0	23.3	93.2 %	90.0 - 110.
Chromium	ug/g	25.0	25.0	100. %	69.0 - 130.
Chromium	ug/g	25.0	24.6	98.4 %	69.0 - 130.
Chromium	ug/g	25.0	24.4	97.6 %	69.0 - 130.
Chromium	ug/g	25.0	27.8	111. %	69.0 - 130.
Chromium	ug/g	25.0	27.8	111. %	69.0 - 130.
Lead	ug/L	25.0	23.7	94.8 %	90.0 - 110.
Lead	ug/L	25.0	23.7	94.8 %	90.0 - 110.
Lead	ug/L	25.0	23.9	95.6 %	90.0 - 110.
Lead	ug/L	25.0	24.2	96.8 %	90.0 - 110.
Lead	ug/g	25.00	24.30	97.2 %	74.3 - 126.
Lead	ug/g	25.00	24.13	96.5 %	74.3 - 126.
Lead	ug/g	25.00	24.10	96.4 %	74.3 - 126.
Lead	ug/g	25.00	27.75	111. %	74.3 - 126.
Lead	ug/g	25.00	27.50	110. %	74.3 - 126.

BLANKS

ANALYTE	UNITS	RESULT
Total Suspended Solids	mg/l	< 1
Total Suspended Solids	mg/l	< 1
Total Suspended Solids	mg/l	< 1

QC Summary for sample numbers: 18-A016408 to 18-A016446...

BLANKS continued....

ANALYTE	UNITS	RESULT
Mercury	mg/l	< 0.00005
Mercury	mg/l	< 0.00005
Mercury	mg/l	< 0.00005
Mercury	mg/l	< 0.00005
Mercury	mg/l	< 0.00005
Mercury	mg/l	< 0.00005
Mercury	ug/g	< 0.01
Mercury	ug/g	< 0.01
Benzene	ug/l	< 0.5
Benzene	ug/kg	< 1
Toluene	ug/l	< 0.5
Toluene	ug/kg	< 1
Ethyl Benzene	ug/l	< 0.5
Ethyl Benzene	ug/kg	< 1
m+p-Xylene	ug/kg	< 1
o-Xylene	ug/kg	< 1
Total Xylene	ug/l	< 1
PCB-1016	ug/kg	< 16.6
PCB-1221	ug/kg	< 16.6
PCB-1232	ug/kg	< 16.6
PCB-1242	ug/kg	< 16.6
PCB-1248	ug/kg	< 16.6
PCB-1254	ug/kg	< 16.6
PCB-1260	ug/kg	< 16.6
Tetrachloro-M-xylene	% Rec	94.2
Decachlorobiphenyl	% Rec	87.9
Chloromethane	ug/l	< 1
Vinyl Chloride	ug/l	< 1
Bromomethane	ug/l	< 1
Chloroethane	ug/l	< 1
Trichlorofluoromethane	ug/l	< 1
1,1-Dichloroethylene	ug/l	< 1
Acetone	ug/l	< 5
Carbon Disulfide	ug/l	< 1
Methyl Iodide	ug/l	< 1
Methylene Chloride	ug/l	< 2
Trans-1,2-Dichloroethene	ug/l	< 1
Cis-1,2-Dichloroethene	ug/l	< 1
1,1-Dichloroethane	ug/l	< 1
Vinyl Acetate	ug/l	< 5
Acrylonitrile	ug/l	< 1

QC Summary for sample numbers: 18-A016408 to 18-A016446...

BLANKS continued....

ANALYTE	UNITS	RESULT
2-Butanone (MEK)	ug/l	< 5
Chloroform	ug/l	< 1
1,1,1-Trichloroethane	ug/l	< 1
Carbon Tetrachloride	ug/l	< 1
Benzene	ug/l	< 1
1,2-Dichloroethane	ug/l	< 1
Trichloroethylene	ug/l	< 1
Bromodichloromethane	ug/l	< 1
Bromochloromethane	ug/l	< 1
1,2-Dibromoethane (EDB)	ug/l	< 1
Dibromomethane	ug/l	< 1
1,2-Dichloropropane	ug/l	< 1
4-Methyl-2-Pentanone MIBK	ug/l	< 5
Toluene	ug/l	< 1
Cis-1,3-Dichloropropene	ug/l	< 1
1,1,2-Trichloroethane	ug/l	< 1
Tetrachloroethylene	ug/l	< 1
2-Hexanone	ug/l	< 5
Chlorodibromomethane	ug/l	< 1
Chlorobenzene	ug/l	< 1
Ethyl Benzene	ug/l	< 1
m,p Xylene	ug/l	< 1
o-Xylene	ug/l	< 1
Styrene	ug/l	< 1
Bromoform	ug/l	< 1
1,1,2,2-Tetrachloroethane	ug/l	< 1
1,1,1,2-Tetrachloroethane	ug/l	< 1
Trans-1,3-Dichloropropene	ug/l	< 1
1,3-Dichlorobenzene	ug/l	< 1
1,4-Dichlorobenzene	ug/l	< 1
1,2-Dichlorobenzene	ug/l	< 1
1,2-Dibromo3Chloropropane	ug/l	< 5
trans-1,4-Dichloro2butene	ug/l	< 5
1,2,3-Trichloropropane	ug/l	< 1
D4-1,2,-Dichloroethane	%	104.
D8-Toluene	%	108.
4-Bromofluorobenzene	%	106.
Gasoline in Water	ug/l	< 100
Gasoline in Soil	ug/kg	< 100
Bromofluorobenzene	%	96.9
Bromofluorobenzene	%	114.

QC Summary for sample numbers: 18-A016408 to 18-A016446...

BLANKS continued....

ANALYTE	UNITS	RESULT
Bromofluorobenzene	%	107.
Diesel	ug/l	< 50
Diesel	mg/kg	< 2
Heavy Oil	ug/l	< 100
Heavy Oil	mg/kg	< 3
Bromofluorobenzene	%	72.7
Bromofluorobenzene	%	81.6
2-Fluorobiphenyl	%	80.6
2-Fluorobiphenyl	%	85.1
N-Nitrosodimethylamine	ug/l	< 2
Aniline	ug/l	< 2
Phenol	ug/l	< 2
bis(2-Chloroethyl)ether	ug/l	< 2
2-Chlorophenol	ug/l	< 2
1,3-Dichlorobenzene	ug/l	< 2
1,4-Dichlorobenzene	ug/l	< 2
Benzyl Alcohol	ug/l	< 2
1,2-Dichlorobenzene	ug/l	< 2
2-Methylphenol	ug/l	< 2
bis(2-Chloroisopropyl)eth	ug/l	< 2
4-Methylphenol (P.Cresol)	ug/l	< 2
N-Nitroso-di-n-propylamin	ug/l	< 2
Hexachloroethane	ug/l	< 1
Nitrobenzene	ug/l	< 2
Isophorone	ug/l	< 2
2-Nitrophenol	ug/l	< 2
2,4-Dimethylphenol	ug/l	< 2
Benzoic Acid	ug/l	< 2
bis(2-Chloroethoxy)methan	ug/l	< 2
2,4-Dichlorophenol	ug/l	< 2
1,2,4-Trichlorobenzene	ug/l	< 2
Naphthalene	ug/l	< 0.1
Naphthalene	ug/Kg	< 3.33
4-Chloroaniline	ug/l	< 2
Hexachlorobutadiene	ug/l	< 2
4-Chloro-3-methylphenol	ug/l	< 2
2-Methylnaphthalene	ug/l	< 0.1
2-Methylnaphthalene	ug/Kg	< 3.33
Hexachlorocyclopentadiene	ug/l	< 2
2,4,6-Trichlorophenol	ug/l	< 2
2,4,5-Trichlorophenol	ug/l	< 2

QC Summary for sample numbers: 18-A016408 to 18-A016446...

BLANKS continued....

ANALYTE	UNITS	RESULT
2-Chloronaphthalene	ug/l	< 2
2-Nitroaniline	ug/l	< 2
Dimethylphthalate	ug/l	< 0.1
Acenaphthylene	ug/l	< 0.1
Acenaphthylene	ug/Kg	< 3.33
2,6-Dinitrotoluene	ug/l	< 2
3-Nitroaniline	ug/l	< 2
Acenaphthene	ug/l	< 0.1
Acenaphthene	ug/Kg	< 3.33
2,4-Dinitrophenol	ug/l	< 2
4-Nitrophenol	ug/l	< 2
Dibenzofuran	ug/l	< 2
2,4-Dinitrotoluene	ug/l	< 2
Diethylphthalate	ug/l	< 0.1
4-Chlorophenyl-phenyl eth	ug/l	< 2
Fluorene	ug/l	< 0.1
Fluorene	ug/Kg	< 3.33
4-Nitroaniline	ug/l	< 2
4,6-Dinitro-2-methylpheno	ug/l	< 2
N-nitrosodiphenylamine	ug/l	< 2
Azobenzene	ug/l	< 2
4-Bromophenyl-phenyl ethe	ug/l	< 2
Hexachlorobenzene	ug/l	< 2
Pentachlorophenol	ug/l	< 0.5
Phenanthrene	ug/l	< 0.1
Phenanthrene	ug/Kg	< 3.33
Anthracene	ug/l	< 0.1
Anthracene	ug/Kg	< 3.33
Carbazole	ug/l	< 2
Di-n-butylphthalate	ug/l	< 0.1
Fluoranthene	ug/l	< 0.1
Fluoranthene	ug/Kg	< 3.33
Benzidine	ug/l	< 2
Pyrene	ug/l	< 0.1
Pyrene	ug/Kg	< 3.33
Butylbenzylphthalate	ug/l	< 0.1
3,3-Dichlorobenzidine	ug/l	< 2
Benzo(a)anthracene	ug/l	< 0.1
Benzo(a)anthracene	ug/Kg	< 3.33
Chrysene	ug/l	< 0.1
Chrysene	ug/Kg	< 3.33

QC Summary for sample numbers: 18-A016408 to 18-A016446...

BLANKS continued....

ANALYTE	UNITS	RESULT
bis(2-Ethylhexyl)phthalat	ug/l	0.31
Di-n-octylphthalate	ug/l	< 0.1
Benzo(b)fluoranthene	ug/l	< 0.1
Benzo(b)fluoranthene	ug/Kg	< 3.33
Benzo(k)fluoranthene	ug/l	< 0.1
Benzo(k)fluoranthene	ug/Kg	< 3.33
Benzo(a)pyrene	ug/l	< 0.1
Benzo(a)pyrene	ug/Kg	< 3.33
Indeno(123-cd)pyrene	ug/l	< 0.1
Indeno(123-cd)pyrene	ug/Kg	< 3.33
Dibenzo(ah)anthracene	ug/l	< 0.1
Dibenzo(ah)anthracene	ug/Kg	< 3.33
Benzo(ghi)perylene	ug/l	< 0.1
Benzo(ghi)perylene	ug/Kg	< 3.33
1-Methylnaphthalene	ug/l	< 0.1
1-Methylnaphthalene	ug/Kg	< 3.33
2-Fluorophenol	%	82.9
D6-Phenol	%	88.8
D5-Nitrobenzene	%	95.5
2-Fluorobiphenyl	%	114.
2,4,6-Tribromophenol	%	42.1
D14-Terphenyl	%	170.
Arsenic	ug/L	< 0.05
Arsenic	ug/L	< 0.05
Arsenic	ug/L	< 0.05
Arsenic	ug/L	< 0.05
Arsenic	ug/g	< 0.00005
Arsenic	ug/g	< 0.00005
Arsenic	ug/g	< 0.00005
Arsenic	ug/g	< 0.00005
Arsenic	ug/g	< 0.00005
Arsenic	ug/g	< 0.00005
Cadmium	ug/L	< 0.05
Cadmium	ug/L	< 0.05
Cadmium	ug/g	< 0.00005
Cadmium	ug/g	< 0.00005
Cadmium	ug/g	< 0.00005
Cadmium	ug/g	< 0.00005
Cadmium	ug/g	< 0.00005
Chromium	ug/L	< 0.1
Chromium	ug/g	0.00012
Chromium	ug/g	< 0.0001

QC Summary for sample numbers: 18-A016408 to 18-A016446...

BLANKS continued....

ANALYTE	UNITS	RESULT
Chromium	ug/g	< 0.0001
Chromium	ug/g	< 0.0001
Chromium	ug/g	< 0.0001
Lead	ug/L	< 0.1
Lead	ug/L	< 0.1
Lead	ug/L	< 0.1
Lead	ug/L	< 0.1
Lead	ug/g	< 0.0001
Lead	ug/g	< 0.0001
Lead	ug/g	< 0.0001
Lead	ug/g	< 0.0001
Lead	ug/g	< 0.0001

Sample Custody Record

Samples Shipped to: AmTest



3131 Elliott Avenue Suite 600
Hart Crowser, Inc.
1700 Westlake Avenue North, Suite 200
98121 Seattle, Washington 98109-6212
Office: 206.324.9530 • Fax 206.328.5581

JOB <u>19282-10</u> LAB NUMBER _____						REQUESTED ANALYSIS										NO. OF CONTAINERS	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS								
PROJECT NAME <u>KCA Large Aircraft Parking</u>						NMTPH-DX	NMTPH-6x/BTEX	PCBs by 8082A	SVOCs/PAMS - 8770/1	Total Metals (Pb, Cr, Cd, Ni)	Total Hg - 7471B	VOCs by 8260B	PCBs-lowlevel - 8082A	TSS											
HART CROWSER CONTACT <u>Andrea Wong</u>																									
SAMPLED BY: <u>JG</u>																									
LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX																				
16408	HC-7-S1		9/5/18	0800	SOIL	X																2			
09	HC-7-S2			0805																		2			
10	HC-7-S3			0810		X	X	X	X	X	X													2	
11	HC-7-S4			0815		X				X	X													2	
12	HC-7-S5			0820																				2	
13	HC-7-S6			0825																				2	
14	HC-4-S1			0910		X	X	X	X	X	X													2	
15	HC-4-S2			0915																				2	
16	HC-4-S3			0920		X																		2	
17	HC-4-S4			0925																				2	
18	HC-4-S5		0930																			2			

RELINQUISHED BY		DATE	RECEIVED BY		DATE	SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS: <u>Will email samples for analysis</u> <u>Hold remaining samples</u>	TOTAL NUMBER OF CONTAINERS	
SIGNATURE <u>[Signature]</u>		9/6/18	SIGNATURE <u>[Signature]</u>		9/6/18		SAMPLE RECEIPT INFORMATION	
PRINT NAME <u>Goodman</u>		TIME	PRINT NAME <u>A. STAAB</u>		TIME		CUSTODY SEALS:	
COMPANY <u>Hart Crowser</u>			COMPANY <u>AMTEST</u>		12:30		<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A GOOD CONDITION <input type="checkbox"/> YES <input type="checkbox"/> NO TEMPERATURE _____ SHIPMENT METHOD: <input type="checkbox"/> HAND <input type="checkbox"/> COURIER <input type="checkbox"/> OVERNIGHT	
RELINQUISHED BY		DATE	RECEIVED BY		DATE	COOLER NO.:	STORAGE LOCATION:	TURNAROUND TIME:
SIGNATURE			SIGNATURE					<input type="checkbox"/> 24 HOURS <input type="checkbox"/> 1 WEEK <input type="checkbox"/> 48 HOURS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> 72 HOURS OTHER _____ <u>P.82</u>
PRINT NAME		TIME	PRINT NAME		TIME	See Lab Work Order No. _____		
COMPANY			COMPANY			for Other Contract Requirements		

T=9.2

Sample Custody Record

Samples Shipped to: AmTest



2 of 4

Hart Crowser, Inc.
3131 Elliott Avenue, Suite 600
Seattle, Washington 98121
Office: 206.324.9530 • Fax 206.328.5581

JOB <u>19282-10</u> LAB NUMBER _____						REQUESTED ANALYSIS										NO. OF CONTAINERS	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS							
PROJECT NAME <u>KLIA Large Air Craft Parking</u>						NWTPH-DX	NWTPH-6x18TX	PCBS by 8082A	SVCs/PAHs - 8270FSM	Total Metals (Pb, Cd, Cr, Ni, Cu, Zn)	Total Hg - 7471B	VOCs - 8260B	PCBs - low level - 8082A	TSS										
HART CROWSER CONTACT <u>Andrea Wong</u>																								
SAMPLED BY: <u>JG</u>																								
LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX																			
16419	HC-4-S6		9/5/18	0935	Soil	X															2			
20	HC-4-GW			0940	Water	X	X		X	X	X	X	X									9		
21	HC-3-S1			1125	Soil																	2		
22	HC-3-S2			1130		X	X	X	X	X	X												2	
23	HC-3-S3			1135		X																	2	
24	HC-3-S4			1140																			2	
25	HC-3-S5			1145		X																	2	
26	HC-3-S6			1150																			2	
27	HC-2-S1			1200		X	X	X	X	X	X												2	
28	HC-2-S2			1205																			2	
29	HC-2-S3			1210																			2	
30	HC-2-S4			1215		X																	2	

RELINQUISHED BY <u>MW</u>	DATE <u>9/6/18</u>	RECEIVED BY <u>A Staab</u>	DATE <u>9/6/18</u>	SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS: <u>Will email samples for analysis</u>	TOTAL NUMBER OF CONTAINERS
SIGNATURE <u>Manisa Govindan</u>	TIME	SIGNATURE <u>A Staab</u>	TIME <u>12:30</u>		SAMPLE RECEIPT INFORMATION
PRINT NAME <u>Hart Crowser</u>		PRINT NAME <u>AmTest</u>			CUSTODY SEALS: <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
COMPANY		COMPANY			GOOD CONDITION <input type="checkbox"/> YES <input type="checkbox"/> NO
RELINQUISHED BY	DATE	RECEIVED BY	DATE	COOLER NO.: _____ STORAGE LOCATION: _____	TEMPERATURE _____
SIGNATURE		SIGNATURE			SHIPMENT METHOD: <input type="checkbox"/> HAND <input type="checkbox"/> COURIER <input type="checkbox"/> OVERNIGHT
PRINT NAME		PRINT NAME			TURNAROUND TIME:
COMPANY		COMPANY			<input type="checkbox"/> 24 HOURS <input type="checkbox"/> 1 WEEK <input type="checkbox"/> 48 HOURS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> 72 HOURS OTHER <u>P.83</u>
				See Lab Work Order No. _____ for Other Contract Requirements	

Sample Custody Record

Samples Shipped to: Amtest



3 of 4

Hart Crowser, Inc.
3131 Elliott Avenue, Suite 600
Seattle, Washington 98121
Office: 206.324.9530 • Fax 206.328.5581

JOB <u>19282-10</u> LAB NUMBER _____						REQUESTED ANALYSIS										NO. OF CONTAINERS	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS							
PROJECT NAME <u>KCIA Large Air Craft Parking</u>						NWTPM-DX	NWTPM-GX/BTEX	PCBs by 8082A	SVOC/PAHs - 8270/SM	Total Metals (Pb, Cu, Cr, Ni, Cd, Zn)	Total Hg - 7471B	VOCs by 8260B	PCBs - low level - 8082A	TSS										
HART CROWSER CONTACT <u>Andrea Wong</u>																								
SAMPLED BY: <u>JG</u>																								
LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX																			
10431	HC-2-S5		9/5/18	1220	SOIL																			2
32	HC-2-S6			1225		X	X																	2
33	HC-8-S1			1400																				2
34	HC-8-S2			1405																				2
35	HC-8-S3			1410																				2
36	HC-8-S4			1415																				2
37	HC-8-S5			1420																				2
38	HC-8-GW			1430	WATER	X	X	X	X	X	X	X	X	X	X									9
39	HC-1-S1			1300	SOIL	X	X	X	X	X	X													2
40	HC-1-S2			1305																				2
41	HC-1-S3			1310																				2
42	HC-1-S4			1315																				2

RELINQUISHED BY <u>[Signature]</u> SIGNATURE <u>Minissa Goodman</u> PRINT NAME <u>Hart Crowser</u> COMPANY	DATE <u>9/6/18</u> TIME	RECEIVED BY <u>[Signature]</u> SIGNATURE <u>A. STAAB</u> PRINT NAME <u>AMTEST</u> COMPANY	DATE <u>9/6/18</u> TIME <u>12:30</u>	SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS: <u>will email samples for analysis</u>	TOTAL NUMBER OF CONTAINERS
RELINQUISHED BY	DATE	RECEIVED BY	DATE	COOLER NO.: _____ STORAGE LOCATION: _____	TURNAROUND TIME: <input type="checkbox"/> 24 HOURS <input type="checkbox"/> 1 WEEK <input type="checkbox"/> 48 HOURS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> 72 HOURS OTHER <u>P.84</u>
SIGNATURE	TIME	SIGNATURE	TIME		
PRINT NAME		PRINT NAME			
COMPANY		COMPANY			

Sample Custody Record

Samples Shipped to: Am-test



4 of 4

Hart Crowser, Inc.
3131 Elliott Avenue, Suite 600
Seattle, Washington 98121
Office: 206.324.9530 • Fax 206.328.5581

JOB <u>19282-10</u> LAB NUMBER _____ PROJECT NAME <u>KCIA Large Aircraft Parking</u> HART CROWSER CONTACT <u>Andrea Wong</u> SAMPLED BY: <u>JG</u>	REQUESTED ANALYSIS NNTPH-DX NNTPH-GX/BTEX PCBs by 8082A SVOCs/PAHs-SEM Total Metals (Pb-Cd-Cr) Total Hg-747A/B VOCs by 8260B PCBs-low level-8082A TSS	NO. OF CONTAINERS	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS
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LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX	NNTPH-DX	NNTPH-GX/BTEX	PCBs by 8082A	SVOCs/PAHs-SEM	Total Metals (Pb-Cd-Cr)	Total Hg-747A/B	VOCs by 8260B	PCBs-low level-8082A	TSS	NO. OF CONTAINERS
16443	HC-1-S5		9/5/18	1320	SOIL										2
44	HC-1-S6		L	1325	SOIL	X									2
45	HC-1-GW		L	1330	WATER	X	X	X	X	X	X	X	X		9
46	HC-8-S6		9/5/18	1425	SOIL	X	X	X	X	X					2
47	Trp Blank														X3

RELINQUISHED BY	DATE	RECEIVED BY	DATE	SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS:	TOTAL NUMBER OF CONTAINERS
<u>[Signature]</u>	9/6/18	<u>[Signature]</u>	9/6/18	Will email samples for analysis	102
<u>Robert Fairman</u>	TIME	<u>A. STAAB</u>	TIME		9/6/18
<u>Plant Crowser</u>		<u>AMTEST</u>	12:30		
COMPANY		COMPANY			
RELINQUISHED BY	DATE	RECEIVED BY	DATE	COOLER NO.:	STORAGE LOCATION:
SIGNATURE	TIME	SIGNATURE	TIME		
PRINT NAME		PRINT NAME		See Lab Work Order No. _____	for Other Contract Requirements
COMPANY		COMPANY			
				SAMPLE RECEIPT INFORMATION CUSTODY SEALS: <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A GOOD CONDITION: <input type="checkbox"/> YES <input type="checkbox"/> NO TEMPERATURE: _____ SHIPMENT METHOD: <input type="checkbox"/> HAND <input type="checkbox"/> COURIER <input type="checkbox"/> OVERNIGHT TURNAROUND TIME: <input type="checkbox"/> 24 HOURS <input type="checkbox"/> 1 WEEK <input type="checkbox"/> 48 HOURS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> 72 HOURS OTHER <u>P.85</u>	



27 September 2018

Aaron Young
AmTest Laboratories
13600 NE 126th PI Suite C
Kirkland, WA 98034

RE: Hart Crowser

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)
18I0167

Associated SDG ID(s)
N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



1810167


Chain of Custody No. **33006**

Client Name & Address: Amtest	Invoice To:
Contact Person: Aaron Young	Invoice Contact:
Phone No:	PO Number: 18-495
Fax No:	Invoice Ph/Fax:
E-mail: aaron.young@amtestlab.com	Invoice E-mail:
Report Delivery: (Choose all that apply) Mail / Fax / <u>Email</u> / Posted Online	Data posted to online account: YES / NO Web Login ID:

Special Instructions:

Requested TAT: (Rush must be pre-approved by lab)
 Standard RUSH (5 Day / 3 Day / 48 HR / 24 HR)
 Temperature upon Receipt:

Project Name: Hart Chouser		Date Sampled	Time Sampled	Matrix	No. of containers	Analysis Requested										QA/QC	
Project Number:	AmTest ID					Client ID (35 characters max)	LLPCBS 0.01 reporting limit										
		9/7/18	13:55	W	1	X											
		↓	10:00	↓	1	X											
		↓	11:55	↓	1	X											
		↓	12:00	↓	1	X											
		9/5/18	9:40	↓	1	X											
		↓	14:30	↓	1	X											
		↓	13:30	↓	1	X											

Collected/Relinquished By: 	Date 9/13/18	Time 11:21	Received By: Stephanie Fisher	Date 9-13-18	Time 11:21
Relinquished By:	Date	Time	Received By:	Date	Time
Relinquished By:	Date	Time	Received By:	Date	Time

COMMENTS:



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
27-Sep-2018 17:54

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
16613	18I0167-01	Water	07-Sep-2018 13:55	13-Sep-2018 11:21
16614	18I0167-02	Water	07-Sep-2018 10:00	13-Sep-2018 11:21
16616	18I0167-03	Water	07-Sep-2018 07:55	13-Sep-2018 11:21
16617	18I0167-04	Water	07-Sep-2018 12:00	13-Sep-2018 11:21
16420	18I0167-05	Water	05-Sep-2018 09:40	13-Sep-2018 11:21
16438	18I0167-06	Water	05-Sep-2018 14:30	13-Sep-2018 11:21
16445	18I0167-07	Water	05-Sep-2018 13:30	13-Sep-2018 11:21



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
27-Sep-2018 17:54

Case Narrative

Sample receipt

Samples as listed on the preceding page were received September 13, 2018 under ARI work order 18I0167. For details regarding sample receipt, please refer to the Cooler Receipt Form.

PCB Aroclors - EPA Method SW8082A

The sample(s) were extracted and analyzed within the recommended holding times except samples 18I0167-05, -06 and -07. These samples holding time was exceeded upon sample receipt.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.



Cooler Receipt Form

ARI Client: AMTast
 COC No(s): 33006 33010 (NA)
 Assigned ARI Job No: 1810167

Project Name: HAFT CROWSER
 Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
 Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO
 Were custody papers included with the cooler? YES NO
 Were custody papers properly filled out (ink, signed, etc.) YES NO
 Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 5.4
 Time: 1121 Temp Gun ID#: DUNSON
 If cooler temperature is out of compliance fill out form 00070F

Cooler Accepted by: SeF Date: 9-13-18 Time: 1121
 Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO
 What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____
 Was sufficient ice used (if appropriate)? NA YES NO
 Were all bottles sealed in individual plastic bags? YES NO
 Did all bottles arrive in good condition (unbroken)? YES NO
 Were all bottle labels complete and legible? YES NO
 Did the number of containers listed on COC match with the number of containers received? YES NO
 Did all bottle labels and tags agree with custody papers? YES NO
 Were all bottles used correct for the requested analyses? YES NO
 Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO
 Were all VOC vials free of air bubbles? NA YES NO
 Was sufficient amount of sample sent in each bottle? YES NO
 Date VOC Trip Blank was made at ARI: NA
 Was Sample Split by ARI : NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: SeF Date: 9-13-18 Time: 1349
 ** Notify Project Manager of discrepancies or concerns **

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions: 16614 Sample time on label 0940, on coc 1000, 16617 sample time on label 1145, on coc 1200

By: SeF Date: 9-13-18

<p>Small Air Bubbles - 2mm</p>	<p>Peabubbles 2-4 mm</p>	<p>LARGE Air Bubbles > 4 mm</p>	Small → "sm" (< 2 mm) Peabubbles → "pb" (2 to < 4 mm) Large → "lg" (4 to < 6 mm) Headspace → "hs" (> 6 mm)
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AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
27-Sep-2018 17:54

16613
18I0167-01 (Water)

Aroclor PCB

Method: EPA 8082A

Sampled: 09/07/2018 13:55

Instrument: ECD7 Analyst: JGR

Analyzed: 26-Sep-2018 11:37

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BGI0321 Sample Size: 1000 mL
Prepared: 14-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CGI0206 Initial Volume: 0.5 mL
Cleaned: 25-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfuric Acid
Cleanup Batch: CGI0204 Initial Volume: 0.5 mL
Cleaned: 25-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfur
Cleanup Batch: CGI0205 Initial Volume: 0.5 mL
Cleaned: 25-Sep-2018 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
Surrogate: Decachlorobiphenyl				29-120 %		NRS	NRS
Surrogate: Tetrachlorometaxylene				32-120 %	68.4	%	
Surrogate: Decachlorobiphenyl [2C]				29-120 %	76.6	%	
Surrogate: Tetrachlorometaxylene [2C]				32-120 %	66.6	%	



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
27-Sep-2018 17:54

16614
18I0167-02 (Water)

Aroclor PCB

Method: EPA 8082A

Sampled: 09/07/2018 10:00

Instrument: ECD7 Analyst: JGR

Analyzed: 26-Sep-2018 11:59

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BGI0321 Sample Size: 1000 mL
Prepared: 14-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CGI0206 Initial Volume: 0.5 mL
Cleaned: 25-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfuric Acid
Cleanup Batch: CGI0204 Initial Volume: 0.5 mL
Cleaned: 25-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfur
Cleanup Batch: CGI0205 Initial Volume: 0.5 mL
Cleaned: 25-Sep-2018 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
Surrogate: Decachlorobiphenyl				29-120 %		NRS	NRS
Surrogate: Tetrachlorometaxylene				32-120 %	61.9	%	
Surrogate: Decachlorobiphenyl [2C]				29-120 %	73.4	%	
Surrogate: Tetrachlorometaxylene [2C]				32-120 %	60.4	%	



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
27-Sep-2018 17:54

16616
18I0167-03 (Water)

Aroclor PCB

Method: EPA 8082A

Sampled: 09/07/2018 07:55

Instrument: ECD7 Analyst: JGR

Analyzed: 26-Sep-2018 12:21

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BGI0321 Sample Size: 1000 mL
Prepared: 14-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CGI0206 Initial Volume: 0.5 mL
Cleaned: 25-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfuric Acid
Cleanup Batch: CGI0204 Initial Volume: 0.5 mL
Cleaned: 25-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfur
Cleanup Batch: CGI0205 Initial Volume: 0.5 mL
Cleaned: 25-Sep-2018 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection	Reporting	Result	Units	Notes
			Limit	Limit			
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
<i>Surrogate: Decachlorobiphenyl</i>					29-120 %	86.0 %	
<i>Surrogate: Tetrachlorometaxylene</i>					32-120 %	63.4 %	
<i>Surrogate: Decachlorobiphenyl [2C]</i>					29-120 %	87.5 %	
<i>Surrogate: Tetrachlorometaxylene [2C]</i>					32-120 %	64.4 %	



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
27-Sep-2018 17:54

16617
18I0167-04 (Water)

Aroclor PCB

Method: EPA 8082A

Sampled: 09/07/2018 12:00

Instrument: ECD7 Analyst: JGR

Analyzed: 26-Sep-2018 12:43

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BGI0321 Sample Size: 1000 mL
Prepared: 14-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CGI0206 Initial Volume: 0.5 mL
Cleaned: 25-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfuric Acid
Cleanup Batch: CGI0204 Initial Volume: 0.5 mL
Cleaned: 25-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfur
Cleanup Batch: CGI0205 Initial Volume: 0.5 mL
Cleaned: 25-Sep-2018 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
Surrogate: Decachlorobiphenyl				29-120 %		NRS	NRS
Surrogate: Tetrachlorometaxylene				32-120 %	65.0	%	
Surrogate: Decachlorobiphenyl [2C]				29-120 %	82.7	%	
Surrogate: Tetrachlorometaxylene [2C]				32-120 %	64.9	%	



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
27-Sep-2018 17:54

16420
18I0167-05 (Water)

Aroclor PCB

Method: EPA 8082A

Sampled: 09/05/2018 09:40

Instrument: ECD7 Analyst: JGR

Analyzed: 26-Sep-2018 13:05

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BGI0321 Sample Size: 1000 mL
Prepared: 14-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CGI0206 Initial Volume: 0.5 mL
Cleaned: 25-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfuric Acid
Cleanup Batch: CGI0204 Initial Volume: 0.5 mL
Cleaned: 25-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfur
Cleanup Batch: CGI0205 Initial Volume: 0.5 mL
Cleaned: 25-Sep-2018 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	H, U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	H, U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	H, U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	H, U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	H, U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	H, U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	H, U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	H, U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	H, U
Surrogate: Decachlorobiphenyl				29-120 %		NRS	H, NRS
Surrogate: Tetrachlorometaxylene				32-120 %	64.9	%	H
Surrogate: Decachlorobiphenyl [2C]				29-120 %	81.6	%	H
Surrogate: Tetrachlorometaxylene [2C]				32-120 %	63.1	%	H



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
27-Sep-2018 17:54

16438
18I0167-06 (Water)

Aroclor PCB

Method: EPA 8082A

Sampled: 09/05/2018 14:30

Instrument: ECD7 Analyst: JGR

Analyzed: 26-Sep-2018 13:28

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BGI0321 Sample Size: 1000 mL
Prepared: 14-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CGI0206 Initial Volume: 0.5 mL
Cleaned: 25-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfuric Acid
Cleanup Batch: CGI0204 Initial Volume: 0.5 mL
Cleaned: 25-Sep-2018 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfur
Cleanup Batch: CGI0205 Initial Volume: 0.5 mL
Cleaned: 25-Sep-2018 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	H, U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	H, U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	H, U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	H, U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	H, U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	H, U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	H, U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	H, U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	H, U
<i>Surrogate: Decachlorobiphenyl</i>				29-120 %	76.0	%	H
<i>Surrogate: Tetrachlorometaxylene</i>				32-120 %	65.9	%	H
<i>Surrogate: Decachlorobiphenyl [2C]</i>				29-120 %	78.2	%	H
<i>Surrogate: Tetrachlorometaxylene [2C]</i>				32-120 %	63.4	%	H



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
27-Sep-2018 17:54

16445
18I0167-07 (Water)

Aroclor PCB

Method: EPA 8082A Sampled: 09/05/2018 13:30
Instrument: ECD7 Analyst: JGR Analyzed: 26-Sep-2018 13:50

Sample Preparation:	Preparation Method: EPA 3510C SepF Preparation Batch: BGI0321 Prepared: 14-Sep-2018	Sample Size: 1000 mL Final Volume: 0.5 mL
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CGI0206 Cleaned: 25-Sep-2018	Initial Volume: 0.5 mL Final Volume: 0.5 mL
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CGI0204 Cleaned: 25-Sep-2018	Initial Volume: 0.5 mL Final Volume: 0.5 mL
Sample Cleanup:	Cleanup Method: Sulfur Cleanup Batch: CGI0205 Cleaned: 25-Sep-2018	Initial Volume: 0.5 mL Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	H, U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	H, U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	H, U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	H, U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	H, U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	H, U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	H, U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	H, U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	H, U
<i>Surrogate: Decachlorobiphenyl</i>				29-120 %		NRS	H, NRS
<i>Surrogate: Tetrachlorometaxylene</i>				32-120 %	67.6	%	H
<i>Surrogate: Decachlorobiphenyl [2C]</i>				29-120 %	75.7	%	H
<i>Surrogate: Tetrachlorometaxylene [2C]</i>				32-120 %	63.8	%	H



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
27-Sep-2018 17:54

Aroclor PCB - Quality Control

Batch BGI0321 - EPA 3510C SepF

Instrument: ECD7 Analyst: JGR

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BGI0321-BLK1)											
						Prepared: 14-Sep-2018 Analyzed: 26-Sep-2018 10:52					
Aroclor 1016	ND	0.002	0.010	ug/L							U
Aroclor 1221	ND	0.002	0.010	ug/L							U
Aroclor 1232	ND	0.002	0.010	ug/L							U
Aroclor 1242	ND	0.002	0.010	ug/L							U
Aroclor 1248	ND	0.002	0.010	ug/L							U
Aroclor 1254	ND	0.002	0.010	ug/L							U
Aroclor 1260	ND	0.003	0.010	ug/L							U
Aroclor 1262	ND	0.003	0.010	ug/L							U
Aroclor 1268	ND	0.003	0.010	ug/L							U
<hr/>											
Surrogate: Decachlorobiphenyl	0.0166			ug/L	0.0200		82.8	29-120			
Surrogate: Tetrachlorometaxylene	0.0124			ug/L	0.0200		61.8	32-120			
Surrogate: Decachlorobiphenyl [2C]	0.0174			ug/L	0.0200		87.2	29-120			
Surrogate: Tetrachlorometaxylene [2C]	0.0126			ug/L	0.0200		62.9	32-120			
<hr/>											
LCS (BGI0321-BS1)											
						Prepared: 14-Sep-2018 Analyzed: 26-Sep-2018 11:14					
Aroclor 1016	0.049	0.002	0.010	ug/L	0.0500		97.7	54-120			
Aroclor 1260	0.050	0.003	0.010	ug/L	0.0500		100	51-128			
<hr/>											
Surrogate: Decachlorobiphenyl	0.0162			ug/L	0.0200		80.8	29-120			
Surrogate: Tetrachlorometaxylene	0.0120			ug/L	0.0200		60.1	32-120			
Surrogate: Decachlorobiphenyl [2C]	0.0169			ug/L	0.0200		84.7	29-120			
Surrogate: Tetrachlorometaxylene [2C]	0.0119			ug/L	0.0200		59.3	32-120			



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
27-Sep-2018 17:54

Certified Analyses included in this Report

Analyte	Certifications
EPA 8082A in Water	
Aroclor 1016	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1016 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1221	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1221 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1232	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1232 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1242	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1242 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1248	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1248 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1254	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1254 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1260	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1260 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1262	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1262 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1268	WADOE, DoD-ELAP, NELAP, CALAP, ADEC
Aroclor 1268 [2C]	WADOE, DoD-ELAP, NELAP, CALAP, ADEC

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	02/07/2019
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	02/07/2019
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-011	05/12/2019
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019



AmTest Laboratories
13600 NE 126th Pl Suite C
Kirkland WA, 98034

Project: Hart Crowser
Project Number: PCB
Project Manager: Aaron Young

Reported:
27-Sep-2018 17:54

Notes and Definitions

- * Flagged value is not within established control limits.
- H Hold time violation - Hold time was exceeded.
- J Estimated concentration value detected below the reporting limit.
- NRS This surrogate not reported due to chromatographic interference
- P1 The reported value is greater than 40% difference between the concentrations determined on two GC columns where applicable.
- U This analyte is not detected above the applicable reporting or detection limit.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- [2C] Indicates this result was quantified on the second column on a dual column analysis.

September 14, 2018

*Andrea Wong
Hart Crowser, Inc.
3131 Elliott Avenue, Suite 600
Seattle, WA 98121*

Dear Ms. Wong:

Please find enclosed the analytical data report for the *KCIA Large Aircraft Parking 19282-10 (C80906-2)* Project.

Samples were received on *September 06, 2018*. The results of the analyses are presented in the attached tables. Applicable reporting limits, QA/QC data and data qualifiers are included. A copy of the chain-of-custody and an invoice for the work is also enclosed.

ADVANCED ANALYTICAL LABORATORY appreciates the opportunity to provide analytical services for this project. Should there be any questions regarding this report, please contact me at (425) 702-8571.

It was a pleasure working with you, and we are looking forward to the next opportunity to work together.

Sincerely,



Val G. Ivanov, Ph.D.
Laboratory Manager

4078 148 Ave NE ■ Redmond, WA 98052
425.702-8571
E-mail: aachemlab@yahoo.com

AAL Job Number: C80906-2
Client: Hart Crowser, Inc.
Project Manager: Andrea Wong
Client Project Name: KCIA Large Aircraft Parking
Client Project Number: 19282-10
Date received: 09/06/18

AAL Job Number: C80906-2
 Client: Hart Crowser, Inc.
 Project Manager: Andrea Wong
 Client Project Name: KCIA Large Aircraft Parking
 Client Project Number: 19282-10
 Date received: 09/06/18

Analytical Results

8260B, µg/kg		MTH BLK	LCS	HC7-S3	HC4-S1	HC3-S1
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	09/12/18	09/12/18	09/12/18	09/12/18	09/12/18
Date analyzed	Limits	09/12/18	09/12/18	09/12/18	09/12/18	09/12/18
MTBE	100	nd		nd	nd	nd
Dichlorodifluoromethane	50	nd		nd	nd	nd
Chloromethane	50	nd		nd	nd	nd
Vinyl chloride	50	nd		nd	nd	nd
Bromomethane	50	nd		nd	nd	nd
Chloroethane	50	nd		nd	nd	nd
Trichlorofluoromethane	50	nd		nd	nd	nd
1,1-Dichloroethene	50	nd		nd	nd	nd
Methylene chloride	20	nd		nd	nd	nd
trans-1,2-Dichloroethene	50	nd		nd	nd	nd
1,1-Dichloroethane	50	nd		nd	nd	nd
2,2-Dichloropropane	50	nd		nd	nd	nd
cis-1,2-Dichloroethene	50	nd		nd	nd	nd
Chloroform	50	nd		nd	nd	nd
1,1,1-Trichloroethane	50	nd		nd	nd	nd
Carbontetrachloride	50	nd		nd	nd	nd
1,1-Dichloropropene	50	nd		nd	nd	nd
Benzene	20	nd	94%	nd	nd	nd
1,2-Dichloroethane(EDC)	20	nd		nd	nd	nd
Trichloroethene	20	nd	84%	nd	nd	nd
1,2-Dichloropropane	50	nd		nd	nd	nd
Dibromomethane	50	nd		nd	nd	nd
Bromodichloromethane	50	nd		nd	nd	nd
cis-1,3-Dichloropropene	50	nd		nd	nd	nd
Toluene	50	nd	98%	nd	nd	nd
trans-1,3-Dichloropropene	50	nd		nd	nd	nd
1,1,2-Trichloroethane	50	nd		nd	nd	nd
Tetrachloroethene	50	nd		nd	nd	nd
1,3-Dichloropropane	50	nd		nd	nd	nd
Dibromochloromethane	20	nd		nd	nd	nd
1,2-Dibromoethane (EDB)*	5	nd		nd	nd	nd
Chlorobenzene	50	nd	98%	nd	nd	nd
1,1,1,2-Tetrachloroethane	50	nd		nd	nd	nd
Ethylbenzene	50	nd		nd	nd	nd
Xylenes	50	nd		nd	nd	nd
Styrene	50	nd		nd	nd	nd
Bromoform	50	nd		nd	nd	nd
Isopropylbenzene	50	nd		nd	nd	nd
1,2,3-Trichloropropane	50	nd		nd	nd	nd
Bromobenzene	50	nd		nd	nd	nd
1,1,2,2-Tetrachloroethane	50	nd		nd	nd	nd
n-Propylbenzene	50	nd		nd	nd	nd
2-Chlorotoluene	50	nd		nd	nd	nd
4-Chlorotoluene	50	nd		nd	nd	nd
1,3,5-Trimethylbenzene	50	nd		nd	nd	nd
tert-Butylbenzene	50	nd		nd	nd	nd
1,2,4-Trimethylbenzene	50	nd		nd	nd	nd

AAL Job Number: C80906-2
 Client: Hart Crowser, Inc.
 Project Manager: Andrea Wong
 Client Project Name: KCIA Large Aircraft Parking
 Client Project Number: 19282-10
 Date received: 09/06/18

Analytical Results

8260B, µg/kg		MTH BLK	LCS	HC7-S3	HC4-S1	HC3-S1
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	09/12/18	09/12/18	09/12/18	09/12/18	09/12/18
Date analyzed	Limits	09/12/18	09/12/18	09/12/18	09/12/18	09/12/18
sec-Butylbenzene	50	nd		nd	nd	nd
1,3-Dichlorobenzene	50	nd		nd	nd	nd
Isopropyltoluene	50	nd		nd	nd	nd
1,4-Dichlorobenzene	50	nd		nd	nd	nd
1,2-Dichlorobenzene	50	nd		nd	nd	nd
n-Butylbenzene	50	nd		nd	nd	nd
1,2-Dibromo-3-Chloropropane	50	nd		nd	nd	nd
1,2,4-Trichlorobenzene	50	nd		nd	nd	nd
Hexachloro-1,3-butadiene	50	nd		nd	nd	nd
1,2,3-Trichlorobenzene	50	nd		nd	nd	nd

*-instrument detection limits

Surrogate recoveries

Dibromofluoromethane	97%	97%	94%	92%	88%
Toluene-d8	99%	95%	97%	91%	89%
1,2-Dichloroethane-d4	103%	100%	97%	89%	96%
4-Bromofluorobenzene	116%	113%	110%	110%	103%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
 Results reported on wet weight basis
 M-matrix interference
 C - coelution with sample peaks
 Acceptable Recovery limits: 70% TO 130%
 Acceptable RPD limit: 30%

AAL Job Number: C80906-2
 Client: Hart Crowser, Inc.
 Project Manager: Andrea Wong
 Client Project Name: KCIA Large Aircraft Parking
 Client Project Number: 19282-10
 Date received: 09/06/18

Analytical Results

8260B, µg/kg		HC3-S2	HC2-S1	HC2-S4	HC2-S6	HC8-S6	HC1-S1
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	09/12/18	09/12/18	09/12/18	09/12/18	09/12/18	09/12/18
Date analyzed	Limits	09/12/18	09/12/18	09/12/18	09/12/18	09/12/18	09/12/18
MTBE	100	nd	nd	nd	nd	nd	nd
Dichlorodifluoromethane	50	nd	nd	nd	nd	nd	nd
Chloromethane	50	nd	nd	nd	nd	nd	nd
Vinyl chloride	50	nd	nd	nd	nd	nd	nd
Bromomethane	50	nd	nd	nd	nd	nd	nd
Chloroethane	50	nd	nd	nd	nd	nd	nd
Trichlorofluoromethane	50	nd	nd	nd	nd	nd	nd
1,1-Dichloroethene	50	nd	nd	nd	nd	nd	nd
Methylene chloride	20	nd	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	50	nd	nd	nd	nd	nd	nd
1,1-Dichloroethane	50	nd	nd	nd	nd	nd	nd
2,2-Dichloropropane	50	nd	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	50	nd	nd	nd	nd	nd	nd
Chloroform	50	nd	nd	nd	nd	nd	nd
1,1,1-Trichloroethane	50	nd	nd	nd	nd	nd	nd
Carbontetrachloride	50	nd	nd	nd	nd	nd	nd
1,1-Dichloropropene	50	nd	nd	nd	nd	nd	nd
Benzene	20	nd	nd	nd	nd	nd	nd
1,2-Dichloroethane(EDC)	20	nd	nd	nd	nd	nd	nd
Trichloroethene	20	nd	nd	nd	nd	nd	nd
1,2-Dichloropropane	50	nd	nd	nd	nd	nd	nd
Dibromomethane	50	nd	nd	nd	nd	nd	nd
Bromodichloromethane	50	nd	nd	nd	nd	nd	nd
cis-1,3-Dichloropropene	50	nd	nd	nd	nd	nd	nd
Toluene	50	nd	nd	nd	nd	nd	nd
trans-1,3-Dichloropropene	50	nd	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	50	nd	nd	nd	nd	nd	nd
Tetrachloroethene	50	nd	nd	nd	nd	nd	nd
1,3-Dichloropropane	50	nd	nd	nd	nd	nd	nd
Dibromochloromethane	20	nd	nd	nd	nd	nd	nd
1,2-Dibromoethane (EDB)*	5	nd	nd	nd	nd	nd	nd
Chlorobenzene	50	nd	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	50	nd	nd	nd	nd	nd	nd
Ethylbenzene	50	nd	nd	nd	nd	nd	nd
Xylenes	50	nd	nd	nd	nd	nd	nd
Styrene	50	nd	nd	nd	nd	nd	nd
Bromoform	50	nd	nd	nd	nd	nd	nd
Isopropylbenzene	50	nd	nd	nd	nd	nd	nd
1,2,3-Trichloropropane	50	nd	nd	nd	nd	nd	nd
Bromobenzene	50	nd	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	50	nd	nd	nd	nd	nd	nd
n-Propylbenzene	50	nd	nd	nd	nd	nd	nd
2-Chlorotoluene	50	nd	nd	nd	nd	nd	nd
4-Chlorotoluene	50	nd	nd	nd	nd	nd	nd
1,3,5-Trimethylbenzene	50	nd	nd	nd	nd	nd	nd
tert-Butylbenzene	50	nd	nd	nd	nd	nd	nd
1,2,4-Trimethylbenzene	50	nd	nd	nd	nd	nd	nd

AAL Job Number: C80906-2
 Client: Hart Crowser, Inc.
 Project Manager: Andrea Wong
 Client Project Name: KCIA Large Aircraft Parking
 Client Project Number: 19282-10
 Date received: 09/06/18

Analytical Results

8260B, µg/kg		HC3-S2	HC2-S1	HC2-S4	HC2-S6	HC8-S6	HC1-S1
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	09/12/18	09/12/18	09/12/18	09/12/18	09/12/18	09/12/18
Date analyzed	Limits	09/12/18	09/12/18	09/12/18	09/12/18	09/12/18	09/12/18
sec-Butylbenzene	50	nd	nd	nd	nd	nd	nd
1,3-Dichlorobenzene	50	nd	nd	nd	nd	nd	nd
Isopropyltoluene	50	nd	nd	nd	nd	nd	nd
1,4-Dichlorobenzene	50	nd	nd	nd	nd	nd	nd
1,2-Dichlorobenzene	50	nd	nd	nd	nd	nd	nd
n-Butylbenzene	50	nd	nd	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	50	nd	nd	nd	nd	nd	nd
1,2,4-Trichlorobenzene	50	nd	nd	nd	nd	nd	nd
Hexachloro-1,3-butadiene	50	nd	nd	nd	nd	nd	nd
1,2,3-Trichlorobenzene	50	nd	nd	nd	nd	nd	nd

*-instrument detection limits

Surrogate recoveries

Dibromofluoromethane	101%	100%	90%	91%	91%	91%
Toluene-d8	98%	94%	88%	91%	89%	92%
1,2-Dichloroethane-d4	96%	93%	100%	95%	96%	97%
4-Bromofluorobenzene	99%	103%	101%	104%	99%	110%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
 Results reported on wet weight basis
 M-matrix interference
 C - coelution with sample peaks
 Acceptable Recovery limits: 70% TO 130%
 Acceptable RPD limit: 30%

AAL Job Number: C80906-2
 Client: Hart Crowser, Inc.
 Project Manager: Andrea Wong
 Client Project Name: KCIA Large Aircraft Parking
 Client Project Number: 19282-10
 Date received: 09/06/18

Analytical Results		MS	MSD	RPD
8260B, µg/kg		HC1-S1	HC1-S1	HC1-S1
Matrix	Soil	Soil	Soil	Soil
Date extracted	Reporting	09/12/18	09/12/18	09/12/18
Date analyzed	Limits	09/12/18	09/12/18	09/12/18

MTBE	100			
Dichlorodifluoromethane	50			
Chloromethane	50			
Vinyl chloride	50			
Bromomethane	50			
Chloroethane	50			
Trichlorofluoromethane	50			
1,1-Dichloroethene	50			
Methylene chloride	20			
trans-1,2-Dichloroethene	50			
1,1-Dichloroethane	50			
2,2-Dichloropropane	50			
cis-1,2-Dichloroethene	50			
Chloroform	50			
1,1,1-Trichloroethane	50			
Carbontetrachloride	50			
1,1-Dichloropropene	50			
Benzene	20	98%	100%	2%
1,2-Dichloroethane(EDC)	20			
Trichloroethene	20	98%	101%	3%
1,2-Dichloropropane	50			
Dibromomethane	50			
Bromodichloromethane	50			
cis-1,3-Dichloropropene	50			
Toluene	50	99%	111%	11%
trans-1,3-Dichloropropene	50			
1,1,2-Trichloroethane	50			
Tetrachloroethene	50			
1,3-Dichloropropane	50			
Dibromochloromethane	20			
1,2-Dibromoethane (EDB)*	5			
Chlorobenzene	50	99%	120%	19%
1,1,1,2-Tetrachloroethane	50			
Ethylbenzene	50			
Xylenes	50			
Styrene	50			
Bromoform	50			
Isopropylbenzene	50			
1,2,3-Trichloropropane	50			
Bromobenzene	50			
1,1,2,2-Tetrachloroethane	50			
n-Propylbenzene	50			
2-Chlorotoluene	50			
4-Chlorotoluene	50			
1,3,5-Trimethylbenzene	50			
tert-Butylbenzene	50			
1,2,4-Trimethylbenzene	50			

AAL Job Number: C80906-2
 Client: Hart Crowser, Inc.
 Project Manager: Andrea Wong
 Client Project Name: KCIA Large Aircraft Parking
 Client Project Number: 19282-10
 Date received: 09/06/18

Analytical Results		MS	MSD	RPD
8260B, µg/kg		HC1-S1	HC1-S1	HC1-S1
Matrix	Soil	Soil	Soil	Soil
Date extracted	Reporting	09/12/18	09/12/18	09/12/18
Date analyzed	Limits	09/12/18	09/12/18	09/12/18

sec-Butylbenzene	50
1,3-Dichlorobenzene	50
Isopropyltoluene	50
1,4-Dichlorobenzene	50
1,2-Dichlorobenzene	50
n-Butylbenzene	50
1,2-Dibromo-3-Chloropropane	50
1,2,4-Trichlorobenzene	50
Hexachloro-1,3-butadiene	50
1,2,3-Trichlorobenzene	50

*-instrument detection limits

Surrogate recoveries

Dibromofluoromethane	91%	91%
Toluene-d8	86%	85%
1,2-Dichloroethane-d4	104%	98%
4-Bromofluorobenzene	109%	103%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
 Results reported on wet weight basis
 M-matrix interference
 C - coelution with sample peaks
 Acceptable Recovery limits: 70% TO 130%
 Acceptable RPD limit: 30%

Sample Custody Record

Samples Shipped to: AAU



C80906-2

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Hart Crowser, Inc.
3131 Elliott Avenue, Suite 600
Seattle, Washington 98121
Office: 206.324.9530 • Fax 206.328.5581

JOB <u>19282-10</u> LAB NUMBER _____						REQUESTED ANALYSIS										NO. OF CONTAINERS	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS		
PROJECT NAME <u>KCIA Large Aircraft Parking</u>						VOC													
HART CROWSER CONTACT <u>Andrea Wong</u>																			
SAMPLED BY: <u>JG</u>																			
LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX														
	HC-3-S1		9/5/18	1125	SOIL	X													
	HC-3-S2			1130		X													
	HC-3-S3			1135															
	HC-3-S4			1140															
	HC-3-S5			1145															
	HC-3-S6			1150															
	HC-2-S1			1200		X													
	HC-2-S2			1205															
	HC-2-S3			1210															
	HC-2-S4			1215		X													
	HC-2-S5			1220															
	HC-2-S6			1225		X													

RELINQUISHED BY	DATE	RECEIVED BY	DATE	SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS: <u>Will email samples for analysis</u>	TOTAL NUMBER OF CONTAINERS
<u>Coin McCabe</u>	9/6/18	<u>Andrea Wong</u>	9/6/18		
SIGNATURE	TIME	SIGNATURE	TIME		
PRINT NAME		PRINT NAME			
COMPANY	10:35	COMPANY	10:35		
RELINQUISHED BY	DATE	RECEIVED BY	DATE	COOLER NO.:	STORAGE LOCATION:
SIGNATURE	TIME	SIGNATURE	TIME		
PRINT NAME		PRINT NAME			
COMPANY		COMPANY			
				See Lab Work Order No. _____	TURNAROUND TIME:
				for Other Contract Requirements	<input type="checkbox"/> 24 HOURS <input type="checkbox"/> 1 WEEK <input type="checkbox"/> 48 HOURS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> 72 HOURS OTHER _____

Sample Custody Record

Samples Shipped to: AAL



3 of 3

Hart Crowser, Inc.
3131 Elliott Avenue, Suite 600
Seattle, Washington 98121
Office: 206.324.9530 • Fax 206.328.5581

JOB <u>19282-10</u> LAB NUMBER _____						REQUESTED ANALYSIS												NO. OF CONTAINERS	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS
PROJECT NAME <u>KCIA Large Air Craft Parking</u>																			
HART CROWSER CONTACT <u>Andrea Wong</u>																			
SAMPLED BY: <u>JG</u>																			
LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX														
	HC-8-S1		9/5/18	1400	SOIL													1	
	HC-8-S2			1405														1	
	HC-8-S3			1410														1	
	HC-8-S4			1415														1	
	HC-8-S5			1420														1	
	HC-8-S6			1425		X												1	
	HC-1-S1			1300		X												1	
	HC-1-S2			1305														1	
	HC-1-S3			1310														1	
	HC-1-S4			1315														1	
	HC-1-S5			1320														1	
	HC-1-S6			1325														1	
RELINQUISHED BY		DATE	RECEIVED BY		DATE	SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS: <u>Will email samples for analysis</u>						TOTAL NUMBER OF CONTAINERS							
SIGNATURE <u>Coree McCabe</u>		9/6/18	SIGNATURE <u>V. Hall</u>		9/6/18														
PRINT NAME <u>HC</u>		10:35	PRINT NAME <u>AAL</u>		10:35														
COMPANY			COMPANY																
RELINQUISHED BY		DATE	RECEIVED BY		DATE	COOLER NO.: _____ STORAGE LOCATION: _____						SAMPLE RECEIPT INFORMATION							
SIGNATURE			SIGNATURE									CUSTODY SEALS:							
PRINT NAME			PRINT NAME									<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A <input type="checkbox"/> GOOD CONDITION <input type="checkbox"/> YES <input type="checkbox"/> NO TEMPERATURE _____ SHIPMENT METHOD: <input type="checkbox"/> HAND <input type="checkbox"/> COURIER <input type="checkbox"/> OVERNIGHT							
COMPANY			COMPANY									TURNAROUND TIME:							
RELINQUISHED BY		DATE	RECEIVED BY		DATE	See Lab Work Order No. _____ for Other Contract Requirements						<input type="checkbox"/> 24 HOURS <input type="checkbox"/> 1 WEEK <input type="checkbox"/> 48 HOURS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> 72 HOURS OTHER _____							
SIGNATURE			SIGNATURE																
PRINT NAME			PRINT NAME																
COMPANY			COMPANY																