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Design-Build • Construction • Environmental • Staff Augmentation

April 5, 2018

Ms. Amanda Tuttle
Environmental Manager
Aircraft Service International Group
6000 De Havilland Drive
Anchorage, AK 99502

Subject: 2017 Annual Groundwater Monitoring Report
AFSC Off-Airport Fueling Facility
Port of Anchorage, Alaska
ADEC File Number 2100.38.243, Hazard ID 25946

Dear Ms. Tuttle:

This letter presents the Ahtna Engineering Services, LLC (Ahtna) report for groundwater sampling at the Anchorage Fueling and Service Company (AFSC) Off-Airport Fueling Facility (OAFF) site at the Port of Anchorage (POA) in Anchorage, Alaska (Figure 1, Attachment 1). Work was conducted in general accordance with the applicable approved work plan dated 2015.

WORK PERFORMED

Prior to mobilizing to the field, Ahtna coordinated with Aircraft Service International Group (ASIG) personnel to have a purge water collection drum available at the site.

On August 24, 2017, Ahtna personnel drove to the POA, obtained a day pass, and drove to the AFSC OAFF facility.

Ahtna's scope of work was to collect groundwater samples from MW-1, MW-3, MW-4-R, MW-6, MW-7, MW-8, and MW-9. A site layout is depicted on Figure 2 of Attachment 1. Prior to collecting groundwater samples, Ahtna measured water level and for light non-aqueous phase liquids (LNAPL) from the top of casing at each well using an interface meter. No LNAPL was found to be present in any of the monitoring wells. LNAPL could not be confirmed present or absent in the last well sampled, MW-9, because the interface probe stopped working. The depth to water at this well was estimated. MW-5 was damaged and could not be measured.

After completion of measurements, the Ahtna team purged each well using low-flow sampling techniques with a peristaltic pump. In accordance with ADEC Field Sampling Guidance (2017), the Ahtna team collected and documented water quality parameters every 3-5 minutes using a

YSI556 with a flow-through cell and a turbidimeter. Samples were collected from 1-2 feet below the top of the water and only after stabilization of at least three of the parameters listed in Table 1, with the exception of MW-3 and MW-4. Due to a field error, samples were collected at MW-3 and MW-4 after stabilization of three of the parameters in Table 1, including temperature. Groundwater monitoring is ongoing for these two wells, and the data is acceptable for the intended purpose at this time. A duplicate sample (MW-99) was collected at monitoring well MW-4-R.

TABLE 1: WATER QUALITY PARAMETER CRITERIA

Temperature	± 3%	Red-Ox Potential	± 10mV
pH	± 0.1	Dissolved Oxygen	± 10%
Conductivity	± 3%	Turbidity	± 10%

Samples were submitted to the laboratory for analysis of gasoline-range organics (GRO); and diesel-range organics (DRO); volatile organic compounds (VOCs); and polynuclear aromatics **(**PAHs). Samples were hand delivered to SGS North America, Inc. under standard chain-of-custody procedures. All purge water was contained in the drum provided by ASIG personnel. Field notes and groundwater sampling forms are provided as Attachment 2.

LABORATORY RESULTS

Laboratory results are summarized in Tables 1 through 3 in Attachment 3. The laboratory report, data quality review, and ADEC Laboratory Data Review Checklist are provided in Attachment 4. Historical sampling results prior to 2011 are provided as Attachment 5.

DRO was detected in groundwater samples collected from all monitoring wells at AFSC OAFF. Groundwater DRO concentrations exceed the ADEC groundwater cleanup level of 1500 micrograms per liter (µg/L), in the samples collected from MW-3 and MW-4-R, with reported concentrations of 2370 µg/L and 4110 µg/L, respectively.

GRO was detected in samples collected from MW-1, MW-3, MW-4-R, and MW-6. Groundwater GRO concentrations exceed the ADEC groundwater cleanup level of 2200 µg/L, in the sample collected from MW-4-R (and its duplicate) with a reported concentration of 2240 µg/L. The remaining detected concentrations were reported below the ADEC cleanup level.

Benzene, toluene, ethylbenzene and xylenes (BTEX) constituents were detected in monitoring wells MW-1, MW-3, and MW-4-R. The sample collected at MW-4-R (and its duplicate) contained a benzene concentration of 93.5 µg/L. The reported quantity exceeds the ADEC cleanup level of 4.6 µg/L. Ethylbenzene and xylenes were also detected above their ADEC cleanup levels (15 µg/L and 190 µg /L, respectively) in MW-4-R. The sample collected from MW-4-R had an ethylbenzene concentration of 105 µg g/L and a total xylenes concentration of 435 µg/L. All other detected BTEX concentrations were reported to be less than the respective ADEC cleanup levels.

To determine if additional constituents may be contaminants of concern (COC) onsite a full VOC and PAH analysis was conducted in the 2017 sampling event.

Analytical results for MW-1 reported an exceedance of ADEC Table C Groundwater Cleanup Levels for one VOC analyte. Naphthalene was reported at MW-1 as 3.54 microgram per liter (µg/L) which exceed the ADEC cleanup level of 1.7 µg/L. 1,2,4-trimethylbenzene and naphthalene were reported at concentrations above their cleanup levels (15 µg/L and 1.7 µg/L, respectively) at MW-3 and MW-4-R. The sample taken at MW-3 contained a 1,2,4-trimethylbenzene concentration of 289 µg/L and a naphthalene concentration of 69.3 µg/L. The sample taken at MW-4-R showed concentrations of 1,2,4-Trimethylbenzene of 182 µg/L and naphthalene of 111 µg/L. No other VOC exceedances occurred at MW-3 or MW-4-R.

No VOC constituents above ADEC Table C Groundwater Cleanup Levels were detected in MW-6, MW-7, MW-8, or MW-9

Analytical results for MW-3 and MW-4-R reported an exceedance of ADEC Table C Groundwater Cleanup Levels for three PAH analytes. 1-Methylnapthalene, 2-methylnapthalene, and naphthalene were reported at concentrations above cleanup levels (11 µg/L, 36 µg/L, and 1.7 µg/L, respectively). The sample taken at MW-3 was reported to have a 1-methylnapthalene concentration of 73.0 µg/L, a 2-methylnapthalene concentration of 87.1 µg/L, and naphthalene concentration of 45.4 µg/L. The sample taken at MW-4-R was reported to have a 1-methylnapthalene concentration of 44.5 µg/L, a 2-methylnapthalene concentration of 46.5 µg/L, and naphthalene concentration of 81.2 µg/L. The full table of results (Table 3) is provided in Attachment 3. No other PAH exceedances were observed at MW-3 or MW-4-R.

No PAH constituents above ADEC Table C Groundwater Cleanup Levels were detected in MW-6, MW-7, MW-8, or MW-9.

RECOMMENDATIONS

Ahtna recommends continued annual sampling at this site. However, as shown in Table 1 (Attachment 3), no concentrations of petroleum constituents above ADEC Table C Groundwater Cleanup Levels were detected in MW-7, MW-8, or MW-9 for seven consecutive sampling events (five for MW-8). Ahtna recommends these wells be dropped from the annual sampling program.

MW-5 is damaged and could present a potential conduit to the groundwater table should there be a spill within the containment area. Ahtna recommends the MW-5 well monument be removed and the damaged area of the well casing be evaluated to assess whether it can be repaired. If it cannot, the monitoring well should be decommissioned in accordance with ADEC Well Guidance decommissioning protocols and the liner at this location be patched.

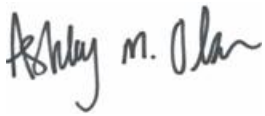
LIMITATIONS

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 and similar localities, at the time that the work was performed.

Ahtna trusts this report is sufficient for ASIG needs at this time. Should there be any questions regarding this report or if additional clarification is required, please don't hesitate to contact the undersigned at (907) 433-0710.

Sincerely,

Ahtna Engineering Services, LLC



Ashley Olson, PMP
Project Manager

Attachments:

1. Figures
2. Field Notes
3. Tables
4. Laboratory Report, Data Quality Report & ADEC Laboratory Data Review Checklist
5. Pre-2011 Sampling Results
6. ADEC Comments

ATTACHMENT 1

FIGURES

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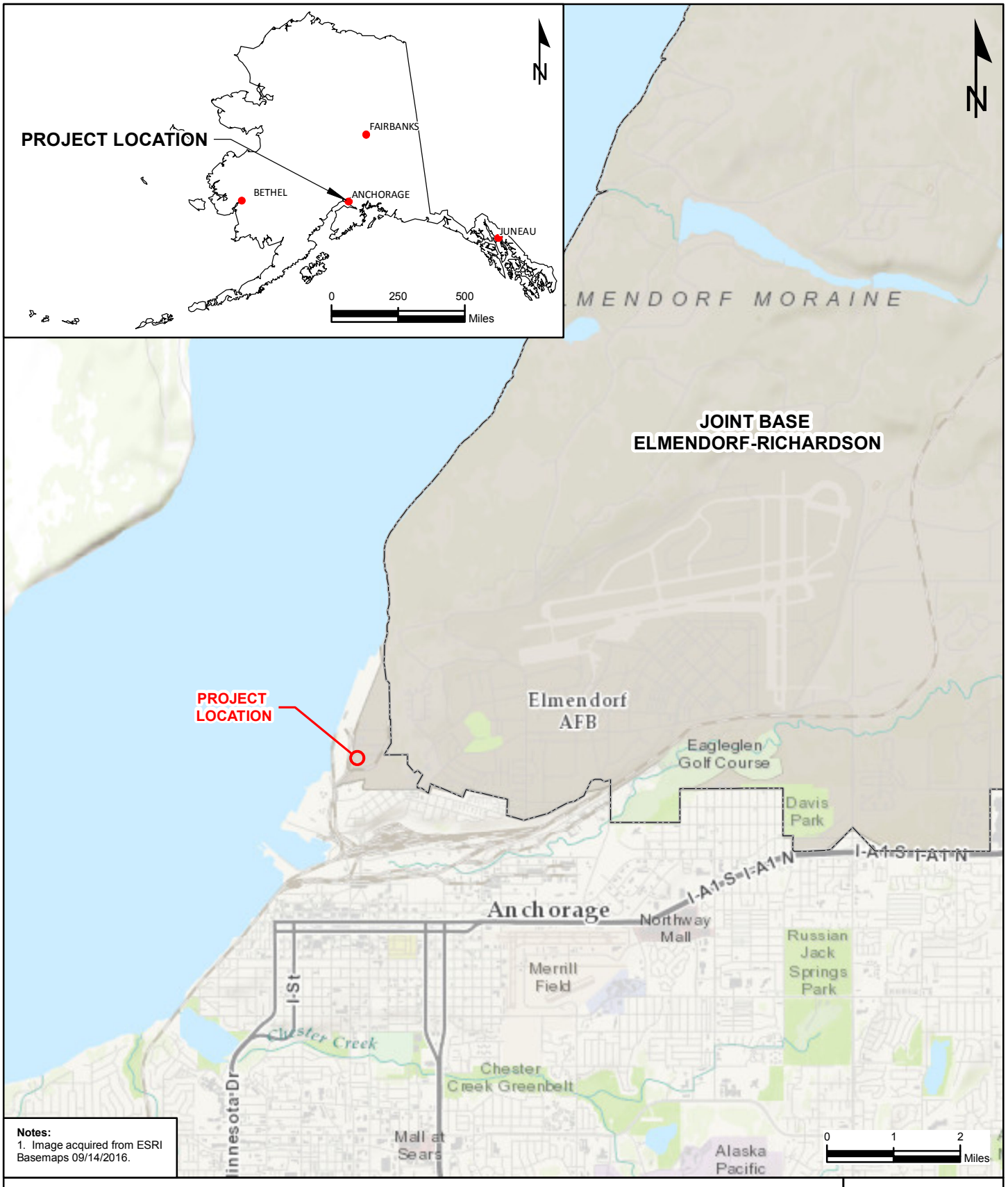

Notes:
1. Image acquired from ESRI Basemaps 09/14/2016.

AFSC Off-Airport Fuel Facility
Groundwater Sampling 2017 Report

Ahtna Engineering Services, LLC

State and Site Vicinity Maps

Project Number:	Figure Number:
20204.028	1
Date: 9/13/2017	
Drafted By: R.F.	

Prepared by rfrye, 9/13/2017: L:\Anchorage\20204\GIS\MXD\20204.028IFIAFSCSamplingReport2017.mxd

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LEGEND

Monitoring Well

Notes:
1. All locations are approximate.
2. Image acquired from ESRI Basemaps 09/14/2016.

AFSC Off-Airport Fuel Facility
Groundwater Sampling 2017 Report

Ahtna Engineering Services, LLC

Site Layout

Project Number:	Figure Number:
20204.028	2
Date: 9/13/2017	
Drafted By: R.F.	

Document Path: I:\Anchorage\20204\GIS\MXD\20204.028\F2AFSCSamplingReport2017.mxd

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ATTACHMENT 2

FIELD NOTES

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L. Lucassen
J. Brann

60°F, cloudy, o-

OAFF GW Sampling 8/24/1

0815 Arrive at Ahtna warehouse.
Pack gear, calibrate equipment.
0845 Take faulty battery to TTI to have repaired. Repair successful.
0930 Arrive at port, get visitor passes
1025 Collect sample 17-OAFF-MW-4-R
1030 Collect sample 17-OAFF-MW-099 as a duplicate from MW-4-R.
1130 Collect sample 17-OAFF-MW-1.
1210 Collect sample 17-OAFF-MW-3.
1315 Collect sample 17-OAFF-MW-6.
1355 Collect sample 17-OAFF-MW-8.
1430 Collect sample 17-OAFF-MW-7
1510 Collect sample 17-OAFF-MW-9.
Water/oil interface probe not working propperly while trying to take parameters. MW-9 is missing a well cap + needs a new one.
1535 Sign out at OAFF + leave site.
1605 Arrive at Ahtna warehouse to decon, sample management, put equipment away.
1645 Return TTI rentals. QC samples.
1745 EOD

Rite in the Rain

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Ahtna Engineering Services, LLC

Groundwater Sampling Form

PROJECT NUMBER:

WELL NUMBER: MW-4-R

SHEET: 1 of 1

PROJECT NAME	ASIG OAFF	PUMP TYPE	peri
CLIENT	ASIG	DEPTH TO WATER (FROM TOC)	0.48
DATE	8/24/17	DEPTH TO BASE (FROM TOC)	13.80
SITE	Off Airport Fueling Facility	HEIGHT OF WATER COLUMN	13.32
GEOLOGIST	L. Lucassen	WELL VOLUME	2.26
WEATHER/ TEMPERATURE	60 F, cloudy	TOTAL WATER TO PURGE	6.79
WIND	0-5mph	DECON PROCEDURE	

NOMINAL DIAMETER	O.D.	I.D.	VOLUME (GAL/LIN FT)
(2")	2.375"	2.067"	0.17
3"	3.5"	3.068"	0.38
4"	4.5"	4.026"	0.66
6"	6.625"	6.065"	1.50
8"	8.625"	7.981"	2.60

FIELD WATER QUALITY PARAMETERS

Time	Purged Volume (gal)	Water Level 1.84'	Temperature (°C) ±1	Spec. Conductance (µS/cm)[C] 3%	D.O. (%)	D.O. (mg/L)	pH -10	ORP (mV) ±10	Turb
1003	1	~~15.50~~	15.50	0.579	12.2	1.21	6.30	-23.1	3.22
1008	2	1.97	14.83	0.732	12.3	1.25	6.38	-30.0	7.09
1013	3		14.45	0.843	10.9	1.12	6.42	-34.8	24.41
1017	4	2.02	14.21	0.874	10.4	1.07	6.44	-37.0	32.0
1021	5		14.05	0.894	9.8	1.01	6.44	-38.4	35.6

ANALYTICAL SAMPLE INFORMATION

Analyte	Time	Identification	Additional Sample	Time	Identification
DRO/RRO	1025	17-OAFF-MW-4-R	Duplicate		
GRO/BTEX	1200	17-OAFF-MW-099			
PAH					
Other		VOC			
Other					

SAMPLE DESCRIPTION: (color, free product thickness, odor, turbidity)

Ahtna Engineering Services, LLC

Groundwater Sampling Form

PROJECT NUMBER:

WELL NUMBER: MW-1

SHEET: 1 of 1

PROJECT NAME	OAFF	PUMP TYPE	Bailer	NOMINAL DIAMETER	O.D.	I.D.	VOLUME (GAL/LIN FT)
CLIENT	APSC/AVTC	DEPTH TO WATER (FROM TOC)	1.12	2"	2.375"	2.067"	0.17
DATE	8/24/17	DEPTH TO BASE (FROM TOC)	20.00	3"	3.5"	3.068"	0.38
SITE		HEIGHT OF WATER COLUMN	18.88	(4")	4.5"	4.026"	0.66
GEOLOGIST	Joel Brann	WELL VOLUME	12.46	6"	6.625"	6.065"	1.50
WEATHER/ TEMPERATURE	Cloudy 60s	TOTAL WATER TO PURGE	37.38	8"	8.625"	7.981"	2.60
WIND		DECON PROCEDURE					

FIELD WATER QUALITY PARAMETERS

Time	Purged Volume (gal)	Water Level	Temperature (°C)	Spec. Conductance (µS/cm)[c]	D.O. (%)	D.O. (mg/L)	pH	ORP (mV)
10:50	.5	1.12	14.08	2267	4.81	.98	6.72	-51.3
1055	1	2.20	14.11	2225	5.68	1.32	6.82	-60.4
1100	2	3.55	13.90	2206	12.11	1.96	6.86	-59.0
1105	2.5	4.51	13.45	2283	11.22	1.24	6.81	-58.7
1109	3	4.81	13.21	2307	9.62	.94	6.79	-58.0
1114	3.5	4.43	12.65	2376	14.30	.90	6.78	-55.2
1118	4	4.53	12.44	2378	13.32	.85	6.76	-51.2
1122	4.5	4.54	12.55	2372	12.38	.72	6.77	-50.8

ANALYTICAL SAMPLE INFORMATION

Analyte	Time	Identification	Additional Sample	Time	Identification
(DRO)/RRO	1130	17-OAFF-MW-1	Duplicate		
(GRO)/BTEX					
(PAH)					
(VOC) other					
Other					

SAMPLE DESCRIPTION: (color, free product thickness, odor, turbidity)

Ahtna Engineering Services, LLC

Groundwater Sampling Form

PROJECT NUMBER:

WELL NUMBER: MW-3

SHEET: 1 of 1

PROJECT NAME	ASIG OAFF	PUMP TYPE	peri	NOMINAL DIAMETER	O.D.	I.D.	VOLUME (GAL/LIN FT)
CLIENT	ASIG	DEPTH TO WATER (FROM TOC)	1.99	(2")	2.375"	2.067"	0.17
DATE	8/24/17	DEPTH TO BASE (FROM TOC)	14.98	3"	3.5"	3.068"	0.38
SITE	OAFF	HEIGHT OF WATER COLUMN	12.99	4"	4.5"	4.026"	0.66
GEOLOGIST	L. Lucassen	WELL VOLUME	2.21	6"	6.625"	6.065"	1.50
WEATHER/ TEMPERATURE	60° F, light rain	TOTAL WATER TO PURGE	6.62	8"	8.625"	7.981"	2.60
WIND	0-5 mph	DECON PROCEDURE					

FIELD WATER QUALITY PARAMETERS

Time	Purged Volume (gal)	Water Level	Temperature (°C)	Spec. Conductance m(µS/cm)c	D.O. (%)	D.O. (mg/L)	pH ✓	ORP (mV) ✓	Turb ✓
1157	.5	2.12	15.20	0.199	9.4	0.91	6.44	-33.8	-11.79
1202	1	2.19	14.90	0.201	4.9	0.50	6.40	-39.2	35.3
1205	1.5	2.10	14.76	0.210	4.2	0.42	6.40	-37.8	30.49
1208	2		14.64	0.215	3.8	0.38	6.41	-39.5	30.26

ANALYTICAL SAMPLE INFORMATION

Analyte	Time	Identification	Additional Sample	Time	Identification
(DRO/RRO)	1210	17-OAFF-MW-3	Duplicate		
(GRO/BTEX)					
(PAH)					
(Other)	VOC				
Other					

SAMPLE DESCRIPTION: (color, free product thickness, odor, turbidity)

Ahtna Engineering Services, LLC

Groundwater Sampling Form

PROJECT NUMBER:

WELL NUMBER: MW-6

SHEET: 1 of 1

PROJECT NAME	OAFF	PUMP TYPE	Peri
CLIENT	ASIC/AFSC	DEPTH TO WATER (FROM TOC)	2.48
DATE	8/24/17	DEPTH TO BASE (FROM TOC)	13.20
SITE		HEIGHT OF WATER COLUMN	10.72
GEOLOGIST	Sol Brown	WELL VOLUME	1.92
WEATHER/ TEMPERATURE	Rain	TOTAL WATER TO PURGE	5.47
WIND		DECON PROCEDURE	

NOMINAL DIAMETER	O.D.	I.D.	VOLUME (GAL/LIN FT)
2"	2.375"	2.067"	0.17
3"	3.5"	3.068"	0.38
4"	4.5"	4.026"	0.66
6"	6.625"	6.065"	1.50
8"	8.625"	7.981"	2.60

FIELD WATER QUALITY PARAMETERS

Time	Purged Volume (gal)	Water Level	Temperature (°C)	Spec. Conductance (µS/cm)[c]	Turb (NTU)	D.O. (mg/L)	pH	ORP (mV)
1241	.5	~~2.50~~	12.26	819	7.00	3.10	6.96	-38.5
1244	.75	2.50	12.12	833	19.13	3.50	6.94	-40.7
1249	1.25	2.50	12.03	856	9.96	1.60	6.94	-42.3
1254	2	2.50	12.02	877	8.20	2.50	6.96	-44.3
1258	2.5		11.99	911	5.41	1.35	6.96	-46.7
1302	3		11.99	930	2.49	1.10	6.96	-46.7
1307	3.5		11.95	957	1.68	.78	6.98	-47.7
1311	4	2.50	11.93	964	.92	.82	6.98	-47.7
1314			11.96	965	.12	.76	6.98	-49.2

ANALYTICAL SAMPLE INFORMATION

Analyte	Time	Identification	Additional Sample	Time	Identification
DRO/RRO	1315	17-OAFF-MW-6	Duplicate		
GRO/BTEX					
PAH					
Other (VOC)					
Other					

SAMPLE DESCRIPTION: (color, free product thickness, odor, turbidity)

Ahtna Engineering Services, LLC

Groundwater Sampling Form

PROJECT NUMBER:

WELL NUMBER: MW-8

SHEET: 1 of 1

PROJECT NAME	ASIG OAFF	PUMP TYPE	peri
CLIENT	ASIG	DEPTH TO WATER (FROM TOC)	2.56
DATE	8/24/17	DEPTH TO BASE (FROM TOC)	14.97
SITE	Off-Airport Fuel Facil	HEIGHT OF WATER COLUMN	12.41
GEOLOGIST	L. Lucassen	WELL VOLUME	2.10
WEATHER/ TEMPERATURE	60°F, cloudy	TOTAL WATER TO PURGE	6.33
WIND	0-5mph	DECON PROCEDURE	

NOMINAL DIAMETER	O.D.	I.D.	VOLUME (GAL/LIN FT)
(2")	2.375"	2.067"	0.17
3"	3.5"	3.068"	0.38
4"	4.5"	4.026"	0.66
6"	6.625"	6.065"	1.50
8"	8.625"	7.981"	2.60

FIELD WATER QUALITY PARAMETERS

Time	Purged Volume (gal)	Water Level	Temperature (°C)	Spec. Conductance (µS/cm)[C]	✓ D.O. (%)	✓ D.O. (mg/L)	✓ pH	ORP (mV)	Turb
1334	.75	2.63	13.54	0.134	9.0	8.7	6.97	-15.1	9.2
1338	1	2.64	12.66	0.152	4.1	0.43	7.00	-55.9	11.6
1341	1.25	2.62	12.54	0.180	3.7	0.39	6.99	-65.2	27.2
1345	1.5	2.64	12.41	0.233	3.1	0.33	6.98	-73.6	5.9
1349	1.75	2.65	12.32	0.251	2.9	0.34	6.98	-77.1	4.6
1352	2	2.65	12.21	0.260	2.9	0.33	6.98	-79.4	4.7

ANALYTICAL SAMPLE INFORMATION

Analyte	Time	Identification	Additional Sample	Time	Identification
(DRO)/RRO	1355	17-OAFF-MW-8	Duplicate		
(GRO)/BTEX					
(PAH)					
(Other)	VOC				
Other					

SAMPLE DESCRIPTION: (color, free product thickness, odor, turbidity)

Ahtna Engineering Services, LLC

Groundwater Sampling Form

PROJECT NUMBER: ~~[illegible]~~

WELL NUMBER: MW-7

SHEET: 1 of 1

PROJECT NAME	OAFF	PUMP TYPE	Bori
CLIENT	ASRC/AFSC	DEPTH TO WATER (FROM TOC)	2.30
DATE	8/24/17	DEPTH TO BASE (FROM TOC)	15.00
SITE		HEIGHT OF WATER COLUMN	12.70
GEOLOGIST	Joel Barna	WELL VOLUME	2.16
WEATHER/ TEMPERATURE	Rainy	TOTAL WATER TO PURGE	6.47
WIND		DECON PROCEDURE	

NOMINAL DIAMETER	O.D.	I.D.	VOLUME (GAL/LIN FT)
2"	2.375"	2.067"	0.17
3"	3.5"	3.068"	0.38
4"	4.5"	4.026"	0.66
6"	6.625"	6.065"	1.50
8"	8.625"	7.981"	2.60

FIELD WATER QUALITY PARAMETERS

Time	Purged Volume (gal)	Water Level	Temperature (°C)	Spec. Conductance (µS/cm)[c]	Turb. ~~D.O.~~ (%)	D.O. (mg/L)	pH	ORP (mV)
1411	.5	2.30	11.99	1133	4.18	.73	6.82	-38.4
1415	1		11.85	1157	.77	.66	6.83	-45.8
1420	1.5		11.73	1162	0.00	.47	6.83	-49.0
1424	2	2.30	11.70	1166 ✓	0.00	.46	6.83 ✓	-49.1 ✓

ANALYTICAL SAMPLE INFORMATION

Analyte	Time	Identification	Additional Sample	Time	Identification
DRO/RRO	1430	17-OAFF-MW-7	Duplicate		
GRO/BTEX					
PAH					
VOC Other					
Other					

SAMPLE DESCRIPTION: (color, free product thickness, odor, turbidity)

Ahtna Engineering Services, LLC

Groundwater Sampling Form

PROJECT NUMBER:

WELL NUMBER: MW-9

SHEET: 1 of 1

PROJECT NAME	ASIG OAFF	PUMP TYPE	peri
CLIENT	ASIG	DEPTH TO WATER (FROM TOC)	2.92
DATE	8/24/17	DEPTH TO BASE (FROM TOC)	15.04
SITE	OAFF	HEIGHT OF WATER COLUMN	12.84
GEOLOGIST	L. Lucasser	WELL VOLUME	10 Tm 2.18
WEATHER/ TEMPERATURE	60°F, Cloudy	TOTAL WATER TO PURGE	6.55
WIND	0-5mph	DECON PROCEDURE	

NOMINAL DIAMETER	O.D.	I.D.	VOLUME (GAL/LIN FT)
(2")	2.375"	2.067"	0.17
3"	3.5"	3.068"	0.38
4"	4.5"	4.026"	0.66
6"	6.625"	6.065"	1.50
8"	8.625"	7.981"	2.60

FIELD WATER QUALITY PARAMETERS

Time	Purged Volume (gal)	Water Level	Temperature (°C)	Spec. Conductance mS (µS/cm)C	D.O. (%) ✓	D.O. (mg/L)	pH ✓	ORP (mV) ✓	Turb
1456		7.06	11.85	1.303	16.8	1.80	6.27	-9.9	111.
1500			11.57	1.361	15.2	1.65	6.23	-17.7	56.
1504			11.52	1.379	15.4	1.66	6.21	-23.7	54
1507			11.16	1.445	15.6	1.70	6.21	-27.3	42.

ANALYTICAL SAMPLE INFORMATION

Analyte	Time	Identification	Additional Sample	Time	Identification
(DRO)/RRO	1510	17-OAFF-MW-9	Duplicate		
(GRO)/BTEX					
(PAH)					
VOC ~~Other~~					
Other					

SAMPLE DESCRIPTION: (color, free product thickness, odor, turbidity)

Other: water probe not working properly, water level readings are incorrect. No cap on well, needs new one.

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ATTACHMENT 3

TABLES

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Table 1A: Fuels Analytical Results 2017

AFSC Annual Groundwater Sampling - Off-Airport Fueling Facility

Anchorage, Alaska

Sample Location:	Date:	Depth to Water (ft btoc)	BTEX - EPA Method 8260C				AK 101	AK102
			Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	GRO (µg/L)	DRO (µg/L)
MW-1	24-Aug-2017	1.12	0.18J	ND (.31)	0.33J	ND (1)	58.7J	734
MW-3	24-Aug-2017	1.99	0.4	1.97	8.63	34.3	1580	**2370**
MW-4-R[3]	24-Aug-2017	0.48	**93.5 Q**	0.77J	**105**	**435**	**2240 Q+**	**4110**
		Duplicate	**85.5 Q**	0.76J	**95.7**	**355**	2130	**3470**
MW-5	--	--	No measurement, well casing damaged.					
MW-6	24-Aug-2017	2.48	ND (0.12)	ND (.31)	ND (.31)	ND (1)	48J	474J
MW-7	24-Aug-2017	2.30	ND (0.12)	ND (.31)	ND (.31)	ND (1)	ND (31)	483J
MW-8	24-Aug-2017	2.56	ND (0.12)	ND (.31)	ND (.31)	ND (1)	ND (31)	549J
MW-9	24-Aug-2017	2.92	ND (0.12)	0.38J	ND (.31)	ND (1)	ND (31)	517
ADEC Cleanup Level [1] µg/L			***4.6***	***1100***	***15***	***190***	***2200***	***1500***

Notes:

Results may be rounded

[1] 18 AAC 75.345, Table C; bold and underlined results in **excess** of cleanup level

[3] MW-4 was replaced with MW-4-R before 2017 sampling event.

Key:

-- = Not applicable or not analyzed

ADEC - Alaska Department of Environmental Conservation

btoc - Below top of casing

BTEX - Benzene, toluene, ethylbenzene, and xylenes

DRO - Diesel-range organics

EPA - United States Environmental Protection Agency

GRO - Gasoline-range organics

J - Result is estimated, greater than method detection limit, less than reporting limit

µg/L - micrograms per liter

ND (0.5) - Not detected at limit of detection

Q+ = Result is considered estimated, biased high, due to quality control criteria not being met

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Table 1B: Fuels Analytical Results 2011-2017

AFSC Annual Groundwater Sampling - Off-Airport Fueling Facility

Anchorage, Alaska

Sample Location:	Date:	Depth to Water (ft btoc)	BTEX - EPA Method 8260C				AK 101	AK102
			Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	GRO (mg/L)	DRO (mg/L)
MW-1	24-Aug-2017	1.12	0.00018J	ND (0.001)	0.000330J	ND (0.003)	0.0587J	0.734
	8-Jul-2016	2.51	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.10)	ND (0.61)
	9-Jul-2015	3.42	ND (0.001)	ND (0.001)	ND (0.001)	0.002	0.17	0.91
	25-Jul-2014	2.54	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.001)	0.05	0.99 J
	11-Jul-2013	4.57	Not sampled					
	29-Jun-2012	2.77	Not sampled					
	23-Jun-2011	Locked	--	--	--	--	--	--
MW-3	24-Aug-2017	1.99	0.0004	0.00197	0.00863	0.0343	1.58	**2.37**
	8-Jul-2016	3.65	**0.0052**	ND (0.001)	**0.023**	0.104	1.84 Q+	**4.26**
	8-Jul-2015	4.49	0.0013	ND (0.001)	0.015	0.081	**2.7**	**6.6**
	25-Jul-2014	3.23	ND (0.0005)	0.013	ND (0.001)	0.075	1.5	**8.7**
	11-Jul-2013	4.25	0.0011	0.0118	0.0117	0.101	**3.16**	**54.4**
	29-Jun-2012	3.78	0.0011	0.0061	**0.0158**	0.15	1.87	**12.9**
	23-Jun-2011	4.56	0.0006	0.004	0.0048	0.047	1.21	**1.80**
MW-4 (MW-4-R)[3]	24-Aug-2017	0.48	**0.0935 Q**	0.00077J	**0.105**	**0.435**	**2.24 Q+**	**4.11**
		Duplicate	**0.0855 Q**	0.00076J	**0.0957**	**0.355**	2.13	**3.47**
	8-Jul-2016	--	No Measurement, well could not be found					
	9-Jul-2015	3.56	**0.038**	ND (0.001)	0.01	0.14	2.2	**3.0**
	25-Jul-2014	**2.35** / 2.36[1]	0.01 foot LNAPL measured, not sampled					
	11-Jul-2013	**3.09** / 3.22[1]	0.13 foot LNAPL measured, not sampled					
	29-Jun-2012	**2.83** / 2.84 [1]	0.01 foot LNAPL measured, not sampled					
	23-Jun-2011	3.60	--	--	--	--	--	--
MW-5	--	--	No measurement, well casing damaged.					
MW-6	24-Aug-2017	2.48	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.003)	0.0480J	0.474J
	8-Jul-2016	3.95	0.001	ND (0.001)	ND (0.001)	ND (0.003)	0.153 Q+	ND (0.60)
	8-Jul-2015	4.42	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.055	0.81
	25-Jul-2014	3.67	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.05)	0.68
	11-Jul-2013	4.09	ND (0.0005)	ND (0.0005)	0.00078	ND (0.0015)	ND (0.050)	0.87
	29-Jun-2012	3.53	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0015)	ND (0.050)	**3.23**
	23-Jun-2011	4.21	ND (0.0005)	ND (0.0005)	0.0010	ND (0.0015)	0.061	0.57
MW-7	24-Aug-2017	2.30	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.10)	0.483J
	8-Jul-2016	3.25	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.10)	0.70
	8-Jul-2015	3.49	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.05)	0.50
	25-Jul-2014	2.83	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.05)	0.56
	11-Jul-2013	3.14	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0015)	ND (0.050)	0.50
	29-Jun-2012	2.86	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0015)	ND (0.050)	0.49
	23-Jun-2011	3.41	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0015)	ND (0.050)	ND (0.39)
MW-8	24-Aug-2017	2.56	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.10)	0.549J
	8-Jul-2016	--	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.10)	ND (0.59)
	8-Jul-2015	3.76	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.05)	0.48
	25-Jul-2014	3.06	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.05)	0.55
	11-Jul-2013	3.45	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0015)	ND (0.050)	0.50
	29-Jun-2012	3.10	Casing bent, unable to use bailer, sample not collected.					
	23-Jun-2011	3.76	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0015)	ND (0.050)	0.706
MW-9	24-Aug-2017	2.92	ND (0.0005)	0.000380J	ND (0.001)	ND (0.003)	ND (0.10)	0.517
	8-Jul-2016	3.39	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.10)	ND (0.59)
		Duplicate	ND (0.0005)	ND (0.001)	ND (0.001	ND (0.003)	ND (0.10)	ND (0.60)
	8-Jul-2015	4.60	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.05)	0.710
	25-Jul-2014	3.13	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.05)	0.750
	11-Jul-2013	4.05	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0015)	ND (0.050)	0.550
	29-Jun-2012	3.38	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0015)	ND (0.050)	0.750
	23-Jun-2011	5.22	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0015)	ND (0.050)	0.479
ADEC Cleanup Level [2] mg/L			***0.0046***	***1.1***	***0.015***	***0.19***	***2.2***	***1.5***

Notes:

Results may be rounded

[1] Bold value is the depth to product followed by the depth to water value

[2] 18 AAC 75.345, Table C; bold and underlined results in **excess** of cleanup level

[3] MW-4 was replaced with MW-4-R before 2017 sampling event.

Key:

-- = Not applicable or not analyzed

ADEC - Alaska Department of Environmental Conservation

btoc - Below top of casing

BTEX - Benzene, toluene, ethylbenzene, and xylenes

DRO - Diesel-range organics

EPA - United States Environmental Protection Agency

GRO - Gasoline-range organics

J - Result is estimated, greater than method detection limit, less than reporting limit

LNAPL- Light non-aqueous phase liquids

mg/L - Milligrams per liter

ND (0.05) - Not detected at reporting limit shown

Q+ = Result is considered estimated, biased high, due to quality control criteria not being met

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Table 2: VOCs Analytical Results 2017

AFSC Annual Groundwater Sampling - Off-Airport Fueling Facility

Anchorage, Alaska

	Client Sample ID:	17-OAFF-MW-1	17-OAFF-MW-3	17-OAFF-MW-4-R	17-OAFF-MW-099	17-OAFF-MW-5	17-OAFF-MW-6	17-OAFF-MW-7	17-OAFF-MW-8	17-OAFF-MW-9
	Matrix:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
	Location:	MW-1	MW-3	MW-4-R	MW-4-R	MW-5	MW-6	MW-7	MW-8	MW-9
	DTW (ft btoc):	1.12	1.99	0.48	0.48	--	2.48	2.30	2.56	2.92
	TD (ft btoc):	20.00	14.98	13.80	13.80	--	13.20	15.00	14.97	15.04
	Duplicate				X					
	Date Sampled:	8/24/2017	8/24/2017	8/24/2017	8/24/2017	Not sampled	8/24/2017	8/24/2017	8/24/2017	8/24/2017
Analyte	**ADEC Table C Groundwater Cleanup Levels[1] (ug/L)**	**Unit**	**VOCs - SW8260C**								
1,1,1,2-Tetrachloroethane	5.7	µg/L	ND (0.250)	ND (0.250)	ND (0.250)	ND (0.250)	--	ND (0.250)	ND (0.250)	ND (0.250)	ND (0.250)
1,1,1-Trichloroethane	8,000	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
1,1,2,2-Tetrachloroethane	0.76	µg/L	ND (0.250)	ND (0.250)	ND (0.250)	ND (0.250)	--	ND (0.250)	ND (0.250)	ND (0.250)	ND (0.250)
1,1,2-Trichloroethane	0.41	µg/L	ND (0.200)	ND (0.200)	ND (0.200)	ND (0.200)	--	ND (0.200)	ND (0.200)	ND (0.200)	ND (0.200)
1,1-Dichloroethane	28	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
1,1-Dichloroethene	280	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
1,1-Dichloropropene	-	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
1,2,3-Trichlorobenzene	7.0	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
1,2,3-Trichloropropane	0.0075	µg/L	**ND (0.500)**	**ND (0.500)**	**ND (0.500)**	**ND (0.500)**	**--**	**ND (0.500)**	**ND (0.500)**	**ND (0.500)**	**ND (0.500)**
1,2,4-Trichlorobenzene	4.0	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
1,2,4-Trimethylbenzene	15	µg/L	6.01	**289**	**182**	**174**	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
1,2-Dibromo-3-chloropropane	-	µg/L	ND (5.00)	ND (5.00)	ND (5.00)	ND (5.00)	--	ND (5.00)	ND (5.00)	ND (5.00)	ND (5.00)
1,2-Dibromoethane	0.075	µg/L	ND (0.0375)	ND (0.0375)	ND (0.0375)	ND (0.0375)	--	ND (0.0375)	ND (0.0375)	ND (0.0375)	ND (0.0375)
1,2-Dichlorobenzene	300	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
1,2-Dichloroethane	1.7	µg/L	ND (0.250)	ND (0.250)	ND (0.250)	ND (0.250)	--	ND (0.250)	ND (0.250)	ND (0.250)	ND (0.250)
1,2-Dichloropropane	4.4	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
1,3,5-Trimethylbenzene	120	µg/L	1.91	94.4	95.3	91.7	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
1,3-Dichlorobenzene	300	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
1,3-Dichloropropane	-	µg/L	ND (0.250)	ND (0.250)	ND (0.250)	ND (0.250)	--	ND (0.250)	ND (0.250)	ND (0.250)	ND (0.250)
1,4-Dichlorobenzene	4.8	µg/L	ND (0.250)	ND (0.250)	ND (0.250)	ND (0.250)	--	ND (0.250)	ND (0.250)	ND (0.250)	ND (0.250)
2,2-Dichloropropane	-	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
2-Butanone (MEK)	5,600	µg/L	ND (5.00)	ND (5.00)	ND (5.00)	ND (5.00)	--	ND (5.00)	ND (5.00)	ND (5.00)	ND (5.00)
2-Chlorotoluene	-	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
2-Hexanone	38	µg/L	ND (5.00)	ND (5.00)	ND (5.00)	ND (5.00)	--	ND (5.00)	ND (5.00)	ND (5.00)	ND (5.00)
4-Chlorotoluene	-	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
4-Isopropyltoluene	-	µg/L	2.24	21.8	32.5	11	--	0.430J	ND (0.500)	0.640J	ND (0.500)
4-Methyl-2-pentanone (MIBK)	6,300	µg/L	ND (5.00)	ND (5.00)	ND (5.00)	ND (5.00)	--	ND (5.00)	ND (5.00)	ND (5.00)	ND (5.00)
Benzene	4.6	µg/L	0.180J	0.400	**93.5 Q**	**85.5 Q**	--	ND (0.200)	ND (0.200)	ND (0.200)	ND (0.200)
Bromobenzene	62	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
Bromochloromethane	-	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
Bromodichloromethane	1.3	µg/L	ND (0.250)	ND (0.250)	ND (0.250)	ND (0.250)	--	ND (0.250)	ND (0.250)	ND (0.250)	ND (0.250)
Bromoform	33	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
Bromomethane	7.5	µg/L	ND (2.50)	ND (2.50)	ND (2.50)	ND (2.50)	--	ND (2.50)	ND (2.50)	ND (2.50)	ND (2.50)
Carbon disulfide	810	µg/L	ND (5.00)	ND (5.00)	ND (5.00)	ND (5.00)	--	ND (5.00)	ND (5.00)	ND (5.00)	ND (5.00)
Carbon tetrachloride	4.6	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
Chlorobenzene	78	µg/L	ND (0.250)	ND (0.250)	ND (0.250)	ND (0.250)	--	ND (0.250)	ND (0.250)	ND (0.250)	ND (0.250)
Chloroethane	21,000	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
Chloroform	2.2	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
Chloromethane	190	µg/L	ND (0.500)	ND (0.500)	0.390J	0.400J	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
cis-1,2-Dichloroethene	36	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
cis-1,3-Dichloropropene	-	µg/L	ND (0.250)	ND (0.250)	ND (0.250)	ND (0.250)	--	ND (0.250)	ND (0.250)	ND (0.250)	ND (0.250)
Dibromochloromethane	8.7	µg/L	ND (0.250)	ND (0.250)	ND (0.250)	ND (0.250)	--	ND (0.250)	ND (0.250)	ND (0.250)	ND (0.250)
Dibromomethane	8.3	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
Dichlorodifluoromethane	200	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
Ethylbenzene	15	µg/L	ND (0.500)	8.63	**105**	**95.7**	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
Freon-113	55,000	µg/L	ND (5.00)	ND (5.00)	ND (5.00)	ND (5.00)	--	ND (5.00)	ND (5.00)	ND (5.00)	ND (5.00)
Hexachlorobutadiene	1.4	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
Isopropylbenzene (Cumene)	450	µg/L	1.64	18.9	31.6	31.1	--	1.21	ND (0.500)	ND (0.500)	ND (0.500)
Methylene chloride	110	µg/L	ND (2.50)	ND (2.50)	ND (2.50)	ND (2.50)	--	ND (2.50)	ND (2.50)	ND (2.50)	ND (2.50)
Methyl-t-butyl ether	140	µg/L	ND (5.00)	ND (5.00)	ND (5.00)	ND (5.00)	--	ND (5.00)	ND (5.00)	ND (5.00)	ND (5.00)
Naphthalene	1.7	µg/L	**3.54**	**69.3**	**111**	**99.9**	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
n-Butylbenzene	1,000	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
n-Propylbenzene	660	µg/L	1.35	33.4	33.3	33.1	--	0.570J	ND (0.500)	ND (0.500)	ND (0.500)
o-Xylene	-	µg/L	ND (0.500)	1.23	0.980J	0.920J	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
P & M -Xylene	-	µg/L	0.670J	33.0	435	354	--	ND (1.00)	ND (1.00)	ND (1.00)	ND (1.00)
sec-Butylbenzene	2,000	µg/L	1.86	10.8	11.9	11.8	--	0.680J	ND (0.500)	0.850J	ND (0.500)
Styrene	1,200	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
tert-Butylbenzene	690	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
Tetrachloroethene	41	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
Toluene	1,100	µg/L	ND (0.500)	1.97	0.770J	0.760J	--	ND (0.500)	ND (0.500)	ND (0.500)	0.380J
trans-1,2-Dichloroethene	360	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
trans-1,3-Dichloropropene	4.7	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
Trichloroethene	2.8	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
Trichlorofluoromethane	5,200	µg/L	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)	--	ND (0.500)	ND (0.500)	ND (0.500)	ND (0.500)
Vinyl acetate	410	µg/L	ND (5.00)	ND (5.00)	ND (5.00)	ND (5.00)	--	ND (5.00)	ND (5.00)	ND (5.00)	ND (5.00)
Vinyl chloride	0.19	µg/L	ND (0.0750)	ND (0.0750)	ND (0.0750)	ND (0.0750)	--	ND (0.0750)	ND (0.0750)	ND (0.0750)	ND (0.0750)
Xylenes (total)	190	µg/L	ND (1.50)	34.3	**435**	**355**	--	ND (1.50)	ND (1.50)	ND (1.50)	ND (1.50)

Note:

Results **greater** than ADEC cleanup levels are underlined & bolded

[1] = ADEC Table C, Groundwater Cleanup Levels, Groundwater Human Health Cleanup Leve

Key:

-- = Not applicable

ADEC = Alaska Department of Environmental Conservation

AFSC=Anchorage Fueling and Service Company

btoc = below top of casing

ft = feet

J = The quantitation is an estimation

µg/L = micrograms per liter

ND = Indicates that the analyte was analyzed for but not detected at the listed limit of detection

VOC = Volatile organic compounds

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Table 3: PAH Analytical Results 2017

AFSC Annual Groundwater Sampling - Off-Airport Fueling Facility

Anchorage, Alaska

	Client Sample ID:	17-OAFF-MW-1	17-OAFF-MW-3	17-OAFF-MW-4-R	17-OAFF-MW-099	17-OAFF-MW-5	17-OAFF-MW-6	17-OAFF-MW-7	17-OAFF-MW-8	17-OAFF-MW-9
	Matrix:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
	Location:	MW-1	MW-3	MW-4-R	MW-4-R	MW-5	MW-6	MW-7	MW-8	MW-9
	DTW (ft btoc):	1.12	1.99	0.48	0.48	--	2.48	2.30	2.56	2.92
	TD (ft btoc):	20.00	14.98	13.80	13.80	--	13.20	15.00	14.97	15.04
	Duplicate				X					
	Date Sampled:	8/24/2017	8/24/2017	8/24/2017	8/24/2017	Not sampled	8/24/2017	8/24/2017	8/24/2017	8/24/2017
Analyte	**ADEC Table C Groundwater Cleanup Levels[1] (µg/L)**	**Unit**	**PAH - 8270D-SIM**								
1-Methylnaphthalene	11	µg/L	1.71	**73.0**	**37.7**	**44.5**	--	ND (0.0147)	ND (0.0147)	2.39	0.239
2-Methylnaphthalene	36	µg/L	1.6	**87.1**	**39.9**	**46.5**	--	ND (0.0147)	ND (0.0147)	ND (0.0144)	0.0967
Acenaphthene	530	µg/L	ND (0.0154)	0.964	0.649	0.787	--	ND (0.0147)	ND (0.0147)	ND (0.0144)	ND (0.0144)
Acenaphthylene	260	µg/L	ND (0.0154)	ND (0.0150)	ND (0.0150)	ND (0.0147)	--	ND (0.0147)	ND (0.0147)	ND (0.0144)	ND (0.0144)
Anthracene	43	µg/L	ND (0.0154)	ND (0.0150)	0.0955	0.118	--	ND (0.0147)	ND (0.0147)	ND (0.0144)	ND (0.0144)
Benzo(a)Anthracene	0.12	µg/L	ND (0.0154)	ND (0.0150)	ND (0.0150)	ND (0.0147)	--	ND (0.0147)	ND (0.0147)	ND (0.0144)	ND (0.0144)
Benzo[a]pyrene	0.034	µg/L	ND (0.00635)	ND (0.00620)	ND (0.00620)	ND (0.00608)	--	ND (0.00608)	ND (0.00608)	ND (0.00596)	ND (0.00596)
Benzo[b]Fluoranthene	0.34	µg/L	ND (0.0154)	ND (0.0150)	ND (0.0150)	ND (0.0147)	--	ND (0.0147)	ND (0.0147)	ND (0.0144)	ND (0.0144)
Benzo[g,h,i]perylene	0.26	µg/L	ND (0.0154)	ND (0.0150)	ND (0.0150)	ND (0.0147)	--	ND (0.0147)	ND (0.0147)	ND (0.0144)	ND (0.0144)
Benzo[k]fluoranthene	0.80	µg/L	ND (0.0154)	ND (0.0150)	ND (0.0150)	ND (0.0147)	--	ND (0.0147)	ND (0.0147)	ND (0.0144)	ND (0.0144)
Chrysene	2.0	µg/L	ND (0.0154)	ND (0.0150)	ND (0.0150)	ND (0.0147)	--	ND (0.0147)	ND (0.0147)	ND (0.0144)	ND (0.0144)
Dibenzo[a,h]anthracene	0.034	µg/L	ND (0.00635)	ND (0.00620)	ND (0.00620)	ND (0.00608)	--	ND (0.00608)	ND (0.00608)	ND (0.00596)	ND (0.00596)
Fluoranthene	260	µg/L	ND (0.0154)	0.141	0.171	0.193	--	ND (0.0147)	ND (0.0147)	ND (0.0144)	ND (0.0144)
Fluorene	290	µg/L	0.0710	1.4	0.647	0.786	--	ND (0.0147)	ND (0.0147)	ND (0.0144)	ND (0.0144)
Indeno[1,2,3-c,d] pyrene	0.19	µg/L	ND (0.0154)	ND (0.0150)	ND (0.0150)	ND (0.0147)	--	ND (0.0147)	ND (0.0147)	ND (0.0144)	ND (0.0144)
Naphthalene	1.7	µg/L	1.25	**45.4**	**71.9**	**82.1**	--	0.175	ND (0.0304)	ND (0.0298)	0.159
Phenanthrene	170	µg/L	ND (0.0154)	0.726	0.642	0.775	--	ND (0.0147)	ND (0.0147)	ND (0.0144)	ND (0.0144)
Pyrene	120	µg/L	ND (0.0154)	0.103	0.112	0.125	--	ND (0.0147)	ND (0.0147)	ND (0.0144)	ND (0.0144)

Note:

Results **greater** than ADEC cleanup levels are underlined & bolded

[1] = ADEC Table C, Groundwater Cleanup Levels, Groundwater Human Health Cleanup Levels

Key:

-- = Not applicable

ADEC = Alaska Department of Environmental Conservation

AFSC= Anchorage Fueling and Service Company

btoc = below top of casing

ft = feet

J = The quantitation is an estimation

µg/L = micrograms per liter

ND = Indicates that the analyte was analyzed for but not detected at the listed limit of detection

PAH = Polynuclear Aromatics

SIM = Selective ion monitoring

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ATTACHMENT 4

LABORATORY REPORT,

DATA QUALITY REPORT,

&

ADEC LABORATORY DATA REVIEW CHECKLIST

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Laboratory Report of Analysis

To: Ahtna Engineering Svs
110 W 38th Ave Suite 100
Anchorage, AK 99503
(907)433-0710

Report Number: **1176051**

Client Project: **OAFF 20204.028**

Dear Ashley Olson,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Justin at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,
SGS North America Inc.

Justin Nelson Date
Project Manager
Justin.Nelson@sgs.com

SGS North America Inc. 200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Case Narrative

SGS Client: **Ahtna Engineering Svs**
SGS Project: **1176051**
Project Name/Site: **OAFF 20204.028**
Project Contact: **Ashley Olson**

Refer to sample receipt form for information on sample condition.

17-OAFF-MW-4-R (1176051001) PS

AK101 - Surrogate recovery for 4-bromofluorobenzene (282 %) does not meet QC criteria due to matrix interference.

17-OAFF-MW-099 (1176051002) PS

AK101 - Surrogate recovery for 4-bromofluorobenzene (287 %) does not meet QC criteria due to matrix interference.

17-OAFF-MW-3 (1176051004) PS

AK101 - Surrogate recovery for 4-bromofluorobenzene (218 %) does not meet QC criteria due to matrix interference.

LCSD for HBN 1767466 [VXX/3120 (1410001) LCSD

8260C - LCS/LCSD RPDs for several analytes do not meet QC criteria. These analytes were not detected in associated samples.

*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

Report of Manual Integrations

Laboratory ID	Client Sample ID	Analytical Batch	Analyte	Reason
8270D SIM LV (PAH)				
1176051005	17-OAFF-MW-6	XMS10367	Naphthalene	SP
SW8260C				
1176051002	17-OAFF-MW-099	VMS17129	4-Isopropyltoluene	SP

Manual Integration Reason Code Descriptions

Code	Description
O	Original Chromatogram
M	Modified Chromatogram
SS	Skimmed surrogate
BLG	Closed baseline gap
RP	Reassign peak name
PIR	Pattern integration required
IT	Included tail
SP	Split peak
RSP	Removed split peak
FPS	Forced peak start/stop
BLC	Baseline correction
PNF	Peak not found by software

All DRO/RRO analysis are integrated per SOP.

Print Date: 09/08/2017 10:45:55AM

Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indenmification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & UST-005 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020A, 7470A, 7471B, 8015C, 8021B, 8082A, 8260C, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

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Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
17-OAFF-MW-4-R	1176051001	08/24/2017	08/25/2017	Water (Surface, Eff., Ground)
17-OAFF-MW-099	1176051002	08/24/2017	08/25/2017	Water (Surface, Eff., Ground)
17-OAFF-MW-1	1176051003	08/24/2017	08/25/2017	Water (Surface, Eff., Ground)
17-OAFF-MW-3	1176051004	08/24/2017	08/25/2017	Water (Surface, Eff., Ground)
17-OAFF-MW-6	1176051005	08/24/2017	08/25/2017	Water (Surface, Eff., Ground)
17-OAFF-MW-8	1176051006	08/24/2017	08/25/2017	Water (Surface, Eff., Ground)
17-OAFF-MW-7	1176051007	08/24/2017	08/25/2017	Water (Surface, Eff., Ground)
17-OAFF-MW-9	1176051008	08/24/2017	08/25/2017	Water (Surface, Eff., Ground)
17-OAFF-TB	1176051009	08/24/2017	08/25/2017	Water (Surface, Eff., Ground)

Method	Method Description
8270D SIM LV (PAH)	8270 PAH SIM GC/MS Liq/Liq ext. LV
AK102	DRO Low Volume (W)
AK101	Gasoline Range Organics (W)
SW8260C	Volatile Organic Compounds (W) FULL

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Detectable Results Summary

Client Sample ID: **17-OAFF-MW-4-R**
Lab Sample ID: 1176051001

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	37.7	ug/L
	2-Methylnaphthalene	39.9	ug/L
	Acenaphthene	0.649	ug/L
	Anthracene	0.0955	ug/L
	Fluoranthene	0.171	ug/L
	Fluorene	0.647	ug/L
	Naphthalene	71.9	ug/L
	Phenanthrene	0.642	ug/L
	Pyrene	0.112	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	4.11	mg/L
Volatile Fuels	Gasoline Range Organics	2.24	mg/L
Volatile GC/MS	1,2,4-Trimethylbenzene	182	ug/L
	1,3,5-Trimethylbenzene	95.3	ug/L
	4-Isopropyltoluene	32.5	ug/L
	Benzene	93.5	ug/L
	Chloromethane	0.390J	ug/L
	Ethylbenzene	105	ug/L
	Isopropylbenzene (Cumene)	31.6	ug/L
	Naphthalene	111	ug/L
	n-Propylbenzene	33.3	ug/L
	o-Xylene	0.980J	ug/L
	P & M -Xylene	435	ug/L
	sec-Butylbenzene	11.9	ug/L
	Toluene	0.770J	ug/L
	Xylenes (total)	435	ug/L

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Detectable Results Summary

Client Sample ID: **17-OAFF-MW-099**
Lab Sample ID: 1176051002

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	44.5	ug/L
	2-Methylnaphthalene	46.5	ug/L
	Acenaphthene	0.787	ug/L
	Anthracene	0.118	ug/L
	Fluoranthene	0.193	ug/L
	Fluorene	0.786	ug/L
	Naphthalene	82.1	ug/L
	Phenanthrene	0.775	ug/L
	Pyrene	0.125	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	3.47	mg/L
Volatile Fuels	Gasoline Range Organics	2.13	mg/L
Volatile GC/MS	1,2,4-Trimethylbenzene	174	ug/L
	1,3,5-Trimethylbenzene	91.7	ug/L
	4-Isopropyltoluene	11.0	ug/L
	Benzene	85.5	ug/L
	Chloromethane	0.400J	ug/L
	Ethylbenzene	95.7	ug/L
	Isopropylbenzene (Cumene)	31.1	ug/L
	Naphthalene	99.9	ug/L
	n-Propylbenzene	33.1	ug/L
	o-Xylene	0.920J	ug/L
	P & M -Xylene	354	ug/L
	sec-Butylbenzene	11.8	ug/L
	Toluene	0.760J	ug/L
	Xylenes (total)	355	ug/L

Client Sample ID: **17-OAFF-MW-1**
Lab Sample ID: 1176051003

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	1.71	ug/L
	2-Methylnaphthalene	1.60	ug/L
	Fluorene	0.0710	ug/L
	Naphthalene	1.25	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	0.734	mg/L
Volatile Fuels	Gasoline Range Organics	0.0587J	mg/L
Volatile GC/MS	1,2,4-Trimethylbenzene	6.01	ug/L
	1,3,5-Trimethylbenzene	1.91	ug/L
	4-Isopropyltoluene	2.24	ug/L
	Benzene	0.180J	ug/L
	Ethylbenzene	0.330J	ug/L
	Isopropylbenzene (Cumene)	1.64	ug/L
	Naphthalene	3.54	ug/L
	n-Propylbenzene	1.35	ug/L
	P & M -Xylene	0.670J	ug/L
	sec-Butylbenzene	1.86	ug/L

Detectable Results Summary

Client Sample ID: **17-OAFF-MW-3**
Lab Sample ID: 1176051004

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	73.0	ug/L
	2-Methylnaphthalene	87.1	ug/L
	Acenaphthene	0.964	ug/L
	Fluoranthene	0.141	ug/L
	Fluorene	1.40	ug/L
	Naphthalene	45.4	ug/L
	Phenanthrene	0.726	ug/L
	Pyrene	0.103	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	2.37	mg/L
Volatile Fuels	Gasoline Range Organics	1.58	mg/L
Volatile GC/MS	1,2,4-Trimethylbenzene	289	ug/L
	1,3,5-Trimethylbenzene	94.4	ug/L
	4-Isopropyltoluene	21.8	ug/L
	Benzene	0.400	ug/L
	Ethylbenzene	8.63	ug/L
	Isopropylbenzene (Cumene)	18.9	ug/L
	Naphthalene	69.3	ug/L
	n-Propylbenzene	33.4	ug/L
	o-Xylene	1.23	ug/L
	P & M -Xylene	33.0	ug/L
	sec-Butylbenzene	10.8	ug/L
	Toluene	1.97	ug/L
	Xylenes (total)	34.3	ug/L

Client Sample ID: **17-OAFF-MW-6**
Lab Sample ID: 1176051005

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	Naphthalene	0.175	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	0.474J	mg/L
Volatile Fuels	Gasoline Range Organics	0.0480J	mg/L
Volatile GC/MS	4-Isopropyltoluene	0.430J	ug/L
	Isopropylbenzene (Cumene)	1.21	ug/L
	n-Propylbenzene	0.570J	ug/L
	sec-Butylbenzene	0.680J	ug/L

Client Sample ID: **17-OAFF-MW-8**
Lab Sample ID: 1176051006

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	2.39	ug/L
	Acenaphthene	0.160	ug/L
	Fluorene	0.121	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	0.549J	mg/L
Volatile GC/MS	4-Isopropyltoluene	0.640J	ug/L
	sec-Butylbenzene	0.850J	ug/L

Client Sample ID: **17-OAFF-MW-7**
Lab Sample ID: 1176051007

	Parameter	Result	Units
Semivolatile Organic Fuels	Diesel Range Organics	0.483J	mg/L

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Detectable Results Summary

Client Sample ID: **17-OAFF-MW-9**
Lab Sample ID: 1176051008

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	0.239	ug/L
	2-Methylnaphthalene	0.0967	ug/L
	Naphthalene	0.159	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	0.517J	mg/L
Volatile GC/MS	Toluene	0.380J	ug/L

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Results of **17-OAFF-MW-4-R**

Client Sample ID: **17-OAFF-MW-4-R**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051001
Lab Project ID: 1176051

Collection Date: 08/24/17 10:25
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	37.7		0.500	0.150	ug/L	10		09/05/17 13:48
2-Methylnaphthalene	39.9		0.500	0.150	ug/L	10		09/05/17 13:48
Acenaphthene	0.649		0.0500	0.0150	ug/L	1		09/01/17 18:02
Acenaphthylene	0.0250	U	0.0500	0.0150	ug/L	1		09/01/17 18:02
Anthracene	0.0955		0.0500	0.0150	ug/L	1		09/01/17 18:02
Benzo(a)Anthracene	0.0250	U	0.0500	0.0150	ug/L	1		09/01/17 18:02
Benzo[a]pyrene	0.0100	U	0.0200	0.00620	ug/L	1		09/01/17 18:02
Benzo[b]Fluoranthene	0.0250	U	0.0500	0.0150	ug/L	1		09/01/17 18:02
Benzo[g,h,i]perylene	0.0250	U	0.0500	0.0150	ug/L	1		09/01/17 18:02
Benzo[k]fluoranthene	0.0250	U	0.0500	0.0150	ug/L	1		09/01/17 18:02
Chrysene	0.0250	U	0.0500	0.0150	ug/L	1		09/01/17 18:02
Dibenzo[a,h]anthracene	0.0100	U	0.0200	0.00620	ug/L	1		09/01/17 18:02
Fluoranthene	0.171		0.0500	0.0150	ug/L	1		09/01/17 18:02
Fluorene	0.647		0.0500	0.0150	ug/L	1		09/01/17 18:02
Indeno[1,2,3-c,d] pyrene	0.0250	U	0.0500	0.0150	ug/L	1		09/01/17 18:02
Naphthalene	71.9		1.00	0.310	ug/L	10		09/05/17 13:48
Phenanthrene	0.642		0.0500	0.0150	ug/L	1		09/01/17 18:02
Pyrene	0.112		0.0500	0.0150	ug/L	1		09/01/17 18:02
Surrogates								
2-Methylnaphthalene-d10 (surr)	84.2		47-106		%	1		09/01/17 18:02
Fluoranthene-d10 (surr)	69.2		24-116		%	1		09/01/17 18:02

Batch Information

Analytical Batch: XMS10369
Analytical Method: 8270D SIM LV (PAH)
Analyst: DSD
Analytical Date/Time: 09/05/17 13:48
Container ID: 1176051001-I

Prep Batch: XXX38275
Prep Method: SW3520C
Prep Date/Time: 08/26/17 09:06
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Analytical Batch: XMS10367
Analytical Method: 8270D SIM LV (PAH)
Analyst: DSD
Analytical Date/Time: 09/01/17 18:02
Container ID: 1176051001-I

Prep Batch: XXX38275
Prep Method: SW3520C
Prep Date/Time: 08/26/17 09:06
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Results of **17-OAFF-MW-4-R**

Client Sample ID: **17-OAFF-MW-4-R**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051001
Lab Project ID: 1176051

Collection Date: 08/24/17 10:25
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	4.11		0.588	0.176	mg/L	1		08/27/17 15:18
Surrogates								
5a Androstane (surr)	75.7		50-150		%	1		08/27/17 15:18

Batch Information

Analytical Batch: XFC13725
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 08/27/17 15:18
Container ID: 1176051001-G

Prep Batch: XXX38272
Prep Method: SW3520C
Prep Date/Time: 08/26/17 08:13
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL

Results of **17-OAFF-MW-4-R**

Client Sample ID: **17-OAFF-MW-4-R**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051001
Lab Project ID: 1176051

Collection Date: 08/24/17 10:25
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	2.24		0.100	0.0310	mg/L	1		08/25/17 22:44
Surrogates								
4-Bromofluorobenzene (surr)	282	*	50-150		%	1		08/25/17 22:44

Batch Information

Analytical Batch: VFC13840
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/25/17 22:44
Container ID: 1176051001-A

Prep Batch: VXX31159
Prep Method: SW5030B
Prep Date/Time: 08/25/17 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Results of **17-OAFF-MW-4-R**

Client Sample ID: **17-OAFF-MW-4-R**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051001
Lab Project ID: 1176051

Collection Date: 08/24/17 10:25
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:24
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:24
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		09/03/17 00:24
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
1,2,4-Trimethylbenzene	182		10.0	3.10	ug/L	10		09/03/17 21:19
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		09/03/17 00:24
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		09/03/17 00:24
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:24
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
1,3,5-Trimethylbenzene	95.3		1.00	0.310	ug/L	1		09/03/17 00:24
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:24
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:24
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		09/03/17 00:24
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		09/03/17 00:24
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
4-Isopropyltoluene	32.5		1.00	0.310	ug/L	1		09/03/17 00:24
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		09/03/17 00:24
Benzene	93.5		0.400	0.120	ug/L	1		09/03/17 00:24
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:24
Bromoform	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
Bromomethane	2.50	U	5.00	1.50	ug/L	1		09/03/17 00:24
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		09/03/17 00:24
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:24
Chloroethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24

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J flagging is activated

Results of **17-OAFF-MW-4-R**

Client Sample ID: **17-OAFF-MW-4-R**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051001
Lab Project ID: 1176051

Collection Date: 08/24/17 10:25
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
Chloromethane	0.390	J	1.00	0.310	ug/L	1		09/03/17 00:24
cis-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:24
Dibromochloromethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:24
Dibromomethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
Dichlorodifluoromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
Ethylbenzene	105		1.00	0.310	ug/L	1		09/03/17 00:24
Freon-113	5.00	U	10.0	3.10	ug/L	1		09/03/17 00:24
Hexachlorobutadiene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
Isopropylbenzene (Cumene)	31.6		1.00	0.310	ug/L	1		09/03/17 00:24
Methylene chloride	2.50	U	5.00	1.00	ug/L	1		09/03/17 00:24
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		09/03/17 00:24
Naphthalene	111		1.00	0.310	ug/L	1		09/03/17 00:24
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
n-Propylbenzene	33.3		1.00	0.310	ug/L	1		09/03/17 00:24
o-Xylene	0.980	J	1.00	0.310	ug/L	1		09/03/17 00:24
P & M -Xylene	435		20.0	6.20	ug/L	10		09/03/17 21:19
sec-Butylbenzene	11.9		1.00	0.310	ug/L	1		09/03/17 00:24
Styrene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
Tetrachloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
Toluene	0.770	J	1.00	0.310	ug/L	1		09/03/17 00:24
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
Trichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
Trichlorofluoromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:24
Vinyl acetate	5.00	U	10.0	3.10	ug/L	1		09/03/17 00:24
Vinyl chloride	0.0750	U	0.150	0.0500	ug/L	1		09/03/17 00:24
Xylenes (total)	435		30.0	10.0	ug/L	10		09/03/17 21:19
Surrogates								
1,2-Dichloroethane-D4 (surr)	93.8		81-118		%	1		09/03/17 00:24
4-Bromofluorobenzene (surr)	89.6		85-114		%	1		09/03/17 00:24
Toluene-d8 (surr)	103		89-112		%	1		09/03/17 00:24

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J flagging is activated

Results of **17-OAFF-MW-4-R**

Client Sample ID: **17-OAFF-MW-4-R**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051001
Lab Project ID: 1176051

Collection Date: 08/24/17 10:25
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS17129
Analytical Method: SW8260C
Analyst: FDR
Analytical Date/Time: 09/03/17 00:24
Container ID: 1176051001-D

Prep Batch: VXX31207
Prep Method: SW5030B
Prep Date/Time: 09/02/17 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS17134
Analytical Method: SW8260C
Analyst: FDR
Analytical Date/Time: 09/03/17 21:19
Container ID: 1176051001-D

Prep Batch: VXX31215
Prep Method: SW5030B
Prep Date/Time: 09/03/17 00:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **17-OAFF-MW-099**

Client Sample ID: **17-OAFF-MW-099**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051002
Lab Project ID: 1176051

Collection Date: 08/24/17 12:00
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	44.5		0.980	0.294	ug/L	20		09/05/17 14:09
2-Methylnaphthalene	46.5		0.980	0.294	ug/L	20		09/05/17 14:09
Acenaphthene	0.787		0.0490	0.0147	ug/L	1		09/01/17 18:23
Acenaphthylene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 18:23
Anthracene	0.118		0.0490	0.0147	ug/L	1		09/01/17 18:23
Benzo(a)Anthracene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 18:23
Benzo[a]pyrene	0.00980	U	0.0196	0.00608	ug/L	1		09/01/17 18:23
Benzo[b]Fluoranthene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 18:23
Benzo[g,h,i]perylene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 18:23
Benzo[k]fluoranthene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 18:23
Chrysene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 18:23
Dibenzo[a,h]anthracene	0.00980	U	0.0196	0.00608	ug/L	1		09/01/17 18:23
Fluoranthene	0.193		0.0490	0.0147	ug/L	1		09/01/17 18:23
Fluorene	0.786		0.0490	0.0147	ug/L	1		09/01/17 18:23
Indeno[1,2,3-c,d] pyrene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 18:23
Naphthalene	82.1		1.96	0.608	ug/L	20		09/05/17 14:09
Phenanthrene	0.775		0.0490	0.0147	ug/L	1		09/01/17 18:23
Pyrene	0.125		0.0490	0.0147	ug/L	1		09/01/17 18:23
Surrogates								
2-Methylnaphthalene-d10 (surr)	99.1		47-106		%	1		09/01/17 18:23
Fluoranthene-d10 (surr)	77.1		24-116		%	1		09/01/17 18:23

Batch Information

Analytical Batch: XMS10369
Analytical Method: 8270D SIM LV (PAH)
Analyst: DSD
Analytical Date/Time: 09/05/17 14:09
Container ID: 1176051002-I

Prep Batch: XXX38275
Prep Method: SW3520C
Prep Date/Time: 08/26/17 09:06
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL

Analytical Batch: XMS10367
Analytical Method: 8270D SIM LV (PAH)
Analyst: DSD
Analytical Date/Time: 09/01/17 18:23
Container ID: 1176051002-I

Prep Batch: XXX38275
Prep Method: SW3520C
Prep Date/Time: 08/26/17 09:06
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL

Print Date: 09/08/2017 10:46:01AM

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Results of **17-OAFF-MW-099**

Client Sample ID: **17-OAFF-MW-099**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051002
Lab Project ID: 1176051

Collection Date: 08/24/17 12:00
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	3.47		0.588	0.176	mg/L	1		08/27/17 14:20
Surrogates								
5a Androstane (surr)	72.9		50-150		%	1		08/27/17 14:20

Batch Information

Analytical Batch: XFC13725
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 08/27/17 14:20
Container ID: 1176051002-G

Prep Batch: XXX38272
Prep Method: SW3520C
Prep Date/Time: 08/26/17 08:13
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL

Results of **17-OAFF-MW-099**

Client Sample ID: **17-OAFF-MW-099**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051002
Lab Project ID: 1176051

Collection Date: 08/24/17 12:00
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	2.13		0.100	0.0310	mg/L	1		08/25/17 23:03
Surrogates								
4-Bromofluorobenzene (surr)	287	*	50-150		%	1		08/25/17 23:03

Batch Information

Analytical Batch: VFC13840
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/25/17 23:03
Container ID: 1176051002-A

Prep Batch: VXX31159
Prep Method: SW5030B
Prep Date/Time: 08/25/17 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Results of **17-OAFF-MW-099**

Client Sample ID: **17-OAFF-MW-099**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051002
Lab Project ID: 1176051

Collection Date: 08/24/17 12:00
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:41
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:41
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		09/03/17 00:41
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
1,2,4-Trimethylbenzene	174		10.0	3.10	ug/L	10		09/03/17 21:36
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		09/03/17 00:41
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		09/03/17 00:41
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:41
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
1,3,5-Trimethylbenzene	91.7		1.00	0.310	ug/L	1		09/03/17 00:41
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:41
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:41
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		09/03/17 00:41
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		09/03/17 00:41
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
4-Isopropyltoluene	11.0		1.00	0.310	ug/L	1		09/03/17 00:41
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		09/03/17 00:41
Benzene	85.5		0.400	0.120	ug/L	1		09/03/17 00:41
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:41
Bromoform	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
Bromomethane	2.50	U	5.00	1.50	ug/L	1		09/03/17 00:41
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		09/03/17 00:41
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:41
Chloroethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41

Print Date: 09/08/2017 10:46:01AM

J flagging is activated

Results of **17-OAFF-MW-099**

Client Sample ID: **17-OAFF-MW-099**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051002
Lab Project ID: 1176051

Collection Date: 08/24/17 12:00
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
Chloromethane	0.400	J	1.00	0.310	ug/L	1		09/03/17 00:41
cis-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:41
Dibromochloromethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:41
Dibromomethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
Dichlorodifluoromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
Ethylbenzene	95.7		1.00	0.310	ug/L	1		09/03/17 00:41
Freon-113	5.00	U	10.0	3.10	ug/L	1		09/03/17 00:41
Hexachlorobutadiene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
Isopropylbenzene (Cumene)	31.1		1.00	0.310	ug/L	1		09/03/17 00:41
Methylene chloride	2.50	U	5.00	1.00	ug/L	1		09/03/17 00:41
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		09/03/17 00:41
Naphthalene	99.9		1.00	0.310	ug/L	1		09/03/17 00:41
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
n-Propylbenzene	33.1		1.00	0.310	ug/L	1		09/03/17 00:41
o-Xylene	0.920	J	1.00	0.310	ug/L	1		09/03/17 00:41
P & M -Xylene	354		20.0	6.20	ug/L	10		09/03/17 21:36
sec-Butylbenzene	11.8		1.00	0.310	ug/L	1		09/03/17 00:41
Styrene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
Tetrachloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
Toluene	0.760	J	1.00	0.310	ug/L	1		09/03/17 00:41
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
Trichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
Trichlorofluoromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:41
Vinyl acetate	5.00	U	10.0	3.10	ug/L	1		09/03/17 00:41
Vinyl chloride	0.0750	U	0.150	0.0500	ug/L	1		09/03/17 00:41
Xylenes (total)	355		30.0	10.0	ug/L	10		09/03/17 21:36
Surrogates								
1,2-Dichloroethane-D4 (surr)	91.7		81-118		%	1		09/03/17 00:41
4-Bromofluorobenzene (surr)	90.3		85-114		%	1		09/03/17 00:41
Toluene-d8 (surr)	104		89-112		%	1		09/03/17 00:41

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J flagging is activated

Results of **17-OAFF-MW-099**

Client Sample ID: **17-OAFF-MW-099**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051002
Lab Project ID: 1176051

Collection Date: 08/24/17 12:00
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS17129
Analytical Method: SW8260C
Analyst: FDR
Analytical Date/Time: 09/03/17 00:41
Container ID: 1176051002-D

Prep Batch: VXX31207
Prep Method: SW5030B
Prep Date/Time: 09/02/17 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS17134
Analytical Method: SW8260C
Analyst: FDR
Analytical Date/Time: 09/03/17 21:36
Container ID: 1176051002-D

Prep Batch: VXX31215
Prep Method: SW5030B
Prep Date/Time: 09/03/17 00:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **17-OAFF-MW-1**

Client Sample ID: **17-OAFF-MW-1**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051003
Lab Project ID: 1176051

Collection Date: 08/24/17 11:30
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	1.71		0.0512	0.0154	ug/L	1		09/01/17 18:43
2-Methylnaphthalene	1.60		0.0512	0.0154	ug/L	1		09/01/17 18:43
Acenaphthene	0.0256 U		0.0512	0.0154	ug/L	1		09/01/17 18:43
Acenaphthylene	0.0256 U		0.0512	0.0154	ug/L	1		09/01/17 18:43
Anthracene	0.0256 U		0.0512	0.0154	ug/L	1		09/01/17 18:43
Benzo(a)Anthracene	0.0256 U		0.0512	0.0154	ug/L	1		09/01/17 18:43
Benzo[a]pyrene	0.0103 U		0.0205	0.00635	ug/L	1		09/01/17 18:43
Benzo[b]Fluoranthene	0.0256 U		0.0512	0.0154	ug/L	1		09/01/17 18:43
Benzo[g,h,i]perylene	0.0256 U		0.0512	0.0154	ug/L	1		09/01/17 18:43
Benzo[k]fluoranthene	0.0256 U		0.0512	0.0154	ug/L	1		09/01/17 18:43
Chrysene	0.0256 U		0.0512	0.0154	ug/L	1		09/01/17 18:43
Dibenzo[a,h]anthracene	0.0103 U		0.0205	0.00635	ug/L	1		09/01/17 18:43
Fluoranthene	0.0256 U		0.0512	0.0154	ug/L	1		09/01/17 18:43
Fluorene	0.0710		0.0512	0.0154	ug/L	1		09/01/17 18:43
Indeno[1,2,3-c,d] pyrene	0.0256 U		0.0512	0.0154	ug/L	1		09/01/17 18:43
Naphthalene	1.25		0.102	0.0318	ug/L	1		09/01/17 18:43
Phenanthrene	0.0256 U		0.0512	0.0154	ug/L	1		09/01/17 18:43
Pyrene	0.0256 U		0.0512	0.0154	ug/L	1		09/01/17 18:43
Surrogates								
2-Methylnaphthalene-d10 (surr)	76.1		47-106		%	1		09/01/17 18:43
Fluoranthene-d10 (surr)	76.6		24-116		%	1		09/01/17 18:43

Batch Information

Analytical Batch: XMS10367
Analytical Method: 8270D SIM LV (PAH)
Analyst: DSD
Analytical Date/Time: 09/01/17 18:43
Container ID: 1176051003-I

Prep Batch: XXX38275
Prep Method: SW3520C
Prep Date/Time: 08/26/17 09:06
Prep Initial Wt./Vol.: 244 mL
Prep Extract Vol: 1 mL

Print Date: 09/08/2017 10:46:01AM

J flagging is activated

Results of **17-OAFF-MW-1**

Client Sample ID: **17-OAFF-MW-1**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051003
Lab Project ID: 1176051

Collection Date: 08/24/17 11:30
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.734		0.588	0.176	mg/L	1		08/27/17 14:29
Surrogates								
5a Androstane (surr)	74.5		50-150		%	1		08/27/17 14:29

Batch Information

Analytical Batch: XFC13725
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 08/27/17 14:29
Container ID: 1176051003-G

Prep Batch: XXX38272
Prep Method: SW3520C
Prep Date/Time: 08/26/17 08:13
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL

Results of **17-OAFF-MW-1**

Client Sample ID: **17-OAFF-MW-1**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051003
Lab Project ID: 1176051

Collection Date: 08/24/17 11:30
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0587	J	0.100	0.0310	mg/L	1		08/25/17 23:22
Surrogates								
4-Bromofluorobenzene (surr)	99.7		50-150		%	1		08/25/17 23:22

Batch Information

Analytical Batch: VFC13840
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/25/17 23:22
Container ID: 1176051003-A

Prep Batch: VXX31159
Prep Method: SW5030B
Prep Date/Time: 08/25/17 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **17-OAFF-MW-1**

Client Sample ID: **17-OAFF-MW-1**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051003
Lab Project ID: 1176051

Collection Date: 08/24/17 11:30
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:58
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:58
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		09/03/17 00:58
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
1,2,4-Trimethylbenzene	6.01		1.00	0.310	ug/L	1		09/03/17 22:11
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		09/03/17 00:58
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		09/03/17 00:58
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:58
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
1,3,5-Trimethylbenzene	1.91		1.00	0.310	ug/L	1		09/03/17 22:11
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:58
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:58
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		09/03/17 00:58
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		09/03/17 00:58
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
4-Isopropyltoluene	2.24		1.00	0.310	ug/L	1		09/03/17 22:11
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		09/03/17 00:58
Benzene	0.180	J	0.400	0.120	ug/L	1		09/03/17 22:11
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:58
Bromoform	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
Bromomethane	2.50	U	5.00	1.50	ug/L	1		09/03/17 00:58
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		09/03/17 00:58
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:58
Chloroethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58

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J flagging is activated

Results of **17-OAFF-MW-1**

Client Sample ID: **17-OAFF-MW-1**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051003
Lab Project ID: 1176051

Collection Date: 08/24/17 11:30
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
Chloromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
cis-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:58
Dibromochloromethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 00:58
Dibromomethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
Dichlorodifluoromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
Ethylbenzene	0.330	J	1.00	0.310	ug/L	1		09/03/17 22:11
Freon-113	5.00	U	10.0	3.10	ug/L	1		09/03/17 00:58
Hexachlorobutadiene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
Isopropylbenzene (Cumene)	1.64		1.00	0.310	ug/L	1		09/03/17 22:11
Methylene chloride	2.50	U	5.00	1.00	ug/L	1		09/03/17 00:58
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		09/03/17 00:58
Naphthalene	3.54		1.00	0.310	ug/L	1		09/03/17 22:11
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
n-Propylbenzene	1.35		1.00	0.310	ug/L	1		09/03/17 22:11
o-Xylene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
P & M -Xylene	0.670	J	2.00	0.620	ug/L	1		09/03/17 22:11
sec-Butylbenzene	1.86		1.00	0.310	ug/L	1		09/03/17 22:11
Styrene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
Tetrachloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
Toluene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
Trichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
Trichlorofluoromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 00:58
Vinyl acetate	5.00	U	10.0	3.10	ug/L	1		09/03/17 00:58
Vinyl chloride	0.0750	U	0.150	0.0500	ug/L	1		09/03/17 00:58
Xylenes (total)	1.50	U	3.00	1.00	ug/L	1		09/03/17 22:11
Surrogates								
1,2-Dichloroethane-D4 (surr)	103		81-118		%	1		09/03/17 00:58
4-Bromofluorobenzene (surr)	99.8		85-114		%	1		09/03/17 00:58
Toluene-d8 (surr)	98.3		89-112		%	1		09/03/17 00:58

Print Date: 09/08/2017 10:46:01AM

J flagging is activated

Results of **17-OAFF-MW-1**

Client Sample ID: **17-OAFF-MW-1**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051003
Lab Project ID: 1176051

Collection Date: 08/24/17 11:30
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS17129
Analytical Method: SW8260C
Analyst: FDR
Analytical Date/Time: 09/03/17 00:58
Container ID: 1176051003-D

Prep Batch: VXX31207
Prep Method: SW5030B
Prep Date/Time: 09/02/17 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS17134
Analytical Method: SW8260C
Analyst: FDR
Analytical Date/Time: 09/03/17 22:11
Container ID: 1176051003-D

Prep Batch: VXX31215
Prep Method: SW5030B
Prep Date/Time: 09/03/17 00:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **17-OAFF-MW-3**

Client Sample ID: **17-OAFF-MW-3**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051004
Lab Project ID: 1176051

Collection Date: 08/24/17 12:10
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	73.0		1.00	0.300	ug/L	20		09/05/17 14:29
2-Methylnaphthalene	87.1		1.00	0.300	ug/L	20		09/05/17 14:29
Acenaphthene	0.964		0.0500	0.0150	ug/L	1		09/01/17 19:04
Acenaphthylene	0.0250	U	0.0500	0.0150	ug/L	1		09/01/17 19:04
Anthracene	0.0250	U	0.0500	0.0150	ug/L	1		09/01/17 19:04
Benzo(a)Anthracene	0.0250	U	0.0500	0.0150	ug/L	1		09/01/17 19:04
Benzo[a]pyrene	0.0100	U	0.0200	0.00620	ug/L	1		09/01/17 19:04
Benzo[b]Fluoranthene	0.0250	U	0.0500	0.0150	ug/L	1		09/01/17 19:04
Benzo[g,h,i]perylene	0.0250	U	0.0500	0.0150	ug/L	1		09/01/17 19:04
Benzo[k]fluoranthene	0.0250	U	0.0500	0.0150	ug/L	1		09/01/17 19:04
Chrysene	0.0250	U	0.0500	0.0150	ug/L	1		09/01/17 19:04
Dibenzo[a,h]anthracene	0.0100	U	0.0200	0.00620	ug/L	1		09/01/17 19:04
Fluoranthene	0.141		0.0500	0.0150	ug/L	1		09/01/17 19:04
Fluorene	1.40		0.0500	0.0150	ug/L	1		09/01/17 19:04
Indeno[1,2,3-c,d] pyrene	0.0250	U	0.0500	0.0150	ug/L	1		09/01/17 19:04
Naphthalene	45.4		2.00	0.620	ug/L	20		09/05/17 14:29
Phenanthrene	0.726		0.0500	0.0150	ug/L	1		09/01/17 19:04
Pyrene	0.103		0.0500	0.0150	ug/L	1		09/01/17 19:04
Surrogates								
2-Methylnaphthalene-d10 (surr)	84.1		47-106		%	1		09/01/17 19:04
Fluoranthene-d10 (surr)	70		24-116		%	1		09/01/17 19:04

Batch Information

Analytical Batch: XMS10369
Analytical Method: 8270D SIM LV (PAH)
Analyst: DSD
Analytical Date/Time: 09/05/17 14:29
Container ID: 1176051004-I

Prep Batch: XXX38275
Prep Method: SW3520C
Prep Date/Time: 08/26/17 09:06
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Analytical Batch: XMS10367
Analytical Method: 8270D SIM LV (PAH)
Analyst: DSD
Analytical Date/Time: 09/01/17 19:04
Container ID: 1176051004-I

Prep Batch: XXX38275
Prep Method: SW3520C
Prep Date/Time: 08/26/17 09:06
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Print Date: 09/08/2017 10:46:01AM

J flagging is activated

Results of **17-OAFF-MW-3**

Client Sample ID: **17-OAFF-MW-3**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051004
Lab Project ID: 1176051

Collection Date: 08/24/17 12:10
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	2.37		0.577	0.173	mg/L	1		08/27/17 14:39
Surrogates								
5a Androstane (surr)	71.4		50-150		%	1		08/27/17 14:39

Batch Information

Analytical Batch: XFC13725
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 08/27/17 14:39
Container ID: 1176051004-G

Prep Batch: XXX38272
Prep Method: SW3520C
Prep Date/Time: 08/26/17 08:13
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL

Results of **17-OAFF-MW-3**

Client Sample ID: **17-OAFF-MW-3**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051004
Lab Project ID: 1176051

Collection Date: 08/24/17 12:10
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	1.58		0.100	0.0310	mg/L	1		08/25/17 23:41
Surrogates								
4-Bromofluorobenzene (surr)	218	*	50-150		%	1		08/25/17 23:41

Batch Information

Analytical Batch: VFC13840
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/25/17 23:41
Container ID: 1176051004-A

Prep Batch: VXX31159
Prep Method: SW5030B
Prep Date/Time: 08/25/17 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **17-OAFF-MW-3**

Client Sample ID: **17-OAFF-MW-3**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051004
Lab Project ID: 1176051

Collection Date: 08/24/17 12:10
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:15
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:15
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		09/03/17 01:15
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
1,2,4-Trimethylbenzene	289		10.0	3.10	ug/L	10		09/03/17 21:53
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		09/03/17 01:15
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		09/03/17 01:15
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:15
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
1,3,5-Trimethylbenzene	94.4		1.00	0.310	ug/L	1		09/03/17 01:15
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:15
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:15
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		09/03/17 01:15
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		09/03/17 01:15
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
4-Isopropyltoluene	21.8		1.00	0.310	ug/L	1		09/03/17 01:15
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		09/03/17 01:15
Benzene	0.400		0.400	0.120	ug/L	1		09/03/17 01:15
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:15
Bromoform	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
Bromomethane	2.50	U	5.00	1.50	ug/L	1		09/03/17 01:15
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		09/03/17 01:15
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:15
Chloroethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15

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J flagging is activated

Results of **17-OAFF-MW-3**

Client Sample ID: **17-OAFF-MW-3**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051004
Lab Project ID: 1176051

Collection Date: 08/24/17 12:10
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
Chloromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
cis-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:15
Dibromochloromethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:15
Dibromomethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
Dichlorodifluoromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
Ethylbenzene	8.63		1.00	0.310	ug/L	1		09/03/17 01:15
Freon-113	5.00	U	10.0	3.10	ug/L	1		09/03/17 01:15
Hexachlorobutadiene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
Isopropylbenzene (Cumene)	18.9		1.00	0.310	ug/L	1		09/03/17 01:15
Methylene chloride	2.50	U	5.00	1.00	ug/L	1		09/03/17 01:15
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		09/03/17 01:15
Naphthalene	69.3		1.00	0.310	ug/L	1		09/03/17 01:15
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
n-Propylbenzene	33.4		1.00	0.310	ug/L	1		09/03/17 01:15
o-Xylene	1.23		1.00	0.310	ug/L	1		09/03/17 01:15
P & M -Xylene	33.0		2.00	0.620	ug/L	1		09/03/17 01:15
sec-Butylbenzene	10.8		1.00	0.310	ug/L	1		09/03/17 01:15
Styrene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
Tetrachloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
Toluene	1.97		1.00	0.310	ug/L	1		09/03/17 01:15
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
Trichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
Trichlorofluoromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:15
Vinyl acetate	5.00	U	10.0	3.10	ug/L	1		09/03/17 01:15
Vinyl chloride	0.0750	U	0.150	0.0500	ug/L	1		09/03/17 01:15
Xylenes (total)	34.3		3.00	1.00	ug/L	1		09/03/17 01:15
Surrogates								
1,2-Dichloroethane-D4 (surr)	90.8		81-118		%	1		09/03/17 01:15
4-Bromofluorobenzene (surr)	88.4		85-114		%	1		09/03/17 01:15
Toluene-d8 (surr)	105		89-112		%	1		09/03/17 01:15

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J flagging is activated

Results of **17-OAFF-MW-3**

Client Sample ID: **17-OAFF-MW-3**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051004
Lab Project ID: 1176051

Collection Date: 08/24/17 12:10
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS17129
Analytical Method: SW8260C
Analyst: FDR
Analytical Date/Time: 09/03/17 01:15
Container ID: 1176051004-D

Prep Batch: VXX31207
Prep Method: SW5030B
Prep Date/Time: 09/02/17 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS17134
Analytical Method: SW8260C
Analyst: FDR
Analytical Date/Time: 09/03/17 21:53
Container ID: 1176051004-D

Prep Batch: VXX31215
Prep Method: SW5030B
Prep Date/Time: 09/03/17 00:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **17-OAFF-MW-6**

Client Sample ID: **17-OAFF-MW-6**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051005
Lab Project ID: 1176051

Collection Date: 08/24/17 13:15
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 19:24
2-Methylnaphthalene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 19:24
Acenaphthene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 19:24
Acenaphthylene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 19:24
Anthracene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 19:24
Benzo(a)Anthracene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 19:24
Benzo[a]pyrene	0.00980	U	0.0196	0.00608	ug/L	1		09/01/17 19:24
Benzo[b]Fluoranthene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 19:24
Benzo[g,h,i]perylene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 19:24
Benzo[k]fluoranthene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 19:24
Chrysene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 19:24
Dibenzo[a,h]anthracene	0.00980	U	0.0196	0.00608	ug/L	1		09/01/17 19:24
Fluoranthene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 19:24
Fluorene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 19:24
Indeno[1,2,3-c,d] pyrene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 19:24
Naphthalene	0.175		0.0980	0.0304	ug/L	1		09/01/17 19:24
Phenanthrene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 19:24
Pyrene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 19:24
Surrogates								
2-Methylnaphthalene-d10 (surr)	78.4		47-106		%	1		09/01/17 19:24
Fluoranthene-d10 (surr)	78.7		24-116		%	1		09/01/17 19:24

Batch Information

Analytical Batch: XMS10367
Analytical Method: 8270D SIM LV (PAH)
Analyst: DSD
Analytical Date/Time: 09/01/17 19:24
Container ID: 1176051005-I

Prep Batch: XXX38275
Prep Method: SW3520C
Prep Date/Time: 08/26/17 09:06
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL

Print Date: 09/08/2017 10:46:01AM

J flagging is activated

Results of **17-OAFF-MW-6**

Client Sample ID: **17-OAFF-MW-6**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051005
Lab Project ID: 1176051

Collection Date: 08/24/17 13:15
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.474	J	0.605	0.181	mg/L	1		08/27/17 14:49
Surrogates								
5a Androstane (surr)	70.7		50-150		%	1		08/27/17 14:49

Batch Information

Analytical Batch: XFC13725
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 08/27/17 14:49
Container ID: 1176051005-G

Prep Batch: XXX38272
Prep Method: SW3520C
Prep Date/Time: 08/26/17 08:13
Prep Initial Wt./Vol.: 248 mL
Prep Extract Vol: 1 mL

Print Date: 09/08/2017 10:46:01AM

J flagging is activated

Results of **17-OAFF-MW-6**

Client Sample ID: **17-OAFF-MW-6**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051005
Lab Project ID: 1176051

Collection Date: 08/24/17 13:15
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0480	J	0.100	0.0310	mg/L	1		08/26/17 00:00
Surrogates								
4-Bromofluorobenzene (surr)	101		50-150		%	1		08/26/17 00:00

Batch Information

Analytical Batch: VFC13840
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/26/17 00:00
Container ID: 1176051005-A

Prep Batch: VXX31159
Prep Method: SW5030B
Prep Date/Time: 08/25/17 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 09/08/2017 10:46:01AM

J flagging is activated

Results of **17-OAFF-MW-6**

Client Sample ID: **17-OAFF-MW-6**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051005
Lab Project ID: 1176051

Collection Date: 08/24/17 13:15
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:32
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:32
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		09/03/17 01:32
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 22:29
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		09/03/17 01:32
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		09/03/17 01:32
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:32
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:32
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:32
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		09/03/17 01:32
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		09/03/17 01:32
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
4-Isopropyltoluene	0.430	J	1.00	0.310	ug/L	1		09/03/17 22:29
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		09/03/17 01:32
Benzene	0.200	U	0.400	0.120	ug/L	1		09/03/17 01:32
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:32
Bromoform	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
Bromomethane	2.50	U	5.00	1.50	ug/L	1		09/03/17 01:32
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		09/03/17 01:32
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:32
Chloroethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32

Print Date: 09/08/2017 10:46:01AM

J flagging is activated

Results of **17-OAFF-MW-6**

Client Sample ID: **17-OAFF-MW-6**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051005
Lab Project ID: 1176051

Collection Date: 08/24/17 13:15
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
Chloromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
cis-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:32
Dibromochloromethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:32
Dibromomethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
Dichlorodifluoromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
Ethylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
Freon-113	5.00	U	10.0	3.10	ug/L	1		09/03/17 01:32
Hexachlorobutadiene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
Isopropylbenzene (Cumene)	1.21		1.00	0.310	ug/L	1		09/03/17 22:29
Methylene chloride	2.50	U	5.00	1.00	ug/L	1		09/03/17 01:32
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		09/03/17 01:32
Naphthalene	0.500	U	1.00	0.310	ug/L	1		09/03/17 22:29
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
n-Propylbenzene	0.570	J	1.00	0.310	ug/L	1		09/03/17 22:29
o-Xylene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
P & M -Xylene	1.00	U	2.00	0.620	ug/L	1		09/03/17 01:32
sec-Butylbenzene	0.680	J	1.00	0.310	ug/L	1		09/03/17 22:29
Styrene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
Tetrachloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
Toluene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
Trichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
Trichlorofluoromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:32
Vinyl acetate	5.00	U	10.0	3.10	ug/L	1		09/03/17 01:32
Vinyl chloride	0.0750	U	0.150	0.0500	ug/L	1		09/03/17 01:32
Xylenes (total)	1.50	U	3.00	1.00	ug/L	1		09/03/17 01:32
Surrogates								
1,2-Dichloroethane-D4 (surr)	103		81-118		%	1		09/03/17 01:32
4-Bromofluorobenzene (surr)	99.2		85-114		%	1		09/03/17 01:32
Toluene-d8 (surr)	102		89-112		%	1		09/03/17 01:32

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J flagging is activated

Results of **17-OAFF-MW-6**

Client Sample ID: **17-OAFF-MW-6**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051005
Lab Project ID: 1176051

Collection Date: 08/24/17 13:15
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS17129
Analytical Method: SW8260C
Analyst: FDR
Analytical Date/Time: 09/03/17 01:32
Container ID: 1176051005-D

Prep Batch: VXX31207
Prep Method: SW5030B
Prep Date/Time: 09/02/17 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS17134
Analytical Method: SW8260C
Analyst: FDR
Analytical Date/Time: 09/03/17 22:29
Container ID: 1176051005-D

Prep Batch: VXX31215
Prep Method: SW5030B
Prep Date/Time: 09/03/17 00:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **17-OAFF-MW-8**

Client Sample ID: **17-OAFF-MW-8**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051006
Lab Project ID: 1176051

Collection Date: 08/24/17 13:55
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	2.39		0.0481	0.0144	ug/L	1		09/01/17 19:45
2-Methylnaphthalene	0.0240	U	0.0481	0.0144	ug/L	1		09/01/17 19:45
Acenaphthene	0.160		0.0481	0.0144	ug/L	1		09/01/17 19:45
Acenaphthylene	0.0240	U	0.0481	0.0144	ug/L	1		09/01/17 19:45
Anthracene	0.0240	U	0.0481	0.0144	ug/L	1		09/01/17 19:45
Benzo(a)Anthracene	0.0240	U	0.0481	0.0144	ug/L	1		09/01/17 19:45
Benzo[a]pyrene	0.00960	U	0.0192	0.00596	ug/L	1		09/01/17 19:45
Benzo[b]Fluoranthene	0.0240	U	0.0481	0.0144	ug/L	1		09/01/17 19:45
Benzo[g,h,i]perylene	0.0240	U	0.0481	0.0144	ug/L	1		09/01/17 19:45
Benzo[k]fluoranthene	0.0240	U	0.0481	0.0144	ug/L	1		09/01/17 19:45
Chrysene	0.0240	U	0.0481	0.0144	ug/L	1		09/01/17 19:45
Dibenzo[a,h]anthracene	0.00960	U	0.0192	0.00596	ug/L	1		09/01/17 19:45
Fluoranthene	0.0240	U	0.0481	0.0144	ug/L	1		09/01/17 19:45
Fluorene	0.121		0.0481	0.0144	ug/L	1		09/01/17 19:45
Indeno[1,2,3-c,d] pyrene	0.0240	U	0.0481	0.0144	ug/L	1		09/01/17 19:45
Naphthalene	0.0481	U	0.0962	0.0298	ug/L	1		09/01/17 19:45
Phenanthrene	0.0240	U	0.0481	0.0144	ug/L	1		09/01/17 19:45
Pyrene	0.0240	U	0.0481	0.0144	ug/L	1		09/01/17 19:45
Surrogates								
2-Methylnaphthalene-d10 (surr)	74.7		47-106		%	1		09/01/17 19:45
Fluoranthene-d10 (surr)	74.1		24-116		%	1		09/01/17 19:45

Batch Information

Analytical Batch: XMS10367
Analytical Method: 8270D SIM LV (PAH)
Analyst: DSD
Analytical Date/Time: 09/01/17 19:45
Container ID: 1176051006-I

Prep Batch: XXX38275
Prep Method: SW3520C
Prep Date/Time: 08/26/17 09:06
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL

Print Date: 09/08/2017 10:46:01AM

J flagging is activated

Results of **17-OAFF-MW-8**

Client Sample ID: **17-OAFF-MW-8**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051006
Lab Project ID: 1176051

Collection Date: 08/24/17 13:55
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.549	J	0.588	0.176	mg/L	1		08/27/17 14:59
Surrogates								
5a Androstane (surr)	72.9		50-150		%	1		08/27/17 14:59

Batch Information

Analytical Batch: XFC13725
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 08/27/17 14:59
Container ID: 1176051006-G

Prep Batch: XXX38272
Prep Method: SW3520C
Prep Date/Time: 08/26/17 08:13
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL

Results of **17-OAFF-MW-8**

Client Sample ID: **17-OAFF-MW-8**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051006
Lab Project ID: 1176051

Collection Date: 08/24/17 13:55
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0500	U	0.100	0.0310	mg/L	1		08/26/17 00:20
Surrogates								
4-Bromofluorobenzene (surr)	90.2		50-150		%	1		08/26/17 00:20

Batch Information

Analytical Batch: VFC13840
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/26/17 00:20
Container ID: 1176051006-A

Prep Batch: VXX31159
Prep Method: SW5030B
Prep Date/Time: 08/25/17 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **17-OAFF-MW-8**

Client Sample ID: **17-OAFF-MW-8**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051006
Lab Project ID: 1176051

Collection Date: 08/24/17 13:55
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:49
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:49
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		09/03/17 01:49
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		09/03/17 01:49
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		09/03/17 01:49
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:49
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:49
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:49
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		09/03/17 01:49
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		09/03/17 01:49
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
4-Isopropyltoluene	0.640	J	1.00	0.310	ug/L	1		09/03/17 01:49
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		09/03/17 01:49
Benzene	0.200	U	0.400	0.120	ug/L	1		09/03/17 01:49
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:49
Bromoform	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
Bromomethane	2.50	U	5.00	1.50	ug/L	1		09/03/17 01:49
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		09/03/17 01:49
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:49
Chloroethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49

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J flagging is activated

Results of **17-OAFF-MW-8**

Client Sample ID: **17-OAFF-MW-8**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051006
Lab Project ID: 1176051

Collection Date: 08/24/17 13:55
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
Chloromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
cis-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:49
Dibromochloromethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 01:49
Dibromomethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
Dichlorodifluoromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
Ethylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
Freon-113	5.00	U	10.0	3.10	ug/L	1		09/03/17 01:49
Hexachlorobutadiene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
Isopropylbenzene (Cumene)	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
Methylene chloride	2.50	U	5.00	1.00	ug/L	1		09/03/17 01:49
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		09/03/17 01:49
Naphthalene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
n-Propylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
o-Xylene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
P & M -Xylene	1.00	U	2.00	0.620	ug/L	1		09/03/17 01:49
sec-Butylbenzene	0.850	J	1.00	0.310	ug/L	1		09/03/17 01:49
Styrene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
Tetrachloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
Toluene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
Trichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
Trichlorofluoromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 01:49
Vinyl acetate	5.00	U	10.0	3.10	ug/L	1		09/03/17 01:49
Vinyl chloride	0.0750	U	0.150	0.0500	ug/L	1		09/03/17 01:49
Xylenes (total)	1.50	U	3.00	1.00	ug/L	1		09/03/17 01:49
Surrogates								
1,2-Dichloroethane-D4 (surr)	109		81-118		%	1		09/03/17 01:49
4-Bromofluorobenzene (surr)	101		85-114		%	1		09/03/17 01:49
Toluene-d8 (surr)	97.5		89-112		%	1		09/03/17 01:49

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J flagging is activated

Results of **17-OAFF-MW-8**

Client Sample ID: **17-OAFF-MW-8**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051006
Lab Project ID: 1176051

Collection Date: 08/24/17 13:55
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS17129
Analytical Method: SW8260C
Analyst: FDR
Analytical Date/Time: 09/03/17 01:49
Container ID: 1176051006-D

Prep Batch: VXX31207
Prep Method: SW5030B
Prep Date/Time: 09/02/17 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **17-OAFF-MW-7**

Client Sample ID: **17-OAFF-MW-7**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051007
Lab Project ID: 1176051

Collection Date: 08/24/17 14:30
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 20:05
2-Methylnaphthalene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 20:05
Acenaphthene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 20:05
Acenaphthylene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 20:05
Anthracene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 20:05
Benzo(a)Anthracene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 20:05
Benzo[a]pyrene	0.00980	U	0.0196	0.00608	ug/L	1		09/01/17 20:05
Benzo[b]Fluoranthene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 20:05
Benzo[g,h,i]perylene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 20:05
Benzo[k]fluoranthene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 20:05
Chrysene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 20:05
Dibenzo[a,h]anthracene	0.00980	U	0.0196	0.00608	ug/L	1		09/01/17 20:05
Fluoranthene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 20:05
Fluorene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 20:05
Indeno[1,2,3-c,d] pyrene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 20:05
Naphthalene	0.0490	U	0.0980	0.0304	ug/L	1		09/01/17 20:05
Phenanthrene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 20:05
Pyrene	0.0245	U	0.0490	0.0147	ug/L	1		09/01/17 20:05
Surrogates								
2-Methylnaphthalene-d10 (surr)	71.3		47-106		%	1		09/01/17 20:05
Fluoranthene-d10 (surr)	71.8		24-116		%	1		09/01/17 20:05

Batch Information

Analytical Batch: XMS10367
Analytical Method: 8270D SIM LV (PAH)
Analyst: DSD
Analytical Date/Time: 09/01/17 20:05
Container ID: 1176051007-I

Prep Batch: XXX38275
Prep Method: SW3520C
Prep Date/Time: 08/26/17 09:06
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL

Print Date: 09/08/2017 10:46:01AM

J flagging is activated

Results of **17-OAFF-MW-7**

Client Sample ID: **17-OAFF-MW-7**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051007
Lab Project ID: 1176051

Collection Date: 08/24/17 14:30
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.483	J	0.600	0.180	mg/L	1		08/27/17 15:08
Surrogates								
5a Androstane (surr)	72.9		50-150		%	1		08/27/17 15:08

Batch Information

Analytical Batch: XFC13725
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 08/27/17 15:08
Container ID: 1176051007-G

Prep Batch: XXX38272
Prep Method: SW3520C
Prep Date/Time: 08/26/17 08:13
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Results of **17-OAFF-MW-7**

Client Sample ID: **17-OAFF-MW-7**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051007
Lab Project ID: 1176051

Collection Date: 08/24/17 14:30
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0500	U	0.100	0.0310	mg/L	1		08/26/17 01:17
Surrogates								
4-Bromofluorobenzene (surr)	92.6		50-150		%	1		08/26/17 01:17

Batch Information

Analytical Batch: VFC13840
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/26/17 01:17
Container ID: 1176051007-A

Prep Batch: VXX31159
Prep Method: SW5030B
Prep Date/Time: 08/25/17 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 09/08/2017 10:46:01AM

J flagging is activated

Results of **17-OAFF-MW-7**

Client Sample ID: **17-OAFF-MW-7**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051007
Lab Project ID: 1176051

Collection Date: 08/24/17 14:30
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 02:06
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 02:06
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		09/03/17 02:06
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		09/03/17 02:06
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		09/03/17 02:06
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 02:06
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		09/03/17 02:06
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		09/03/17 02:06
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		09/03/17 02:06
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		09/03/17 02:06
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		09/03/17 02:06
Benzene	0.200	U	0.400	0.120	ug/L	1		09/03/17 02:06
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 02:06
Bromoform	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
Bromomethane	2.50	U	5.00	1.50	ug/L	1		09/03/17 02:06
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		09/03/17 02:06
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		09/03/17 02:06
Chloroethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06

Results of **17-OAFF-MW-7**

Client Sample ID: **17-OAFF-MW-7**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051007
Lab Project ID: 1176051

Collection Date: 08/24/17 14:30
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
Chloromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
cis-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	ug/L	1		09/03/17 02:06
Dibromochloromethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 02:06
Dibromomethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
Dichlorodifluoromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
Ethylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
Freon-113	5.00	U	10.0	3.10	ug/L	1		09/03/17 02:06
Hexachlorobutadiene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
Isopropylbenzene (Cumene)	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
Methylene chloride	2.50	U	5.00	1.00	ug/L	1		09/03/17 02:06
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		09/03/17 02:06
Naphthalene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
n-Propylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
o-Xylene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
P & M -Xylene	1.00	U	2.00	0.620	ug/L	1		09/03/17 02:06
sec-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
Styrene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
Tetrachloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
Toluene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
Trichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
Trichlorofluoromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:06
Vinyl acetate	5.00	U	10.0	3.10	ug/L	1		09/03/17 02:06
Vinyl chloride	0.0750	U	0.150	0.0500	ug/L	1		09/03/17 02:06
Xylenes (total)	1.50	U	3.00	1.00	ug/L	1		09/03/17 02:06
Surrogates								
1,2-Dichloroethane-D4 (surr)	108		81-118		%	1		09/03/17 02:06
4-Bromofluorobenzene (surr)	104		85-114		%	1		09/03/17 02:06
Toluene-d8 (surr)	98.2		89-112		%	1		09/03/17 02:06

Print Date: 09/08/2017 10:46:01AM

J flagging is activated

Results of **17-OAFF-MW-7**

Client Sample ID: **17-OAFF-MW-7**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051007
Lab Project ID: 1176051

Collection Date: 08/24/17 14:30
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS17129
Analytical Method: SW8260C
Analyst: FDR
Analytical Date/Time: 09/03/17 02:06
Container ID: 1176051007-D

Prep Batch: VXX31207
Prep Method: SW5030B
Prep Date/Time: 09/02/17 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **17-OAFF-MW-9**

Client Sample ID: **17-OAFF-MW-9**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051008
Lab Project ID: 1176051

Collection Date: 08/24/17 15:10
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.239		0.0481	0.0144	ug/L	1		09/01/17 20:26
2-Methylnaphthalene	0.0967		0.0481	0.0144	ug/L	1		09/01/17 20:26
Acenaphthene	0.0240	U	0.0481	0.0144	ug/L	1		09/01/17 20:26
Acenaphthylene	0.0240	U	0.0481	0.0144	ug/L	1		09/01/17 20:26
Anthracene	0.0240	U	0.0481	0.0144	ug/L	1		09/01/17 20:26
Benzo(a)Anthracene	0.0240	U	0.0481	0.0144	ug/L	1		09/01/17 20:26
Benzo[a]pyrene	0.00960	U	0.0192	0.00596	ug/L	1		09/01/17 20:26
Benzo[b]Fluoranthene	0.0240	U	0.0481	0.0144	ug/L	1		09/01/17 20:26
Benzo[g,h,i]perylene	0.0240	U	0.0481	0.0144	ug/L	1		09/01/17 20:26
Benzo[k]fluoranthene	0.0240	U	0.0481	0.0144	ug/L	1		09/01/17 20:26
Chrysene	0.0240	U	0.0481	0.0144	ug/L	1		09/01/17 20:26
Dibenzo[a,h]anthracene	0.00960	U	0.0192	0.00596	ug/L	1		09/01/17 20:26
Fluoranthene	0.0240	U	0.0481	0.0144	ug/L	1		09/01/17 20:26
Fluorene	0.0240	U	0.0481	0.0144	ug/L	1		09/01/17 20:26
Indeno[1,2,3-c,d] pyrene	0.0240	U	0.0481	0.0144	ug/L	1		09/01/17 20:26
Naphthalene	0.159		0.0962	0.0298	ug/L	1		09/01/17 20:26
Phenanthrene	0.0240	U	0.0481	0.0144	ug/L	1		09/01/17 20:26
Pyrene	0.0240	U	0.0481	0.0144	ug/L	1		09/01/17 20:26
Surrogates								
2-Methylnaphthalene-d10 (surr)	71.8		47-106		%	1		09/01/17 20:26
Fluoranthene-d10 (surr)	70.3		24-116		%	1		09/01/17 20:26

Batch Information

Analytical Batch: XMS10367
Analytical Method: 8270D SIM LV (PAH)
Analyst: DSD
Analytical Date/Time: 09/01/17 20:26
Container ID: 1176051008-I

Prep Batch: XXX38275
Prep Method: SW3520C
Prep Date/Time: 08/26/17 09:06
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL

Print Date: 09/08/2017 10:46:01AM

J flagging is activated

Results of **17-OAFF-MW-9**

Client Sample ID: **17-OAFF-MW-9**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051008
Lab Project ID: 1176051

Collection Date: 08/24/17 15:10
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.517	J	0.577	0.173	mg/L	1		08/27/17 14:10
Surrogates								
5a Androstane (surr)	73		50-150		%	1		08/27/17 14:10

Batch Information

Analytical Batch: XFC13725
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 08/27/17 14:10
Container ID: 1176051008-G

Prep Batch: XXX38272
Prep Method: SW3520C
Prep Date/Time: 08/26/17 08:13
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Results of **17-OAFF-MW-9**

Client Sample ID: **17-OAFF-MW-9**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051008
Lab Project ID: 1176051

Collection Date: 08/24/17 15:10
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0500	U	0.100	0.0310	mg/L	1		08/26/17 01:36
Surrogates								
4-Bromofluorobenzene (surr)	98.1		50-150		%	1		08/26/17 01:36

Batch Information

Analytical Batch: VFC13840
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/26/17 01:36
Container ID: 1176051008-A

Prep Batch: VXX31159
Prep Method: SW5030B
Prep Date/Time: 08/25/17 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **17-OAFF-MW-9**

Client Sample ID: **17-OAFF-MW-9**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051008
Lab Project ID: 1176051

Collection Date: 08/24/17 15:10
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 02:23
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:23
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 02:23
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		09/03/17 02:23
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:23
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:23
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:23
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:23
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:23
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:23
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:23
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		09/03/17 02:23
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		09/03/17 02:23
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:23
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 02:23
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:23
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:23
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:23
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		09/03/17 02:23
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		09/03/17 02:23
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:23
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		09/03/17 02:23
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:23
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		09/03/17 02:23
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:23
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:23
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		09/03/17 02:23
Benzene	0.200	U	0.400	0.120	ug/L	1		09/03/17 02:23
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:23
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:23
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		09/03/17 02:23
Bromoform	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:23
Bromomethane	2.50	U	5.00	1.50	ug/L	1		09/03/17 02:23
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		09/03/17 02:23
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:23
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		09/03/17 02:23
Chloroethane	0.500	U	1.00	0.310	ug/L	1		09/03/17 02:23

Print Date: 09/08/2017 10:46:01AM

J flagging is activated

Results of **17-OAFF-MW-9**

Client Sample ID: **17-OAFF-MW-9**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051008
Lab Project ID: 1176051

Collection Date: 08/24/17 15:10
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500 U		1.00	0.310	ug/L	1		09/03/17 02:23
Chloromethane	0.500 U		1.00	0.310	ug/L	1		09/03/17 02:23
cis-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		09/03/17 02:23
cis-1,3-Dichloropropene	0.250 U		0.500	0.150	ug/L	1		09/03/17 02:23
Dibromochloromethane	0.250 U		0.500	0.150	ug/L	1		09/03/17 02:23
Dibromomethane	0.500 U		1.00	0.310	ug/L	1		09/03/17 02:23
Dichlorodifluoromethane	0.500 U		1.00	0.310	ug/L	1		09/03/17 02:23
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		09/03/17 02:23
Freon-113	5.00 U		10.0	3.10	ug/L	1		09/03/17 02:23
Hexachlorobutadiene	0.500 U		1.00	0.310	ug/L	1		09/03/17 02:23
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		09/03/17 02:23
Methylene chloride	2.50 U		5.00	1.00	ug/L	1		09/03/17 02:23
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		09/03/17 02:23
Naphthalene	0.500 U		1.00	0.310	ug/L	1		09/03/17 02:23
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/03/17 02:23
n-Propylbenzene	0.500 U		1.00	0.310	ug/L	1		09/03/17 02:23
o-Xylene	0.500 U		1.00	0.310	ug/L	1		09/03/17 02:23
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		09/03/17 02:23
sec-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/03/17 02:23
Styrene	0.500 U		1.00	0.310	ug/L	1		09/03/17 02:23
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/03/17 02:23
Tetrachloroethene	0.500 U		1.00	0.310	ug/L	1		09/03/17 02:23
Toluene	0.380 J		1.00	0.310	ug/L	1		09/03/17 02:23
trans-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		09/03/17 02:23
trans-1,3-Dichloropropene	0.500 U		1.00	0.310	ug/L	1		09/03/17 02:23
Trichloroethene	0.500 U		1.00	0.310	ug/L	1		09/03/17 02:23
Trichlorofluoromethane	0.500 U		1.00	0.310	ug/L	1		09/03/17 02:23
Vinyl acetate	5.00 U		10.0	3.10	ug/L	1		09/03/17 02:23
Vinyl chloride	0.0750 U		0.150	0.0500	ug/L	1		09/03/17 02:23
Xylenes (total)	1.50 U		3.00	1.00	ug/L	1		09/03/17 02:23
Surrogates								
1,2-Dichloroethane-D4 (surr)	114		81-118		%	1		09/03/17 02:23
4-Bromofluorobenzene (surr)	109		85-114		%	1		09/03/17 02:23
Toluene-d8 (surr)	95.5		89-112		%	1		09/03/17 02:23

Print Date: 09/08/2017 10:46:01AM

J flagging is activated

Results of **17-OAFF-MW-9**

Client Sample ID: **17-OAFF-MW-9**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051008
Lab Project ID: 1176051

Collection Date: 08/24/17 15:10
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS17129
Analytical Method: SW8260C
Analyst: FDR
Analytical Date/Time: 09/03/17 02:23
Container ID: 1176051008-D

Prep Batch: VXX31207
Prep Method: SW5030B
Prep Date/Time: 09/02/17 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **17-OAFF-TB**

Client Sample ID: **17-OAFF-TB**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051009
Lab Project ID: 1176051

Collection Date: 08/24/17 12:00
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0500	U	0.100	0.0310	mg/L	1		08/25/17 20:11
Surrogates								
4-Bromofluorobenzene (surr)	89.7		50-150		%	1		08/25/17 20:11

Batch Information

Analytical Batch: VFC13840
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/25/17 20:11
Container ID: 1176051009-A

Prep Batch: VXX31159
Prep Method: SW5030B
Prep Date/Time: 08/25/17 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 09/08/2017 10:46:01AM

J flagging is activated

Results of **17-OAFF-TB**

Client Sample ID: **17-OAFF-TB**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051009
Lab Project ID: 1176051

Collection Date: 08/24/17 12:00
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		09/02/17 20:00
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		09/02/17 20:00
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		09/02/17 20:00
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		09/02/17 20:00
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		09/02/17 20:00
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/02/17 20:00
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		09/02/17 20:00
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/02/17 20:00
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		09/02/17 20:00
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/02/17 20:00
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		09/02/17 20:00
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		09/02/17 20:00
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		09/02/17 20:00
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/02/17 20:00
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		09/02/17 20:00
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		09/02/17 20:00
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		09/02/17 20:00
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/02/17 20:00
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		09/02/17 20:00
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		09/02/17 20:00
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		09/02/17 20:00
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		09/02/17 20:00
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		09/02/17 20:00
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		09/02/17 20:00
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		09/02/17 20:00
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		09/02/17 20:00
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		09/02/17 20:00
Benzene	0.200	U	0.400	0.120	ug/L	1		09/02/17 20:00
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		09/02/17 20:00
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		09/02/17 20:00
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		09/02/17 20:00
Bromoform	0.500	U	1.00	0.310	ug/L	1		09/02/17 20:00
Bromomethane	2.50	U	5.00	1.50	ug/L	1		09/02/17 20:00
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		09/02/17 20:00
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		09/02/17 20:00
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		09/02/17 20:00
Chloroethane	0.500	U	1.00	0.310	ug/L	1		09/02/17 20:00

Print Date: 09/08/2017 10:46:01AM

J flagging is activated

Results of **17-OAFF-TB**

Client Sample ID: **17-OAFF-TB**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051009
Lab Project ID: 1176051

Collection Date: 08/24/17 12:00
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500 U		1.00	0.310	ug/L	1		09/02/17 20:00
Chloromethane	0.500 U		1.00	0.310	ug/L	1		09/02/17 20:00
cis-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		09/02/17 20:00
cis-1,3-Dichloropropene	0.250 U		0.500	0.150	ug/L	1		09/02/17 20:00
Dibromochloromethane	0.250 U		0.500	0.150	ug/L	1		09/02/17 20:00
Dibromomethane	0.500 U		1.00	0.310	ug/L	1		09/02/17 20:00
Dichlorodifluoromethane	0.500 U		1.00	0.310	ug/L	1		09/02/17 20:00
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		09/02/17 20:00
Freon-113	5.00 U		10.0	3.10	ug/L	1		09/02/17 20:00
Hexachlorobutadiene	0.500 U		1.00	0.310	ug/L	1		09/02/17 20:00
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		09/02/17 20:00
Methylene chloride	2.50 U		5.00	1.00	ug/L	1		09/02/17 20:00
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		09/02/17 20:00
Naphthalene	0.500 U		1.00	0.310	ug/L	1		09/02/17 20:00
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/02/17 20:00
n-Propylbenzene	0.500 U		1.00	0.310	ug/L	1		09/02/17 20:00
o-Xylene	0.500 U		1.00	0.310	ug/L	1		09/02/17 20:00
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		09/02/17 20:00
sec-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/02/17 20:00
Styrene	0.500 U		1.00	0.310	ug/L	1		09/02/17 20:00
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/02/17 20:00
Tetrachloroethene	0.500 U		1.00	0.310	ug/L	1		09/02/17 20:00
Toluene	0.500 U		1.00	0.310	ug/L	1		09/02/17 20:00
trans-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		09/02/17 20:00
trans-1,3-Dichloropropene	0.500 U		1.00	0.310	ug/L	1		09/02/17 20:00
Trichloroethene	0.500 U		1.00	0.310	ug/L	1		09/02/17 20:00
Trichlorofluoromethane	0.500 U		1.00	0.310	ug/L	1		09/02/17 20:00
Vinyl acetate	5.00 U		10.0	3.10	ug/L	1		09/02/17 20:00
Vinyl chloride	0.0750 U		0.150	0.0500	ug/L	1		09/02/17 20:00
Xylenes (total)	1.50 U		3.00	1.00	ug/L	1		09/02/17 20:00
Surrogates								
1,2-Dichloroethane-D4 (surr)	105		81-118		%	1		09/02/17 20:00
4-Bromofluorobenzene (surr)	106		85-114		%	1		09/02/17 20:00
Toluene-d8 (surr)	102		89-112		%	1		09/02/17 20:00

Print Date: 09/08/2017 10:46:01AM

J flagging is activated

Results of **17-OAFF-TB**

Client Sample ID: **17-OAFF-TB**
Client Project ID: **OAFF 20204.028**
Lab Sample ID: 1176051009
Lab Project ID: 1176051

Collection Date: 08/24/17 12:00
Received Date: 08/25/17 09:15
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS17129
Analytical Method: SW8260C
Analyst: FDR
Analytical Date/Time: 09/02/17 20:00
Container ID: 1176051009-B

Prep Batch: VXX31207
Prep Method: SW5030B
Prep Date/Time: 09/02/17 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Method Blank

Blank ID: MB for HBN 1767021 [VXX/31159]
Blank Lab ID: 1408411

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1176051001, 1176051002, 1176051003, 1176051004, 1176051005, 1176051006, 1176051007, 1176051008, 1176051009

Results by **AK101**

Parameter	Results	LOQ/CL	DL	Units
Gasoline Range Organics	0.0500U	0.100	0.0310	mg/L
Surrogates				
4-Bromofluorobenzene (surr)	95.2	50-150		%

Batch Information

Analytical Batch: VFC13840
Analytical Method: AK101
Instrument: Agilent 7890 PID/FID
Analyst: ST
Analytical Date/Time: 8/25/2017 7:32:00PM

Prep Batch: VXX31159
Prep Method: SW5030B
Prep Date/Time: 8/25/2017 8:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1176051 [VXX31159]
Blank Spike Lab ID: 1408414
Date Analyzed: 08/26/2017 00:58

Spike Duplicate ID: LCSD for HBN 1176051 [VXX31159]
Spike Duplicate Lab ID: 1408415
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1176051001, 1176051002, 1176051003, 1176051004, 1176051005, 1176051006, 1176051007, 1176051008, 1176051009

Results by **AK101**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics	1.00	1.04	104	1.00	0.988	99	(60-120)	5.50	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	0.0500	99.4	99	0.0500	95.5	96	(50-150)	4.00	

Batch Information

Analytical Batch: **VFC13840**
Analytical Method: **AK101**
Instrument: **Agilent 7890 PID/FID**
Analyst: **ST**

Prep Batch: **VXX31159**
Prep Method: **SW5030B**
Prep Date/Time: **08/25/2017 08:00**
Spike Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Method Blank

Blank ID: MB for HBN 1767466 [VXX/31207]
Blank Lab ID: 1409999

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1176051001, 1176051002, 1176051003, 1176051004, 1176051005, 1176051006, 1176051007, 1176051008, 1176051009

Results by **SW8260C**

Parameter	Results	LOQ/CL	DL	Units
1,1,1,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,1-Trichloroethane	0.500U	1.00	0.310	ug/L
1,1,2,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,2-Trichloroethane	0.200U	0.400	0.120	ug/L
1,1-Dichloroethane	0.500U	1.00	0.310	ug/L
1,1-Dichloroethene	0.500U	1.00	0.310	ug/L
1,1-Dichloropropene	0.500U	1.00	0.310	ug/L
1,2,3-Trichlorobenzene	0.500U	1.00	0.310	ug/L
1,2,3-Trichloropropane	0.500U	1.00	0.310	ug/L
1,2,4-Trichlorobenzene	0.500U	1.00	0.310	ug/L
1,2,4-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,2-Dibromo-3-chloropropane	5.00U	10.0	3.10	ug/L
1,2-Dibromoethane	0.0375U	0.0750	0.0180	ug/L
1,2-Dichlorobenzene	0.500U	1.00	0.310	ug/L
1,2-Dichloroethane	0.250U	0.500	0.150	ug/L
1,2-Dichloropropane	0.500U	1.00	0.310	ug/L
1,3,5-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,3-Dichlorobenzene	0.500U	1.00	0.310	ug/L
1,3-Dichloropropane	0.250U	0.500	0.150	ug/L
1,4-Dichlorobenzene	0.250U	0.500	0.150	ug/L
2,2-Dichloropropane	0.500U	1.00	0.310	ug/L
2-Butanone (MEK)	5.00U	10.0	3.10	ug/L
2-Chlorotoluene	0.500U	1.00	0.310	ug/L
2-Hexanone	5.00U	10.0	3.10	ug/L
4-Chlorotoluene	0.500U	1.00	0.310	ug/L
4-Isopropyltoluene	0.500U	1.00	0.310	ug/L
4-Methyl-2-pentanone (MIBK)	5.00U	10.0	3.10	ug/L
Benzene	0.200U	0.400	0.120	ug/L
Bromobenzene	0.500U	1.00	0.310	ug/L
Bromochloromethane	0.500U	1.00	0.310	ug/L
Bromodichloromethane	0.250U	0.500	0.150	ug/L
Bromoform	0.500U	1.00	0.310	ug/L
Bromomethane	2.50U	5.00	1.50	ug/L
Carbon disulfide	5.00U	10.0	3.10	ug/L
Carbon tetrachloride	0.500U	1.00	0.310	ug/L
Chlorobenzene	0.250U	0.500	0.150	ug/L
Chloroethane	0.500U	1.00	0.310	ug/L
Chloroform	0.500U	1.00	0.310	ug/L

Method Blank

Blank ID: MB for HBN 1767466 [VXX/31207]
Blank Lab ID: 1409999

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1176051001, 1176051002, 1176051003, 1176051004, 1176051005, 1176051006, 1176051007, 1176051008, 1176051009

Results by **SW8260C**

Parameter	Results	LOQ/CL	DL	Units
Chloromethane	0.500U	1.00	0.310	ug/L
cis-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
cis-1,3-Dichloropropene	0.250U	0.500	0.150	ug/L
Dibromochloromethane	0.250U	0.500	0.150	ug/L
Dibromomethane	0.500U	1.00	0.310	ug/L
Dichlorodifluoromethane	0.500U	1.00	0.310	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
Freon-113	5.00U	10.0	3.10	ug/L
Hexachlorobutadiene	0.500U	1.00	0.310	ug/L
Isopropylbenzene (Cumene)	0.500U	1.00	0.310	ug/L
Methylene chloride	2.50U	5.00	1.00	ug/L
Methyl-t-butyl ether	5.00U	10.0	3.10	ug/L
Naphthalene	0.500U	1.00	0.310	ug/L
n-Butylbenzene	0.500U	1.00	0.310	ug/L
n-Propylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
sec-Butylbenzene	0.500U	1.00	0.310	ug/L
Styrene	0.500U	1.00	0.310	ug/L
tert-Butylbenzene	0.500U	1.00	0.310	ug/L
Tetrachloroethene	0.500U	1.00	0.310	ug/L
Toluene	0.500U	1.00	0.310	ug/L
trans-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
trans-1,3-Dichloropropene	0.500U	1.00	0.310	ug/L
Trichloroethene	0.500U	1.00	0.310	ug/L
Trichlorofluoromethane	0.500U	1.00	0.310	ug/L
Vinyl acetate	5.00U	10.0	3.10	ug/L
Vinyl chloride	0.0750U	0.150	0.0500	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	105	81-118		%
4-Bromofluorobenzene (surr)	105	85-114		%
Toluene-d8 (surr)	102	89-112		%

Method Blank

Blank ID: MB for HBN 1767466 [VXX/31207]
Blank Lab ID: 1409999

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1176051001, 1176051002, 1176051003, 1176051004, 1176051005, 1176051006, 1176051007, 1176051008, 1176051009

Results by **SW8260C**

Parameter	Results	LOQ/CL	DL	Units

Batch Information

Analytical Batch: VMS17129
Analytical Method: SW8260C
Instrument: VSA Agilent GC/MS 7890B/5977A
Analyst: FDR
Analytical Date/Time: 9/2/2017 4:52:00PM

Prep Batch: VXX31207
Prep Method: SW5030B
Prep Date/Time: 9/2/2017 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Blank Spike Summary

Blank Spike ID: LCS for HBN 1176051 [VXX31207]
Blank Spike Lab ID: 1410000
Date Analyzed: 09/02/2017 17:45

Spike Duplicate ID: LCSD for HBN 1176051 [VXX31207]
Spike Duplicate Lab ID: 1410001
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1176051001, 1176051002, 1176051003, 1176051004, 1176051005, 1176051006, 1176051007, 1176051008, 1176051009

Results by **SW8260C**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,1,1,2-Tetrachloroethane	30	30.0	100	30	30.2	101	(78-124)	0.46	(< 20)
1,1,1-Trichloroethane	30	29.6	99	30	27.1	90	(74-131)	8.80	(< 20)
1,1,2,2-Tetrachloroethane	30	29.4	98	30	31.6	105	(71-121)	6.90	(< 20)
1,1,2-Trichloroethane	30	30.9	103	30	31.9	106	(80-119)	3.10	(< 20)
1,1-Dichloroethane	30	28.5	95	30	26.4	88	(77-125)	7.50	(< 20)
1,1-Dichloroethene	30	28.4	95	30	26.0	87	(71-131)	9.00	(< 20)
1,1-Dichloropropene	30	30.5	102	30	28.3	95	(79-125)	7.40	(< 20)
1,2,3-Trichlorobenzene	30	28.9	96	30	31.9	106	(69-129)	10.20	(< 20)
1,2,3-Trichloropropane	30	29.1	97	30	32.0	107	(73-122)	9.50	(< 20)
1,2,4-Trichlorobenzene	30	29.6	99	30	30.9	103	(69-130)	4.20	(< 20)
1,2,4-Trimethylbenzene	30	28.5	95	30	28.4	95	(79-124)	0.11	(< 20)
1,2-Dibromo-3-chloropropane	30	29.1	97	30	36.0	120	(62-128)	21.00	* (< 20)
1,2-Dibromoethane	30	29.8	99	30	31.5	105	(77-121)	5.70	(< 20)
1,2-Dichlorobenzene	30	28.8	96	30	28.6	95	(80-119)	0.59	(< 20)
1,2-Dichloroethane	30	27.1	90	30	26.1	87	(73-128)	3.90	(< 20)
1,2-Dichloropropane	30	29.5	98	30	28.2	94	(78-122)	4.60	(< 20)
1,3,5-Trimethylbenzene	30	28.5	95	30	28.7	96	(75-124)	0.56	(< 20)
1,3-Dichlorobenzene	30	28.7	96	30	28.6	95	(80-119)	0.31	(< 20)
1,3-Dichloropropane	30	31.1	104	30	31.5	105	(80-119)	1.40	(< 20)
1,4-Dichlorobenzene	30	29.0	97	30	28.5	95	(79-118)	2.00	(< 20)
2,2-Dichloropropane	30	31.1	104	30	27.9	93	(60-139)	10.70	(< 20)
2-Butanone (MEK)	90	87.2	97	90	117	130	(56-143)	29.40	* (< 20)
2-Chlorotoluene	30	29.5	98	30	28.6	95	(79-122)	3.10	(< 20)
2-Hexanone	90	88.5	98	90	118	131	(57-139)	28.80	* (< 20)
4-Chlorotoluene	30	28.5	95	30	27.7	92	(78-122)	3.00	(< 20)
4-Isopropyltoluene	30	30.2	101	30	29.1	97	(77-127)	3.90	(< 20)
4-Methyl-2-pentanone (MIBK)	90	88.1	98	90	108	120	(67-130)	20.30	* (< 20)
Benzene	30	30.0	100	30	28.5	95	(79-120)	5.00	(< 20)
Bromobenzene	30	27.8	93	30	27.7	92	(80-120)	0.54	(< 20)
Bromochloromethane	30	29.0	97	30	27.3	91	(78-123)	6.00	(< 20)
Bromodichloromethane	30	29.2	97	30	27.6	92	(79-125)	5.70	(< 20)
Bromoform	30	31.2	104	30	33.0	110	(66-130)	5.60	(< 20)
Bromomethane	30	31.2	104	30	25.6	86	(53-141)	19.70	(< 20)
Carbon disulfide	45	42.7	95	45	37.9	84	(64-133)	12.10	(< 20)

Blank Spike Summary

Blank Spike ID: LCS for HBN 1176051 [VXX31207]
Blank Spike Lab ID: 1410000
Date Analyzed: 09/02/2017 17:45

Spike Duplicate ID: LCSD for HBN 1176051 [VXX31207]
Spike Duplicate Lab ID: 1410001
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1176051001, 1176051002, 1176051003, 1176051004, 1176051005, 1176051006, 1176051007, 1176051008, 1176051009

Results by **SW8260C**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Carbon tetrachloride	30	31.1	104	30	28.1	94	(72-136)	10.10	(< 20)
Chlorobenzene	30	29.1	97	30	28.4	95	(82-118)	2.40	(< 20)
Chloroethane	30	27.2	91	30	24.4	81	(60-138)	10.80	(< 20)
Chloroform	30	27.6	92	30	25.8	86	(79-124)	6.90	(< 20)
Chloromethane	30	27.7	92	30	23.9	80	(50-139)	14.50	(< 20)
cis-1,2-Dichloroethene	30	28.1	94	30	26.6	89	(78-123)	5.50	(< 20)
cis-1,3-Dichloropropene	30	30.3	101	30	29.2	97	(75-124)	3.60	(< 20)
Dibromochloromethane	30	31.1	104	30	31.6	105	(74-126)	1.60	(< 20)
Dibromomethane	30	28.2	94	30	27.2	91	(79-123)	3.80	(< 20)
Dichlorodifluoromethane	30	26.5	88	30	23.4	78	(32-152)	12.20	(< 20)
Ethylbenzene	30	30.4	101	30	29.7	99	(79-121)	2.40	(< 20)
Freon-113	45	43.5	97	45	39.9	89	(70-136)	8.70	(< 20)
Hexachlorobutadiene	30	30.8	103	30	28.5	95	(66-134)	7.80	(< 20)
Isopropylbenzene (Cumene)	30	30.3	101	30	29.6	99	(72-131)	2.30	(< 20)
Methylene chloride	30	27.9	93	30	26.4	88	(74-124)	5.60	(< 20)
Methyl-t-butyl ether	45	44.8	100	45	45.7	102	(71-124)	1.90	(< 20)
Naphthalene	30	29.0	97	30	35.2	117	(61-128)	19.50	(< 20)
n-Butylbenzene	30	29.7	99	30	28.4	95	(75-128)	4.40	(< 20)
n-Propylbenzene	30	29.0	97	30	27.6	92	(76-126)	4.70	(< 20)
o-Xylene	30	30.3	101	30	29.7	99	(78-122)	1.90	(< 20)
P & M -Xylene	60	60.6	101	60	58.5	98	(80-121)	3.60	(< 20)
sec-Butylbenzene	30	29.9	100	30	28.2	94	(77-126)	5.90	(< 20)
Styrene	30	30.5	102	30	30.5	102	(78-123)	0.00	(< 20)
tert-Butylbenzene	30	29.3	98	30	27.8	93	(78-124)	5.30	(< 20)
Tetrachloroethene	30	30.0	100	30	29.8	99	(74-129)	0.60	(< 20)
Toluene	30	29.0	97	30	28.3	94	(80-121)	2.40	(< 20)
trans-1,2-Dichloroethene	30	28.6	95	30	26.6	89	(75-124)	7.10	(< 20)
trans-1,3-Dichloropropene	30	28.7	96	30	28.8	96	(73-127)	0.38	(< 20)
Trichloroethene	30	30.0	100	30	28.2	94	(79-123)	6.00	(< 20)
Trichlorofluoromethane	30	29.1	97	30	31.2	104	(65-141)	6.90	(< 20)
Vinyl acetate	30	29.5	99	30	31.2	104	(54-146)	5.40	(< 20)
Vinyl chloride	30	28.6	95	30	24.3	81	(58-137)	16.30	(< 20)
Xylenes (total)	90	90.9	101	90	88.2	98	(79-121)	3.00	(< 20)

Blank Spike Summary

Blank Spike ID: LCS for HBN 1176051 [VXX31207]
Blank Spike Lab ID: 1410000
Date Analyzed: 09/02/2017 17:45

Spike Duplicate ID: LCSD for HBN 1176051 [VXX31207]
Spike Duplicate Lab ID: 1410001
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1176051001, 1176051002, 1176051003, 1176051004, 1176051005, 1176051006, 1176051007, 1176051008, 1176051009

Results by **SW8260C**

	Blank Spike (%)			Spike Duplicate (%)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Surrogates									
1,2-Dichloroethane-D4 (surr)	30	96.6	97	30	93.8	94	(81-118)	2.90	
4-Bromofluorobenzene (surr)	30	92.7	93	30	94.3	94	(85-114)	1.70	
Toluene-d8 (surr)	30	101	101	30	103	103	(89-112)	1.90	

Batch Information

Analytical Batch: **VMS17129**
Analytical Method: **SW8260C**
Instrument: **VSA Agilent GC/MS 7890B/5977A**
Analyst: **FDR**

Prep Batch: **VXX31207**
Prep Method: **SW5030B**
Prep Date/Time: **09/02/2017 06:00**
Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1767620 [VXX/31215]
Blank Lab ID: 1410363

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1176051001, 1176051002, 1176051003, 1176051004, 1176051005

Results by **SW8260C**

Parameter	Results	LOQ/CL	DL	Units
1,2,4-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,3,5-Trimethylbenzene	0.500U	1.00	0.310	ug/L
4-Isopropyltoluene	0.500U	1.00	0.310	ug/L
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
Isopropylbenzene (Cumene)	0.500U	1.00	0.310	ug/L
Naphthalene	0.500U	1.00	0.310	ug/L
n-Propylbenzene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
sec-Butylbenzene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	102	81-118		%
4-Bromofluorobenzene (surr)	105	85-114		%
Toluene-d8 (surr)	100	89-112		%

Batch Information

Analytical Batch: VMS17134
Analytical Method: SW8260C
Instrument: VSA Agilent GC/MS 7890B/5977A
Analyst: FDR
Analytical Date/Time: 9/3/2017 3:21:00PM

Prep Batch: VXX31215
Prep Method: SW5030B
Prep Date/Time: 9/3/2017 12:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1176051 [VXX31215]
Blank Spike Lab ID: 1410366
Date Analyzed: 09/03/2017 17:46

Spike Duplicate ID: LCSD for HBN 1176051 [VXX31215]
Spike Duplicate Lab ID: 1410367
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1176051001, 1176051002, 1176051003, 1176051004, 1176051005

Results by **SW8260C**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,2,4-Trimethylbenzene	30	27.5	92	30	29.6	99	(79-124)	7.30	(< 20)
1,3,5-Trimethylbenzene	30	27.4	91	30	29.3	98	(75-124)	6.90	(< 20)
4-Isopropyltoluene	30	28.6	95	30	30.0	100	(77-127)	5.00	(< 20)
Benzene	30	29.0	97	30	29.8	99	(79-120)	2.60	(< 20)
Ethylbenzene	30	28.9	96	30	30.1	100	(79-121)	4.10	(< 20)
Isopropylbenzene (Cumene)	30	28.9	96	30	29.5	98	(72-131)	2.10	(< 20)
Naphthalene	30	30.5	102	30	32.7	109	(61-128)	7.00	(< 20)
n-Propylbenzene	30	27.7	92	30	28.9	96	(76-126)	4.20	(< 20)
P & M -Xylene	60	57.6	96	60	59.2	99	(80-121)	2.70	(< 20)
sec-Butylbenzene	30	28.2	94	30	29.3	98	(77-126)	3.70	(< 20)
Xylenes (total)	90	86.8	97	90	89.2	99	(79-121)	2.70	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	30	98	98	30	92.6	93	(81-118)	5.70	
4-Bromofluorobenzene (surr)	30	94.1	94	30	94.6	95	(85-114)	0.49	
Toluene-d8 (surr)	30	103	103	30	103	103	(89-112)	0.13	

Batch Information

Analytical Batch: **VMS17134**
Analytical Method: **SW8260C**
Instrument: **VSA Agilent GC/MS 7890B/5977A**
Analyst: **FDR**

Prep Batch: **VXX31215**
Prep Method: **SW5030B**
Prep Date/Time: **09/03/2017 00:00**
Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1767015 [XXX/38272]
Blank Lab ID: 1408389

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1176051001, 1176051002, 1176051003, 1176051004, 1176051005, 1176051006, 1176051007, 1176051008

Results by **AK102**

Parameter	Results	LOQ/CL	DL	Units
Diesel Range Organics	0.300U	0.600	0.180	mg/L
Surrogates				
5a Androstane (surr)	71.7	60-120		%

Batch Information

Analytical Batch: XFC13725
Analytical Method: AK102
Instrument: Agilent 7890B R
Analyst: KMD
Analytical Date/Time: 8/27/2017 11:17:00AM

Prep Batch: XXX38272
Prep Method: SW3520C
Prep Date/Time: 8/26/2017 8:13:09AM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1176051 [XXX38272]
Blank Spike Lab ID: 1408390
Date Analyzed: 08/27/2017 11:27

Spike Duplicate ID: LCSD for HBN 1176051 [XXX38272]
Spike Duplicate Lab ID: 1408391
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1176051001, 1176051002, 1176051003, 1176051004, 1176051005, 1176051006, 1176051007, 1176051008

Results by **AK102**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Diesel Range Organics	20	15.6	78	20	15.4	77	(75-125)	0.68	(< 20)
Surrogates									
5a Androstane (surr)	0.4	95	95	0.4	97.3	97	(60-120)	2.40	

Batch Information

Analytical Batch: **XFC13725**
Analytical Method: **AK102**
Instrument: **Agilent 7890B R**
Analyst: **KMD**

Prep Batch: **XXX38272**
Prep Method: **SW3520C**
Prep Date/Time: **08/26/2017 08:13**
Spike Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL

Print Date: 09/08/2017 10:46:17AM

Method Blank

Blank ID: MB for HBN 1767019 [XXX/38275]
Blank Lab ID: 1408403

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1176051001, 1176051002, 1176051003, 1176051004, 1176051005, 1176051006, 1176051007, 1176051008

Results by **8270D SIM LV (PAH)**

Parameter	Results	LOQ/CL	DL	Units
1-Methylnaphthalene	0.0250U	0.0500	0.0150	ug/L
2-Methylnaphthalene	0.0250U	0.0500	0.0150	ug/L
Acenaphthene	0.0250U	0.0500	0.0150	ug/L
Acenaphthylene	0.0250U	0.0500	0.0150	ug/L
Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo(a)Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo[a]pyrene	0.0100U	0.0200	0.00620	ug/L
Benzo[b]Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Benzo[g,h,i]perylene	0.0250U	0.0500	0.0150	ug/L
Benzo[k]fluoranthene	0.0250U	0.0500	0.0150	ug/L
Chrysene	0.0250U	0.0500	0.0150	ug/L
Dibenzo[a,h]anthracene	0.0100U	0.0200	0.00620	ug/L
Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Fluorene	0.0250U	0.0500	0.0150	ug/L
Indeno[1,2,3-c,d] pyrene	0.0250U	0.0500	0.0150	ug/L
Naphthalene	0.0500U	0.100	0.0310	ug/L
Phenanthrene	0.0250U	0.0500	0.0150	ug/L
Pyrene	0.0250U	0.0500	0.0150	ug/L
Surrogates				
2-Methylnaphthalene-d10 (surr)	80.4	47-106		%
Fluoranthene-d10 (surr)	79.9	24-116		%

Batch Information

Analytical Batch: XMS10367
Analytical Method: 8270D SIM LV (PAH)
Instrument: SVA Agilent 780/5975 GC/MS
Analyst: DSD
Analytical Date/Time: 9/1/2017 4:40:00PM

Prep Batch: XXX38275
Prep Method: SW3520C
Prep Date/Time: 8/26/2017 9:06:14AM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Print Date: 09/08/2017 10:46:20AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1176051 [XXX38275]
Blank Spike Lab ID: 1408404
Date Analyzed: 09/01/2017 17:01

Spike Duplicate ID: LCSD for HBN 1176051 [XXX38275]
Spike Duplicate Lab ID: 1408405
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1176051001, 1176051002, 1176051003, 1176051004, 1176051005, 1176051006, 1176051007, 1176051008

Results by **8270D SIM LV (PAH)**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1-Methylnaphthalene	2	1.55	78	2	1.46	73	(41-115)	6.50	(< 20)
2-Methylnaphthalene	2	1.42	71	2	1.33	67	(39-114)	6.50	(< 20)
Acenaphthene	2	1.91	96	2	1.78	89	(48-114)	6.80	(< 20)
Acenaphthylene	2	1.54	77	2	1.43	72	(35-121)	7.50	(< 20)
Anthracene	2	1.64	82	2	1.52	76	(53-119)	7.10	(< 20)
Benzo(a)Anthracene	2	1.54	77	2	1.44	72	(59-120)	6.60	(< 20)
Benzo[a]pyrene	2	1.52	76	2	1.41	70	(53-120)	7.70	(< 20)
Benzo[b]Fluoranthene	2	1.55	78	2	1.43	71	(53-126)	8.60	(< 20)
Benzo[g,h,i]perylene	2	1.54	77	2	1.37	69	(44-128)	11.50	(< 20)
Benzo[k]fluoranthene	2	1.57	78	2	1.46	73	(54-125)	7.30	(< 20)
Chrysene	2	1.65	82	2	1.54	77	(57-120)	6.70	(< 20)
Dibenzo[a,h]anthracene	2	1.55	78	2	1.32	66	(44-131)	16.00	(< 20)
Fluoranthene	2	1.55	78	2	1.45	72	(58-120)	7.20	(< 20)
Fluorene	2	1.61	80	2	1.49	74	(50-118)	7.70	(< 20)
Indeno[1,2,3-c,d] pyrene	2	1.54	77	2	1.39	69	(48-130)	10.30	(< 20)
Naphthalene	2	1.48	74	2	1.39	70	(43-114)	6.50	(< 20)
Phenanthrene	2	1.61	80	2	1.49	75	(53-115)	7.60	(< 20)
Pyrene	2	1.61	80	2	1.50	75	(53-121)	6.90	(< 20)
Surrogates									
2-Methylnaphthalene-d10 (surr)	2	85.2	85	2	79.3	79	(47-106)	7.10	
Fluoranthene-d10 (surr)	2	83.1	83	2	77.5	78	(24-116)	7.00	

Batch Information

Analytical Batch: **XMS10367**
Analytical Method: **8270D SIM LV (PAH)**
Instrument: **SVA Agilent 780/5975 GC/MS**
Analyst: **DSD**

Prep Batch: **XXX38275**
Prep Method: **SW3520C**
Prep Date/Time: **08/26/2017 09:06**
Spike Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL

Print Date: 09/08/2017 10:46:22AM

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Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.

Page 1 of 1

Section 1

CLIENT: Ahtna Engineering

CONTACT: Ashley Olson — PHONE #:

PROJECT NAME: OAFF — Project/ PWSID/ PERMIT#: 20204.028

REPORTS TO: Ashley Olson — E-MAIL:

INVOICE TO: Ahtna Engineering — QUOTE #: — P.O. #:

Section 3 — Preservative

Section 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Pres: Type: Comp Grab MI (Multi-incremental)	AK102 - DRO (HCl)	AK101 - GRO (HCl)	8260C - VOC (HCl)	8270D SIM - PAH (None)	REMARKS/ LOC ID
(1) A-J	17-OAFF-MW-4-R	8/24/17	1025	WG	10	~~WG~~ Grab	X	X	X	X	
(2) A-J	17-OAFF-MW-099		1200				X	X	X	X	
(3) A-J	17-OAFF-MW-1		1130				X	X	X	X	
(4) A-J	17-OAFF-MW-3		1210				X	X	X	X	
(5) A-J	17-OAFF-MW-6		1315				X	X	X	X	one PRO jar w/o HCl
(6) A-J	17-OAFF-MW-8		1355				X	X	X	X	
(7) A-J	17-OAFF-MW-7		1430				X	X	X	X	
(8) A-J	17-OAFF-MW-9		1510				X	X	X	X	
(9) A-C	17-OAFF-TB		1200		6	~~WG~~	~~X~~	X	X		Trip Blank

Section 5

	Date	Time	
Relinquished By: (1) Neal Lucas	8/25/17	0900	Received By:
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	8/25/17	19:15	Received For Laboratory By: Jaime Collier

Section 4 — DOD Project? Yes No — Data Deliverable Requirements:

Cooler ID:

Requested Turnaround Time and/or Special Instructions:

Standard Cooler

Temp Blank °C: (1) 6.0 #024 (2) 5.7 #020 or Ambient [ ]

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Delivery Method: (Check) Hand Delivered [ ] Commerical Delivered [ ]

IF IB

[ ] 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
[ ] 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

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08 10 9/

F083-Blank_COC_Templates_2015-03-19

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Returned Bottles Inventory

Name of individual returning bottles: Ashley Olson

Date Received: 8/25/17

Client Name: Ahtna

Received by: H&D

Project Name: OAFF

SGS PM: JAN

HDPE/Nalgene:	1-L					
	500-ml					
	250-ml or 8-oz					
	125-ml or 4-oz					
	60-ml or 2-oz					
	other					
amber glass:	1-L					
	500-ml					
	250-ml or 8-oz	16				
	125-ml or 4-oz with or without septa					
	40-ml VOA vial	21				
	other					
Subtotal:		37				

Note: Returned bottles (regardless of size/pres.) are billed back at $4/bottle ***unless otherwise quoted*** *.*

Amount to Invoice Client $: 148.00

WO#: 1176051

e-Sample Receipt Form

SGS Workorder #: **1176051**

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
Chain of Custody / Temperature Requirements		Yes — Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location	Yes	1F 1B
COC accompanied samples?	Yes	
N/A — **Exemption permitted if chilled & collected <8 hours ago, or for samples where chilling is not required		
Temperature blank compliant* (i.e., 0-6 °C after CF)?	Yes	Cooler ID: 1 @ 6.0 °C Therm. ID: D24
	Yes	Cooler ID: 2 @ 5.7 °C Therm. ID: D20
	N/A	Cooler ID: @ °C Therm. ID:
	N/A	Cooler ID: @ °C Therm. ID:
	N/A	Cooler ID: @ °C Therm. ID:
If >6°C, were samples collected <8 hours ago?	N/A	
If <0°C, were sample containers ice free?	N/A	
If samples received without a temperature blank, the "cooler temperature" will be documented in lieu of the temperature blank & "**COOLER TEMP**" will be noted to the right. In cases where neither a temp blank nor cooler temp can be obtained, note "ambient" or "chilled".		
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.		
Holding Time / Documentation / Sample Condition Requirements		Note: Refer to form F-083 "Sample Guide" for specific holding times.
Were samples received within holding time?	Yes	
Do samples **match COC**** (i.e.,sample IDs,dates/times collected)? **Note: If times differ <1hr, record details & login per COC.	Yes	
Were analyses requested unambiguous? (i.e., method is specified for analyses with >1 option for analysis)	Yes	
	N/A	***Exemption permitted for metals (e.g.200.8/6020A).
Were proper containers (type/mass/volume/preservative***)used?	No	**Sample 5B (17-OAFF-MW-6) was not preserved (client noted on COC) 2mL of HCl LW09-0463-12-019 was added, pH verified.**
Volatile / LL-Hg Requirements		
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	Yes	
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	Yes	
Were all soil VOAs field extracted with MeOH+BFB?	N/A	

Note to Client: Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.

Additional notes (if applicable):

Sample Containers and Preservatives

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1176051001-A	HCL to pH < 2	OK	1176051005-C	HCL to pH < 2	OK
1176051001-B	HCL to pH < 2	OK	1176051005-D	HCL to pH < 2	OK
1176051001-C	HCL to pH < 2	OK	1176051005-E	HCL to pH < 2	OK
1176051001-D	HCL to pH < 2	OK	1176051005-F	HCL to pH < 2	OK
1176051001-E	HCL to pH < 2	OK	1176051005-G	HCL to pH < 2	OK
1176051001-F	HCL to pH < 2	OK	1176051005-H	HCL to pH < 2	OK
1176051001-G	HCL to pH < 2	OK	1176051005-I	No Preservative Required	OK
1176051001-H	HCL to pH < 2	OK	1176051005-J	No Preservative Required	OK
1176051001-I	No Preservative Required	OK	1176051006-A	HCL to pH < 2	OK
1176051001-J	No Preservative Required	OK	1176051006-B	HCL to pH < 2	OK
1176051002-A	HCL to pH < 2	OK	1176051006-C	HCL to pH < 2	OK
1176051002-B	HCL to pH < 2	OK	1176051006-D	HCL to pH < 2	OK
1176051002-C	HCL to pH < 2	OK	1176051006-E	HCL to pH < 2	OK
1176051002-D	HCL to pH < 2	OK	1176051006-F	HCL to pH < 2	OK
1176051002-E	HCL to pH < 2	OK	1176051006-G	HCL to pH < 2	OK
1176051002-F	HCL to pH < 2	OK	1176051006-H	HCL to pH < 2	OK
1176051002-G	HCL to pH < 2	OK	1176051006-I	No Preservative Required	OK
1176051002-H	HCL to pH < 2	OK	1176051006-J	No Preservative Required	OK
1176051002-I	No Preservative Required	OK	1176051007-A	HCL to pH < 2	OK
1176051002-J	No Preservative Required	OK	1176051007-B	HCL to pH < 2	OK
1176051003-A	HCL to pH < 2	OK	1176051007-C	HCL to pH < 2	OK
1176051003-B	HCL to pH < 2	OK	1176051007-D	HCL to pH < 2	OK
1176051003-C	HCL to pH < 2	OK	1176051007-E	HCL to pH < 2	OK
1176051003-D	HCL to pH < 2	OK	1176051007-F	HCL to pH < 2	OK
1176051003-E	HCL to pH < 2	OK	1176051007-G	HCL to pH < 2	OK
1176051003-F	HCL to pH < 2	OK	1176051007-H	HCL to pH < 2	OK
1176051003-G	HCL to pH < 2	OK	1176051007-I	No Preservative Required	OK
1176051003-H	HCL to pH < 2	OK	1176051007-J	No Preservative Required	OK
1176051003-I	No Preservative Required	OK	1176051008-A	HCL to pH < 2	OK
1176051003-J	No Preservative Required	OK	1176051008-B	HCL to pH < 2	OK
1176051004-A	HCL to pH < 2	OK	1176051008-C	HCL to pH < 2	OK
1176051004-B	HCL to pH < 2	OK	1176051008-D	HCL to pH < 2	OK
1176051004-C	HCL to pH < 2	OK	1176051008-E	HCL to pH < 2	OK
1176051004-D	HCL to pH < 2	OK	1176051008-F	HCL to pH < 2	OK
1176051004-E	HCL to pH < 2	OK	1176051008-G	HCL to pH < 2	OK
1176051004-F	HCL to pH < 2	OK	1176051008-H	HCL to pH < 2	OK
1176051004-G	HCL to pH < 2	OK	1176051008-I	No Preservative Required	OK
1176051004-H	HCL to pH < 2	OK	1176051008-J	No Preservative Required	OK
1176051004-I	No Preservative Required	OK	1176051009-A	HCL to pH < 2	OK
1176051004-J	No Preservative Required	OK	1176051009-B	HCL to pH < 2	OK
1176051005-A	HCL to pH < 2	OK	1176051009-C	HCL to pH < 2	OK
1176051005-B	HCL to pH < 2	PA			

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition

Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.
BU - The container was received with headspace greater than 6mm.
DM- The container was received damaged.
FR- The container was received frozen and not usable for Bacteria or BOD analyses.
PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.
PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

DATA QUALITY REVIEW

Date: September 19, 2017

Project : ASIG
Site: OAFF GW
Laboratory: SGS North America Anchorage, Alaska
Work Orders: 1176051

Reviewer Name: Emily Freitas, Ahtna
Reviewer Title: Project Chemist

INTRODUCTION

Table 1 lists the field sample numbers, corresponding laboratory numbers, and identifies quality control (QC) samples.

TABLE 1: FIELD SAMPLE PLAN OVERVIEW

Field Sample ID	Lab Sample ID	Quality Control
17-OAFF-MW-4-R	1176051001	Primary
17-OAFF-MW-099	1176051002	Duplicate
17-OAFF-MW-1	1176051003	
17-OAFF-MW-3	1176051004	
17-OAFF-MW-6	1176051005	
17-OAFF-MW-8	1176051006	
17-OAFF-MW-7	1176051007	
17-OAFF-MW-9	1176051008	
17-OAFF-TB	1176051009	Trip Blank

DATA QUALIFIER DEFINITIONS

For the purpose of this Data Quality Review (DQR) the following code letters and associated definitions are provided for use by the project chemist to summarize the data quality.

R Reported value is "rejected." Resampling or reanalysis may be necessary to verify the presence or absence of the compound.

Q The associated numerical value is an estimated quantity because QC criteria were not met, may be biased high (QH) or low (QL).

UJ The reported quantitation limit is estimated because QC criteria were not met and the element or compound was not detected.

DATA REVIEW

This DQR includes a review, where appropriate, of the following parameters:

- Data completeness
- Chain of Custody (COC) and Cooler Receipt Forms
- Holding times and preservation
- Analytical reporting limits (limits of quantitation [LOQ] and method detection limits [DL])
- Blank analysis results
- Surrogate recoveries (organics only)
- Field duplicates
- Laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) results
- Matrix spike (MS) and matrix spike duplicate (MSD) results

Each analysis that was performed is evaluated in the following subsections of this report, and only the criteria exceedances that impact data qualification or require assessment beyond laboratory documentation are discussed.

Validation was conducted in accordance with the USEPA document "*Test Methods for Evaluating Solid Wastes, SW-846, revision 6*" (February, 2007 and updates), USEPA *Contract Laboratory Program National Functional Guidelines for Inorganic* (August, 2014) *and Organic* (August, 2014) *Review*, where and when applicable.

Sample Receipt Conditions

Samples were submitted to SGS North America in Anchorage, Alaska. Nine water samples, including one trip blank, were submitted in two coolers under an intact custody seal. Data was reported in sample delivery group (SDG) 1176051.

All samples were received in good condition, within the Alaska Department of Environmental Conservation (ADEC) temperature preservation requirements (< 6°C). One sample was received with the incorrect pH and was preserved in the laboratory. No qualifications were made based on this.

Holding Times and Preservatives

Holding time and preservation criteria were met; therefore, there were no qualifications.

PRECISION

Field Duplicates

One duplicate set was submitted for analysis – primary 17-OAFF-MW-4-R with duplicate 17-OAFF-MW-099. RPDs were calculated using the following equation for the primary and duplicate field samples when both analytes were detected above the Reporting Limit (RL). Calculated RPDs are shown in Table 2 below.

EQUATION 1 – RELATIVE PERCENT DIFFERENCE

$$RPD\ (\%) = \text{Absolute Value of: } \frac{(R_1 - R_2)}{((R_1 + R_2)/2)} \times 100$$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

TABLE 2 – RPD CALCULATION

Analyte	Units	17-OAFF-MW-4-R Primary	17-OAFF-MW-099 Duplicate	RPD (30%)
1-Methylnaphthalene	µg/L	37.7	44.5	17
2-Methylnaphthalene	µg/L	39.9	46.5	15
Acenaphthene	µg/L	0.649	0.787	19
Anthracene	µg/L	0.0955	0.118	21
Fluoranthene	µg/L	0.171	0.193	12
Fluorene	µg/L	0.647	0.786	19
Naphthalene	µg/L	71.9	82.1	13
Phenanthrene	µg/L	0.642	0.775	19
Pyrene	µg/L	0.112	0.125	11
Diesel Range Organics	mg/L	4.11	3.47	17
Gasoline Range Organics	mg/L	2.24	2.13	5
1,2,4-Trimethylbenzene	µg/L	182	174	4
1,3,5-Trimethylbenzene	µg/L	95.3	91.7	4
4-Isopropyltoluene	µg/L	32.5	11.0	**99**
Benzene	µg/L	93.5	85.5	9
Chloromethane	µg/L	0.39	0.40	3
Ethylbenzene	µg/L	105	95.7	9
Isopropylbenzene	µg/L	31.6	31.1	2
Naphthalene	µg/L	111	99.9	11
n-Propylbenzene	µg/L	33.3	33.1	1
o-Xylene	µg/L	0.98	0.92	6
m&p-Xylene	µg/L	435	354	21
sec-Butylbenzene	µg/L	11.9	11.8	1
Toluene	µg/L	0.77	0.76	1
Total Xylenes	µg/L	435	355	20

%: percent
RPD: Relative percent difference

4-Isopropyltoluene had an RPD that was above the recommended 30%. These analytes have been bolded in Table 2 above and will be qualified "Q" to indicate that the results are biased.

Laboratory Control Samples/Duplicates

LCS/LCSD RPDs were within control limits with the exceptions of 1,2-Dibromo-3-chloropropane, 2-Butanone, 2-Hexanone, and 4-Methyl-2-pentanone. These analytes were not detected in the associated samples therefore no qualifications were made based on this.

ACCURACY

Laboratory Control Samples/Duplicates and Internal Standards

LCS/LCSD %R were within control limits.

Surrogate Percent Recoveries

One surrogate, 4-bromofluorobenzene, used in GRO analyses, was outside control limits, biased high. GRO detections in samples 17-OAFF-MW-4-R, 17-OAFF-MW-099, and 17-OAFF-MW-3 were qualified "Q+" to indicate that results may be biased, estimated high.

REPRESENTATIVENESS

All samples were collected in accordance with the work plan. Samples collected are considered representative of conditions and meet data quality objectives discussed in the work plan.

COMPARABILITY

One laboratory was used and one SDG was received for this project. The results, methods, procedures, quantitation units, and format of the work order are comparable in quality and data validity to all applicable regulations.

COMPLETENESS

All data necessary to complete a level II data validation on this SDG was provided. No data were rejected, so 100% of the results are usable. This exceeds the 85% minimum project completeness goal.

SENSITIVITY

All results were evaluated to the RL. No qualifications were made based on RLs.

Trip Blanks

One trip blank was submitted for this project. All results were not detected.

Method Blanks

Laboratory method blanks were not detected at the method reporting limit.

OVERALL ASSESSMENT

Based on the data review completed, no data were rejected. Data qualifiers were assigned due to failed field duplicate precision and surrogate recovery errors. Results qualified as estimated are suitable for use. Data qualifiers are shown in the tables attached to the report. All other sample results are considered to be valid with no data qualifiers assigned. All analytical data is considered

usable for the purpose of evaluating the presence or absence and magnitude of the suspected site contaminants.

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Laboratory Data Review Checklist

Completed by: Emily Freitas

Title: Chemist Date: 09/19/2017

CS Report Name: ASIG OAFF Report Date: September 2017

Consultant Firm: Ahtna Engineering Services

Laboratory Name: SGS Environmental Laboratory Report Number: 1176051

ADEC File Number: ADEC RecKey Number:

1. Laboratory
   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?
      ☒Yes ☐ No ☐NA (Please explain.) Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?
      ☐Yes ☐ No ☒NA (Please explain.) Comments:

2. Chain of Custody (COC)
   a. COC information completed, signed, and dated (including released/received by)?
      ☒Yes ☐ No ☐NA (Please explain.) Comments:

   b. Correct analyses requested?
      ☒Yes ☐ No ☐NA (Please explain.) Comments:

      Correct analyses were requested.

3. Laboratory Sample Receipt Documentation
   a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
      ☒Yes ☐ No ☐NA (Please explain.) Comments:

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?
      ☒Yes ☐ No ☐NA (Please explain.) Comments:

      Sample was correctly preserved according to analyses requested.

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?
☒Yes ☐ No ☐NA (Please explain.) Comments:

There were no discrepancies in sample condition upon receipt.

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?
☐Yes ☐ No ☒NA (Please explain.) Comments:

There were no discrepancies

e. Data quality or usability affected? (Please explain.)
Comments:

Data usability or quality is not affected by the sample receipt conditions.

4. Case Narrative
a. Present and understandable?
☒Yes ☐ No ☐NA (Please explain.) Comments:

b. Discrepancies, errors or QC failures identified by the lab?
☒Yes ☐ No ☐NA (Please explain.) Comments:

c. Were all corrective actions documented?
☒Yes ☐ No ☐NA (Please explain.) Comments:

d. What is the effect on data quality/usability according to the case narrative?
Comments:

Data usability was not affected by the case narrative.

5. Samples Results
a. Correct analyses performed/reported as requested on COC?
☒Yes ☐ No ☐NA (Please explain.) Comments:

b. All applicable holding times met?
☒Yes ☐ No ☐NA (Please explain.) Comments:

c. All soils reported on a dry weight basis?
☐Yes ☐ No ☒NA (Please explain.) Comments:

No soil samples were submitted within this SDG

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?
☒Yes ☐ No ☐NA (Please explain.) Comments:

e. Data quality or usability affected?
Comments:

Data quality and usability is not affected with respect to the reported sample results.

6. QC Samples
a. Method Blank
i. One method blank reported per matrix, analysis and 20 samples?
☒Yes ☐ No ☐NA (Please explain.) Comments:

ii. All method blank results less than PQL?
☒Yes ☐ No ☐NA (Please explain.) Comments:

iii. If above PQL, what samples are affected?
Comments:

iv. Do the affected sample(s) have data flags and if so, are the data flags clearly defined?
☐Yes ☐ No ☒NA (Please explain.) Comments:

No data qualifiers were necessary.

v. Data quality or usability affected? (Please explain.)
Comments:

Data quality and usability was not affected with respect to the reported method blank results.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)
☒Yes ☐ No ☐NA (Please explain.) Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
☐Yes ☐ No ☒NA (Please explain.) Comments:

No metals or inorganic analyses were requested.

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
☒Yes ☐ No ☐NA (Please explain.) Comments:

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
☐Yes ☒ No ☐NA (Please explain.) Comments:

LCS/LCSD RPDs were within control limits with the exceptions of 1,2-Dibromo-3-chloropropane, 2-Butanone, 2-Hexanone, and 4-Methyl-2-pentanone.

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments:

The failed analytes were not detected in any of the associated samples.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
☐Yes ☐ No ☒NA (Please explain.) Comments:

There are no affected samples.

vii. Data quality or usability affected? (Use comment box to explain.)
Comments:

Data quality or usability is not affected with respect to the reported results.

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?
☒Yes ☐ No ☐NA (Please explain.) Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

One surrogate, 4-bromofluorobenzene, used in GRO analyses, was outside control limits, biased high.

☐Yes ☒ No ☐NA (Please explain.) Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?
☒Yes ☐ No ☐NA (Please explain.) Comments:

GRO detections in samples 17-OAFF-MW-4-R, 17-OAFF-MW-099, and 17-OAFF-MW-3 were qualified "Q+" to indicate that results may be biased, estimated high

iv. Data quality or usability affected? (Use the comment box to explain.)
Comments:

Data quality or usability is not affected with regards to the surrogate results.

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)
☒Yes ☐ No ☐NA (Please explain.) Comments:

One trip blank was submitted.

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)
☒Yes ☐ No ☐NA (Please explain.) Comments:

iii. All results less than PQL?
☒Yes ☐ No ☐NA (Please explain.) Comments:

iv. If above PQL, what samples are affected?
Comments:

NA. All results were below PQL.

v. Data quality or usability affected? (Please explain.)
Comments:

Data quality and usability is not affected with respect to the reported trip blank results.

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

One duplicate set was submitted for analysis.

☒Yes ☐ No ☐NA (Please explain.) Comments:

ii. Submitted blind to lab?
☒Yes ☐ No ☐NA (Please explain.) Comments:

iii. Precision – All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

RPD (%) = Absolute value of: $\frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

☐Yes ☒ No ☐NA (Please explain.) Comments:

4-Isopropyltoluene had an RPD that was above the recommended 30%

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

The qualified analytes can be viewed in the tables appended to the report. Qualified results are still considered usable for the purposes of the project.

f. Decontamination or Equipment Blank (If not used explain why).

☒Yes ☐ No ☐NA (Please explain.) Comments:

No equipment blanks were submitted. Disposable sampling equipment was used.

i. All results less than PQL?

☒Yes ☐ No ☐NA (Please explain.) Comments:

ii. If above PQL, what samples are affected?

Comments:

iii. Data quality or usability affected? (Please explain.)

Comments:

Data quality or usability is not affected by the lack of equipment blank.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)
   a. Defined and appropriate?
      ☒Yes ☐ No ☐NA (Please explain.) Comments:

No additional data qualifiers were used. Laboratory specific qualifiers were used in the lab report but not transferred to the project report or tables.

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ATTACHMENT 5

PRE-2011 SAMPLING RESULTS

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TABLE 1

SAMPLE NUMBER/DATE	APPROX. DEPTH TO GROUND-WATER (ft.)	BENZENE (PPM)	TOLUENE (PPM)	ETHYL-BENZENE (PPM)	TOTAL XYLENES (PPM)	GRO (PPM)	DRO (PPM)
MW-3/5-2005	3.45	0.00	0.01	0.05	0.37	2.70	37.10
MW-3/5-2006	3.51	3.27	ND	33.50	391.00	1540.00	14.40
MW-3/5-2007	3.00	ND	ND	18.50	229.00	2190.00	14.30
MW-3/5-2008	3.76	1.43	1.42	29.00	302.00	1890.00	12.10
MW-3/5-2009	3.45	0.62	0.88	5.39	54.20	905.00	9.03
MW-3/5-2010	3.83	0.00	0.00	0.03	0.40	2.01	7.10
MW-4/10-2001	3.33	0.02	0.01	0.02	0.18	1.40	23.90
MW-4/5-2002	2.37	0.23	0.05	0.15	1.37	5.36	47.20
MW-4/5-2003	2.73	0.03	ND	0.08	0.67	3.37	127.00
MW-4/5-2004	2.38	0.18	ND	0.08	1.32	22.10	292.00
MW-6/10-2001	3.91	ND	ND	ND	ND	ND	1.18
MW-6/5-2002	2.69	ND	ND	0.00	ND	ND	1.37
MW-6/5-2003	3.70	ND	ND	ND	ND	ND	1.24
MW-6/5-2004	3.59	ND	ND	0.00	ND	ND	1.10
MW-6/5-2005	3.68	ND	ND	0.00	0.00	ND	1.37
MW-6/5-2006	3.53	ND	ND	8.12	3.30	77.80	0.99
MW-6/5-2007	3.42	ND	ND	2.95	2.30	81.90	0.87
MW-6/5-2008	3.60	ND	ND	0.77	ND	ND	0.50
MW-6/5-2009	3.33	ND	ND	1.26	ND	51.60	0.55
MW-6/5-2010	2.95	ND	ND	ND	ND	0.09	1.50
MW-7/5-2005	2.68	ND	ND	ND	ND	ND	0.47
MW-7/5-2006	2.73	ND	ND	0.99	ND	ND	0.87
MW-7/5-2007	2.67	ND	ND	ND	ND	ND	0.72
MW-7/5-2008	2.72	ND	ND	ND	ND	ND	0.68
MW-7/5-2009	2.67	ND	ND	ND	ND	ND	ND
MW-7/5-2010	2.72	ND	ND	ND	ND	ND	0.38
MW-8/10-2001	3.22	ND	ND	ND	ND	ND	0.66
MW-8/5-2002	2.78	ND	ND	ND	ND	ND	0.61
MW-8/5-2003	2.78	ND	ND	ND	ND	ND	0.26
MW-8/5-2004	2.87	ND	ND	ND	ND	ND	0.89
MW-8/5-2005	2.88	ND	ND	ND	ND	ND	0.75
MW-8/5-2006	2.95	ND	ND	ND	ND	ND	0.72
MW-8/5-2007	2.92	ND	ND	ND	ND	ND	0.67
MW-8/5-2008	2.89	ND	ND	ND	ND	ND	0.89
MW-8/5-2009	2.86	ND	ND	ND	ND	ND	2.18
MW-8/5-2010	3.14	ND	ND	ND	ND	ND	0.58
MW-9/10-2001	3.01	ND	ND	ND	ND	ND	0.66
MW-9/5-2002	1.82	ND	ND	ND	ND	ND	0.69
MW-9/5-2003	1.82	ND	ND	ND	ND	ND	ND
MW-9/5-2004	2.57	ND	ND	ND	ND	ND	0.65
MW-9/5-2005	2.69	ND	ND	ND	ND	ND	0.71
MW-9/5-2006	2.51	ND	ND	ND	ND	ND	0.93
MW-9/5-2007	2.67	ND	ND	ND	ND	ND	0.57
MW-9/5-2008	2.78	ND	ND	ND	ND	ND	0.66
MW-9/5-2009	2.35	ND	ND	ND	ND	ND	ND
MW-9/5-2010	2.93	ND	ND	ND	ND	ND	0.53

ND - Indicates not detected.

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ATTACHMENT 6

ADEC COMMENTS

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ADEC comments
2017 Annual Groundwater Monitoring Report AFSC Off-Airport Fueling Facility Port of Anchorage, Alaska
(ADEC File No. 2100.38.243, Hazard ID 25946)
December 18, 2017

Reviewer: Alaska Department of Environmental Conservation
Recommended By: Wendy Hansen - Environmental Program Specialist

Comment No.	Page	Section	Comment / Recommendation	Response
1.	Page 1; Paragraph 1		Please confirm date of last approved work plan for this site, and provide a copy. The ADEC does not have record of an August 24, 2017 work plan.	Addressed; changed date.
2.	Page 1; Work Performed; Paragraph 3		Please detail what equipment was used to look for, and if applicable measure, LNAPL. Please clarify whether LNPAL was not measured because it was not found to be present.	Addressed; detailed what equipment was used and clarified whether LNPAL was present or not.
3.	Page 1; Work Performed; Paragraph 4; Line 1		The ADEC guidance specifies that VOC data collected using a peristaltic pump will be considered bias low and not usable to determine extent of contamination, decreasing trends, or site closure decisions. Peristaltic pumps, inertia pumps and hailers should not be used for the collection of VOCs unless approved by ADEC.	This was in approved WP, but at the time the WP was approved VOCs were not being sampled for; peristaltic pump was used as groundwater is relatively shallow and to keep historically consistent.
4.	Page 1; Work Performed; Paragraph 4; Line 2		The ADEC Field Sampling Guidance was updated August 2017.	Addressed; changed date.

5.	Page 1; Work Performed; Paragraph 4	Please state where within the water column the sample was collected from.	Field team confirms sample was collected one foot below top of water column.
6.	Page 1; Work Performed; Paragraph 4; Line 4	Suggest stating that groundwater monitoring is ongoing for these two wells, to clarify the acceptability of the data for the intended purpose at this time.	Addressed; clarified that groundwater monitoring is ongoing for these two wells.
7.	Page 3; Laboratory Results; Paragraph 3; Line 1	1-methylnapthalene and 2-methylnapthalene also exceeded ADEC cleanup levels at MW-3.	Addressed; added additional exceedances.
8.	Table 1A	a. The ADEC cleanup levels are presented in µg/L. The table defines them as mg/L. b. The limit of detection (LOD) should technically be shown in the parentheses for NDs. The value shown currently is the limit of quantitation (LOQ) and should be defined as such if shown.	a. Addressed; changed to µg/L in key. b. Addressed; changed to LOD.
9.	Table 2	Please highlight ND results for which the reporting limit is greater than the cleanup level.	Addressed; highlighted ND results for which the reporting limit is greater than the cleanup level.
10.	Table 3	a. Please highlight 1-Methylnapthalene and 2-Methylnapthalene exceedances for MW-3. b. The LODs listed do not appear to match the SGS laboratory reports.	a. Addressed; highlighted 1-Methylnapthalene and 2-Methylnapthalene exceedances for MW-3. b. Addressed; changed to match SGS report.

11.	Page 4-3	Please correct the text to state that "4-Isopropyltoluene had an RPD that was above the recommended 30%" versus "Benzene had RPDs that was above ...” This also needs to be corrected in the associated checklist.	Addressed; corrected text in DQR and Checklist.

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