



January 28, 2014

Shane Durand  
Central Environmental Inc.  
311 N. Sitka St.  
Anchorage, Alaska 99501

**RE: Above Ground Storage Tank Containments, CH2MHILL, Deadhorse, AK.**

**Subj: Initial Site Assessment of Soils Under the Tanks**

The letter describes the site investigation conducted at the CH2MHILL facility in Deadhorse, Alaska by Environmental Management, Inc. (EMI) on September 19<sup>th</sup> and 20<sup>th</sup>, 2013.

The two above ground storage tank (AST) containments are located on the Sag River Road in Deadhorse, Alaska at the CH2MHILL facility that runs along the west side of the Sag River Road at the intersection of Sag and Spline Road. EMI was contracted by Central Environmental Inc. (CEI) to perform a site assessment on the two fuel containments before their demolition. The assessment took place on the 19<sup>th</sup> and 20<sup>th</sup> of September 2013. Weather at the time of the investigation was cloudy and the temperature was around 30-34 °F. Aaron Acena of EMI was the qualified person on site for both days. Both containments were located on the Sag River Road; the southern containment (Cont1) was roughly 1,200 ft. south of the northern containment (Cont2).

The southern containment (Cont1) was roughly 60 ft. by 60 ft. with a 3-4 ft. high berm surrounding it that was approximately 6 ft. wide. The containment still housed a single AST and still had the metal supports where 2 additional AST's had been located. The northern containment (Cont2) had a 4 to 5 feet tall soil berm surrounding it and wooden blocks on the inside which were used to support a single AST. The containment measured roughly 40 ft. by 20 ft. and the berm was roughly 6 ft. in width. Both containments had as much as 2 ft. of water in the center of each of them with a thin sheet of ice on top. Both containments were lined with a high density polyethylene (HDPE), liner which encompassed the entirety of the inside of the containment, and was buried into the inside of the containment berm on all sides. The south containment also had a layer of geo-fabric directly under the HDPE. Due to the presence of ice and water, the site assessment plan was adjusted to not take any field screenings in the center where there was water present. The samples were collected from around the inner-base of the containment between the water and the inside of the berm, and from on the outside of the containment at the base of the berms.

For field screening, a MiniRae 2000 handheld photoionization detector (PID) was used to check soils for petroleum based contamination. Although the PID is a very useful instrument for indicating the presence or absence of petroleum based contamination, the correlation between laboratory and field screening results is not very strong, primarily due to the many physical factors that may affect headspace results, including, the length of the carbon chain within the hydrocarbon, moisture within the soil, and the temperature of the sample. A best attempt was made to field screen in general

accordance with procedures and frequencies outlined in the *Draft Field Sampling Guidance*, May 2010. However, due to the presence of water and ice a regular grid pattern could not be followed as was planned (See Table 1 for headspace results and attached Figures for sample locations).

Headspace samples were collected by filling re-sealable quart size bags approximately 1/3 to 1/2 full with soil. A slit was made in the liner well above the water level and soil was taken 6 to 12 inches below the ground surface of the containment below the slit in the liner. The bags were then agitated before being allowed to develop for at least 15 minutes, but not longer than an hour. During this time the soils were also warmed to a minimum temperature of 40°F. Screening samples were placed in the cab of a running truck and heated on the dash next to the heater for at least 15 minutes and until it had reached at least 40 °F. After the samples had been warmed and allowed to develop, the probe of the PID was inserted into the bag and the displayed reading was recorded in the field notes along with other pertinent information.

The first containment screened was the south one (Cont1) where twenty three (23) headspace samples were collected and tested. Eight (8) were taken from the outside of the berm and fifteen (15) from within the containment. Values ranged from 1.6 ppm to 744 ppm. From the 23 readings, 8 locations were sampled including at least one from the highest headspace reading taken outside the containment. Two duplicates were also taken on Cont1 (See Table 1 for headspace results and Table 2 for laboratory results).

Next, the containment to the north (Cont2) was screened and sampled. Eighteen (18) headspace locations were tested in the containment. Ten (10) headspace samples were taken from the inside of the berm but above the water line, and eight (8) from around the outside edge of the berm. Headspace readings varied from 4.0 ppm to 35.5 ppm. From the 18 readings, 6 samples were taken from the highest headspace readings. One duplicate was also taken during the sampling (See Table 1 for headspace results and Table 2 for laboratory results).

Laboratory results from containment 1 (Cont1) show that two locations (Cont1-K and Cont1-L) had levels of analytes above ADEC Arctic Zone Cleanup Levels. Cont1-K had DRO at 22,400 mg/kg and Naphthalene at 64.5 mg/kg. Sample Cont1-L had DRO at 21,400 mg/kg. A duplicate sample from Cont1-L was also taken, (Cont1A-Q) which was analyzed and had a DRO level at 25,400 mg/kg. The ADEC Arctic Zone Cleanup Level for DRO is 12,500 mg/kg and 42 mg/kg for Naphthalene. Other samples from this containment had detections but none above the ADEC Cleanup level.

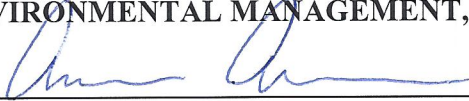
Containment 2 (Cont2) also had detections but no sample had an analyte above ADEC Arctic Zone Cleanup Levels. The highest laboratory result for DRO was 1150 mg/kg, less than 10% of the cleanup level (See Table 2 for a summary of all the laboratory results).

Laboratory Data Review checklists were completed for each sample set submitted for analysis. The only relative percent difference (RPD) out of limits was where one sample had a non-detect result. The RPD between the field sample and field sample duplicate for GRO and xylenes was greater than 50% in samples Cont2-B3 and Cont3-P. In these samples only one had a detection and the other was non-detect so the reporting limit was used in place of the non-detect result for the calculation. This also occurred with RRO in duplicate samples Cont 1-6 and Cont1A-R. With the exception of these failures the data for this project is considered valid (ADEC Laboratory Data Review Checklist is located behind the laboratory report). With the exception of the above mentioned failures accuracy, precision, representativeness, and completeness are all adequate.

Based on the data obtained, it appears there have been releases of POL at both the locations. We find no evidence of a major leak or spill at the northern tank farm. However, we recommend five additional field screening samples and one additional laboratory sample from the center area of the containment be collected and tested to confirm this site meets the ADEC Cleanup standards. The soil under the liner in the southern containment (Cont1) is contaminated with DRO and Naphthalene. EMI recommends that a work plan be developed to remove all the soil in the area around sample ID Cont1-K and Cont1-L. The estimated area with potential soil contamination is roughly 30 x 40 ft. The full extent of the contamination is unknown, and it may extend to the south and down to an unknown depth. If a smear zone has been created from contact with seasonally varying water levels, the area of contamination could extend significantly further in any direction. The regulations (18 AAC 75.360) require the work plan be submitted to ADEC for approval

Sincerely,

**ENVIRONMENTAL MANAGEMENT, INC.**



---

Aaron Acena

Geologist

**Attached:**

Table 1 – Headspace Results

Table 2 – Laboratory Results

Figure 1 – North Containment Sample Locations

Figure 2 – South Containment Sample Locations

Location Map

Photolog

TestAmerica Laboratory Report AWI0061 and data checklist

**Table 1 - Headspace Results**  
**Deadhorse CH2MHILL AST**

Location	Headspace ID (see Fig 1 &2 for Location)	Reading (PPM)	Date	Depth of Sample in Soil (inches)	Laboratory Sample ID
Containment 1	1	2.1	9/19/2013	6-12	
Containment 1	2	2.2	9/19/2013	6-12	
Containment 1	3	2.4	9/19/2013	6-12	
Containment 1	4	2.9	9/19/2013	6-12	
Containment 1	5	2.2	9/19/2013	6-12	
Containment 1	6	50.0	9/19/2013	6-12	Cont1-6 (Duplicate Cont1A-R)
Containment 1	7	30.2	9/19/2013	6-12	
Containment 1	8	1.6	9/19/2013	6-12	
Containment 1	A	146	9/19/2013	6-12	Cont1-A
Containment 1	B	36.9	9/19/2013	6-12	
Containment 1	C	6.7	9/19/2013	6-12	
Containment 1	D	6.3	9/19/2013	6-12	
Containment 1	E	194	9/19/2013	6-12	Cont1-E
Containment 1	F	18.2	9/19/2013	6-12	
Containment 1	G	41.7	9/19/2013	6-12	
Containment 1	H	2.6	9/19/2013	6-12	
Containment 1	I	157	9/19/2013	6-12	Cont1-I
Containment 1	J	605	9/19/2013	6-12	Cont1-J
Containment 1	K	689	9/19/2013	6-12	Cont1-K
Containment 1	L	592	9/19/2013	6-12	Cont1-L (Duplicate Cont1A-Q)
Containment 1	M	744	9/19/2013	6-12	Cont1-M
Containment 1	N	47.8	9/19/2013	6-12	
Containment 1	O	70.7	9/19/2013	6-12	
Containment 2	A1	7.2	9/19/2013	6-12	
Containment 2	A2	7.4	9/19/2013	6-12	Cont2-A2
Containment 2	A3	5.4	9/19/2013	6-12	
Containment 2	A4	4.0	9/19/2013	6-12	
Containment 2	A5	4.3	9/19/2013	6-12	Cont2-A5
Containment 2	A6	5.9	9/19/2013	6-12	
Containment 2	A7	6.9	9/19/2013	6-12	
Containment 2	A8	6.6	9/19/2013	6-12	
Containment 2	B1	35.5	9/19/2013	6-12	Cont2-B1
Containment 2	B2	17.1	9/19/2013	6-12	
Containment 2	B3	20.2	9/19/2013	6-12	Cont2-B3 (Duplicate - Con3-P)
Containment 2	B4	7.8	9/19/2013	6-12	
Containment 2	B5	4.0	9/19/2013	6-12	
Containment 2	B6	5.0	9/19/2013	6-12	
Containment 2	B7	4.8	9/19/2013	6-12	
Containment 2	B8	16.1	9/19/2013	6-12	Cont2-B8
Containment 2	B9	7.2	9/19/2013	6-12	
Containment 2	B10	10	9/19/2013	6-12	Cont2-B10

\* Headspace Samples were collected and analyzed within 1 hour.

Table 2  
Laboratory Results  
CH2MHILL AST Deadhorse

Analyte [units]	Cleanup Level (18 AAC 75 Arctic Zone, Most Stringent)	Cont1-A		Cont1-E		Cont1-I		Cont1-J		Cont1-K		Cont1-L		Cont1A-Q (Dup of Cont1-L)		Cont1-M		Cont1-6		Cont1A-R (Dup of Cont1-6)	
		9/20/2013		9/20/2013		9/20/2013		9/20/2013		9/20/2013		9/20/2013		9/20/2013		9/20/2013		9/20/2013		9/20/2013	
		Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
AK102/103 [mg/kg]																					
Diesel Range Organics	12500	9660	297	10400	241	917	24.8	5550	274	22400	277	21400	295	25400	303	10500	52.7	2530	22.8	3200	230
Residual Range Organics	13700	ND	743	ND	602	ND	61.9	ND	686	ND	693	ND	737	ND	758	ND	19.6	229	57	ND	576
BTEX/GRO [mg/kg]																					
Gasoline Range Organics	1400	78.3	2.39	328	10.8	115	13.8	112	14.5	94.1	13.5	134	37.1	91.7	37.3	93.3	15.4	63.2	4.03	57.3	3.78
Benzene	17	0.0146	0.0144	ND	0.0649	3.4	0.0828	1.72	0.0869	0.624	0.0811	1.02	0.223	1.01	0.224	0.15	0.0927	ND	0.0242	ND	0.0227
Toluene	220	0.912	0.0287	2.84	0.13	11.2	0.166	9.05	0.174	2.26	0.162	1.28	0.445	0.856	0.448	1.16	0.185	0.438	0.0484	0.39	0.0454
Ethylbenzene	110	0.458	0.0287	7.67	0.13	2.02	0.166	1.23	0.174	0.869	0.162	4.59	0.445	4.36	0.448	2.17	0.185	1.39	0.0484	ND	0.0454
Total Xylenes	63	6.61	0.0861	8.88	0.389	28.1	0.497	27.1	0.522	27.4	0.487	39.5	1.34	33.9	1.34	26.3	0.556	1.89	0.145	1.6	0.136
SVOC 8270C_SIM [mg/kg]																					
1-Methylnaphthalene	380									157	3.75					32.3	0.395				
2-Methylnaphthalene	380									158	3.75					36.3	0.395				
Acenaphthene	3800									4.75	3.75					1.13	0.395				
Acenaphthylene	3800									ND	3.75					ND	0.395				
Anthracene	27800									ND	3.75					ND	0.395				
Benzo (a) anthracene	6.6									ND	3.75					ND	0.395				
Benzo (a) pyrene	0.66									ND	3.75					ND	0.395				
Benzo (b) fluoranthene	6.6									ND	3.75					ND	0.395				
Benzo (ghi) perylene	1900									ND	3.75					ND	0.395				
Benzo (k) fluoranthene	66									ND	3.75					ND	0.395				
Chrysene	660									ND	3.75					ND	0.395				
Dibenzo (a,h) anthracene	0.66									ND	2.25					ND	0.237				
Fluoranthene	2500									ND	3.75					ND	0.395				
Fluorene	3200									ND	3.75					ND	0.395				
Indeno (1,2,3-cd) pyrene	6.6									ND	3.75					ND	0.395				
Naphthalene	42									64.5	3.75					16.5	0.395				
Phenanthrene	27800									8.25	3.75					1.84	0.395				
Pyrene	1900									ND	3.75					ND	0.395				

Analyte [units]	Cleanup Level (18 AAC 75 Arctic Zone, Most Stringent)	Cont2-B1		Cont2-B3		Cont3-P (Dup of Cont2-B3)		Cont2-B8		Cont2-B10		Cont2-A2		Cont2-A5	
		9/20/2013		9/20/2013		9/20/2013		9/20/2013		9/20/2013		9/20/2013		9/20/2013	
		Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
AK102/103 [mg/kg]															
Diesel Range Organics	12500	1150	22.1	785	22	812	20.8	1070	21.1	58.8	22.8	ND	21.3	ND	22.3
Residual Range Organics	13700	ND	55.2	ND	55	ND	52	ND	52.8	ND	57	ND	53.1	ND	55.7
BTEX/GRO [mg/kg]															
Gasoline Range Organics	1400	15.2	1.55	2.5	1.24	ND	1.22	5.74	1.28	ND	1.39	ND	1.24	ND	1.24
Benzene	17	ND	0.00929	ND	0.00747	ND	0.00736	ND	0.00766	ND	0.00832	ND	0.00748	ND	0.00743
Toluene	220	0.0218	0.0186	0.0166	0.0149	ND	0.0147	0.0242	0.0153	ND	0.0166	ND	0.015	ND	0.0149
Ethylbenzene	110	ND	0.0186	ND	0.0149	ND	0.0147	0.017	0.0153	ND	0.0166	ND	0.015	ND	0.0149
Total Xylenes	63	0.64	0.0557	0.118	0.0448	ND	0.0441	0.189	0.046	ND	0.0499	ND	0.0449	ND	0.0446
SVOC 8270C_SIM [mg/kg]															
1-Methylnaphthalene	380	0.64	0.0533												
2-Methylnaphthalene	380	0.142	0.0533												
Phenanthrene	27800	0.178	0.0533												
* - All other PAH compounds tested ND															

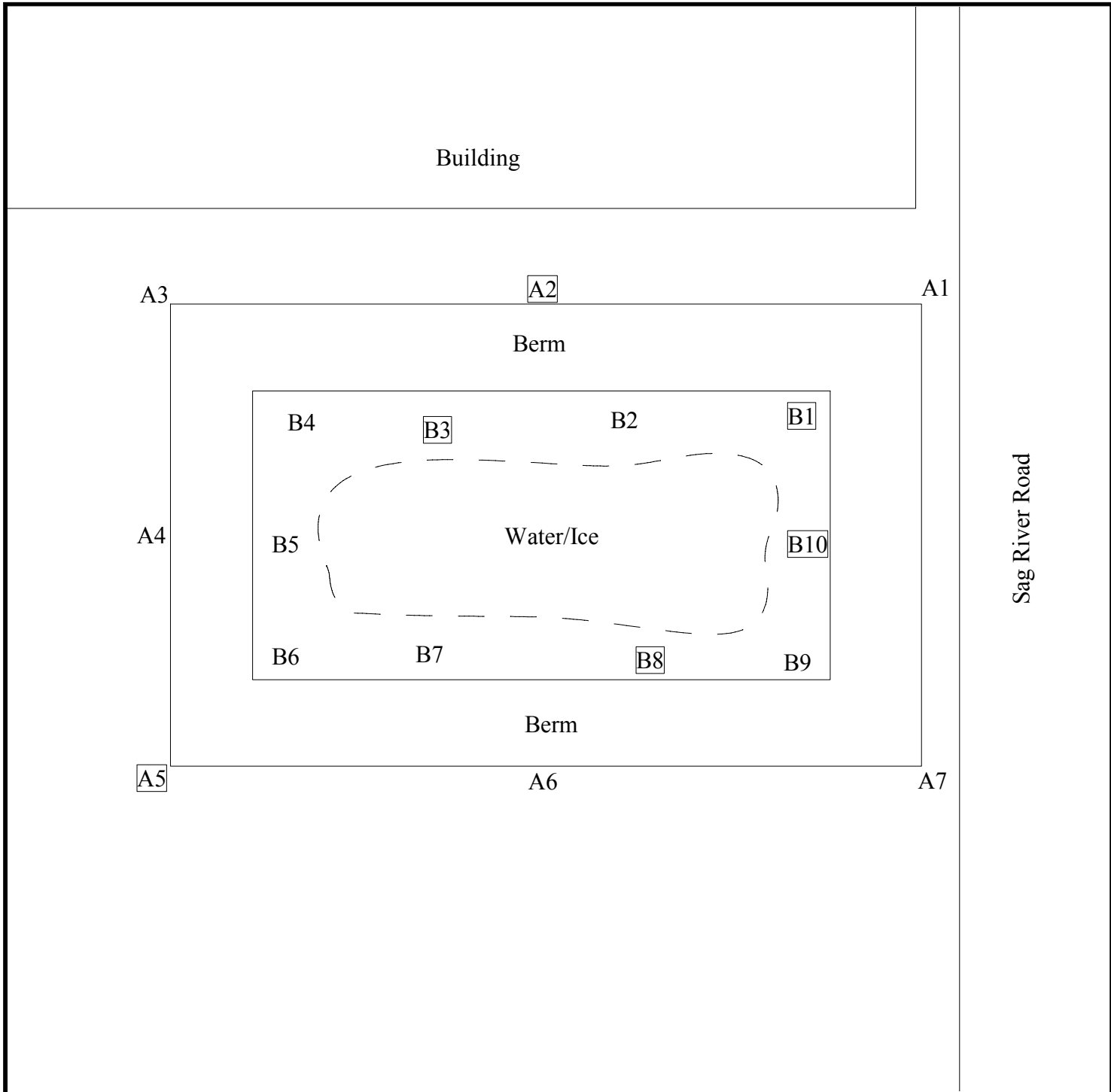
Notes:

- Analyte is above the ADEC Cleanup Level listed

RL - Reporting Limit

ND - Non-Detect, analyte was not detected at the reporting limit

SVOC 8270C\_SIM - Method used to detect the 16 ADEC listed polynuclear aromatic hydrocarbons plus the two methylnaphthalenes



GRAPHIC SCALE ( IN FEET )

# Legend

- B4 - Headspace Sample Location
- B4 - Laboratory Sample Location (ID: Cont2-##)



North Containment  
Sample Locations

CH2MHILL Facility,  
Deadhorse, AK

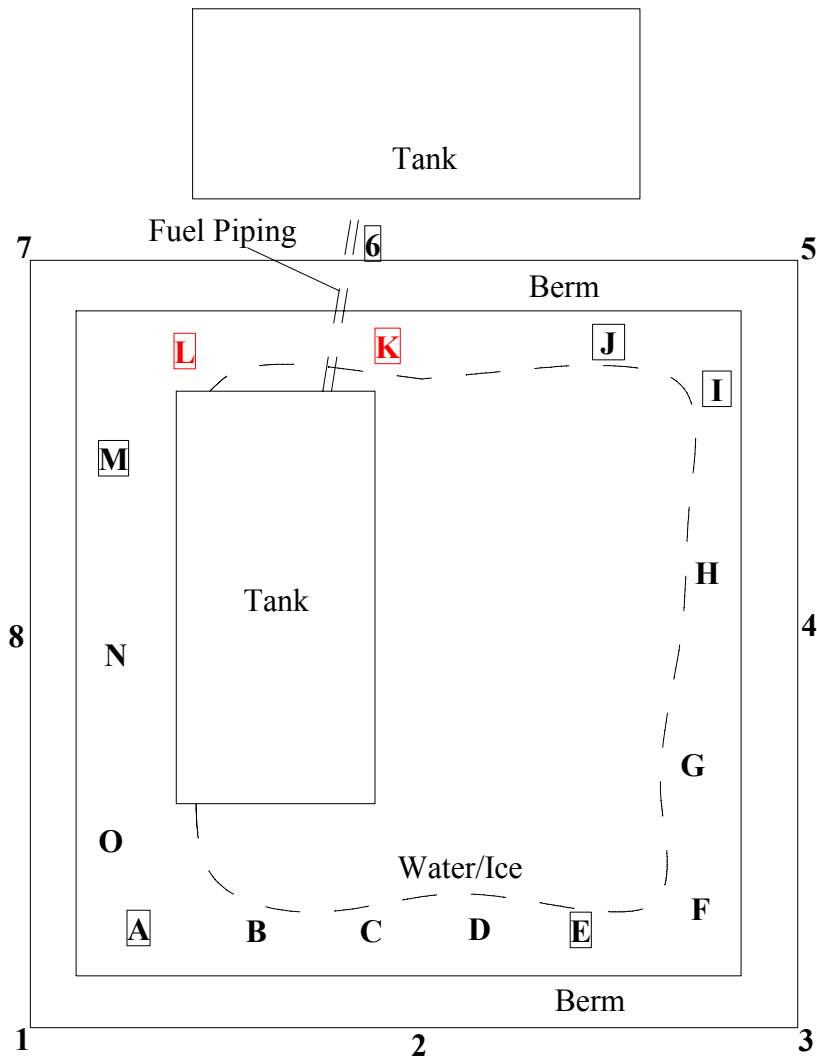


PREPARED:  
DRAWN: ADA  
REVIEWED:  
DATE: 9/19/13

FIGURE

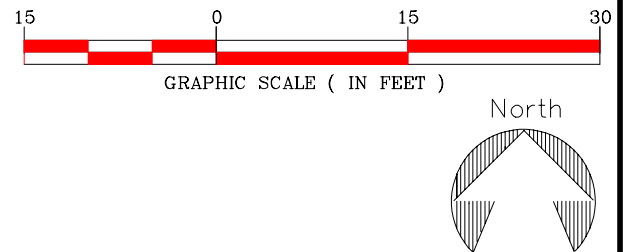
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Sag River Road



## Legend

- A,6 - Headspace Sample location
- B - Laboratory Sample Location (ID: Cont1-##)
- B - Laboratory Sample Result  
DRO > ADEC Arctic Zone Cleanup Level



South Containment  
Sample Locations

CH2MHILL Facility,  
Deadhorse, AK



PREPARED:  
DRAWN: ADA  
REVIEWED:  
DATE:  
9/19/13

FIGURE

2



Project Area



2009 Digital Glove Google Image

Containment 1

Containment 2



2006 Digital Glove Google Image

**Site Location Map**



# CH2MHILL FUEL STORAGE, Deadhorse, Alaska



**Photo 1:** Containmentment 1, looking north-east.



**Photo 2:** Containmentment 1, looking north.



**Photo 3:** Containmentment 1, water and ice in center of containment.



**Photo 4:** Fuel line leading from tank in Containmentment 1 to tank outside the north of containment.



**Photo 5:** Containmentment 2, looking south-east.



**Photo 6:** Containmentment 2, looking north-east.

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Anchorage

2000 West International Airport Road Suite A10

Anchorage, AK 99502-1119

Tel: (907) 563-9200

TestAmerica Job ID: AWI0061

Client Project/Site: 17598

Client Project Description: Prudhoe Tanks

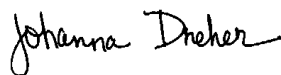
For:

Environmental Management Incorporated

206 E. Fireweed Lane, Suite 201

Anchorage, ALASKA/USA 99503

Attn: Glenn Hasburgh



Authorized for release by:

9/30/2013 5:15:19 PM

Johanna L Dreher, Client Services Manager

(907) 563-9200

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

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

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## Definitions/Glossary

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

### Qualifiers

#### Semivolatiles

Qualifier	Qualifier Description
Z3	The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

#### Fuels

Qualifier	Qualifier Description
Q2	Typical pattern for diesel
RL7	Sample required dilution due to high concentrations of target analyte.
Q4	The hydrocarbons present are a complex mixture of diesel range and heavy oil range organics.
Q11	Detected hydrocarbons in the diesel range do not have a distinct diesel pattern and may be due to heavily weathered diesel.

#### GC Volatiles

Qualifier	Qualifier Description
M7	The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).
R10	The RPD between the primary and confirmatory analysis exceeded 40%. Per method 8000B, the lower value was reported due to apparent chromatographic problems.
R1	The RPD between the primary and confirmatory analysis exceeded 40%. Per method 8000B, the higher value was reported.
RL7	Sample required dilution due to high concentrations of target analyte.
Z5	Due to sample matrix effects, the surrogate recovery was outside acceptance limits. Secondary surrogate recovery was within the acceptance limits.
Z6	Surrogate recovery was below acceptance limits.
ZX	Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.
Z3	The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

### Glossary

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

## Case Narrative

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

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**Job ID: AWI0061**

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**Laboratory: TestAmerica Anchorage**

### Narrative

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#### Receipt

Samples were received on 09/26/2013 at 13:11 PM; the samples arrived in good condition, properly preserved and, where required, on ice.

The temperature of the cooler at receipt was 2.0° C.

#### AK101/8021 GRO/BTEX

Sample AWI0061-02 was run at a 200X dilution due to the high level of GRO present in the matrix. The benzene MRL is above the soil cleanup level. Ethylbenzene and GRO are above the soil cleanup levels, so the elevated benzene MRL should not impact the usability of the data.

Sample AWI0061-03 had a low recovery for surrogate TFT. The sample should be considered to have a low bias. The sample is above the soil cleanup level for benzene and toluene; the bias should not impact the usability of the data.

#### Subcontracted

PAH SIM samples were subcontracted to TestAmerica Spokane from TestAmerica Anchorage.

## Detection Summary

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

### Client Sample ID: Cont1-A

### Lab Sample ID: AWI0061-01

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics	9660	Q2 RL7	297		mg/kg dry	10.0	☼	AK102/103	Total
Gasoline Range Organics	78.3		2.39		mg/kg dry	33.3	☼	AK101/EPA 8021B	Total
Benzene	0.0146	R10	0.0144		mg/kg dry	33.3	☼	AK101/EPA 8021B	Total
Toluene	0.912	R1	0.0287		mg/kg dry	33.3	☼	AK101/EPA 8021B	Total
Ethylbenzene	0.458		0.0287		mg/kg dry	33.3	☼	AK101/EPA 8021B	Total
Xylenes (total)	6.61		0.0861		mg/kg dry	33.3	☼	AK101/EPA 8021B	Total

### Client Sample ID: Cont1-E

### Lab Sample ID: AWI0061-02

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics	10400	Q2 RL7	241		mg/kg dry	10.0	☼	AK102/103	Total
Gasoline Range Organics	328	RL7	10.8		mg/kg dry	200	☼	AK101/EPA 8021B	Total
Toluene	2.84	RL7 R1	0.130		mg/kg dry	200	☼	AK101/EPA 8021B	Total
Ethylbenzene	7.67	RL7 R1	0.130		mg/kg dry	200	☼	AK101/EPA 8021B	Total
Xylenes (total)	8.88	RL7	0.389		mg/kg dry	200	☼	AK101/EPA 8021B	Total

### Client Sample ID: Cont1-I

### Lab Sample ID: AWI0061-03

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics	917	Q2	24.8		mg/kg dry	1.00	☼	AK102/103	Total
Gasoline Range Organics	115	RL7	13.8		mg/kg dry	200	☼	AK101/EPA 8021B	Total
Benzene	3.40	RL7	0.0828		mg/kg dry	200	☼	AK101/EPA 8021B	Total
Toluene	11.2	RL7	0.166		mg/kg dry	200	☼	AK101/EPA 8021B	Total
Ethylbenzene	2.02	RL7	0.166		mg/kg dry	200	☼	AK101/EPA 8021B	Total
Xylenes (total)	28.1	RL7	0.497		mg/kg dry	200	☼	AK101/EPA 8021B	Total

### Client Sample ID: Cont1-J

### Lab Sample ID: AWI0061-04

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics	5550	Q2 RL7	274		mg/kg dry	10.0	☼	AK102/103	Total
Gasoline Range Organics	112	RL7	14.5		mg/kg dry	200	☼	AK101/EPA 8021B	Total
Benzene	1.72	RL7	0.0869		mg/kg dry	200	☼	AK101/EPA 8021B	Total
Toluene	9.05	RL7	0.174		mg/kg dry	200	☼	AK101/EPA 8021B	Total
Ethylbenzene	1.23	RL7	0.174		mg/kg dry	200	☼	AK101/EPA 8021B	Total
Xylenes (total)	27.1	RL7	0.522		mg/kg dry	200	☼	AK101/EPA 8021B	Total

This Detection Summary does not include radiochemical test results.

TestAmerica Anchorage



# Detection Summary

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

## Client Sample ID: Cont1-K

## Lab Sample ID: AWI0061-05

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	64.5		3.75		mg/kg dry	200	☼	EPA 8270D	Total
2-Methylnaphthalene	158		3.75		mg/kg dry	200	☼	EPA 8270D	Total
1-Methylnaphthalene	157		3.75		mg/kg dry	200	☼	EPA 8270D	Total
Acenaphthene	4.75		3.75		mg/kg dry	200	☼	EPA 8270D	Total
Phenanthrene	8.25		3.75		mg/kg dry	200	☼	EPA 8270D	Total
Diesel Range Organics	22400	RL7 Q2	277		mg/kg dry	10.0	☼	AK102/103	Total
Gasoline Range Organics	94.1	RL7	13.5		mg/kg dry	200	☼	AK101/EPA	Total
								8021B	
Benzene	0.624	RL7	0.0811		mg/kg dry	200	☼	AK101/EPA	Total
								8021B	
Toluene	2.26	RL7	0.162		mg/kg dry	200	☼	AK101/EPA	Total
								8021B	
Ethylbenzene	0.869	RL7	0.162		mg/kg dry	200	☼	AK101/EPA	Total
								8021B	
Xylenes (total)	27.4	RL7	0.487		mg/kg dry	200	☼	AK101/EPA	Total
								8021B	

## Client Sample ID: Cont1-L

## Lab Sample ID: AWI0061-06

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics	21400	Q2 RL7	295		mg/kg dry	10.0	☼	AK102/103	Total
Gasoline Range Organics	134	RL7	37.1		mg/kg dry	500	☼	AK101/EPA	Total
								8021B	
Benzene	1.02	RL7	0.223		mg/kg dry	500	☼	AK101/EPA	Total
								8021B	
Toluene	1.28	RL7 R1	0.445		mg/kg dry	500	☼	AK101/EPA	Total
								8021B	
Ethylbenzene	4.59	RL7	0.445		mg/kg dry	500	☼	AK101/EPA	Total
								8021B	
Xylenes (total)	39.5	RL7	1.34		mg/kg dry	500	☼	AK101/EPA	Total
								8021B	

## Client Sample ID: Cont1-M

## Lab Sample ID: AWI0061-07

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	16.5		0.395		mg/kg dry	25.0	☼	EPA 8270D	Total
2-Methylnaphthalene	36.3		0.395		mg/kg dry	25.0	☼	EPA 8270D	Total
1-Methylnaphthalene	32.3		0.395		mg/kg dry	25.0	☼	EPA 8270D	Total
Acenaphthene	1.13		0.395		mg/kg dry	25.0	☼	EPA 8270D	Total
Phenanthrene	1.84		0.395		mg/kg dry	25.0	☼	EPA 8270D	Total
Diesel Range Organics	10500	Q2 RL7	266		mg/kg dry	10.0	☼	AK102/103	Total
Gasoline Range Organics	93.3	RL7	15.4		mg/kg dry	200	☼	AK101/EPA	Total
								8021B	
Benzene	0.150	RL7	0.0927		mg/kg dry	200	☼	AK101/EPA	Total
								8021B	
Toluene	1.16	RL7 R1	0.185		mg/kg dry	200	☼	AK101/EPA	Total
								8021B	
Ethylbenzene	2.17	RL7	0.185		mg/kg dry	200	☼	AK101/EPA	Total
								8021B	
Xylenes (total)	26.3	RL7	0.556		mg/kg dry	200	☼	AK101/EPA	Total
								8021B	

## Client Sample ID: Cont1-6

## Lab Sample ID: AWI0061-08

This Detection Summary does not include radiochemical test results.

TestAmerica Anchorage

# Detection Summary

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

## Client Sample ID: Cont1-6 (Continued)

## Lab Sample ID: AWI0061-08

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics	2530	Q2	22.8		mg/kg dry	1.00	☼	AK102/103	Total
Residual Range Organics	229	Q4	57.0		mg/kg dry	1.00	☼	AK102/103	Total
Gasoline Range Organics	63.2		4.03		mg/kg dry	100	☼	AK101/EPA 8021B	Total
Toluene	0.438	R1	0.0484		mg/kg dry	100	☼	AK101/EPA 8021B	Total
Ethylbenzene	1.39	R1	0.0484		mg/kg dry	100	☼	AK101/EPA 8021B	Total
Xylenes (total)	1.89		0.145		mg/kg dry	100	☼	AK101/EPA 8021B	Total

## Client Sample ID: Cont1A-Q

## Lab Sample ID: AWI0061-09

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics	25400	Q2 RL7	303		mg/kg dry	10.0	☼	AK102/103	Total
Gasoline Range Organics	91.7	RL7	37.3		mg/kg dry	500	☼	AK101/EPA 8021B	Total
Benzene	1.01	RL7	0.224		mg/kg dry	500	☼	AK101/EPA 8021B	Total
Toluene	0.856	RL7 R1	0.448		mg/kg dry	500	☼	AK101/EPA 8021B	Total
Ethylbenzene	4.36	RL7	0.448		mg/kg dry	500	☼	AK101/EPA 8021B	Total
Xylenes (total)	33.9	RL7	1.34		mg/kg dry	500	☼	AK101/EPA 8021B	Total

## Client Sample ID: Cont1A-R

## Lab Sample ID: AWI0061-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics	3200	Q2 RL7	230		mg/kg dry	10.0	☼	AK102/103	Total
Gasoline Range Organics	57.3		3.78		mg/kg dry	100	☼	AK101/EPA 8021B	Total
Toluene	0.390	R1	0.0454		mg/kg dry	100	☼	AK101/EPA 8021B	Total
Xylenes (total)	1.60		0.136		mg/kg dry	100	☼	AK101/EPA 8021B	Total

## Client Sample ID: Cont2-B1

## Lab Sample ID: AWI0061-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Methylnaphthalene	0.142		0.0533		mg/kg dry	5.00	☼	EPA 8270D	Total
1-Methylnaphthalene	0.640		0.0533		mg/kg dry	5.00	☼	EPA 8270D	Total
Phenanthrene	0.178		0.0533		mg/kg dry	5.00	☼	EPA 8270D	Total
Diesel Range Organics	1150	Q2	22.1		mg/kg dry	1.00	☼	AK102/103	Total
Gasoline Range Organics	15.2		1.55		mg/kg dry	33.3	☼	AK101/EPA 8021B	Total
Toluene	0.0218	R1	0.0186		mg/kg dry	33.3	☼	AK101/EPA 8021B	Total
Xylenes (total)	0.640	R1	0.0557		mg/kg dry	33.3	☼	AK101/EPA 8021B	Total

## Client Sample ID: Cont2-B3

## Lab Sample ID: AWI0061-12

This Detection Summary does not include radiochemical test results.

TestAmerica Anchorage

# Detection Summary

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

## Client Sample ID: Cont2-B3 (Continued)

Lab Sample ID: AWI0061-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics	785	Q2	22.0		mg/kg dry	1.00	✱	AK102/103	Total
Gasoline Range Organics	2.50		1.24		mg/kg dry	33.3	✱	AK101/EPA 8021B	Total
Toluene	0.0166		0.0149		mg/kg dry	33.3	✱	AK101/EPA 8021B	Total
Xylenes (total)	0.118	R1	0.0448		mg/kg dry	33.3	✱	AK101/EPA 8021B	Total

## Client Sample ID: Cont2-B8

Lab Sample ID: AWI0061-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics	1070	Q2	21.1		mg/kg dry	1.00	✱	AK102/103	Total
Gasoline Range Organics	5.74		1.28		mg/kg dry	33.3	✱	AK101/EPA 8021B	Total
Toluene	0.0242	R1	0.0153		mg/kg dry	33.3	✱	AK101/EPA 8021B	Total
Ethylbenzene	0.0170		0.0153		mg/kg dry	33.3	✱	AK101/EPA 8021B	Total
Xylenes (total)	0.189	R1	0.0460		mg/kg dry	33.3	✱	AK101/EPA 8021B	Total

## Client Sample ID: Cont2-B10

Lab Sample ID: AWI0061-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics	58.8	Q11	22.8		mg/kg dry	1.00	✱	AK102/103	Total

## Client Sample ID: Cont2-A2

Lab Sample ID: AWI0061-15

No Detections.

## Client Sample ID: Cont2-A5

Lab Sample ID: AWI0061-16

No Detections.

## Client Sample ID: Cont3-P

Lab Sample ID: AWI0061-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics	812	Q2	20.8		mg/kg dry	1.00	✱	AK102/103	Total

## Client Sample ID: Trip Blank

Lab Sample ID: AWI0061-18

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Anchorage

# Client Sample Results

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

**Client Sample ID: Cont1-A**

**Lab Sample ID: AWI0061-01**

**Date Collected: 09/20/13 07:37**

**Matrix: Soil**

**Date Received: 09/26/13 13:11**

**Percent Solids: 79**

## Method: AK102/103 - Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Diesel Range Organics</b>	<b>9660</b>	<b>Q2 RL7</b>	297		mg/kg dry	☼	09/27/13 08:54	09/29/13 16:40	10.0
Residual Range Organics	ND	RL7	743		mg/kg dry	☼	09/27/13 08:54	09/29/13 16:40	10.0
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1-Chlorooctadecane	123		50 - 150				09/27/13 08:54	09/29/13 16:40	10.0
Triacontane	107		50 - 150				09/27/13 08:54	09/29/13 16:40	10.0

## Method: AK101/EPA 8021B - Gasoline Range Organics (C6-C10) and BTEX per AK101

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Gasoline Range Organics</b>	<b>78.3</b>		2.39		mg/kg dry	☼	09/27/13 08:59	09/29/13 03:06	33.3
Benzene	0.0146	R10	0.0144		mg/kg dry	☼	09/27/13 08:59	09/29/13 03:06	33.3
Toluene	0.912	R1	0.0287		mg/kg dry	☼	09/27/13 08:59	09/29/13 03:06	33.3
Ethylbenzene	0.458		0.0287		mg/kg dry	☼	09/27/13 08:59	09/29/13 03:06	33.3
Xylenes (total)	6.61		0.0861		mg/kg dry	☼	09/27/13 08:59	09/29/13 03:06	33.3
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-BFB (FID)	149		50 - 150				09/27/13 08:59	09/29/13 03:06	33.3
a,a,a-TFT (FID)	137		50 - 150				09/27/13 08:59	09/29/13 03:06	33.3
4-BFB (PID)	111		50 - 150				09/27/13 08:59	09/29/13 03:06	33.3
a,a,a-TFT (PID)	103		50 - 150				09/27/13 08:59	09/29/13 03:06	33.3

**Client Sample ID: Cont1-E**

**Lab Sample ID: AWI0061-02**

**Date Collected: 09/20/13 07:40**

**Matrix: Soil**

**Date Received: 09/26/13 13:11**

**Percent Solids: 89**

## Method: AK102/103 - Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Diesel Range Organics</b>	<b>10400</b>	<b>Q2 RL7</b>	241		mg/kg dry	☼	09/27/13 08:54	09/29/13 17:12	10.0
Residual Range Organics	ND	RL7	602		mg/kg dry	☼	09/27/13 08:54	09/29/13 17:12	10.0
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1-Chlorooctadecane	121		50 - 150				09/27/13 08:54	09/29/13 17:12	10.0
Triacontane	110		50 - 150				09/27/13 08:54	09/29/13 17:12	10.0

## Method: AK101/EPA 8021B - Gasoline Range Organics (C6-C10) and BTEX per AK101

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Gasoline Range Organics</b>	<b>328</b>	<b>RL7</b>	10.8		mg/kg dry	☼	09/27/13 08:59	09/29/13 05:21	200
Benzene	ND	RL7	0.0649		mg/kg dry	☼	09/27/13 08:59	09/29/13 05:21	200
Toluene	2.84	RL7 R1	0.130		mg/kg dry	☼	09/27/13 08:59	09/29/13 05:21	200
Ethylbenzene	7.67	RL7 R1	0.130		mg/kg dry	☼	09/27/13 08:59	09/29/13 05:21	200
Xylenes (total)	8.88	RL7	0.389		mg/kg dry	☼	09/27/13 08:59	09/29/13 05:21	200
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-BFB (FID)	149		50 - 150				09/27/13 08:59	09/29/13 05:21	200
a,a,a-TFT (FID)	89.6		50 - 150				09/27/13 08:59	09/29/13 05:21	200
4-BFB (PID)	74.3		50 - 150				09/27/13 08:59	09/29/13 05:21	200
a,a,a-TFT (PID)	76.7		50 - 150				09/27/13 08:59	09/29/13 05:21	200

TestAmerica Anchorage

# Client Sample Results

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

**Client Sample ID: Cont1-I**

**Lab Sample ID: AWI0061-03**

**Date Collected: 09/20/13 07:52**

**Matrix: Soil**

**Date Received: 09/26/13 13:11**

**Percent Solids: 79.6**

## Method: AK102/103 - Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics	917	Q2	24.8		mg/kg dry	☼	09/27/13 08:54	09/28/13 15:51	1.00
Residual Range Organics	ND		61.9		mg/kg dry	☼	09/27/13 08:54	09/28/13 15:51	1.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	119		50 - 150				09/27/13 08:54	09/28/13 15:51	1.00
Triacontane	112		50 - 150				09/27/13 08:54	09/28/13 15:51	1.00

## Method: AK101/EPA 8021B - Gasoline Range Organics (C6-C10) and BTEX per AK101

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	115	RL7	13.8		mg/kg dry	☼	09/27/13 08:59	09/29/13 04:00	200
Benzene	3.40	RL7	0.0828		mg/kg dry	☼	09/27/13 08:59	09/29/13 04:00	200
Toluene	11.2	RL7	0.166		mg/kg dry	☼	09/27/13 08:59	09/29/13 04:00	200
Ethylbenzene	2.02	RL7	0.166		mg/kg dry	☼	09/27/13 08:59	09/29/13 04:00	200
Xylenes (total)	28.1	RL7	0.497		mg/kg dry	☼	09/27/13 08:59	09/29/13 04:00	200
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-BFB (FID)	94.3		50 - 150				09/27/13 08:59	09/29/13 04:00	200
a,a,a-TFT (FID)	69.8		50 - 150				09/27/13 08:59	09/29/13 04:00	200
4-BFB (PID)	87.4		50 - 150				09/27/13 08:59	09/29/13 04:00	200
a,a,a-TFT (PID)	29.7	Z6 Z5	50 - 150				09/27/13 08:59	09/29/13 04:00	200

**Client Sample ID: Cont1-J**

**Lab Sample ID: AWI0061-04**

**Date Collected: 09/20/13 07:56**

**Matrix: Soil**

**Date Received: 09/26/13 13:11**

**Percent Solids: 77.2**

## Method: AK102/103 - Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics	5550	Q2 RL7	274		mg/kg dry	☼	09/27/13 08:54	09/29/13 17:44	10.0
Residual Range Organics	ND	RL7	686		mg/kg dry	☼	09/27/13 08:54	09/29/13 17:44	10.0
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	139		50 - 150				09/27/13 08:54	09/29/13 17:44	10.0
Triacontane	103		50 - 150				09/27/13 08:54	09/29/13 17:44	10.0

## Method: AK101/EPA 8021B - Gasoline Range Organics (C6-C10) and BTEX per AK101

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	112	RL7	14.5		mg/kg dry	☼	09/27/13 08:59	09/29/13 04:27	200
Benzene	1.72	RL7	0.0869		mg/kg dry	☼	09/27/13 08:59	09/29/13 04:27	200
Toluene	9.05	RL7	0.174		mg/kg dry	☼	09/27/13 08:59	09/29/13 04:27	200
Ethylbenzene	1.23	RL7	0.174		mg/kg dry	☼	09/27/13 08:59	09/29/13 04:27	200
Xylenes (total)	27.1	RL7	0.522		mg/kg dry	☼	09/27/13 08:59	09/29/13 04:27	200
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-BFB (FID)	112		50 - 150				09/27/13 08:59	09/29/13 04:27	200
a,a,a-TFT (FID)	119		50 - 150				09/27/13 08:59	09/29/13 04:27	200
4-BFB (PID)	97.3		50 - 150				09/27/13 08:59	09/29/13 04:27	200
a,a,a-TFT (PID)	86.9		50 - 150				09/27/13 08:59	09/29/13 04:27	200

TestAmerica Anchorage

# Client Sample Results

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

**Client Sample ID: Cont1-K**

**Lab Sample ID: AWI0061-05**

**Date Collected: 09/20/13 08:03**

**Matrix: Soil**

**Date Received: 09/26/13 13:11**

**Percent Solids: 75.3**

## Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	64.5		3.75		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:20	200
2-Methylnaphthalene	158		3.75		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:20	200
1-Methylnaphthalene	157		3.75		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:20	200
Acenaphthylene	ND		3.75		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:20	200
Acenaphthene	4.75		3.75		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:20	200
Fluorene	ND		3.75		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:20	200
Phenanthrene	8.25		3.75		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:20	200
Anthracene	ND		3.75		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:20	200
Fluoranthene	ND		3.75		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:20	200
Pyrene	ND		3.75		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:20	200
Benzo (a) anthracene	ND		3.75		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:20	200
Chrysene	ND		3.75		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:20	200
Benzo (b) fluoranthene	ND		3.75		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:20	200
Benzo (k) fluoranthene	ND		3.75		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:20	200
Benzo (a) pyrene	ND		3.75		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:20	200
Indeno (1,2,3-cd) pyrene	ND		3.75		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:20	200
Dibenzo (a,h) anthracene	ND		2.25		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:20	200
Benzo (ghi) perylene	ND		3.75		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:20	200
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	2640	Z3	53.2 - 137				09/27/13 13:39	09/30/13 13:20	200
2-FBP	440	Z3	63.6 - 123				09/27/13 13:39	09/30/13 13:20	200
p-Terphenyl-d14	120		65.6 - 167				09/27/13 13:39	09/30/13 13:20	200

## Method: AK102/103 - Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics	22400	RL7 Q2	277		mg/kg dry	☼	09/27/13 08:54	09/29/13 18:16	10.0
Residual Range Organics	ND	RL7	693		mg/kg dry	☼	09/27/13 08:54	09/29/13 18:16	10.0
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	124		50 - 150				09/27/13 08:54	09/29/13 18:16	10.0
Triacontane	113		50 - 150				09/27/13 08:54	09/29/13 18:16	10.0

## Method: AK101/EPA 8021B - Gasoline Range Organics (C6-C10) and BTEX per AK101

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	94.1	RL7	13.5		mg/kg dry	☼	09/27/13 08:59	09/29/13 04:54	200
Benzene	0.624	RL7	0.0811		mg/kg dry	☼	09/27/13 08:59	09/29/13 04:54	200
Toluene	2.26	RL7	0.162		mg/kg dry	☼	09/27/13 08:59	09/29/13 04:54	200
Ethylbenzene	0.869	RL7	0.162		mg/kg dry	☼	09/27/13 08:59	09/29/13 04:54	200
Xylenes (total)	27.4	RL7	0.487		mg/kg dry	☼	09/27/13 08:59	09/29/13 04:54	200
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-BFB (FID)	133		50 - 150				09/27/13 08:59	09/29/13 04:54	200
a,a,a-TFT (FID)	236	ZX Z5	50 - 150				09/27/13 08:59	09/29/13 04:54	200
4-BFB (PID)	105		50 - 150				09/27/13 08:59	09/29/13 04:54	200
a,a,a-TFT (PID)	73.0		50 - 150				09/27/13 08:59	09/29/13 04:54	200

TestAmerica Anchorage



# Client Sample Results

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

**Client Sample ID: Cont1-L**

**Lab Sample ID: AWI0061-06**

**Date Collected: 09/20/13 08:06**

**Matrix: Soil**

**Date Received: 09/26/13 13:11**

**Percent Solids: 75.1**

## Method: AK102/103 - Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics	21400	Q2 RL7	295		mg/kg dry	☼	09/27/13 08:54	09/29/13 16:40	10.0
Residual Range Organics	ND	RL7	737		mg/kg dry	☼	09/27/13 08:54	09/29/13 16:40	10.0
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	88.6		50 - 150				09/27/13 08:54	09/29/13 16:40	10.0
Triacontane	111		50 - 150				09/27/13 08:54	09/29/13 16:40	10.0

## Method: AK101/EPA 8021B - Gasoline Range Organics (C6-C10) and BTEX per AK101

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	134	RL7	37.1		mg/kg dry	☼	09/27/13 08:59	09/28/13 22:08	500
Benzene	1.02	RL7	0.223		mg/kg dry	☼	09/27/13 08:59	09/28/13 22:08	500
Toluene	1.28	RL7 R1	0.445		mg/kg dry	☼	09/27/13 08:59	09/28/13 22:08	500
Ethylbenzene	4.59	RL7	0.445		mg/kg dry	☼	09/27/13 08:59	09/28/13 22:08	500
Xylenes (total)	39.5	RL7	1.34		mg/kg dry	☼	09/27/13 08:59	09/28/13 22:08	500
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-BFB (FID)	148		50 - 150				09/27/13 08:59	09/28/13 22:08	500
a,a,a-TFT (FID)	319	ZX Z3	50 - 150				09/27/13 08:59	09/28/13 22:08	500
4-BFB (PID)	128		50 - 150				09/27/13 08:59	09/28/13 22:08	500
a,a,a-TFT (PID)	90.4	Z3	50 - 150				09/27/13 08:59	09/28/13 22:08	500

**Client Sample ID: Cont1-M**

**Lab Sample ID: AWI0061-07**

**Date Collected: 09/20/13 08:20**

**Matrix: Soil**

**Date Received: 09/26/13 13:11**

**Percent Solids: 76.1**

## Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	16.5		0.395		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:42	25.0
2-Methylnaphthalene	36.3		0.395		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:42	25.0
1-Methylnaphthalene	32.3		0.395		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:42	25.0
Acenaphthylene	ND		0.395		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:42	25.0
Acenaphthene	1.13		0.395		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:42	25.0
Fluorene	ND		0.395		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:42	25.0
Phenanthrene	1.84		0.395		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:42	25.0
Anthracene	ND		0.395		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:42	25.0
Fluoranthene	ND		0.395		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:42	25.0
Pyrene	ND		0.395		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:42	25.0
Benzo (a) anthracene	ND		0.395		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:42	25.0
Chrysene	ND		0.395		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:42	25.0
Benzo (b) fluoranthene	ND		0.395		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:42	25.0
Benzo (k) fluoranthene	ND		0.395		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:42	25.0
Benzo (a) pyrene	ND		0.395		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:42	25.0
Indeno (1,2,3-cd) pyrene	ND		0.395		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:42	25.0
Dibenzo (a,h) anthracene	ND		0.237		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:42	25.0
Benzo (ghi) perylene	ND		0.395		mg/kg dry	☼	09/27/13 13:39	09/30/13 13:42	25.0
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	920	Z3	53.2 - 137				09/27/13 13:39	09/30/13 13:42	25.0
2-FBP	165	Z3	63.6 - 123				09/27/13 13:39	09/30/13 13:42	25.0
p-Terphenyl-d14	120		65.6 - 167				09/27/13 13:39	09/30/13 13:42	25.0

TestAmerica Anchorage

# Client Sample Results

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

**Client Sample ID: Cont1-M**

**Lab Sample ID: AWI0061-07**

**Date Collected: 09/20/13 08:20**

**Matrix: Soil**

**Date Received: 09/26/13 13:11**

**Percent Solids: 76.6**

## Method: AK102/103 - Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics	10500	Q2 RL7	266		mg/kg dry	☼	09/27/13 08:54	09/29/13 17:12	10.0
Residual Range Organics	ND	RL7	666		mg/kg dry	☼	09/27/13 08:54	09/29/13 17:12	10.0
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	137		50 - 150				09/27/13 08:54	09/29/13 17:12	10.0
Triacontane	113		50 - 150				09/27/13 08:54	09/29/13 17:12	10.0

## Method: AK101/EPA 8021B - Gasoline Range Organics (C6-C10) and BTEX per AK101

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	93.3	RL7	15.4		mg/kg dry	☼	09/27/13 08:59	09/28/13 22:35	200
Benzene	0.150	RL7	0.0927		mg/kg dry	☼	09/27/13 08:59	09/28/13 22:35	200
Toluene	1.16	RL7 R1	0.185		mg/kg dry	☼	09/27/13 08:59	09/28/13 22:35	200
Ethylbenzene	2.17	RL7	0.185		mg/kg dry	☼	09/27/13 08:59	09/28/13 22:35	200
Xylenes (total)	26.3	RL7	0.556		mg/kg dry	☼	09/27/13 08:59	09/28/13 22:35	200
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-BFB (FID)	115		50 - 150				09/27/13 08:59	09/28/13 22:35	200
a,a,a-TFT (FID)	107		50 - 150				09/27/13 08:59	09/28/13 22:35	200
4-BFB (PID)	98.1		50 - 150				09/27/13 08:59	09/28/13 22:35	200
a,a,a-TFT (PID)	78.4		50 - 150				09/27/13 08:59	09/28/13 22:35	200

**Client Sample ID: Cont1-6**

**Lab Sample ID: AWI0061-08**

**Date Collected: 09/20/13 08:27**

**Matrix: Soil**

**Date Received: 09/26/13 13:11**

**Percent Solids: 93.4**

## Method: AK102/103 - Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics	2530	Q2	22.8		mg/kg dry	☼	09/27/13 08:54	09/28/13 17:27	1.00
Residual Range Organics	229	Q4	57.0		mg/kg dry	☼	09/27/13 08:54	09/28/13 17:27	1.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	124		50 - 150				09/27/13 08:54	09/28/13 17:27	1.00
Triacontane	121		50 - 150				09/27/13 08:54	09/28/13 17:27	1.00

## Method: AK101/EPA 8021B - Gasoline Range Organics (C6-C10) and BTEX per AK101

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	63.2		4.03		mg/kg dry	☼	09/27/13 08:59	09/28/13 23:03	100
Benzene	ND		0.0242		mg/kg dry	☼	09/27/13 08:59	09/28/13 23:03	100
Toluene	0.438	R1	0.0484		mg/kg dry	☼	09/27/13 08:59	09/28/13 23:03	100
Ethylbenzene	1.39	R1	0.0484		mg/kg dry	☼	09/27/13 08:59	09/28/13 23:03	100
Xylenes (total)	1.89		0.145		mg/kg dry	☼	09/27/13 08:59	09/28/13 23:03	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-BFB (FID)	147		50 - 150				09/27/13 08:59	09/28/13 23:03	100
a,a,a-TFT (FID)	137		50 - 150				09/27/13 08:59	09/28/13 23:03	100
4-BFB (PID)	99.9		50 - 150				09/27/13 08:59	09/28/13 23:03	100
a,a,a-TFT (PID)	108		50 - 150				09/27/13 08:59	09/28/13 23:03	100

TestAmerica Anchorage

# Client Sample Results

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

Client Sample ID: Cont1A-Q

Lab Sample ID: AWI0061-09

Date Collected: 09/20/13 13:01

Matrix: Soil

Date Received: 09/26/13 13:11

Percent Solids: 73.9

## Method: AK102/103 - Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics	25400	Q2 RL7	303		mg/kg dry	☼	09/27/13 08:54	09/29/13 17:44	10.0
Residual Range Organics	ND	RL7	758		mg/kg dry	☼	09/27/13 08:54	09/29/13 17:44	10.0
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	84.7		50 - 150				09/27/13 08:54	09/29/13 17:44	10.0
Triacontane	111		50 - 150				09/27/13 08:54	09/29/13 17:44	10.0

## Method: AK101/EPA 8021B - Gasoline Range Organics (C6-C10) and BTEX per AK101

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	91.7	RL7	37.3		mg/kg dry	☼	09/27/13 08:59	09/28/13 23:30	500
Benzene	1.01	RL7	0.224		mg/kg dry	☼	09/27/13 08:59	09/28/13 23:30	500
Toluene	0.856	RL7 R1	0.448		mg/kg dry	☼	09/27/13 08:59	09/28/13 23:30	500
Ethylbenzene	4.36	RL7	0.448		mg/kg dry	☼	09/27/13 08:59	09/28/13 23:30	500
Xylenes (total)	33.9	RL7	1.34		mg/kg dry	☼	09/27/13 08:59	09/28/13 23:30	500
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-BFB (FID)	131		50 - 150				09/27/13 08:59	09/28/13 23:30	500
a,a,a-TFT (FID)	105	Z3	50 - 150				09/27/13 08:59	09/28/13 23:30	500
4-BFB (PID)	117		50 - 150				09/27/13 08:59	09/28/13 23:30	500
a,a,a-TFT (PID)	61.1	Z3	50 - 150				09/27/13 08:59	09/28/13 23:30	500

Client Sample ID: Cont1A-R

Lab Sample ID: AWI0061-10

Date Collected: 09/20/13 18:27

Matrix: Soil

Date Received: 09/26/13 13:11

Percent Solids: 91.1

## Method: AK102/103 - Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics	3200	Q2 RL7	230		mg/kg dry	☼	09/27/13 08:54	09/29/13 18:16	10.0
Residual Range Organics	ND	RL7	576		mg/kg dry	☼	09/27/13 08:54	09/29/13 18:16	10.0
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	109		50 - 150				09/27/13 08:54	09/29/13 18:16	10.0
Triacontane	116		50 - 150				09/27/13 08:54	09/29/13 18:16	10.0

## Method: AK101/EPA 8021B - Gasoline Range Organics (C6-C10) and BTEX per AK101

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	57.3		3.78		mg/kg dry	☼	09/27/13 08:59	09/28/13 23:57	100
Benzene	ND		0.0227		mg/kg dry	☼	09/27/13 08:59	09/28/13 23:57	100
Toluene	0.390	R1	0.0454		mg/kg dry	☼	09/27/13 08:59	09/28/13 23:57	100
Ethylbenzene	ND	R10	0.0454		mg/kg dry	☼	09/27/13 08:59	09/28/13 23:57	100
Xylenes (total)	1.60		0.136		mg/kg dry	☼	09/27/13 08:59	09/28/13 23:57	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-BFB (FID)	149		50 - 150				09/27/13 08:59	09/28/13 23:57	100
a,a,a-TFT (FID)	92.7		50 - 150				09/27/13 08:59	09/28/13 23:57	100
4-BFB (PID)	93.2		50 - 150				09/27/13 08:59	09/28/13 23:57	100
a,a,a-TFT (PID)	86.2		50 - 150				09/27/13 08:59	09/28/13 23:57	100

TestAmerica Anchorage

# Client Sample Results

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

Client Sample ID: Cont2-B1

Lab Sample ID: AWI0061-11

Date Collected: 09/20/13 09:09

Matrix: Soil

Date Received: 09/26/13 13:11

Percent Solids: 94.2

## Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0533		mg/kg dry	☼	09/27/13 13:39	09/30/13 14:05	5.00
2-Methylnaphthalene	0.142		0.0533		mg/kg dry	☼	09/27/13 13:39	09/30/13 14:05	5.00
1-Methylnaphthalene	0.640		0.0533		mg/kg dry	☼	09/27/13 13:39	09/30/13 14:05	5.00
Acenaphthylene	ND		0.0533		mg/kg dry	☼	09/27/13 13:39	09/30/13 14:05	5.00
Acenaphthene	ND		0.0533		mg/kg dry	☼	09/27/13 13:39	09/30/13 14:05	5.00
Fluorene	ND		0.0533		mg/kg dry	☼	09/27/13 13:39	09/30/13 14:05	5.00
Phenanthrene	0.178		0.0533		mg/kg dry	☼	09/27/13 13:39	09/30/13 14:05	5.00
Anthracene	ND		0.0533		mg/kg dry	☼	09/27/13 13:39	09/30/13 14:05	5.00
Fluoranthene	ND		0.0533		mg/kg dry	☼	09/27/13 13:39	09/30/13 14:05	5.00
Pyrene	ND		0.0533		mg/kg dry	☼	09/27/13 13:39	09/30/13 14:05	5.00
Benzo (a) anthracene	ND		0.0533		mg/kg dry	☼	09/27/13 13:39	09/30/13 14:05	5.00
Chrysene	ND		0.0533		mg/kg dry	☼	09/27/13 13:39	09/30/13 14:05	5.00
Benzo (b) fluoranthene	ND		0.0533		mg/kg dry	☼	09/27/13 13:39	09/30/13 14:05	5.00
Benzo (k) fluoranthene	ND		0.0533		mg/kg dry	☼	09/27/13 13:39	09/30/13 14:05	5.00
Benzo (a) pyrene	ND		0.0533		mg/kg dry	☼	09/27/13 13:39	09/30/13 14:05	5.00
Indeno (1,2,3-cd) pyrene	ND		0.0533		mg/kg dry	☼	09/27/13 13:39	09/30/13 14:05	5.00
Dibenzo (a,h) anthracene	ND		0.0320		mg/kg dry	☼	09/27/13 13:39	09/30/13 14:05	5.00
Benzo (ghi) perylene	ND		0.0533		mg/kg dry	☼	09/27/13 13:39	09/30/13 14:05	5.00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	123		53.2 - 137	09/27/13 13:39	09/30/13 14:05	5.00
2-FBP	90.0		63.6 - 123	09/27/13 13:39	09/30/13 14:05	5.00
p-Terphenyl-d14	89.0		65.6 - 167	09/27/13 13:39	09/30/13 14:05	5.00

## Method: AK102/103 - Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics	1150	Q2	22.1		mg/kg dry	☼	09/27/13 08:54	09/28/13 17:59	1.00
Residual Range Organics	ND		55.2		mg/kg dry	☼	09/27/13 08:54	09/28/13 17:59	1.00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	113		50 - 150	09/27/13 08:54	09/28/13 17:59	1.00
Triacontane	113		50 - 150	09/27/13 08:54	09/28/13 17:59	1.00

## Method: AK101/EPA 8021B - Gasoline Range Organics (C6-C10) and BTEX per AK101

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	15.2		1.55		mg/kg dry	☼	09/27/13 08:59	09/29/13 00:24	33.3
Benzene	ND		0.00929		mg/kg dry	☼	09/27/13 08:59	09/29/13 00:24	33.3
Toluene	0.0218	R1	0.0186		mg/kg dry	☼	09/27/13 08:59	09/29/13 00:24	33.3
Ethylbenzene	ND		0.0186		mg/kg dry	☼	09/27/13 08:59	09/29/13 00:24	33.3
Xylenes (total)	0.640	R1	0.0557		mg/kg dry	☼	09/27/13 08:59	09/29/13 00:24	33.3

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-BFB (FID)	144		50 - 150	09/27/13 08:59	09/29/13 00:24	33.3
a,a,a-TFT (FID)	107		50 - 150	09/27/13 08:59	09/29/13 00:24	33.3
4-BFB (PID)	71.5		50 - 150	09/27/13 08:59	09/29/13 00:24	33.3
a,a,a-TFT (PID)	99.9		50 - 150	09/27/13 08:59	09/29/13 00:24	33.3

TestAmerica Anchorage

# Client Sample Results

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

Client Sample ID: Cont2-B3

Lab Sample ID: AWI0061-12

Date Collected: 09/20/13 09:15

Matrix: Soil

Date Received: 09/26/13 13:11

Percent Solids: 93.8

## Method: AK102/103 - Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics	785	Q2	22.0		mg/kg dry	☼	09/27/13 08:54	09/28/13 18:31	1.00
Residual Range Organics	ND		55.0		mg/kg dry	☼	09/27/13 08:54	09/28/13 18:31	1.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	110		50 - 150				09/27/13 08:54	09/28/13 18:31	1.00
Triacontane	117		50 - 150				09/27/13 08:54	09/28/13 18:31	1.00

## Method: AK101/EPA 8021B - Gasoline Range Organics (C6-C10) and BTEX per AK101

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	2.50		1.24		mg/kg dry	☼	09/27/13 08:59	09/29/13 00:51	33.3
Benzene	ND		0.00747		mg/kg dry	☼	09/27/13 08:59	09/29/13 00:51	33.3
Toluene	0.0166		0.0149		mg/kg dry	☼	09/27/13 08:59	09/29/13 00:51	33.3
Ethylbenzene	ND		0.0149		mg/kg dry	☼	09/27/13 08:59	09/29/13 00:51	33.3
Xylenes (total)	0.118	R1	0.0448		mg/kg dry	☼	09/27/13 08:59	09/29/13 00:51	33.3
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-BFB (FID)	82.6		50 - 150				09/27/13 08:59	09/29/13 00:51	33.3
a,a,a-TFT (FID)	117		50 - 150				09/27/13 08:59	09/29/13 00:51	33.3
4-BFB (PID)	130		50 - 150				09/27/13 08:59	09/29/13 00:51	33.3
a,a,a-TFT (PID)	109		50 - 150				09/27/13 08:59	09/29/13 00:51	33.3

Client Sample ID: Cont2-B8

Lab Sample ID: AWI0061-13

Date Collected: 09/20/13 09:18

Matrix: Soil

Date Received: 09/26/13 13:11

Percent Solids: 93

## Method: AK102/103 - Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics	1070	Q2	21.1		mg/kg dry	☼	09/27/13 08:54	09/28/13 18:31	1.00
Residual Range Organics	ND		52.8		mg/kg dry	☼	09/27/13 08:54	09/28/13 18:31	1.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	126		50 - 150				09/27/13 08:54	09/28/13 18:31	1.00
Triacontane	126		50 - 150				09/27/13 08:54	09/28/13 18:31	1.00

## Method: AK101/EPA 8021B - Gasoline Range Organics (C6-C10) and BTEX per AK101

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	5.74		1.28		mg/kg dry	☼	09/27/13 08:59	09/29/13 02:12	33.3
Benzene	ND		0.00766		mg/kg dry	☼	09/27/13 08:59	09/29/13 02:12	33.3
Toluene	0.0242	R1	0.0153		mg/kg dry	☼	09/27/13 08:59	09/29/13 02:12	33.3
Ethylbenzene	0.0170		0.0153		mg/kg dry	☼	09/27/13 08:59	09/29/13 02:12	33.3
Xylenes (total)	0.189	R1	0.0460		mg/kg dry	☼	09/27/13 08:59	09/29/13 02:12	33.3
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-BFB (FID)	71.4		50 - 150				09/27/13 08:59	09/29/13 02:12	33.3
a,a,a-TFT (FID)	112		50 - 150				09/27/13 08:59	09/29/13 02:12	33.3
4-BFB (PID)	73.6		50 - 150				09/27/13 08:59	09/29/13 02:12	33.3
a,a,a-TFT (PID)	104		50 - 150				09/27/13 08:59	09/29/13 02:12	33.3

TestAmerica Anchorage

# Client Sample Results

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

**Client Sample ID: Cont2-B10**

**Lab Sample ID: AWI0061-14**

**Date Collected: 09/20/13 09:21**

**Matrix: Soil**

**Date Received: 09/26/13 13:11**

**Percent Solids: 92.8**

## Method: AK102/103 - Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics	58.8	Q11	22.8		mg/kg dry	☼	09/27/13 08:54	09/28/13 13:44	1.00
Residual Range Organics	ND		57.0		mg/kg dry	☼	09/27/13 08:54	09/28/13 13:44	1.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	110		50 - 150				09/27/13 08:54	09/28/13 13:44	1.00
Triacontane	121		50 - 150				09/27/13 08:54	09/28/13 13:44	1.00

## Method: AK101/EPA 8021B - Gasoline Range Organics (C6-C10) and BTEX per AK101

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	ND		1.39		mg/kg dry	☼	09/27/13 08:59	09/29/13 02:39	33.3
Benzene	ND		0.00832		mg/kg dry	☼	09/27/13 08:59	09/29/13 02:39	33.3
Toluene	ND		0.0166		mg/kg dry	☼	09/27/13 08:59	09/29/13 02:39	33.3
Ethylbenzene	ND		0.0166		mg/kg dry	☼	09/27/13 08:59	09/29/13 02:39	33.3
Xylenes (total)	ND		0.0499		mg/kg dry	☼	09/27/13 08:59	09/29/13 02:39	33.3
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-BFB (FID)	84.0		50 - 150				09/27/13 08:59	09/29/13 02:39	33.3
a,a,a-TFT (FID)	103		50 - 150				09/27/13 08:59	09/29/13 02:39	33.3
4-BFB (PID)	82.8		50 - 150				09/27/13 08:59	09/29/13 02:39	33.3
a,a,a-TFT (PID)	96.1		50 - 150				09/27/13 08:59	09/29/13 02:39	33.3

**Client Sample ID: Cont2-A2**

**Lab Sample ID: AWI0061-15**

**Date Collected: 09/20/13 09:26**

**Matrix: Soil**

**Date Received: 09/26/13 13:11**

**Percent Solids: 93.6**

## Method: AK102/103 - Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics	ND		21.3		mg/kg dry	☼	09/27/13 08:54	09/28/13 19:03	1.00
Residual Range Organics	ND		53.1		mg/kg dry	☼	09/27/13 08:54	09/28/13 19:03	1.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	103		50 - 150				09/27/13 08:54	09/28/13 19:03	1.00
Triacontane	117		50 - 150				09/27/13 08:54	09/28/13 19:03	1.00

## Method: AK101/EPA 8021B - Gasoline Range Organics (C6-C10) and BTEX per AK101

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	ND		1.24		mg/kg dry	☼	09/27/13 08:59	09/28/13 18:59	33.3
Benzene	ND		0.00748		mg/kg dry	☼	09/27/13 08:59	09/28/13 18:59	33.3
Toluene	ND		0.0150		mg/kg dry	☼	09/27/13 08:59	09/28/13 18:59	33.3
Ethylbenzene	ND		0.0150		mg/kg dry	☼	09/27/13 08:59	09/28/13 18:59	33.3
Xylenes (total)	ND		0.0449		mg/kg dry	☼	09/27/13 08:59	09/28/13 18:59	33.3
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-BFB (FID)	131		50 - 150				09/27/13 08:59	09/28/13 18:59	33.3
a,a,a-TFT (FID)	95.2		50 - 150				09/27/13 08:59	09/28/13 18:59	33.3
4-BFB (PID)	124		50 - 150				09/27/13 08:59	09/28/13 18:59	33.3
a,a,a-TFT (PID)	88.6		50 - 150				09/27/13 08:59	09/28/13 18:59	33.3

TestAmerica Anchorage



# Client Sample Results

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

**Client Sample ID: Cont2-A5**

**Lab Sample ID: AWI0061-16**

**Date Collected: 09/20/13 09:30**

**Matrix: Soil**

**Date Received: 09/26/13 13:11**

**Percent Solids: 94**

## Method: AK102/103 - Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics	ND		22.3		mg/kg dry	☼	09/27/13 08:54	09/28/13 19:35	1.00
Residual Range Organics	ND		55.7		mg/kg dry	☼	09/27/13 08:54	09/28/13 19:35	1.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	103		50 - 150				09/27/13 08:54	09/28/13 19:35	1.00
Triacontane	113		50 - 150				09/27/13 08:54	09/28/13 19:35	1.00

## Method: AK101/EPA 8021B - Gasoline Range Organics (C6-C10) and BTEX per AK101

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	ND		1.24		mg/kg dry	☼	09/27/13 08:59	09/28/13 21:41	33.3
Benzene	ND		0.00743		mg/kg dry	☼	09/27/13 08:59	09/28/13 21:41	33.3
Toluene	ND		0.0149		mg/kg dry	☼	09/27/13 08:59	09/28/13 21:41	33.3
Ethylbenzene	ND		0.0149		mg/kg dry	☼	09/27/13 08:59	09/28/13 21:41	33.3
Xylenes (total)	ND		0.0446		mg/kg dry	☼	09/27/13 08:59	09/28/13 21:41	33.3
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-BFB (FID)	123		50 - 150				09/27/13 08:59	09/28/13 21:41	33.3
a,a,a-TFT (FID)	104		50 - 150				09/27/13 08:59	09/28/13 21:41	33.3
4-BFB (PID)	117		50 - 150				09/27/13 08:59	09/28/13 21:41	33.3
a,a,a-TFT (PID)	95.8		50 - 150				09/27/13 08:59	09/28/13 21:41	33.3

**Client Sample ID: Cont3-P**

**Lab Sample ID: AWI0061-17**

**Date Collected: 09/20/13 16:16**

**Matrix: Soil**

**Date Received: 09/26/13 13:11**

**Percent Solids: 93.5**

## Method: AK102/103 - Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics	812	Q2	20.8		mg/kg dry	☼	09/27/13 08:54	09/28/13 19:03	1.00
Residual Range Organics	ND		52.0		mg/kg dry	☼	09/27/13 08:54	09/28/13 19:03	1.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	120		50 - 150				09/27/13 08:54	09/28/13 19:03	1.00
Triacontane	122		50 - 150				09/27/13 08:54	09/28/13 19:03	1.00

## Method: AK101/EPA 8021B - Gasoline Range Organics (C6-C10) and BTEX per AK101

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	ND		1.22		mg/kg dry	☼	09/27/13 08:59	09/29/13 03:33	33.3
Benzene	ND		0.00736		mg/kg dry	☼	09/27/13 08:59	09/29/13 03:33	33.3
Toluene	ND		0.0147		mg/kg dry	☼	09/27/13 08:59	09/29/13 03:33	33.3
Ethylbenzene	ND		0.0147		mg/kg dry	☼	09/27/13 08:59	09/29/13 03:33	33.3
Xylenes (total)	ND		0.0441		mg/kg dry	☼	09/27/13 08:59	09/29/13 03:33	33.3
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-BFB (FID)	125		50 - 150				09/27/13 08:59	09/29/13 03:33	33.3
a,a,a-TFT (FID)	100		50 - 150				09/27/13 08:59	09/29/13 03:33	33.3
4-BFB (PID)	110		50 - 150				09/27/13 08:59	09/29/13 03:33	33.3
a,a,a-TFT (PID)	93.5		50 - 150				09/27/13 08:59	09/29/13 03:33	33.3

TestAmerica Anchorage

# Client Sample Results

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

**Client Sample ID: Trip Blank**

**Lab Sample ID: AWI0061-18**

**Date Collected: 09/20/13 00:00**

**Matrix: Soil**

**Date Received: 09/26/13 13:11**

**Percent Solids: 100**

## Method: AK101/EPA 8021B - Gasoline Range Organics (C6-C10) and BTEX per AK101

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	ND		3.33		mg/kg dry	☼	09/27/13 08:59	09/28/13 17:37	33.3
Benzene	ND		0.0200		mg/kg dry	☼	09/27/13 08:59	09/28/13 17:37	33.3
Toluene	ND		0.0400		mg/kg dry	☼	09/27/13 08:59	09/28/13 17:37	33.3
Ethylbenzene	ND		0.0400		mg/kg dry	☼	09/27/13 08:59	09/28/13 17:37	33.3
Xylenes (total)	ND		0.120		mg/kg dry	☼	09/27/13 08:59	09/28/13 17:37	33.3

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-BFB (FID)	116		50 - 150	09/27/13 08:59	09/28/13 17:37	33.3
a,a,a-TFT (FID)	94.9		50 - 150	09/27/13 08:59	09/28/13 17:37	33.3
4-BFB (PID)	104		50 - 150	09/27/13 08:59	09/28/13 17:37	33.3
a,a,a-TFT (PID)	88.3		50 - 150	09/27/13 08:59	09/28/13 17:37	33.3

TestAmerica Anchorage

## Surrogate Summary

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

### Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Matrix: Soil

Prep Type: Total

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		NBZ (53.2-137)	2-FBP (63.6-123)	p-Terphenyl-d (65.6-167)
13I0172-BLK1	Method Blank	95.4	95.4	128
13I0172-BS1	Lab Control Sample	94.4	102	110
13I0172-BSD1	Lab Control Sample Dup	99.4	96.8	118
AWI0061-05	Cont1-K	2640 Z3	440 Z3	120
AWI0061-07	Cont1-M	920 Z3	165 Z3	120
AWI0061-11	Cont2-B1	123	90.0	89.0

**Surrogate Legend**

NBZ = Nitrobenzene-d5

2-FBP = 2-FBP

p-Terphenyl-d14 = p-Terphenyl-d14

### Method: AK102/103 - Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36)

per AK102/RRO

Matrix: Soil

Prep Type: Total

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		1COD (50-150)	TC (50-150)
13I0091-BLK1	Method Blank	102	108
13I0091-DUP1	Cont2-B10	114	116
13I0091-MS1	Cont2-B10	100	110
13I0091-MSD1	Cont2-B10	108	117
AWI0061-01	Cont1-A	123	107
AWI0061-02	Cont1-E	121	110
AWI0061-03	Cont1-I	119	112
AWI0061-04	Cont1-J	139	103
AWI0061-05	Cont1-K	124	113
AWI0061-06	Cont1-L	88.6	111
AWI0061-07	Cont1-M	137	113
AWI0061-08	Cont1-6	124	121
AWI0061-09	Cont1A-Q	84.7	111
AWI0061-10	Cont1A-R	109	116
AWI0061-11	Cont2-B1	113	113
AWI0061-12	Cont2-B3	110	117
AWI0061-13	Cont2-B8	126	126
AWI0061-14	Cont2-B10	110	121
AWI0061-15	Cont2-A2	103	117
AWI0061-16	Cont2-A5	103	113
AWI0061-17	Cont3-P	120	122

**Surrogate Legend**

1COD = 1-Chlorooctadecane

TC = Triacontane

TestAmerica Anchorage

# Surrogate Summary

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

## Method: AK102/103 - Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36)

per AK102/RRO

Matrix: Soil

Prep Type: Total

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	1COD (60-120)	TC (60-120)				
13I0091-BS1	Lab Control Sample	117	116				
13I0091-BS1	Lab Control Sample Dup	114	116				
<b>Surrogate Legend</b>							
1COD = 1-Chlorooctadecane							
TC = Triacontane							

## Method: AK101/EPA 8021B - Gasoline Range Organics (C6-C10) and BTEX per AK101

Matrix: Soil

Prep Type: Total

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	4-BFB (FID) (50-150)	a,a-TFT (FID) (50-150)	4-BFB (PID) (50-150)	a,a-TFT (PID) (50-150)	4-BFB (PID) (47.8-145)	4-BFB (PID) (50-150)	a,a-TFT (PID) (50-150)	a,a-TFT (PID) (64.8-135)
13I0093-BLK1	Method Blank	143	104	133	96.2		133	96.2	
13I0093-DUP1	Cont2-A2	105	81.1	99.6	75.5		99.6	75.5	
13I0093-MS1	Cont2-A2			131	87.2		131	87.2	
13I0093-MSD1	Cont2-A2			119	84.2		119	84.2	
AWI0061-01	Cont1-A	149	137	111	103		111	103	
AWI0061-02	Cont1-E	149	89.6	74.3	76.7		74.3	76.7	
AWI0061-03	Cont1-I	94.3	69.8	87.4	29.7 Z6		87.4	29.7 Z6	
					Z5			Z5	
AWI0061-04	Cont1-J	112	119	97.3	86.9		97.3	86.9	
AWI0061-05	Cont1-K	133	236 ZX	105	73.0		105	73.0	
			Z5						
AWI0061-06	Cont1-L	148	319 ZX	128	90.4 Z3		128	90.4 Z3	
			Z3						
AWI0061-07	Cont1-M	115	107	98.1	78.4		98.1	78.4	
AWI0061-08	Cont1-6	147	137	99.9	108		99.9	108	
AWI0061-09	Cont1A-Q	131	105 Z3	117	61.1 Z3		117	61.1 Z3	
AWI0061-10	Cont1A-R	149	92.7	93.2	86.2		93.2	86.2	
AWI0061-11	Cont2-B1	144	107	71.5	99.9		71.5	99.9	
AWI0061-12	Cont2-B3	82.6	117	130	109		130	109	
AWI0061-13	Cont2-B8	71.4	112	73.6	104		73.6	104	
AWI0061-14	Cont2-B10	84.0	103	82.8	96.1		82.8	96.1	
AWI0061-15	Cont2-A2	131	95.2	124	88.6		124	88.6	
AWI0061-16	Cont2-A5	123	104	117	95.8		117	95.8	
AWI0061-17	Cont3-P	125	100	110	93.5		110	93.5	
AWI0061-18	Trip Blank	116	94.9	104	88.3		104	88.3	
<b>Surrogate Legend</b>									
4-BFB (FID) = 4-BFB (FID)									
a,a,a-TFT (FID) = a,a,a-TFT (FID)									
4-BFB (PID) = 4-BFB (PID)									
a,a,a-TFT (PID) = a,a,a-TFT (PID)									

TestAmerica Anchorage

## Surrogate Summary

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

### Method: AK101/EPA 8021B - Gasoline Range Organics (C6-C10) and BTEX per AK101

Matrix: Soil

Prep Type: Total

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	4-BFB (PID) (47.8-145)	a,a-TFT (PII) (64.8-135)
13I0093-BS1	Lab Control Sample	117	93.7
13I0093-BSD1	Lab Control Sample Dup	112	94.7
<b>Surrogate Legend</b>			
4-BFB (PID) = 4-BFB (PID)			
a,a,a-TFT (PID) = a,a,a-TFT (PID)			

### Method: AK101/EPA 8021B - Gasoline Range Organics (C6-C10) and BTEX per AK101

Matrix: Soil

Prep Type: Total

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	4-BFB (FID) (60-120)	a,a-TFT (FII) (60-120)
13I0093-BS2	Lab Control Sample	109	114
13I0093-BSD2	Lab Control Sample Dup	120	115
<b>Surrogate Legend</b>			
4-BFB (FID) = 4-BFB (FID)			
a,a,a-TFT (FID) = a,a,a-TFT (FID)			

# QC Sample Results

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

## Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Lab Sample ID: 13I0172-BLK1

Matrix: Soil

Analysis Batch: 13I0172

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 13I0172\_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0100		mg/kg wet		09/27/13 13:39	09/27/13 17:55	1.00
2-Methylnaphthalene	ND		0.0100		mg/kg wet		09/27/13 13:39	09/27/13 17:55	1.00
1-Methylnaphthalene	ND		0.0100		mg/kg wet		09/27/13 13:39	09/27/13 17:55	1.00
Acenaphthylene	ND		0.0100		mg/kg wet		09/27/13 13:39	09/27/13 17:55	1.00
Acenaphthene	ND		0.0100		mg/kg wet		09/27/13 13:39	09/27/13 17:55	1.00
Fluorene	ND		0.0100		mg/kg wet		09/27/13 13:39	09/27/13 17:55	1.00
Phenanthrene	ND		0.0100		mg/kg wet		09/27/13 13:39	09/27/13 17:55	1.00
Anthracene	ND		0.0100		mg/kg wet		09/27/13 13:39	09/27/13 17:55	1.00
Fluoranthene	ND		0.0100		mg/kg wet		09/27/13 13:39	09/27/13 17:55	1.00
Pyrene	ND		0.0100		mg/kg wet		09/27/13 13:39	09/27/13 17:55	1.00
Benzo (a) anthracene	ND		0.0100		mg/kg wet		09/27/13 13:39	09/27/13 17:55	1.00
Chrysene	ND		0.0100		mg/kg wet		09/27/13 13:39	09/27/13 17:55	1.00
Benzo (b) fluoranthene	ND		0.0100		mg/kg wet		09/27/13 13:39	09/27/13 17:55	1.00
Benzo (k) fluoranthene	ND		0.0100		mg/kg wet		09/27/13 13:39	09/27/13 17:55	1.00
Benzo (a) pyrene	ND		0.0100		mg/kg wet		09/27/13 13:39	09/27/13 17:55	1.00
Indeno (1,2,3-cd) pyrene	ND		0.0100		mg/kg wet		09/27/13 13:39	09/27/13 17:55	1.00
Dibenzo (a,h) anthracene	ND		0.00600		mg/kg wet		09/27/13 13:39	09/27/13 17:55	1.00
Benzo (ghi) perylene	ND		0.0100		mg/kg wet		09/27/13 13:39	09/27/13 17:55	1.00

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	95.4		53.2 - 137	09/27/13 13:39	09/27/13 17:55	1.00
2-FBP	95.4		63.6 - 123	09/27/13 13:39	09/27/13 17:55	1.00
p-Terphenyl-d14	128		65.6 - 167	09/27/13 13:39	09/27/13 17:55	1.00

Lab Sample ID: 13I0172-BS1

Matrix: Soil

Analysis Batch: 13I0172

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 13I0172\_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	0.133	0.126		mg/kg wet		94.5	62.7 - 120
Fluorene	0.133	0.133		mg/kg wet		100	67.9 - 124
Chrysene	0.133	0.132		mg/kg wet		99.0	68.2 - 132
Indeno (1,2,3-cd) pyrene	0.133	0.130		mg/kg wet		97.5	52.6 - 149

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	94.4		53.2 - 137
2-FBP	102		63.6 - 123
p-Terphenyl-d14	110		65.6 - 167

Lab Sample ID: 13I0172-BSD1

Matrix: Soil

Analysis Batch: 13I0172

Client Sample ID: Lab Control Sample Dup

Prep Type: Total

Prep Batch: 13I0172\_P

Analyte	Spike Added	LCS Dup Result	LCS Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene	0.133	0.127		mg/kg wet		95.5	62.7 - 120	1.05	35
Fluorene	0.133	0.133		mg/kg wet		100	67.9 - 124	0.00	35
Chrysene	0.133	0.136		mg/kg wet		102	68.2 - 132	2.99	35

TestAmerica Anchorage



# QC Sample Results

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

## Method: EPA 8270D - Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Continued)

Lab Sample ID: 13I0172-BSD1

Matrix: Soil

Analysis Batch: 13I0172

Client Sample ID: Lab Control Sample Dup

Prep Type: Total

Prep Batch: 13I0172\_P

Analyte	Spike Added	LCS Dup Result	LCS Dup Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Indeno (1,2,3-cd) pyrene	0.133	0.137		mg/kg wet		103	52.6 - 149	5.00	35
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
Nitrobenzene-d5	99.4		53.2 - 137						
2-FBP	96.8		63.6 - 123						
p-Terphenyl-d14	118		65.6 - 167						

## Method: AK102/103 - Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO

Lab Sample ID: 13I0091-BLK1

Matrix: Soil

Analysis Batch: W000524

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 13I0091\_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics	ND		20.0		mg/kg wet		09/27/13 08:54	09/28/13 12:08	1.00
Residual Range Organics	ND		50.0		mg/kg wet		09/27/13 08:54	09/28/13 12:08	1.00
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1-Chlorooctadecane	102		50 - 150				09/27/13 08:54	09/28/13 12:08	1.00
Triacontane	108		50 - 150				09/27/13 08:54	09/28/13 12:08	1.00

Lab Sample ID: 13I0091-BS1

Matrix: Soil

Analysis Batch: W000524

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 13I0091\_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Diesel Range Organics	129	130		mg/kg wet		101	75 - 125		
Residual Range Organics	129	137		mg/kg wet		106	60 - 120		
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
1-Chlorooctadecane	117		60 - 120						
Triacontane	116		60 - 120						

Lab Sample ID: 13I0091-BSD1

Matrix: Soil

Analysis Batch: W000524

Client Sample ID: Lab Control Sample Dup

Prep Type: Total

Prep Batch: 13I0091\_P

Analyte	Spike Added	LCS Dup Result	LCS Dup Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Diesel Range Organics	129	129		mg/kg wet		99.8	75 - 125	1.14	20
Residual Range Organics	129	137		mg/kg wet		107	60 - 120	0.496	20
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
1-Chlorooctadecane	114		60 - 120						
Triacontane	116		60 - 120						

TestAmerica Anchorage

# QC Sample Results

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

## Method: AK102/103 - Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO (Continued)

Lab Sample ID: 13I0091-MS1

Matrix: Soil

Analysis Batch: W000523

Client Sample ID: Cont2-B10

Prep Type: Total

Prep Batch: 13I0091\_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics	58.8	Q11	147	199		mg/kg dry	☼	95.2	75 - 125
Residual Range Organics	30.3		147	169		mg/kg dry	☼	94.6	60 - 120
Surrogate	Matrix Spike %Recovery	Matrix Spike Qualifier	Limits						
1-Chlorooctadecane	100		50 - 150						
Triacontane	110		50 - 150						

Lab Sample ID: 13I0091-MSD1

Matrix: Soil

Analysis Batch: W000523

Client Sample ID: Cont2-B10

Prep Type: Total

Prep Batch: 13I0091\_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics	58.8	Q11	149	214		mg/kg dry	☼	105	75 - 125	7.53	25
Residual Range Organics	30.3		149	185		mg/kg dry	☼	104	60 - 120	8.61	25
Surrogate	Matrix Spike Dup %Recovery	Matrix Spike Dup Qualifier	Limits								
1-Chlorooctadecane	108		50 - 150								
Triacontane	117		50 - 150								

Lab Sample ID: 13I0091-DUP1

Matrix: Soil

Analysis Batch: W000523

Client Sample ID: Cont2-B10

Prep Type: Total

Prep Batch: 13I0091\_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Diesel Range Organics	58.8	Q11	56.1		mg/kg dry	☼	4.68	20
Residual Range Organics	30.3		32.3		mg/kg dry	☼	6.47	50
Surrogate	Duplicate %Recovery	Duplicate Qualifier	Limits					
1-Chlorooctadecane	114		50 - 150					
Triacontane	116		50 - 150					

## Method: AK101/EPA 8021B - Gasoline Range Organics (C6-C10) and BTEX per AK101

Lab Sample ID: 13I0093-BLK1

Matrix: Soil

Analysis Batch: W000526

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 13I0093\_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	ND		3.33		mg/kg wet		09/27/13 08:59	09/28/13 12:50	33.3
Benzene	ND		0.0200		mg/kg wet		09/27/13 08:59	09/28/13 12:50	33.3
Toluene	ND		0.0400		mg/kg wet		09/27/13 08:59	09/28/13 12:50	33.3
Ethylbenzene	ND		0.0400		mg/kg wet		09/27/13 08:59	09/28/13 12:50	33.3
Xylenes (total)	ND		0.120		mg/kg wet		09/27/13 08:59	09/28/13 12:50	33.3

TestAmerica Anchorage

# QC Sample Results

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

## Method: AK101/EPA 8021B - Gasoline Range Organics (C6-C10) and BTEX per AK101 (Continued)

Lab Sample ID: 13I0093-BLK1

Matrix: Soil

Analysis Batch: W000526

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 13I0093\_P

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-BFB (FID)	143		50 - 150	09/27/13 08:59	09/28/13 12:50	33.3
a,a,a-TFT (FID)	104		50 - 150	09/27/13 08:59	09/28/13 12:50	33.3
4-BFB (PID)	133		50 - 150	09/27/13 08:59	09/28/13 12:50	33.3
a,a,a-TFT (PID)	96.2		50 - 150	09/27/13 08:59	09/28/13 12:50	33.3

Lab Sample ID: 13I0093-BS1

Matrix: Soil

Analysis Batch: W000526

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 13I0093\_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Benzene	0.800	0.776		mg/kg wet		97.0	57 - 139
Toluene	0.800	0.763		mg/kg wet		95.4	48.7 - 152
Ethylbenzene	0.800	0.759		mg/kg wet		94.9	55.7 - 143
Xylenes (total)	2.40	2.18		mg/kg wet		90.7	53.8 - 142

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-BFB (PID)	117		47.8 - 145
a,a,a-TFT (PID)	93.7		64.8 - 135

Lab Sample ID: 13I0093-BS2

Matrix: Soil

Analysis Batch: W000526

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 13I0093\_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Gasoline Range Organics	20.0	15.7		mg/kg wet		78.6	60 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-BFB (FID)	109		60 - 120
a,a,a-TFT (FID)	114		60 - 120

Lab Sample ID: 13I0093-BSD1

Matrix: Soil

Analysis Batch: W000526

Client Sample ID: Lab Control Sample Dup

Prep Type: Total

Prep Batch: 13I0093\_P

Analyte	Spike Added	LCS Dup Result	LCS Dup Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.800	0.798		mg/kg wet		99.8	57 - 139	2.80	20
Toluene	0.800	0.784		mg/kg wet		97.9	48.7 - 152	2.64	20
Ethylbenzene	0.800	0.780		mg/kg wet		97.5	55.7 - 143	2.75	20
Xylenes (total)	2.40	2.25		mg/kg wet		93.6	53.8 - 142	3.14	20

Surrogate	LCS Dup %Recovery	LCS Dup Qualifier	Limits
4-BFB (PID)	112		47.8 - 145
a,a,a-TFT (PID)	94.7		64.8 - 135

TestAmerica Anchorage

# QC Sample Results

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

## Method: AK101/EPA 8021B - Gasoline Range Organics (C6-C10) and BTEX per AK101 (Continued)

Lab Sample ID: 13I0093-BSD2

Matrix: Soil

Analysis Batch: W000526

Client Sample ID: Lab Control Sample Dup

Prep Type: Total

Prep Batch: 13I0093\_P

Analyte	Spike Added	LCS Dup Result	LCS Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Gasoline Range Organics	20.0	16.0		mg/kg wet		80.2	60 - 120	2.03	20

Surrogate	LCS Dup %Recovery	LCS Dup Qualifier	Limits
4-BFB (FID)	120		60 - 120
a,a,a-TFT (FID)	115		60 - 120

Lab Sample ID: 13I0093-MS1

Matrix: Soil

Analysis Batch: W000526

Client Sample ID: Cont2-A2

Prep Type: Total

Prep Batch: 13I0093\_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		0.222	0.441	M7	mg/kg dry	✱	199	60 - 140
Toluene	0.0118		0.222	0.440	M7	mg/kg dry	✱	193	60 - 140
Ethylbenzene	0.00434		0.222	0.429	M7	mg/kg dry	✱	192	60 - 140
Xylenes (total)	0.0282		0.665	1.24	M7	mg/kg dry	✱	182	60 - 140

Surrogate	Matrix Spike %Recovery	Matrix Spike Qualifier	Limits
4-BFB (PID)	131		50 - 150
a,a,a-TFT (PID)	87.2		50 - 150

Lab Sample ID: 13I0093-MSD1

Matrix: Soil

Analysis Batch: W000526

Client Sample ID: Cont2-A2

Prep Type: Total

Prep Batch: 13I0093\_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	ND		0.222	0.388	M7	mg/kg dry	✱	175	60 - 140	12.9	25
Toluene	0.0118		0.222	0.386	M7	mg/kg dry	✱	169	60 - 140	13.1	25
Ethylbenzene	0.00434		0.222	0.371	M7	mg/kg dry	✱	165	60 - 140	14.5	25
Xylenes (total)	0.0282		0.665	1.08	M7	mg/kg dry	✱	157	60 - 140	14.3	25

Surrogate	Matrix Spike Dup %Recovery	Matrix Spike Dup Qualifier	Limits
4-BFB (PID)	119		50 - 150
a,a,a-TFT (PID)	84.2		50 - 150

Lab Sample ID: 13I0093-DUP1

Matrix: Soil

Analysis Batch: W000526

Client Sample ID: Cont2-A2

Prep Type: Total

Prep Batch: 13I0093\_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	Limit
Gasoline Range Organics	ND		ND		mg/kg dry	✱		20
Benzene	ND		ND		mg/kg dry	✱		20
Toluene	0.0118		0.0112		mg/kg dry	✱	5.00	20
Ethylbenzene	0.00434		0.00420		mg/kg dry	✱	3.32	20
Xylenes (total)	0.0282		0.0275		mg/kg dry	✱	2.62	20

Surrogate	Duplicate %Recovery	Duplicate Qualifier	Limits
4-BFB (FID)	105		50 - 150

TestAmerica Anchorage

## QC Sample Results

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

### Method: AK101/EPA 8021B - Gasoline Range Organics (C6-C10) and BTEX per AK101 (Continued)

Lab Sample ID: 13I0093-DUP1

Matrix: Soil

Analysis Batch: W000526

Client Sample ID: Cont2-A2

Prep Type: Total

Prep Batch: 13I0093\_P

<i>Surrogate</i>	<i>Duplicate %Recovery</i>	<i>Duplicate Qualifier</i>	<i>Limits</i>
<i>a,a,a-TFT (FID)</i>	81.1		50 - 150
<i>4-BFB (PID)</i>	99.6		50 - 150
<i>a,a,a-TFT (PID)</i>	75.5		50 - 150

# QC Association Summary

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

## Semivolatiles

### Analysis Batch: 13I0172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
13I0172-BLK1	Method Blank	Total	Soil	EPA 8270D	13I0172_P
13I0172-BS1	Lab Control Sample	Total	Soil	EPA 8270D	13I0172_P
13I0172-BSD1	Lab Control Sample Dup	Total	Soil	EPA 8270D	13I0172_P
AWI0061-05	Cont1-K	Total	Soil	EPA 8270D	13I0172_P
AWI0061-07	Cont1-M	Total	Soil	EPA 8270D	13I0172_P
AWI0061-11	Cont2-B1	Total	Soil	EPA 8270D	13I0172_P

### Prep Batch: 13I0172\_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
13I0172-BLK1	Method Blank	Total	Soil	EPA 3550B	
13I0172-BS1	Lab Control Sample	Total	Soil	EPA 3550B	
13I0172-BSD1	Lab Control Sample Dup	Total	Soil	EPA 3550B	
AWI0061-05	Cont1-K	Total	Soil	EPA 3550B	
AWI0061-07	Cont1-M	Total	Soil	EPA 3550B	
AWI0061-11	Cont2-B1	Total	Soil	EPA 3550B	

## Fuels

### Analysis Batch: 13I0092

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
13I0092-DUP1	Cont1-I	Total	Soil	TA-SOP	13I0092_P
AWI0061-01	Cont1-A	Total	Soil	TA-SOP	13I0092_P
AWI0061-02	Cont1-E	Total	Soil	TA-SOP	13I0092_P
AWI0061-03	Cont1-I	Total	Soil	TA-SOP	13I0092_P
AWI0061-04	Cont1-J	Total	Soil	TA-SOP	13I0092_P
AWI0061-05	Cont1-K	Total	Soil	TA-SOP	13I0092_P
AWI0061-06	Cont1-L	Total	Soil	TA-SOP	13I0092_P
AWI0061-07	Cont1-M	Total	Soil	TA-SOP	13I0092_P
AWI0061-08	Cont1-6	Total	Soil	TA-SOP	13I0092_P
AWI0061-09	Cont1A-Q	Total	Soil	TA-SOP	13I0092_P
AWI0061-10	Cont1A-R	Total	Soil	TA-SOP	13I0092_P
AWI0061-11	Cont2-B1	Total	Soil	TA-SOP	13I0092_P
AWI0061-12	Cont2-B3	Total	Soil	TA-SOP	13I0092_P
AWI0061-13	Cont2-B8	Total	Soil	TA-SOP	13I0092_P
AWI0061-14	Cont2-B10	Total	Soil	TA-SOP	13I0092_P
AWI0061-15	Cont2-A2	Total	Soil	TA-SOP	13I0092_P
AWI0061-16	Cont2-A5	Total	Soil	TA-SOP	13I0092_P
AWI0061-17	Cont3-P	Total	Soil	TA-SOP	13I0092_P
AWI0061-18	Trip Blank	Total	Soil	TA-SOP	13I0092_P

### Analysis Batch: W000523

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
13I0091-DUP1	Cont2-B10	Total	Soil	AK102/103	13I0091_P
13I0091-MS1	Cont2-B10	Total	Soil	AK102/103	13I0091_P
13I0091-MSD1	Cont2-B10	Total	Soil	AK102/103	13I0091_P
AWI0061-01	Cont1-A	Total	Soil	AK102/103	13I0091_P
AWI0061-02	Cont1-E	Total	Soil	AK102/103	13I0091_P
AWI0061-03	Cont1-I	Total	Soil	AK102/103	13I0091_P
AWI0061-04	Cont1-J	Total	Soil	AK102/103	13I0091_P
AWI0061-05	Cont1-K	Total	Soil	AK102/103	13I0091_P

TestAmerica Anchorage



# QC Association Summary

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

## Fuels (Continued)

### Analysis Batch: W000523 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
AWI0061-12	Cont2-B3	Total	Soil	AK102/103	13I0091_P
AWI0061-15	Cont2-A2	Total	Soil	AK102/103	13I0091_P

### Analysis Batch: W000524

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
13I0091-BLK1	Method Blank	Total	Soil	AK102/103	13I0091_P
13I0091-BS1	Lab Control Sample	Total	Soil	AK102/103	13I0091_P
13I0091-BSD1	Lab Control Sample Dup	Total	Soil	AK102/103	13I0091_P
AWI0061-06	Cont1-L	Total	Soil	AK102/103	13I0091_P
AWI0061-07	Cont1-M	Total	Soil	AK102/103	13I0091_P
AWI0061-08	Cont1-6	Total	Soil	AK102/103	13I0091_P
AWI0061-09	Cont1A-Q	Total	Soil	AK102/103	13I0091_P
AWI0061-10	Cont1A-R	Total	Soil	AK102/103	13I0091_P
AWI0061-11	Cont2-B1	Total	Soil	AK102/103	13I0091_P
AWI0061-13	Cont2-B8	Total	Soil	AK102/103	13I0091_P
AWI0061-14	Cont2-B10	Total	Soil	AK102/103	13I0091_P
AWI0061-16	Cont2-A5	Total	Soil	AK102/103	13I0091_P
AWI0061-17	Cont3-P	Total	Soil	AK102/103	13I0091_P

### Prep Batch: 13I0091\_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
13I0091-BLK1	Method Blank	Total	Soil	EPA 3545	
13I0091-BS1	Lab Control Sample	Total	Soil	EPA 3545	
13I0091-BSD1	Lab Control Sample Dup	Total	Soil	EPA 3545	
13I0091-DUP1	Cont2-B10	Total	Soil	EPA 3545	
13I0091-MS1	Cont2-B10	Total	Soil	EPA 3545	
13I0091-MSD1	Cont2-B10	Total	Soil	EPA 3545	
AWI0061-01	Cont1-A	Total	Soil	EPA 3545	
AWI0061-02	Cont1-E	Total	Soil	EPA 3545	
AWI0061-03	Cont1-I	Total	Soil	EPA 3545	
AWI0061-04	Cont1-J	Total	Soil	EPA 3545	
AWI0061-05	Cont1-K	Total	Soil	EPA 3545	
AWI0061-06	Cont1-L	Total	Soil	EPA 3545	
AWI0061-07	Cont1-M	Total	Soil	EPA 3545	
AWI0061-08	Cont1-6	Total	Soil	EPA 3545	
AWI0061-09	Cont1A-Q	Total	Soil	EPA 3545	
AWI0061-10	Cont1A-R	Total	Soil	EPA 3545	
AWI0061-11	Cont2-B1	Total	Soil	EPA 3545	
AWI0061-12	Cont2-B3	Total	Soil	EPA 3545	
AWI0061-13	Cont2-B8	Total	Soil	EPA 3545	
AWI0061-14	Cont2-B10	Total	Soil	EPA 3545	
AWI0061-15	Cont2-A2	Total	Soil	EPA 3545	
AWI0061-16	Cont2-A5	Total	Soil	EPA 3545	
AWI0061-17	Cont3-P	Total	Soil	EPA 3545	

### Prep Batch: 13I0092\_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
13I0092-DUP1	Cont1-I	Total	Soil	*** DEFAULT PREP ***	
AWI0061-01	Cont1-A	Total	Soil	*** DEFAULT PREP ***	

TestAmerica Anchorage

## QC Association Summary

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

### Fuels (Continued)

#### Prep Batch: 13I0092\_P (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
AWI0061-02	Cont1-E	Total	Soil	*** DEFAULT PREP ***	
AWI0061-03	Cont1-I	Total	Soil	*** DEFAULT PREP ***	
AWI0061-04	Cont1-J	Total	Soil	*** DEFAULT PREP ***	
AWI0061-05	Cont1-K	Total	Soil	*** DEFAULT PREP ***	
AWI0061-06	Cont1-L	Total	Soil	*** DEFAULT PREP ***	
AWI0061-07	Cont1-M	Total	Soil	*** DEFAULT PREP ***	
AWI0061-08	Cont1-6	Total	Soil	*** DEFAULT PREP ***	
AWI0061-09	Cont1A-Q	Total	Soil	*** DEFAULT PREP ***	
AWI0061-10	Cont1A-R	Total	Soil	*** DEFAULT PREP ***	
AWI0061-11	Cont2-B1	Total	Soil	*** DEFAULT PREP ***	
AWI0061-12	Cont2-B3	Total	Soil	*** DEFAULT PREP ***	
AWI0061-13	Cont2-B8	Total	Soil	*** DEFAULT PREP ***	
AWI0061-14	Cont2-B10	Total	Soil	*** DEFAULT PREP ***	
AWI0061-15	Cont2-A2	Total	Soil	*** DEFAULT PREP ***	
AWI0061-16	Cont2-A5	Total	Soil	*** DEFAULT PREP ***	
AWI0061-17	Cont3-P	Total	Soil	*** DEFAULT PREP ***	
AWI0061-18	Trip Blank	Total	Soil	*** DEFAULT PREP ***	

### GC Volatiles

#### Analysis Batch: W000526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
13I0093-BLK1	Method Blank	Total	Soil	AK101/EPA 8021B	13I0093_P
13I0093-BS1	Lab Control Sample	Total	Soil	AK101/EPA 8021B	13I0093_P
13I0093-BS2	Lab Control Sample	Total	Soil	AK101/EPA 8021B	13I0093_P
13I0093-BSD1	Lab Control Sample Dup	Total	Soil	AK101/EPA 8021B	13I0093_P
13I0093-BSD2	Lab Control Sample Dup	Total	Soil	AK101/EPA 8021B	13I0093_P
13I0093-DUP1	Cont2-A2	Total	Soil	AK101/EPA 8021B	13I0093_P
13I0093-MS1	Cont2-A2	Total	Soil	AK101/EPA 8021B	13I0093_P
13I0093-MSD1	Cont2-A2	Total	Soil	AK101/EPA 8021B	13I0093_P
AWI0061-01	Cont1-A	Total	Soil	AK101/EPA 8021B	13I0093_P

TestAmerica Anchorage

## QC Association Summary

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

### GC Volatiles (Continued)

#### Analysis Batch: W000526 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
AWI0061-02	Cont1-E	Total	Soil	AK101/EPA 8021B	13I0093_P
AWI0061-03	Cont1-I	Total	Soil	AK101/EPA 8021B	13I0093_P
AWI0061-04	Cont1-J	Total	Soil	AK101/EPA 8021B	13I0093_P
AWI0061-05	Cont1-K	Total	Soil	AK101/EPA 8021B	13I0093_P
AWI0061-06	Cont1-L	Total	Soil	AK101/EPA 8021B	13I0093_P
AWI0061-07	Cont1-M	Total	Soil	AK101/EPA 8021B	13I0093_P
AWI0061-08	Cont1-6	Total	Soil	AK101/EPA 8021B	13I0093_P
AWI0061-09	Cont1A-Q	Total	Soil	AK101/EPA 8021B	13I0093_P
AWI0061-10	Cont1A-R	Total	Soil	AK101/EPA 8021B	13I0093_P
AWI0061-11	Cont2-B1	Total	Soil	AK101/EPA 8021B	13I0093_P
AWI0061-12	Cont2-B3	Total	Soil	AK101/EPA 8021B	13I0093_P
AWI0061-13	Cont2-B8	Total	Soil	AK101/EPA 8021B	13I0093_P
AWI0061-14	Cont2-B10	Total	Soil	AK101/EPA 8021B	13I0093_P
AWI0061-15	Cont2-A2	Total	Soil	AK101/EPA 8021B	13I0093_P
AWI0061-16	Cont2-A5	Total	Soil	AK101/EPA 8021B	13I0093_P
AWI0061-17	Cont3-P	Total	Soil	AK101/EPA 8021B	13I0093_P
AWI0061-18	Trip Blank	Total	Soil	AK101/EPA 8021B	13I0093_P

#### Prep Batch: 13I0093\_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
13I0093-BLK1	Method Blank	Total	Soil	AK101 Field Prep	
13I0093-BS1	Lab Control Sample	Total	Soil	AK101 Field Prep	
13I0093-BS2	Lab Control Sample	Total	Soil	AK101 Field Prep	
13I0093-BSD1	Lab Control Sample Dup	Total	Soil	AK101 Field Prep	
13I0093-BSD2	Lab Control Sample Dup	Total	Soil	AK101 Field Prep	
13I0093-DUP1	Cont2-A2	Total	Soil	AK101 Field Prep	
13I0093-MS1	Cont2-A2	Total	Soil	AK101 Field Prep	
13I0093-MSD1	Cont2-A2	Total	Soil	AK101 Field Prep	
AWI0061-01	Cont1-A	Total	Soil	AK101 Field Prep	
AWI0061-02	Cont1-E	Total	Soil	AK101 Field Prep	

TestAmerica Anchorage

## QC Association Summary

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

### GC Volatiles (Continued)

#### Prep Batch: 13I0093\_P (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
AWI0061-03	Cont1-I	Total	Soil	AK101 Field Prep	
AWI0061-04	Cont1-J	Total	Soil	AK101 Field Prep	
AWI0061-05	Cont1-K	Total	Soil	AK101 Field Prep	
AWI0061-06	Cont1-L	Total	Soil	AK101 Field Prep	
AWI0061-07	Cont1-M	Total	Soil	AK101 Field Prep	
AWI0061-08	Cont1-6	Total	Soil	AK101 Field Prep	
AWI0061-09	Cont1A-Q	Total	Soil	AK101 Field Prep	
AWI0061-10	Cont1A-R	Total	Soil	AK101 Field Prep	
AWI0061-11	Cont2-B1	Total	Soil	AK101 Field Prep	
AWI0061-12	Cont2-B3	Total	Soil	AK101 Field Prep	
AWI0061-13	Cont2-B8	Total	Soil	AK101 Field Prep	
AWI0061-14	Cont2-B10	Total	Soil	AK101 Field Prep	
AWI0061-15	Cont2-A2	Total	Soil	AK101 Field Prep	
AWI0061-16	Cont2-A5	Total	Soil	AK101 Field Prep	
AWI0061-17	Cont3-P	Total	Soil	AK101 Field Prep	
AWI0061-18	Trip Blank	Total	Soil	AK101 Field Prep	

### Wet Chem

#### Analysis Batch: 13I0179

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
13I0179-DUP1	AWI0061-11 (Cont2-B1-Soil)	Total	Soil	TA SOP	13I0179_P
AWI0061-05	Cont1-K	Total	Soil	TA SOP	13I0179_P
AWI0061-07	Cont1-M	Total	Soil	TA SOP	13I0179_P
AWI0061-11	Cont2-B1	Total	Soil	TA SOP	13I0179_P

#### Prep Batch: 13I0179\_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
13I0179-DUP1	AWI0061-11 (Cont2-B1-Soil)	Total	Soil	Wet Chem	
AWI0061-05	Cont1-K	Total	Soil	Wet Chem	
AWI0061-07	Cont1-M	Total	Soil	Wet Chem	
AWI0061-11	Cont2-B1	Total	Soil	Wet Chem	

TestAmerica Anchorage

# Lab Chronicle

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

## Client Sample ID: Cont1-A

Date Collected: 09/20/13 07:37

Date Received: 09/26/13 13:11

## Lab Sample ID: AWI0061-01

Matrix: Soil

Percent Solids: 79

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3545		1.17	13I0091_P	09/27/13 08:54	MA	TAL ANC
Total	Analysis	AK102/103		10.0	W000523	09/29/13 16:40	ASD	TAL ANC
Total	Prep	*** DEFAULT PREP ***		1.00	13I0092_P	09/27/13 11:45	MA	TAL ANC
Total	Analysis	TA-SOP		1.00	13I0092	09/30/13 08:49	KDC	TAL ANC
Total	Prep	AK101 Field Prep		0.357	13I0093_P	09/27/13 08:59	AD	TAL ANC
Total	Analysis	AK101/EPA 8021B		33.3	W000526	09/29/13 03:06	ASD	TAL ANC

## Client Sample ID: Cont1-E

Date Collected: 09/20/13 07:40

Date Received: 09/26/13 13:11

## Lab Sample ID: AWI0061-02

Matrix: Soil

Percent Solids: 89

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3545		1.07	13I0091_P	09/27/13 08:54	MA	TAL ANC
Total	Analysis	AK102/103		10.0	W000523	09/29/13 17:12	ASD	TAL ANC
Total	Prep	*** DEFAULT PREP ***		1.00	13I0092_P	09/27/13 11:45	MA	TAL ANC
Total	Analysis	TA-SOP		1.00	13I0092	09/30/13 08:49	KDC	TAL ANC
Total	Prep	AK101 Field Prep		0.371	13I0093_P	09/27/13 08:59	AD	TAL ANC
Total	Analysis	AK101/EPA 8021B		200	W000526	09/29/13 05:21	ASD	TAL ANC

## Client Sample ID: Cont1-I

Date Collected: 09/20/13 07:52

Date Received: 09/26/13 13:11

## Lab Sample ID: AWI0061-03

Matrix: Soil

Percent Solids: 79.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3545		0.986	13I0091_P	09/27/13 08:54	MA	TAL ANC
Total	Analysis	AK102/103		1.00	W000523	09/28/13 15:51	ASD	TAL ANC
Total	Prep	*** DEFAULT PREP ***		1.00	13I0092_P	09/27/13 11:45	MA	TAL ANC
Total	Analysis	TA-SOP		1.00	13I0092	09/30/13 08:49	KDC	TAL ANC
Total	Prep	AK101 Field Prep		0.344	13I0093_P	09/27/13 08:59	AD	TAL ANC
Total	Analysis	AK101/EPA 8021B		200	W000526	09/29/13 04:00	ASD	TAL ANC

## Client Sample ID: Cont1-J

Date Collected: 09/20/13 07:56

Date Received: 09/26/13 13:11

## Lab Sample ID: AWI0061-04

Matrix: Soil

Percent Solids: 77.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3545		1.06	13I0091_P	09/27/13 08:54	MA	TAL ANC
Total	Analysis	AK102/103		10.0	W000523	09/29/13 17:44	ASD	TAL ANC
Total	Prep	*** DEFAULT PREP ***		1.00	13I0092_P	09/27/13 11:45	MA	TAL ANC
Total	Analysis	TA-SOP		1.00	13I0092	09/30/13 08:49	KDC	TAL ANC
Total	Prep	AK101 Field Prep		0.331	13I0093_P	09/27/13 08:59	AD	TAL ANC
Total	Analysis	AK101/EPA 8021B		200	W000526	09/29/13 04:27	ASD	TAL ANC

TestAmerica Anchorage

# Lab Chronicle

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

## Client Sample ID: Cont1-K

Lab Sample ID: AWI0061-05

Date Collected: 09/20/13 08:03

Matrix: Soil

Date Received: 09/26/13 13:11

Percent Solids: 75.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3550B		1.41	13I0172_P	09/27/13 13:39	MS	TAL SPK
Total	Analysis	EPA 8270D		200	13I0172	09/30/13 13:20	MRS	TAL SPK
Total	Prep	EPA 3545		1.05	13I0091_P	09/27/13 08:54	MA	TAL ANC
Total	Analysis	AK102/103		10.0	W000523	09/29/13 18:16	ASD	TAL ANC
Total	Prep	*** DEFAULT PREP ***		1.00	13I0092_P	09/27/13 11:45	MA	TAL ANC
Total	Analysis	TA-SOP		1.00	13I0092	09/30/13 08:49	KDC	TAL ANC
Total	Prep	AK101 Field Prep		0.266	13I0093_P	09/27/13 08:59	AD	TAL ANC
Total	Analysis	AK101/EPA 8021B		200	W000526	09/29/13 04:54	ASD	TAL ANC
Total	Prep	Wet Chem		1.00	13I0179_P	09/27/13 15:05	MS	TAL SPK
Total	Analysis	TA SOP		1.00	13I0179	09/30/13 11:34	MS	TAL SPK

## Client Sample ID: Cont1-L

Lab Sample ID: AWI0061-06

Date Collected: 09/20/13 08:06

Matrix: Soil

Date Received: 09/26/13 13:11

Percent Solids: 75.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3545		1.11	13I0091_P	09/27/13 08:54	MA	TAL ANC
Total	Analysis	AK102/103		10.0	W000524	09/29/13 16:40	ASD	TAL ANC
Total	Prep	*** DEFAULT PREP ***		1.00	13I0092_P	09/27/13 11:45	MA	TAL ANC
Total	Analysis	TA-SOP		1.00	13I0092	09/30/13 08:49	KDC	TAL ANC
Total	Prep	AK101 Field Prep		0.308	13I0093_P	09/27/13 08:59	AD	TAL ANC
Total	Analysis	AK101/EPA 8021B		500	W000526	09/28/13 22:08	ASD	TAL ANC

## Client Sample ID: Cont1-M

Lab Sample ID: AWI0061-07

Date Collected: 09/20/13 08:20

Matrix: Soil

Date Received: 09/26/13 13:11

Percent Solids: 76.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3550B		1.20	13I0172_P	09/27/13 13:39	MS	TAL SPK
Total	Analysis	EPA 8270D		25.0	13I0172	09/30/13 13:42	MRS	TAL SPK
Total	Prep	EPA 3545		1.02	13I0091_P	09/27/13 08:54	MA	TAL ANC
Total	Analysis	AK102/103		10.0	W000524	09/29/13 17:12	ASD	TAL ANC
Total	Prep	*** DEFAULT PREP ***		1.00	13I0092_P	09/27/13 11:45	MA	TAL ANC
Total	Analysis	TA-SOP		1.00	13I0092	09/30/13 08:49	KDC	TAL ANC
Total	Prep	AK101 Field Prep		0.358	13I0093_P	09/27/13 08:59	AD	TAL ANC
Total	Analysis	AK101/EPA 8021B		200	W000526	09/28/13 22:35	ASD	TAL ANC
Total	Prep	Wet Chem		1.00	13I0179_P	09/27/13 15:05	MS	TAL SPK
Total	Analysis	TA SOP		1.00	13I0179	09/30/13 11:34	MS	TAL SPK

TestAmerica Anchorage



# Lab Chronicle

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

**Client Sample ID: Cont1-6**

**Lab Sample ID: AWI0061-08**

**Date Collected: 09/20/13 08:27**

**Matrix: Soil**

**Date Received: 09/26/13 13:11**

**Percent Solids: 93.4**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3545		1.06	13I0091_P	09/27/13 08:54	MA	TAL ANC
Total	Analysis	AK102/103		1.00	W000524	09/28/13 17:27	ASD	TAL ANC
Total	Prep	*** DEFAULT PREP ***		1.00	13I0092_P	09/27/13 11:45	MA	TAL ANC
Total	Analysis	TA-SOP		1.00	13I0092	09/30/13 08:49	KDC	TAL ANC
Total	Prep	AK101 Field Prep		0.311	13I0093_P	09/27/13 08:59	AD	TAL ANC
Total	Analysis	AK101/EPA 8021B		100	W000526	09/28/13 23:03	ASD	TAL ANC

**Client Sample ID: Cont1A-Q**

**Lab Sample ID: AWI0061-09**

**Date Collected: 09/20/13 13:01**

**Matrix: Soil**

**Date Received: 09/26/13 13:11**

**Percent Solids: 73.9**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3545		1.12	13I0091_P	09/27/13 08:54	MA	TAL ANC
Total	Analysis	AK102/103		10.0	W000524	09/29/13 17:44	ASD	TAL ANC
Total	Prep	*** DEFAULT PREP ***		1.00	13I0092_P	09/27/13 11:45	MA	TAL ANC
Total	Analysis	TA-SOP		1.00	13I0092	09/30/13 08:49	KDC	TAL ANC
Total	Prep	AK101 Field Prep		0.290	13I0093_P	09/27/13 08:59	AD	TAL ANC
Total	Analysis	AK101/EPA 8021B		500	W000526	09/28/13 23:30	ASD	TAL ANC

**Client Sample ID: Cont1A-R**

**Lab Sample ID: AWI0061-10**

**Date Collected: 09/20/13 18:27**

**Matrix: Soil**

**Date Received: 09/26/13 13:11**

**Percent Solids: 91.1**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3545		1.05	13I0091_P	09/27/13 08:54	MA	TAL ANC
Total	Analysis	AK102/103		10.0	W000524	09/29/13 18:16	ASD	TAL ANC
Total	Prep	*** DEFAULT PREP ***		1.00	13I0092_P	09/27/13 11:45	MA	TAL ANC
Total	Analysis	TA-SOP		1.00	13I0092	09/30/13 08:49	KDC	TAL ANC
Total	Prep	AK101 Field Prep		0.255	13I0093_P	09/27/13 08:59	AD	TAL ANC
Total	Analysis	AK101/EPA 8021B		100	W000526	09/28/13 23:57	ASD	TAL ANC

**Client Sample ID: Cont2-B1**

**Lab Sample ID: AWI0061-11**

**Date Collected: 09/20/13 09:09**

**Matrix: Soil**

**Date Received: 09/26/13 13:11**

**Percent Solids: 94.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3550B		1.00	13I0172_P	09/27/13 13:39	MS	TAL SPK
Total	Analysis	EPA 8270D		5.00	13I0172	09/30/13 14:05	MRS	TAL SPK
Total	Prep	EPA 3545		1.03	13I0091_P	09/27/13 08:54	MA	TAL ANC
Total	Analysis	AK102/103		1.00	W000524	09/28/13 17:59	ASD	TAL ANC
Total	Prep	*** DEFAULT PREP ***		1.00	13I0092_P	09/27/13 11:45	MA	TAL ANC
Total	Analysis	TA-SOP		1.00	13I0092	09/30/13 08:49	KDC	TAL ANC
Total	Prep	AK101 Field Prep		0.360	13I0093_P	09/27/13 08:59	AD	TAL ANC

TestAmerica Anchorage

# Lab Chronicle

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

## Client Sample ID: Cont2-B1

Date Collected: 09/20/13 09:09

Date Received: 09/26/13 13:11

## Lab Sample ID: AWI0061-11

Matrix: Soil

Percent Solids: 92.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Analysis	AK101/EPA 8021B		33.3	W000526	09/29/13 00:24	ASD	TAL ANC
Total	Prep	Wet Chem		1.00	13I0179_P	09/27/13 15:05	MS	TAL SPK
Total	Analysis	TA SOP		1.00	13I0179	09/30/13 11:34	MS	TAL SPK

## Client Sample ID: Cont2-B3

Date Collected: 09/20/13 09:15

Date Received: 09/26/13 13:11

## Lab Sample ID: AWI0061-12

Matrix: Soil

Percent Solids: 93.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3545		1.03	13I0091_P	09/27/13 08:54	MA	TAL ANC
Total	Analysis	AK102/103		1.00	W000523	09/28/13 18:31	ASD	TAL ANC
Total	Prep	*** DEFAULT PREP ***		1.00	13I0092_P	09/27/13 11:45	MA	TAL ANC
Total	Analysis	TA-SOP		1.00	13I0092	09/30/13 08:49	KDC	TAL ANC
Total	Prep	AK101 Field Prep		0.289	13I0093_P	09/27/13 08:59	AD	TAL ANC
Total	Analysis	AK101/EPA 8021B		33.3	W000526	09/29/13 00:51	ASD	TAL ANC

## Client Sample ID: Cont2-B8

Date Collected: 09/20/13 09:18

Date Received: 09/26/13 13:11

## Lab Sample ID: AWI0061-13

Matrix: Soil

Percent Solids: 93

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3545		0.983	13I0091_P	09/27/13 08:54	MA	TAL ANC
Total	Analysis	AK102/103		1.00	W000524	09/28/13 18:31	ASD	TAL ANC
Total	Prep	*** DEFAULT PREP ***		1.00	13I0092_P	09/27/13 11:45	MA	TAL ANC
Total	Analysis	TA-SOP		1.00	13I0092	09/30/13 08:49	KDC	TAL ANC
Total	Prep	AK101 Field Prep		0.287	13I0093_P	09/27/13 08:59	AD	TAL ANC
Total	Analysis	AK101/EPA 8021B		33.3	W000526	09/29/13 02:12	ASD	TAL ANC

## Client Sample ID: Cont2-B10

Date Collected: 09/20/13 09:21

Date Received: 09/26/13 13:11

## Lab Sample ID: AWI0061-14

Matrix: Soil

Percent Solids: 92.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3545		1.06	13I0091_P	09/27/13 08:54	MA	TAL ANC
Total	Analysis	AK102/103		1.00	W000524	09/28/13 13:44	ASD	TAL ANC
Total	Prep	*** DEFAULT PREP ***		1.00	13I0092_P	09/27/13 11:45	MA	TAL ANC
Total	Analysis	TA-SOP		1.00	13I0092	09/30/13 08:49	KDC	TAL ANC
Total	Prep	AK101 Field Prep		0.314	13I0093_P	09/27/13 08:59	AD	TAL ANC
Total	Analysis	AK101/EPA 8021B		33.3	W000526	09/29/13 02:39	ASD	TAL ANC

TestAmerica Anchorage

# Lab Chronicle

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

## Client Sample ID: Cont2-A2

Lab Sample ID: AWI0061-15

Date Collected: 09/20/13 09:26

Matrix: Soil

Date Received: 09/26/13 13:11

Percent Solids: 93.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3545		0.995	13I0091_P	09/27/13 08:54	MA	TAL ANC
Total	Analysis	AK102/103		1.00	W000523	09/28/13 19:03	ASD	TAL ANC
Total	Prep	*** DEFAULT PREP ***		1.00	13I0092_P	09/27/13 11:45	MA	TAL ANC
Total	Analysis	TA-SOP		1.00	13I0092	09/30/13 08:49	KDC	TAL ANC
Total	Prep	AK101 Field Prep		0.286	13I0093_P	09/27/13 08:59	AD	TAL ANC
Total	Analysis	AK101/EPA 8021B		33.3	W000526	09/28/13 18:59	ASD	TAL ANC

## Client Sample ID: Cont2-A5

Lab Sample ID: AWI0061-16

Date Collected: 09/20/13 09:30

Matrix: Soil

Date Received: 09/26/13 13:11

Percent Solids: 94

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3545		1.05	13I0091_P	09/27/13 08:54	MA	TAL ANC
Total	Analysis	AK102/103		1.00	W000524	09/28/13 19:35	ASD	TAL ANC
Total	Prep	*** DEFAULT PREP ***		1.00	13I0092_P	09/27/13 11:45	MA	TAL ANC
Total	Analysis	TA-SOP		1.00	13I0092	09/30/13 08:49	KDC	TAL ANC
Total	Prep	AK101 Field Prep		0.288	13I0093_P	09/27/13 08:59	AD	TAL ANC
Total	Analysis	AK101/EPA 8021B		33.3	W000526	09/28/13 21:41	ASD	TAL ANC

## Client Sample ID: Cont3-P

Lab Sample ID: AWI0061-17

Date Collected: 09/20/13 16:16

Matrix: Soil

Date Received: 09/26/13 13:11

Percent Solids: 93.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3545		0.973	13I0091_P	09/27/13 08:54	MA	TAL ANC
Total	Analysis	AK102/103		1.00	W000524	09/28/13 19:03	ASD	TAL ANC
Total	Prep	*** DEFAULT PREP ***		1.00	13I0092_P	09/27/13 11:45	MA	TAL ANC
Total	Analysis	TA-SOP		1.00	13I0092	09/30/13 08:49	KDC	TAL ANC
Total	Prep	AK101 Field Prep		0.279	13I0093_P	09/27/13 08:59	AD	TAL ANC
Total	Analysis	AK101/EPA 8021B		33.3	W000526	09/29/13 03:33	ASD	TAL ANC

## Client Sample ID: Trip Blank

Lab Sample ID: AWI0061-18

Date Collected: 09/20/13 00:00

Matrix: Soil

Date Received: 09/26/13 13:11

Percent Solids: 100

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	*** DEFAULT PREP ***		1.00	13I0092_P	09/27/13 11:45	MA	TAL ANC
Total	Analysis	TA-SOP		1.00	13I0092	09/30/13 08:49	KDC	TAL ANC
Total	Prep	AK101 Field Prep		1.00	13I0093_P	09/27/13 08:59	AD	TAL ANC
Total	Analysis	AK101/EPA 8021B		33.3	W000526	09/28/13 17:37	ASD	TAL ANC

### Laboratory References:

TAL ANC = TestAmerica Anchorage, 2000 West International Airport Road Suite A10, Anchorage, AK 99502-1119, TEL (907) 563-9200

TAL SPK = TestAmerica Spokane, 11922 East 1st. Avenue, Spokane, WA 99206, TEL (509)924-9200

TestAmerica Anchorage

## Certification Summary

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

### Laboratory: TestAmerica Anchorage

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	AK00975	06-30-14
Alaska (UST)	State Program	10	UST-067	06-16-14

### Laboratory: TestAmerica Spokane

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-071	10-31-13
Washington	State Program	10	C569	01-06-14

## Method Summary

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

Method	Method Description	Protocol	Laboratory
EPA 8270D	Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring		TAL SPK
AK102/103	Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO		TAL ANC
TA-SOP	Physical Parameters by APHA/ASTM/EPA Methods		TAL ANC
AK101/EPA 8021B	Gasoline Range Organics (C6-C10) and BTEX per AK101		TAL ANC
TA SOP	Conventional Chemistry Parameters by APHA/EPA Methods		TAL SPK

### Protocol References:

### Laboratory References:

TAL ANC = TestAmerica Anchorage, 2000 West International Airport Road Suite A10, Anchorage, AK 99502-1119, TEL (907) 563-9200  
TAL SPK = TestAmerica Spokane, 11922 East 1st. Avenue, Spokane, WA 99206, TEL (509)924-9200

## Sample Summary

Client: Environmental Management Incorporated  
Project/Site: 17598

TestAmerica Job ID: AWI0061

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
AWI0061-01	Cont1-A	Soil	09/20/13 07:37	09/26/13 13:11
AWI0061-02	Cont1-E	Soil	09/20/13 07:40	09/26/13 13:11
AWI0061-03	Cont1-I	Soil	09/20/13 07:52	09/26/13 13:11
AWI0061-04	Cont1-J	Soil	09/20/13 07:56	09/26/13 13:11
AWI0061-05	Cont1-K	Soil	09/20/13 08:03	09/26/13 13:11
AWI0061-06	Cont1-L	Soil	09/20/13 08:06	09/26/13 13:11
AWI0061-07	Cont1-M	Soil	09/20/13 08:20	09/26/13 13:11
AWI0061-08	Cont1-6	Soil	09/20/13 08:27	09/26/13 13:11
AWI0061-09	Cont1A-Q	Soil	09/20/13 13:01	09/26/13 13:11
AWI0061-10	Cont1A-R	Soil	09/20/13 18:27	09/26/13 13:11
AWI0061-11	Cont2-B1	Soil	09/20/13 09:09	09/26/13 13:11
AWI0061-12	Cont2-B3	Soil	09/20/13 09:15	09/26/13 13:11
AWI0061-13	Cont2-B8	Soil	09/20/13 09:18	09/26/13 13:11
AWI0061-14	Cont2-B10	Soil	09/20/13 09:21	09/26/13 13:11
AWI0061-15	Cont2-A2	Soil	09/20/13 09:26	09/26/13 13:11
AWI0061-16	Cont2-A5	Soil	09/20/13 09:30	09/26/13 13:11
AWI0061-17	Cont3-P	Soil	09/20/13 16:16	09/26/13 13:11
AWI0061-18	Trip Blank	Soil	09/20/13 00:00	09/26/13 13:11



## THE LEADER IN ENVIRONMENTAL TESTING

5755 8<sup>th</sup> Street East, Tacoma, WA 98424-1317  
11922 E. First Ave., Spokane WA 99206-5302  
9405 SW Nimbus Ave., Beaverton, OR 97008-7145  
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119

	FAX 922-5047
	FAX 924-9290
	FAX 906-9210
	FAX 563-9210

## CHAIN OF CUSTODY REPORT

TAL-1000 (0612)

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

5755 8th Street East, Tacoma, WA 98424-1317  
11922 E. First Ave., Spokane WA 99206-5302  
9405 SW Nimbus Ave., Beaverton, OR 97008-7145  
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119

253-922-2310 FAX 922-5047  
509-924-9200 FAX 924-9290  
503-906-9200 FAX 906-9210  
907-563-9200 FAX 563-9210

## CHAIN OF CUSTODY REPORT

Work Order #: **AL10061**

CLIENT: <b>EMI</b>		INVOICE TO: <b>SAME</b>		TURNAROUND REQUEST	
REPORT TO: <b>Environmental Management Inc.</b>		P.O. NUMBER: <b>17515</b>		in Business Days *	
ADDRESS: <b>206 E. Fireplaces Ln Suite 201</b>		PRESERVATIVE		Organic & Inorganic Analyses	
PHONE: <b>907-272-9386</b> FAX: <b>907-272-9386</b>		PROJECT NAME: <b>PURPOSE TANKS</b>		Petroleum Hydrocarbon Analyses	
PROJECT NUMBER: <b>17515</b>		REQUESTED ANALYSES		OTHER Specify:	
SAMPLED BY: <b>ANSON AGANA</b>				* Turnaround Requests less than standard may incur Rush Charges.	
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1 Cont 2-B1	9/20/13 9:09	S	3		11
2 Cont 2-B3	9:15	I	2		12
3 Cont 2-B8	9:18				13
4 Cont 2-B10	9:21				14
5 Cont 2-A2	9:26				15
6 Cont 2-A5	9:30				16
7 Cont 3-P	16:16				17
8					
9					
10					

RELEASED BY: <b>ANSON AGANA</b>	DATE: <b>9/26/13</b>	FIRM: <b>TA-AK</b>	DATE: <b>9/26/13</b>
PRINT NAME: <b>ANSON AGANA</b>	TIME: <b>13:10</b>	FIRM: <b>TA-AK</b>	TIME: <b>13:11</b>
RELEASED BY: <b>ANSON AGANA</b>	DATE: <b>9/26/13</b>	FIRM: <b>TA-AK</b>	DATE: <b>9/26/13</b>
PRINT NAME: <b>ANSON AGANA</b>	TIME: <b>13:10</b>	FIRM: <b>TA-AK</b>	TIME: <b>13:11</b>
ADDITIONAL REMARKS:		TEMP: <b>2.0</b>	PAGE <b>2</b> OF <b>2</b>

# Test America Cooler Receipt Form

(Army Corps. Compliant)

WORK ORDER # AW10061 CLIENT: EMI PROJECT: Prudhoe Tanks

Date /Time Cooler Arrived 9 / 26 / 13 13 : 11 Cooler signed for by: Andrew Pilch  
(Print name)

## Preliminary Examination Phase:

Date cooler opened: ☒ same as date received or      /      /     

Cooler opened by (print) Andrew Pilch (sign) am pilch

1. Delivered by ☐ ALASKA AIRLINES ☐ Fed-Ex ☐ UPS ☐ NAC ☐ LYNDEN ☒ CLIENT ☐ Other:       
Shipment Tracking # if applicable      (include copy of shipping papers in file)

2. Number of Custody Seals 0 Signed by      Date      /      /     

Were custody seals unbroken and intact on arrival? ☐ Yes ☐ No

3. Were custody papers sealed in a plastic bag? ☐ Yes ☒ No

4. Were custody papers filled out properly (ink, signed, etc.)? ☒ Yes ☐ No

5. Did you sign the custody papers in the appropriate place? ☒ Yes ☐ No

6. Was ice used? ☒ Yes ☐ No Type of ice: ☐ blue ice ☒ gel ice ☐ real ice ☐ dry ice Condition of Ice: hard

Temperature 2.0 °C (corrected) Thermometer # Rec #5

7. Packing in Cooler: ☒ bubble wrap ☐ styrofoam ☐ cardboard ☐ Other:     

8. Did samples arrive in plastic bags? ☒ Yes ☐ No

9. Did all bottles arrive unbroken, and with labels in good condition? ☒ Yes ☐ No

10. Are all bottle labels complete (ID, date, time, etc.) ☒ Yes ☐ No

11. Do bottle labels and Chain of Custody agree? ☐ Yes ☒ No - see email - AP 9/26/13

12. Are the containers and preservatives correct for the tests indicated? ☒ Yes ☐ No

13. Conoco Phillips, Alyeska, BP H2O samples only, pH <2? ☐ Yes ☐ No ☒ N/A

14. Is there adequate volume for the tests requested? ☒ Yes ☐ No

14. Is there dry weight volume provided? ☒ Yes ☐ No

15. Were VOA vials free of bubbles? ☒ N/A ☐ Yes ☐ No

If "NO" which containers contained "head space" or bubbles?     

16. Are methanol soils immersed in methanol? ☒ Yes ☐ No ☐ N/A

## Log-in Phase:

Date of sample log-in 9 / 26 / 13

Samples logged in by (print) Andrew Pilch (sign) am pilch

1. Was project identifiable from custody papers? ☒ Yes ☐ No

2. Do Turn Around Times and Due Dates agree? ☒ Yes ☐ No

3. Was the Project Manager notified of status? ☒ Yes ☐ No

4. Was the Lab notified of status? ☒ Yes ☐ No

5. Was the COC scanned and copied? ☒ Yes ☐ No

AK-FORM-SPL-005 5 October 2011

## Laboratory Data Review Checklist

Completed by:

Title:  Date:

CS Report Name:  Report Date:

Consultant Firm:

Laboratory Name:  Laboratory Report Number:

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:

### 3. Laboratory Sample Receipt Documentation

- a. Sample/cooler temperature documented and within range at receipt ( $4^{\circ} \pm 2^{\circ} \text{C}$ )?  
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:

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

Yes No NA (Please explain.) Comments:

Yes, none were broken or leaking.

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:

Yes

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

Comments:

No, there are no discrepancies that would affect data quality or usability.

#### 4. Case Narrative

a. Present and understandable?

Yes No NA (Please explain.) Comments:

Yes

b. Discrepancies, errors or QC failures identified by the lab?

Yes No NA (Please explain.) Comments:

Yes

c. Were all corrective actions documented?

Yes No NA (Please explain.) Comments:

Yes

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

Comments:

Matrix effects interfered with some surrogate recoveries, and many samples required dilution.

#### 5. Samples Results

a. Correct analyses performed/reported as requested on COC?

Yes No NA (Please explain.) Comments:

Yes

b. All applicable holding times met?

Yes No NA (Please explain.) Comments:

Yes

c. All soils reported on a dry weight basis?

Yes No NA (Please explain.)

Comments:

Yes

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:

Yes

e. Data quality or usability affected?

Comments:

No

## 6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes No NA (Please explain.)

Comments:

Yes

ii. All method blank results less than PQL?

Yes No NA (Please explain.)

Comments:

Yes

iii. If above PQL, what samples are affected?

Comments:

NA, all were below the PQL.

iv. Do the affected sample(s) have data flags and if so, are the data flags clearly defined?

Yes No NA (Please explain.)

Comments:

Yes

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

Comments:

No, there is nothing to indicate data quality or usability has been affected.

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)

ii.

Yes No NA (Please explain.)

Comments:

Yes

iii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

Yes    No    NA (Please explain.)                      Comments:

NA, neither metals nor inorganics were tested for.

iv. 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:

Yes

v. 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:

Yes

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

Comments:

NA, LCS / LCSD %R were acceptable and all RPD were within range.

vii. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes    No    NA (Please explain.)                      Comments:

NA, there were no affected samples.

viii. Data quality or usability affected? (Use comment box to explain.)

Comments:

No, there is nothing to indicate data quality or usability has been affected.

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

Yes    No    NA (Please explain.)                      Comments:

Yes

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)

Yes    No    NA (Please explain.)                      Comments:

No, there were multiple failed surrogate recoveries that were caused by matrix interference and / or the sample requiring dilution to a point that surrogate recovery values were not valid.



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:

Yes

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

Comments:

Data quality and usability should not be affected since the cause of the failed recoveries is known. The case narrative did not suggest data may be bias.

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:

Yes

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:

NA, only one cooler was used.

iii. All results less than PQL?

Yes    No    NA (Please explain.)

Comments:

Yes

iv. If above PQL, what samples are affected?

Comments:

NA, all were below the PQL.

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

Comments:

No,

e. Field Duplicate

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

Yes    No    NA (Please explain.)

Comments:

Yes, three duplicates were collected with this sample set.

ii. Submitted blind to lab?

Yes    No    NA (Please explain.)

Comments:

Yes

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

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

Where  $R_1$  = Sample Concentration

$R_2$  = Field Duplicate Concentration

Yes    No    NA (Please explain.)

Comments:

Yes for all that could be calculated based on the results. For duplicate samples CONT 1-6 and CONT 1A-R ethylbenzene was detected in one samples and not the other. When using the reporting limit for the second value the RPD was greater than 50%. This also occurred with GRO and xylene in duplicate sample set CONT2-B3 and Cont 3-P. All other RPD were acceptable.

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

Comments:

Data quality is only slightly affected, if at all. All data is usable

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

Yes    No    NA (Please explain.)

Comments:

No, only disposable equipment was used.

i. All results less than PQL?

Yes    No    NA (Please explain.)

Comments:

Yes

ii. If above PQL, what samples are affected?

Comments:

NA, all were below the PQL.

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

Comments:

No, there is nothing to indicate data quality or usability has been affected.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

Yes    No    NA (Please explain.)

Comments:

Yes
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