Montauk E/E
P.O. Box 771447
Eagle River, Alaska 99577-1447
MTKEE@gci.net 907.441.2494

Via Email 13 Oct. 2015

YK Solutions, Inc..
P.O. Box 2807
Bethel, AK 99559

Attention: Tom McCallson

Reference:	Crowley Bethel Tank Farm Tank 18	ADEC File No. 2407.38.028 ADEC Spill No. 1327992201 ADEC PM Steven Russell
	DHSS Bethel Youth Facility UST No. 1	ADEC File No. 2407.26.016 ADEC Spill No. Not Assigned ADEC PM Robert Weimer

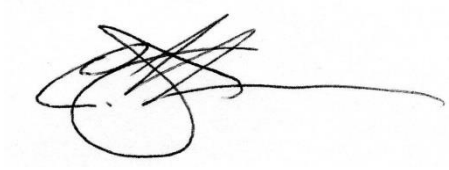
Subject: Post-Treatment Confirmation Soil Sampling

Mr. McCallson:

The following is a report of the post-treatment confirmation sampling event conducted on 25 September 2015 on soils that originated from the referenced cleanup sites.

The laboratory data indicate the soils have been successfully treated.

Sincerely,



Clifford J. Elsmann
Environmental Scientist
Attachments

Report of Post-Treatment Soil Sampling and Analysis

Summary and Purpose

On 25 September 2015, a composite-type soil sample was collected by Qualified Person Clifford J. Elsmann from each of two stockpiles following their treatment by thermal desorption at the YK Solutions (YKS) treatment facility in Bethel, Alaska. Soil samples were analyzed by TestAmerica of Anchorage, Alaska. The treatment facility and the project laboratory are both approved by the State of Alaska Department of Environmental Conservation (ADEC) for the treatment and analysis of soils, respectively.

The purpose of the sampling event was to confirm that post-treatment soils were treated to ADEC standards. The required post-treatment analyses are listed on each project's ADEC transportation/treatment/disposal form, copies of which are attached to this report.

The chemical data from this sampling event indicate the soils were successfully treated to required contaminant concentrations.

Chemical Data

Chemical Data in mg/kg

Sample No., Origin and Pre-Treat Volume	BTEX by 8260C	GRO by AK101	DRO by AK102	PAH by 8270DSIM
01 Bethel Youth Facility 55 cy	benzene <0.012 toluene <0.079 ethylbenzene <0.079 total xylenes <0.48	<4.0	<22	<0.011 (All Analytes)
02 Crowley Tank Farm Tank 18 32 cy	Not Analyzed	Not Analyzed	<21	Not Analyzed
03 Trip Blank	benzene <0.015 toluene <0.1 ethylbenzene <0.1 total xylenes <0.60	<5.0	Not Analyzed	Not Analyzed

Key

BTEX	volatile organic compounds benzene, toluene, ethylbenzene and total xylenes
cy	cubic yards
DRO	diesel range organics
GRO	gasoline range organics
PAH	polynuclear aromatic hydrocarbons
SIM	selective ion monitoring

Quality Control

Field QC Summary

Parameter	Goal	Results
Holding Times	Variable by Test Method	All Holding Times Met
Completeness	85%	100%
Trip Blank	No Target Analytes Detected	No Target Analytes Detected
Field Duplicate	Precision (Relative Percent Difference or RPD) of ≤ 50% Between Replicate Samples	None Required or Collected
Cooler Temp	Within Range of 2^0 to 6^0 C	Cooler Received at a Temp. of 3.3^0 C.

Field Quality Control Discussion: Field quality control indicators are within acceptable parameters.

Laboratory Quality Control

Laboratory quality control parameters are acceptable for this project, and laboratory data are considered useable. The ADEC Laboratory Data Review Checklist and the laboratory-generated report are attached.

Conclusions

Laboratory data indicate target contaminant concentrations in both stockpiles have been successfully treated to less than their required post-treatment concentrations.

Attachments

ADEC transport/treatment approval forms, laboratory reports and copies of field notes.

Laboratory Data Review Checklist

Completed by:	Clifford J. Elsmann		
Title:	Environmental Scientist	Date:	12 October 2015
CS Report Name:	Post-Treatment Samples for DHSS Bethel Youth Facility UST No.1 & Crowley Tank Farm 2013 Tank 18	Report Date:	13 October 2015
Consultant Firm:	Montauk E/E		
Laboratory Name:	TestAmerica	Laboratory Report Number:	230-647-1
ADEC File Number:	Youth Facility: 2407.26.016; Crowley: 2407.38.028	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:

No Xfer

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° ± 2° C)?

◉ Yes ○ No ○ NA (Please explain) Comments:

Rec'd at 3.3° C

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:

d. If there were any discrepancies, were they documented? - For example, incorrect sample containers/ preservation, sample temperature outside of acceptance range, insufficient or missing samples, etc.?

○ Yes ○ No ◉ NA (Please explain) Comments:

No material discrepancies; however, "Crowley" was misspelled on the COC.

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

Comments:

4. Case Narrative

a. Present and understandable?

◉ Yes ○ No ○ NA (Please explain) Comments:

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

○ Yes ○ No ◉ NA (Please explain) Comments:

No discrepancies.

c. Were all corrective actions documented?

○ Yes ○ No ◉ NA (Please explain) Comments:

No corrective actions required.

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

Comments:

5. Samples Results

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

◉ Yes ○ No ○ NA (Please explain) Comments:

b. All applicable holding times met?

◉ Yes ○ No ○ NA (Please explain) Comments:

c. All soils reported on a dry weight basis?

◉ Yes ○ No ○ NA (Please explain) Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

◉ Yes ○ No ○ NA (Please explain) Comments:

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

Comments:

6. QC Samples

a. Method Blank

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

◉ Yes ○ No ○ NA (Please explain) Comments:

ii. All method blank results less than PQL?

◉ Yes ○ No ○ NA (Please explain) Comments:

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

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

○ Yes ○ No ○ NA (Please explain) Comments:

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

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

i. Organics - One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

◉ Yes ○ No ○ NA (Please explain) Comments:

ii. Metals/Inorganics - One LCS and one sample duplicate reported per matrix, analysis and 20 samples?

○ Yes ○ No ○ NA (Please explain) Comments:

iii. Accuracy - All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

◉ Yes ○ No ○ NA (Please explain) Comments:

iv. Precision - All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/DMSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

◉ Yes ○ No ○ NA (Please explain) Comments:

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

Comments:

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

○ Yes ○ No ○ NA (Please explain) Comments:

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

c. Surrogates - Organics Only

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

◉ Yes ○ No ○ NA (Please explain) Comments:

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

◉ Yes ○ No ○ NA (Please explain) Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

○ Yes ○ No ○ NA (Please explain) Comments:

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

Comments:

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:

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

◉ Yes ○ No ○ NA (Please explain.) Comments:

iii. All results less than PQL?

◉ Yes ○ No ○ NA (Please explain.) Comments:

iv. If above PQL, what samples are affected?

Comments:

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

Comments:

e. Field Duplicate

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

○ Yes ◉ No ○ NA (Please explain) Comments:

ii. Submitted blind to lab?

○ Yes ○ No ◉ NA (Please explain.) Comments:

No duplicates collected.

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

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

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

○ Yes ○ No ○ NA (Please explain) Comments:

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

○ Yes ○ No ○ NA (Please explain) Comments:

f. Decontamination or Equipment Blank (if applicable)

○ Yes ○ No ◉ NA (Please explain) Comments:

Disposable sampling equipment used exclusively.

i. All results less than PQL?

○ Yes ○ No ○ NA (Please explain) Comments:

ii. If above PQL, what samples are affected?

Comments:

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

Comments:

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

a. Defined and appropriate?

◉ Yes ○ No ○ NA (Please explain) Comments:

Reset Form

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: 230-647-1
Client Project/Site: YK Solutions Post-Treatment

For:
Montauk Environmental Engineering
16305 A Carlisle Street
Eagle River, Alaska 99577

Attn: Cliff Elsmann

Authorized for release by:
10/6/2015 5:08:04 PM

Wendy Jonas, Project Manager I
(253)922-2310
wendy.jonas@testamericainc.com

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Glossary

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

Job ID: 230-647-1

Laboratory: TestAmerica Anchorage

Narrative

Job Narrative
230-647-1

Receipt
The samples were received on 9/28/2015 3:20 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.3º C.

Detection Summary

Client: Montauk Environmental Engineering
Project/Site: YK Solutions Post-Treatment

TestAmerica Job ID: 230-647-1

Client Sample ID: 01 — Lab Sample ID: 230-647-1

No Detections.

Client Sample ID: 02 — Lab Sample ID: 230-647-2

No Detections.

Client Sample ID: 03 — Lab Sample ID: 230-647-3

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: 01
Date Collected: 09/25/15 14:20
Date Received: 09/28/15 15:20

Lab Sample ID: 230-647-1
Matrix: Solid
Percent Solids: 90.8

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.012		mg/Kg	☼	10/01/15 09:08	10/01/15 13:39	1
Ethylbenzene	ND		0.079		mg/Kg	☼	10/01/15 09:08	10/01/15 13:39	1
m,p-Xylene	ND		0.32		mg/Kg	☼	10/01/15 09:08	10/01/15 13:39	1
o-Xylene	ND		0.16		mg/Kg	☼	10/01/15 09:08	10/01/15 13:39	1
Toluene	ND		0.079		mg/Kg	☼	10/01/15 09:08	10/01/15 13:39	1
Xylenes, Total	ND		0.48		mg/Kg	☼	10/01/15 09:08	10/01/15 13:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*74.7 - 120*	*10/01/15 09:08*	*10/01/15 13:39*	*1*
4-Bromofluorobenzene (Surr)	*96*		*69.8 - 140*	*10/01/15 09:08*	*10/01/15 13:39*	*1*
Dibromofluoromethane (Surr)	*94*		*80 - 120*	*10/01/15 09:08*	*10/01/15 13:39*	*1*
Toluene-d8 (Surr)	*100*		*78.5 - 125*	*10/01/15 09:08*	*10/01/15 13:39*	*1*

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.0		mg/Kg	☼	10/01/15 09:08	10/01/15 13:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*41.5 - 162*	*10/01/15 09:08*	*10/01/15 13:39*	*1*
a,a,a-Trifluorotoluene	*106*		*50 - 150*	*10/01/15 09:08*	*10/01/15 13:39*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		11		ug/Kg	☼	10/01/15 10:27	10/01/15 14:46	1
2-Methylnaphthalene	ND		11		ug/Kg	☼	10/01/15 10:27	10/01/15 14:46	1
1-Methylnaphthalene	ND		11		ug/Kg	☼	10/01/15 10:27	10/01/15 14:46	1
Acenaphthylene	ND		11		ug/Kg	☼	10/01/15 10:27	10/01/15 14:46	1
Acenaphthene	ND		11		ug/Kg	☼	10/01/15 10:27	10/01/15 14:46	1
Fluorene	ND		11		ug/Kg	☼	10/01/15 10:27	10/01/15 14:46	1
Phenanthrene	ND		11		ug/Kg	☼	10/01/15 10:27	10/01/15 14:46	1
Anthracene	ND		11		ug/Kg	☼	10/01/15 10:27	10/01/15 14:46	1
Fluoranthene	ND		11		ug/Kg	☼	10/01/15 10:27	10/01/15 14:46	1
Pyrene	ND		11		ug/Kg	☼	10/01/15 10:27	10/01/15 14:46	1
Benzo[a]anthracene	ND		11		ug/Kg	☼	10/01/15 10:27	10/01/15 14:46	1
Chrysene	ND		11		ug/Kg	☼	10/01/15 10:27	10/01/15 14:46	1
Benzo[b]fluoranthene	ND		11		ug/Kg	☼	10/01/15 10:27	10/01/15 14:46	1
Benzo[k]fluoranthene	ND		11		ug/Kg	☼	10/01/15 10:27	10/01/15 14:46	1
Benzo[a]pyrene	ND		11		ug/Kg	☼	10/01/15 10:27	10/01/15 14:46	1
Indeno[1,2,3-cd]pyrene	ND		11		ug/Kg	☼	10/01/15 10:27	10/01/15 14:46	1
Dibenz(a,h)anthracene	ND		11		ug/Kg	☼	10/01/15 10:27	10/01/15 14:46	1
Benzo[g,h,i]perylene	ND		11		ug/Kg	☼	10/01/15 10:27	10/01/15 14:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*69*		*35.1 - 144*	*10/01/15 10:27*	*10/01/15 14:46*	*1*
2-Fluorobiphenyl (Surr)	*90*		*48.8 - 134*	*10/01/15 10:27*	*10/01/15 14:46*	*1*
p-Terphenyl-d14	*118*		*48 - 166*	*10/01/15 10:27*	*10/01/15 14:46*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C10-C25	ND		22		mg/Kg	☼	09/30/15 09:09	10/02/15 09:55	1

Client Sample ID: 01

Lab Sample ID: 230-647-1
Date Collected: 09/25/15 14:20
Matrix: Solid
Date Received: 09/28/15 15:20
Percent Solids: 90.8

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	83		60 - 120	09/30/15 09:09	10/02/15 09:55	1

Client Sample ID: 02

Lab Sample ID: 230-647-2
Date Collected: 09/25/15 14:40
Matrix: Solid
Date Received: 09/28/15 15:20
Percent Solids: 92.0

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C10-C25	ND		21		mg/Kg	☼	09/30/15 09:09	10/02/15 09:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctadecane	77		60 - 120	09/30/15 09:09	10/02/15 09:24	1

Client Sample ID: 03

Lab Sample ID: 230-647-3
Date Collected: 09/25/15 00:00
Matrix: Solid
Date Received: 09/28/15 15:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.015		mg/Kg		10/01/15 09:08	10/01/15 13:59	1
Ethylbenzene	ND		0.10		mg/Kg		10/01/15 09:08	10/01/15 13:59	1
m,p-Xylene	ND		0.40		mg/Kg		10/01/15 09:08	10/01/15 13:59	1
o-Xylene	ND		0.20		mg/Kg		10/01/15 09:08	10/01/15 13:59	1
Toluene	ND		0.10		mg/Kg		10/01/15 09:08	10/01/15 13:59	1
Xylenes, Total	ND		0.60		mg/Kg		10/01/15 09:08	10/01/15 13:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		74.7 - 120	10/01/15 09:08	10/01/15 13:59	1
4-Bromofluorobenzene (Surr)	96		69.8 - 140	10/01/15 09:08	10/01/15 13:59	1
Dibromofluoromethane (Surr)	96		80 - 120	10/01/15 09:08	10/01/15 13:59	1
Toluene-d8 (Surr)	98		78.5 - 125	10/01/15 09:08	10/01/15 13:59	1

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		10/01/15 09:08	10/01/15 13:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		41.5 - 162	10/01/15 09:08	10/01/15 13:59	1
a,a,a-Trifluorotoluene	118		50 - 150	10/01/15 09:08	10/01/15 13:59	1

Surrogate Summary

Client: Montauk Environmental Engineering
Project/Site: YK Solutions Post-Treatment

TestAmerica Job ID: 230-647-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		12DCE	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(74.7-120)	(69.8-140)	(80-120)	(78.5-125)
230-647-1	01	103	96	94	100
230-647-3	03	105	96	96	98
LCS 590-3709/2-A	Lab Control Sample	111	92	103	97
LCSD 590-3709/3-A	Lab Control Sample Dup	111	90	103	95
MB 590-3709/1-A	Method Blank	109	93	102	99

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB	TFT
Lab Sample ID	Client Sample ID	(41.5-162)	(50-150)
230-647-1	01	96	106
230-647-3	03	96	118
LCS 590-3709/4-A	Lab Control Sample	93	117
LCSD 590-3709/5-A	Lab Control Sample Dup	95	106
MB 590-3709/1-A	Method Blank	93	134

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
TFT = a,a,a-Trifluorotoluene

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		NBZ	FBP	TPH
Lab Sample ID	Client Sample ID	(35.1-144)	(48.8-134)	(48-166)
230-647-1	01	69	90	118
LCS 590-3717/2-A	Lab Control Sample	56	86	128
LCSD 590-3717/3-A	Lab Control Sample Dup	54	86	106
MB 590-3717/1-A	Method Blank	76	109	138

Surrogate Legend

NBZ = Nitrobenzene-d5
FBP = 2-Fluorobiphenyl (Surr)
TPH = p-Terphenyl-d14

Surrogate Summary

Client: Montauk Environmental Engineering
Project/Site: YK Solutions Post-Treatment

TestAmerica Job ID: 230-647-1

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	1COD (60-120)
230-647-1	01	83
230-647-1 DU	01	67
230-647-2	02	77
LCS 230-2259/12-A	Lab Control Sample	86
LCSD 230-2259/13-A	Lab Control Sample Dup	87
MB 230-2259/11-A	Method Blank	60

Surrogate Legend

1COD = 1-Chlorooctadecane

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 590-3709/1-A
Matrix: Solid
Analysis Batch: 3710

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 3709

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.015		mg/Kg		10/01/15 09:08	10/01/15 10:44	1
Ethylbenzene	ND		0.10		mg/Kg		10/01/15 09:08	10/01/15 10:44	1
m,p-Xylene	ND		0.40		mg/Kg		10/01/15 09:08	10/01/15 10:44	1
o-Xylene	ND		0.20		mg/Kg		10/01/15 09:08	10/01/15 10:44	1
Toluene	ND		0.10		mg/Kg		10/01/15 09:08	10/01/15 10:44	1
Xylenes, Total	ND		0.60		mg/Kg		10/01/15 09:08	10/01/15 10:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*74.7 - 120*	*10/01/15 09:08*	*10/01/15 10:44*	*1*
4-Bromofluorobenzene (Surr)	*93*		*69.8 - 140*	*10/01/15 09:08*	*10/01/15 10:44*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*	*10/01/15 09:08*	*10/01/15 10:44*	*1*
Toluene-d8 (Surr)	*99*		*78.5 - 125*	*10/01/15 09:08*	*10/01/15 10:44*	*1*

Lab Sample ID: LCS 590-3709/2-A
Matrix: Solid
Analysis Batch: 3710

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 3709

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.502	0.539		mg/Kg		107	75.8 - 123		
Ethylbenzene			0.502	0.505		mg/Kg		101	77.3 - 121		
m,p-Xylene			0.501	0.516		mg/Kg		103	77.7 - 124		
o-Xylene			0.501	0.509		mg/Kg		102	76.7 - 129		
Toluene			0.500	0.512		mg/Kg		102	76.6 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*111*		*74.7 - 120*
4-Bromofluorobenzene (Surr)	*92*		*69.8 - 140*
Dibromofluoromethane (Surr)	*103*		*80 - 120*
Toluene-d8 (Surr)	*97*		*78.5 - 125*

Lab Sample ID: LCSD 590-3709/3-A
Matrix: Solid
Analysis Batch: 3710

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 3709

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.502	0.545		mg/Kg		109	75.8 - 123	1	25
Ethylbenzene			0.502	0.518		mg/Kg		103	77.3 - 121	3	25
m,p-Xylene			0.501	0.527		mg/Kg		105	77.7 - 124	2	25
o-Xylene			0.501	0.530		mg/Kg		106	76.7 - 129	4	25
Toluene			0.500	0.517		mg/Kg		103	76.6 - 125	1	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*111*		*74.7 - 120*
4-Bromofluorobenzene (Surr)	*90*		*69.8 - 140*
Dibromofluoromethane (Surr)	*103*		*80 - 120*
Toluene-d8 (Surr)	*95*		*78.5 - 125*

Method: AK101 - Alaska - Gasoline Range Organics (GC/MS)

Lab Sample ID: MB 590-3709/1-A
Matrix: Solid
Analysis Batch: 3711

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 3709

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		10/01/15 09:08	10/01/15 10:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*41.5 - 162*	*10/01/15 09:08*	*10/01/15 10:44*	*1*
a,a,a-Trifluorotoluene	*134*		*50 - 150*	*10/01/15 09:08*	*10/01/15 10:44*	*1*

Lab Sample ID: LCS 590-3709/4-A
Matrix: Solid
Analysis Batch: 3711

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 3709

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics [C6 - C10]			50.0	53.5		mg/Kg		107	60 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*41.5 - 162*
a,a,a-Trifluorotoluene	*117*		*50 - 150*

Lab Sample ID: LCSD 590-3709/5-A
Matrix: Solid
Analysis Batch: 3711

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 3709

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]			50.0	48.9		mg/Kg		98	60 - 120	9	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*41.5 - 162*
a,a,a-Trifluorotoluene	*106*		*50 - 150*

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

Lab Sample ID: MB 590-3717/1-A
Matrix: Solid
Analysis Batch: 3718

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 3717

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg		10/01/15 10:27	10/01/15 13:38	1
2-Methylnaphthalene	ND		10		ug/Kg		10/01/15 10:27	10/01/15 13:38	1
1-Methylnaphthalene	ND		10		ug/Kg		10/01/15 10:27	10/01/15 13:38	1
Acenaphthylene	ND		10		ug/Kg		10/01/15 10:27	10/01/15 13:38	1
Acenaphthene	ND		10		ug/Kg		10/01/15 10:27	10/01/15 13:38	1
Fluorene	ND		10		ug/Kg		10/01/15 10:27	10/01/15 13:38	1
Phenanthrene	ND		10		ug/Kg		10/01/15 10:27	10/01/15 13:38	1
Anthracene	ND		10		ug/Kg		10/01/15 10:27	10/01/15 13:38	1
Fluoranthene	ND		10		ug/Kg		10/01/15 10:27	10/01/15 13:38	1
Pyrene	ND		10		ug/Kg		10/01/15 10:27	10/01/15 13:38	1

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

Lab Sample ID: MB 590-3717/1-A
Matrix: Solid
Analysis Batch: 3718

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 3717

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		10		ug/Kg		10/01/15 10:27	10/01/15 13:38	1
Chrysene	ND		10		ug/Kg		10/01/15 10:27	10/01/15 13:38	1
Benzo[b]fluoranthene	ND		10		ug/Kg		10/01/15 10:27	10/01/15 13:38	1
Benzo[k]fluoranthene	ND		10		ug/Kg		10/01/15 10:27	10/01/15 13:38	1
Benzo[a]pyrene	ND		10		ug/Kg		10/01/15 10:27	10/01/15 13:38	1
Indeno[1,2,3-cd]pyrene	ND		10		ug/Kg		10/01/15 10:27	10/01/15 13:38	1
Dibenz(a,h)anthracene	ND		10		ug/Kg		10/01/15 10:27	10/01/15 13:38	1
Benzo[g,h,i]perylene	ND		10		ug/Kg		10/01/15 10:27	10/01/15 13:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*76*		*35.1 - 144*	*10/01/15 10:27*	*10/01/15 13:38*	*1*
2-Fluorobiphenyl (Surr)	*109*		*48.8 - 134*	*10/01/15 10:27*	*10/01/15 13:38*	*1*
p-Terphenyl-d14	*138*		*48 - 166*	*10/01/15 10:27*	*10/01/15 13:38*	*1*

Lab Sample ID: LCS 590-3717/2-A
Matrix: Solid
Analysis Batch: 3718

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 3717

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Naphthalene			267	154		ug/Kg		58	51.4 - 133		
Fluorene			267	270		ug/Kg		101	65.7 - 123		
Chrysene			267	258		ug/Kg		97	57.3 - 133		
Indeno[1,2,3-cd]pyrene			267	264		ug/Kg		99	54.6 - 142		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Nitrobenzene-d5	*56*		*35.1 - 144*
2-Fluorobiphenyl (Surr)	*86*		*48.8 - 134*
p-Terphenyl-d14	*128*		*48 - 166*

Lab Sample ID: LCSD 590-3717/3-A
Matrix: Solid
Analysis Batch: 3718

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 3717

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene			267	156		ug/Kg		58	51.4 - 133	1	35
Fluorene			267	272		ug/Kg		102	65.7 - 123	1	35
Chrysene			267	227		ug/Kg		85	57.3 - 133	13	35
Indeno[1,2,3-cd]pyrene			267	234		ug/Kg		88	54.6 - 142	12	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Nitrobenzene-d5	*54*		*35.1 - 144*
2-Fluorobiphenyl (Surr)	*86*		*48.8 - 134*
p-Terphenyl-d14	*106*		*48 - 166*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Lab Sample ID: MB 230-2259/11-A
Matrix: Solid
Analysis Batch: 2267

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 2259

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C10-C25	ND		20		mg/Kg		09/30/15 09:09	10/02/15 07:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctadecane	*60*		*60 - 120*	*09/30/15 09:09*	*10/02/15 07:18*	*1*

Lab Sample ID: LCS 230-2259/12-A
Matrix: Solid
Analysis Batch: 2267

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 2259

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C10-C25			125	115		mg/Kg		92	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctadecane	*86*		*60 - 120*

Lab Sample ID: LCSD 230-2259/13-A
Matrix: Solid
Analysis Batch: 2267

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 2259

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C25			125	116		mg/Kg		93	75 - 125	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctadecane	*87*		*60 - 120*

Lab Sample ID: 230-647-1 DU
Matrix: Solid
Analysis Batch: 2267

Client Sample ID: 01
Prep Type: Total/NA
Prep Batch: 2259

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
C10-C25	ND			ND		mg/Kg	☼			NC	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
1-Chlorooctadecane	*67*		*60 - 120*

QC Association Summary

Client: Montauk Environmental Engineering
Project/Site: YK Solutions Post-Treatment

TestAmerica Job ID: 230-647-1

GC/MS VOA

Prep Batch: 3709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
230-647-1	01	Total/NA	Solid	5035	
230-647-3	03	Total/NA	Solid	5035	
LCS 590-3709/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 590-3709/4-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 590-3709/3-A	Lab Control Sample Dup	Total/NA	Solid	5035	
LCSD 590-3709/5-A	Lab Control Sample Dup	Total/NA	Solid	5035	
MB 590-3709/1-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 3710

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
230-647-1	01	Total/NA	Solid	8260C	3709
230-647-3	03	Total/NA	Solid	8260C	3709
LCS 590-3709/2-A	Lab Control Sample	Total/NA	Solid	8260C	3709
LCSD 590-3709/3-A	Lab Control Sample Dup	Total/NA	Solid	8260C	3709
MB 590-3709/1-A	Method Blank	Total/NA	Solid	8260C	3709

Analysis Batch: 3711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
230-647-1	01	Total/NA	Solid	AK101	3709
230-647-3	03	Total/NA	Solid	AK101	3709
LCS 590-3709/4-A	Lab Control Sample	Total/NA	Solid	AK101	3709
LCSD 590-3709/5-A	Lab Control Sample Dup	Total/NA	Solid	AK101	3709
MB 590-3709/1-A	Method Blank	Total/NA	Solid	AK101	3709

GC/MS Semi VOA

Prep Batch: 3717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
230-647-1	01	Total/NA	Solid	3550C	
LCS 590-3717/2-A	Lab Control Sample	Total/NA	Solid	3550C	
LCSD 590-3717/3-A	Lab Control Sample Dup	Total/NA	Solid	3550C	
MB 590-3717/1-A	Method Blank	Total/NA	Solid	3550C	

Analysis Batch: 3718

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
230-647-1	01	Total/NA	Solid	8270D SIM	3717
LCS 590-3717/2-A	Lab Control Sample	Total/NA	Solid	8270D SIM	3717
LCSD 590-3717/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D SIM	3717
MB 590-3717/1-A	Method Blank	Total/NA	Solid	8270D SIM	3717

GC Semi VOA

Prep Batch: 2259

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
230-647-1	01	Total/NA	Solid	3545	
230-647-1 DU	01	Total/NA	Solid	3545	
230-647-2	02	Total/NA	Solid	3545	
LCS 230-2259/12-A	Lab Control Sample	Total/NA	Solid	3545	
LCSD 230-2259/13-A	Lab Control Sample Dup	Total/NA	Solid	3545	
MB 230-2259/11-A	Method Blank	Total/NA	Solid	3545	

GC Semi VOA (Continued)

Analysis Batch: 2267

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
230-647-1	01	Total/NA	Solid	AK102 & 103	2259
230-647-1 DU	01	Total/NA	Solid	AK102 & 103	2259
230-647-2	02	Total/NA	Solid	AK102 & 103	2259
LCS 230-2259/12-A	Lab Control Sample	Total/NA	Solid	AK102 & 103	2259
LCSD 230-2259/13-A	Lab Control Sample Dup	Total/NA	Solid	AK102 & 103	2259
MB 230-2259/11-A	Method Blank	Total/NA	Solid	AK102 & 103	2259

General Chemistry

Analysis Batch: 2262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
230-646-A-1 DU	Duplicate	Total/NA	Solid	Moisture	
230-647-1	01	Total/NA	Solid	Moisture	
230-647-2	02	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Montauk Environmental Engineering
Project/Site: YK Solutions Post-Treatment

TestAmerica Job ID: 230-647-1

Client Sample ID: 01
Date Collected: 09/25/15 14:20
Date Received: 09/28/15 15:20

Lab Sample ID: 230-647-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	2262	09/30/15 16:08	OSS	TAL ANC

Client Sample ID: 01
Date Collected: 09/25/15 14:20
Date Received: 09/28/15 15:20

Lab Sample ID: 230-647-1
Matrix: Solid
Percent Solids: 90.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3709	10/01/15 09:08	MRS	TAL SPK
Total/NA	Analysis	8260C		1	3710	10/01/15 13:39	MRS	TAL SPK
Total/NA	Prep	5035			3709	10/01/15 09:08	MRS	TAL SPK
Total/NA	Analysis	AK101		1	3711	10/01/15 13:39	CBW	TAL SPK
Total/NA	Prep	3550C			3717	10/01/15 10:27	IAB	TAL SPK
Total/NA	Analysis	8270D SIM		1	3718	10/01/15 14:46	NMI	TAL SPK
Total/NA	Prep	3545			2259	09/30/15 09:09	OSS	TAL ANC
Total/NA	Analysis	AK102 & 103		1	2267	10/02/15 09:55	IKS	TAL ANC

Client Sample ID: 02
Date Collected: 09/25/15 14:40
Date Received: 09/28/15 15:20

Lab Sample ID: 230-647-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	2262	09/30/15 16:08	OSS	TAL ANC

Client Sample ID: 02
Date Collected: 09/25/15 14:40
Date Received: 09/28/15 15:20

Lab Sample ID: 230-647-2
Matrix: Solid
Percent Solids: 92.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			2259	09/30/15 09:09	OSS	TAL ANC
Total/NA	Analysis	AK102 & 103		1	2267	10/02/15 09:24	IKS	TAL ANC

Client Sample ID: 03
Date Collected: 09/25/15 00:00
Date Received: 09/28/15 15:20

Lab Sample ID: 230-647-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3709	10/01/15 09:08	MRS	TAL SPK
Total/NA	Analysis	8260C		1	3710	10/01/15 13:59	MRS	TAL SPK
Total/NA	Prep	5035			3709	10/01/15 09:08	MRS	TAL SPK
Total/NA	Analysis	AK101		1	3711	10/01/15 13:59	CBW	TAL SPK

Lab Chronicle

Client: Montauk Environmental Engineering
Project/Site: YK Solutions Post-Treatment

TestAmerica Job ID: 230-647-1

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 Ave, Spokane, WA 99206, TEL (509)924-9200

Certification Summary

Client: Montauk Environmental Engineering
Project/Site: YK Solutions Post-Treatment

TestAmerica Job ID: 230-647-1

Laboratory: TestAmerica Anchorage

The certifications listed below are applicable to this report.

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

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	10-31-15
Washington	State Program	10	C569	01-06-16

Method Summary

Client: Montauk Environmental Engineering
Project/Site: YK Solutions Post-Treatment

TestAmerica Job ID: 230-647-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SPK
AK101	Alaska - Gasoline Range Organics (GC/MS)	ADEC	TAL SPK
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL SPK
AK102 & 103	Alaska - Diesel Range Organics & Residual Range Organics (GC)	ADEC	TAL ANC
Moisture	Percent Moisture	EPA	TAL ANC

Protocol References:

ADEC = Alaska Department of Environmental Conservation

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

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 Ave, Spokane, WA 99206, TEL (509)924-9200

Sample Summary

Client: Montauk Environmental Engineering
Project/Site: YK Solutions Post-Treatment

TestAmerica Job ID: 230-647-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
230-647-1	01	Solid	09/25/15 14:20	09/28/15 15:20
230-647-2	02	Solid	09/25/15 14:40	09/28/15 15:20
230-647-3	03	Solid	09/25/15 00:00	09/28/15 15:20

Montauk Environmental Engineering
P.O. Box 771447
Eagle River, AK 99577-1447
Tel: 907.441.2494 MTKEE@gci.net

230-647 Chain of Custody

:ody Record

Project: YK Solutions Post-Treatment Confirmation Samples

Sampler (Sig.): Elsmann

Sample Number	Date 2015	Time (Mil.)	Pres.[1]	№ Cont.	YK Solutions Project Name	Analyses Requested
01	25 Sept	1420	Ref.	2	Bethel Youth Facil. LUST SARI (Spill No.TBD)	AK102-DRO, AK101-GRO, 8260-BTEX 8270C-SIM-PAH
02		1440		1	Crowlet Tank Farm 2013 Tank 18 Spill (Spill No. 1327992201)	AK102-DRO
03		NA		1	Trip Blank	AK101-GRO, 8260-BTEX

Deliver Samples to:	Deliver Reports to:	Potential Hazards:	TAT / Data Levels:
TestAmerica	Elsmann	Listed Analytes	Standard/ADEC Level I

Relinquished by (Date/Time): 25Sept.15 @ 1135	Received by (Date/Time): 9/27/15 11:35am
Relinquished by (Date/Time): 9/28/15 3:20pm	Received by (Date/Time): 9/28/15 3:20 for ISM Arctic
Relinquished by (Date/Time):	Received by (Date/Time):

3.3°C

Note 1: 8260/AK101 are also preserved with methanol. Significant quantities of target analytes are not suspected.

Page 1 of 1

Login Sample Receipt Checklist

Client: Montauk Environmental Engineering

Job Number: 230-647-1

Login Number: 647
List Number: 1
Creator: Pilch, Andrew C

List Source: TestAmerica Anchorage

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Montauk Environmental Engineering

Job Number: 230-647-1

Login Number: 647
List Number: 2
Creator: Kratz, Sheila J

List Source: TestAmerica Spokane
List Creation: 09/30/15 09:59 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites and Prevention and Emergency Response Programs

Transport, Treatment, & Disposal Approval Form for Contaminated Media

DEC HAZARD/SPILL ID #	NAME OF SPILL OR CONTAMINATED SITE	
132799 22001	Crowley Bethel Tank Farm 2013	
SITE OR SPILL LOCATION		
Crowley Tank Farm - Bethel Alaska		
CURRENT LOCATION AND TYPE OF CONTAMINATED MEDIA		**SOURCE OF THE CONTAMINATION**
Crowley Tank Farm, excavated soil		Tank 18 Spill
COMPOUNDS OF CONCERN	**ESTIMATED VOLUME**	**DATE(S) GENERATED**
DRO	55 tons (32 super sacks)	10/6/14-10/8/14
POST TREATMENT ANALYSIS REQUIRED *(such as GRO, DRO, RRO, BTEX, and/or Chlorinated Solvents)*		
DRO		
COMMENTS		

Facility Accepting the Contaminated Media

NAME OF THE FACILITY	PHYSICAL ADDRESS/PHONE NUMBER
YK Solutions	PO Box 2807 Bethel, AK. 907-545-1775

Responsible Party and Contractor Information

BUSINESS/NAME	ADDRESS/PHONE NUMBER
Crowley Petroleum Distribution, Alaska LLC	201 Arctic Slope Ave. Anchorage, AK 99518 907-777-5505

Prathap Kodial
Name of the Person Requesting Approval (printed)

Prathap Kodial
Signature

Project Manager
Title/Association

4/21/2015
Date

907 777-5595
Phone Number

----------DEC USE ONLY----------

Based on the information provided, ADEC approves transport of the above-described media for treatment in accordance with the approved facility operations plan. The Responsible Party or their consultant must submit to the DEC Project Manager a copy of weight/volume receipts of the loads transported to the facility and a post treatment analytical report. If the media is contaminated soil, it shall be transported as a covered load in compliance with 18 AAC 60.015.

Steven Russell
DEC Project Manager Name (printed)

EPM I
Project Manager Title

Signature

04-24-15
Date

262-3401
Phone Number

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SPILL PREVENTION AND RESPONSE
Prevention and Emergency Response Program

Contaminated Soil Transport and Treatment Approval Form

ADEC SPILL #	SPILL NAME	
To Be Determined	Bethel Youth Facility Regulated UST	
SPILL LOCATION		
Bethel Youth Facility, 950 State Hwy Bethel AK 99559 907.543.5200		
CONTAMINATED SOIL'S CURRENT LOCATION		SOURCE OF THE CONTAMINATION
Adjacent to UST Site as per Short-Term Requirements		2000-gal Regulated UST
TYPE OF CONTAMINATION	ESTIMATED VOLUME	DATE(S) STOCKPILE GENERATED
Diesel Fuel Release to Soil	50 CY	16 & 17 June 2015
POST TREATMENT ANALYSIS ~~REQUIRED~~ *(such as GRO, DRO, RRO, BTEX, and/or Chlorinated Solvents)*		
BTEX, GRO, DRO & ~~PAH~~ PAH		
COMMENTS		

Facility Accepting the Contaminated Soil

NAME OF THE FACILITY	ADDRESS/PHONE NUMBER
YK Solutions, Inc.	22 McCallson Way Bethel AK 99559; 907.535.177

Responsible Party and Contractor Information

BUSINESS/NAME	ADDRESS/PHONE NUMBER
DHSS Div of Juvenile Justice (RP)	240 Main St. Ste. 701 Juneau AK 99811 907.465.2212
Bethel/UNIT, LLC (Contractor)	620 Whitney Rd. Anch., AK 99501 907.349.6666

David Graye
Name of the Person Requesting Approval (printed)

Project Manager Bethel/UNIT LLC
Title/Association

Signature

6-25-2015
Date

(907) 777-5722
Phone Number

----------ADEC USE ONLY----------

Based on the information provided, ADEC approves transport of the above mentioned material for treatment in accordance with the approved facility operations plan. The RP or their consultant must submit to the ADEC Project Manager a copy of weight receipts of the loads transported to the facility and a post treatment analytical report or other approved ADEC treatment/disposal notification. The contaminated soil shall be transported as a covered load in compliance with 18 AAC 60.015.

Robert Weimer
ADEC Project Manager Name (printed)

ADEC-CS
Project Manager Title

Signature

6/25/15
Date

907-269-7525
Phone Number

YK Solutions post-treat. confirmation
Soil Samples – 25 Sept. 15

O.S. 1410 – Lt. wind, Lt. RAIN, ~45°F

Collect 5-point composite soil samples from each stockpile.

Sample No.	Source	Time	Analyses
01	Bethel YF Lost (No Spill No.)	1420	DRO, GRO, BTEX & PAH
02	Crowley Tank Farm Tnk 18 Spill No. 1327992201	1440	DRO
03	TB		

Both stockpiles exhibit clear indic. of being subjected to high T°. Both are grey-brn poorly-graded SANDS w/ traces of silt.

No POL odor, no stains – soils have distinctive "burn" odor

X Location of composite point, D = 2' 6"