



Electronic Correspondence

December 31, 2015

Mr. Mike Bratcher  
State of New Mexico  
Oil Conservation Division  
811 S. 1st Street  
Artesia, NM 88210  
[mike.bratcher@state.nm.us](mailto:mike.bratcher@state.nm.us)

Re: Corrective Action Plan- 2RP-3381  
Memorial Production Operating, NSLU #197  
Legal: Unit M, Sec 20, T16S, R31E, Eddy County, NM  
Latitude/Longitude: 32.903050/ -103.899767  
Etech Project Number: 416-6683-000  
Depth to Groundwater: >300 feet

Release Type: Produced Water

Contaminants of Concern (COC's)

Chlorides

TPH

Benzene

BTEX

Threshold Levels

1,000 mg/kg

5,000 mg/kg

10 mg/kg

50 mg/kg

Dear Mike:

Etech Environmental & Safety Solutions, Inc. (Etech) is submitting the following corrective action plan on the aforementioned site for your review and approval.

#### **Background**

On October 29, 2015 a leak was discovered and reported from the NSLU 197. A valve was closed by accident at the header, which over pressurized the poly line causing it to fail. The line was repaired and safety systems were installed to shut the line down on high pressure. Approximately 1 barrel (bbl.) of crude oil and 10 bbl. of produced water were released due to the failure. No fluid was able to be recovered. An assessment of the site was conducted on November 2, 2015 by Etech personnel. The release flowed north and south from the transfer line. Length of the release was approximately 200 feet with varying widths from 2 feet to 30 feet. The impacted area affected approximately 5,700 square feet of surface area.

An initial sampling was conducted of the impacted area on November 2, 2015. Samples were collected from four (4) locations of the impacted area. Note: All of the samples were collected from low areas to present a "worst case" basis. The samples were analyzed for TPH, BTEX and Chlorides. TPH levels ranged from non-detect to 34,700 mg/kg. BTEX levels were found to be above regulatory levels on AH 1 at 0-6 inches. Chloride levels ranged from 35.2 to 16,500 mg/kg. Due to the site not being delineated to below 250 mg/kg chlorides on

initial assessment; the site was further delineated on December 9, 2015 utilizing an air rotary rig. Samples were collected at AH 1 and AH 2 at 1 foot intervals until field screening levels for chlorides were below 250 mg/kg. Chloride levels were below 250 mg/kg at 12-13 feet below grade at AH 1 and 13-14 feet below grade at AH 2. A copy of the assessment sheet and analytical results are attached.

### **Scope of Work**

The corrective action for this site will be to remediate impacted soils onsite. Impacted soils will be treated with DeSalt Plus to treat the elevated chloride levels and a microbial amendment to remediate elevated levels of hydrocarbons. We believe treating the site with DeSalt to be the most practicable way to approach this site, due to the depth to groundwater in the area being greater than 300 feet and the soil's sandy content. Therefore, the corrective action goals for this project will be 1,000 mg/kg of chlorides and 5,000 mg/kg of TPH. For the sample at AH 1 (4-5'), we believe this to be an outlier in the data caused by cross contamination from shallower depths while sampling with the hand auger. Therefore we believe hydrocarbons are only above cleanup thresholds at 0-1 foot, but further analysis at this depth can be completed if requested. The particulars for remediation will involve the actions summarized as follows:

1. Placement of a one-call for utility location.
2. The impacted soil will be mechanically tilled to break up the soil. The impacted area will then be treated with a mixture of DeSalt and fresh water as well as a microbial agent. The area will then be mechanically tilled to incorporate the amendments.
3. Once screening determines the remediation objectives have been reached, confirmation samples will be collected to confirm that remediation goals have been reached.
4. If the results of analysis indicate that the hydrocarbon or chloride levels are above regulatory threshold levels, additional treatment will be performed until the remediation objectives are met.
5. The site will be seeded with BLM #2. Seeding will take place when the seasonal conditions are conducive to maximizing the potential for seed germination. Actual seeding will be accomplished by broadcast or drilling; whichever is the most practical for the site.

### **Notifications and Special Conditions**

1. The OCD and BLM will be notified prior to the commencement of on-site operations.
2. The OCD and BLM will be notified prior to each sampling event to allow the opportunity to witness the sampling events. Splits will be made available if requested.
3. Prior to seeding, the OCD and BLM will be notified when the site is closed for final inspection.
4. A final report documenting the closure of the site will be submitted along with a final C-141.

Thank you for your assistance on this matter. Should you have any questions, require additional information, or have any additional stipulations for this site, please me at (432) 563-2200 (office) or via email at [tim@etechenv.com](mailto:tim@etechenv.com).

Respectfully:



Tim McMinn

cc: Heather Patterson, NMOCD Division 2 Office; Dara Glass, BLM Carlsbad District Office

**Attachment A**  
**Initial C-141**

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in  
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

NAB1531457125 303900 OPERATOR ☒ Initial Report ☐ Final Report

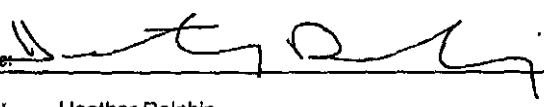
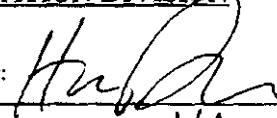
Name of Company	Memorial Production Operating LLC	Contact	Heather Dolphin
Address	500 Dallas Street Houston TX 77002	Telephone No.	832-797-1334
Facility Name	North Square Lake Unit #197	Facility Type	Well
Surface Owner	Mineral Owner	API No. 30-015-33065	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	20	16S	31E					Eddy

Latitude 32.9031677 Longitude -103.8998642 NAD 83

NATURE OF RELEASE 1bbl Oil/ 10bbls PW 0bbls

Type of Release	Produced Water	Volume of Release	10/29/15	Volume Recovered	
Source of Release	Flowline	Date and Hour of Occurrence		Date and Hour of Discovery	11:30am
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Heather Patterson & Mike Bratcher, OCD Shelly Tucker & Art Arias, BLM		
By Whom?	Heather Dolphin	Date and Hour	10/29/2015 5:08pm		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	n/a	NM OIL CONSERVATION	
If a Watercourse was Impacted, Describe Fully.*	n/a	ARTESIA DISTRICT			
Describe Cause of Problem and Remedial Action Taken.*		RECEIVED			
Poly line blew a hole due to closed valve at header, the line was repaired and a murphy switch was installed to shut down the line when the line has high pressure.					
Describe Area Affected and Cleanup Action Taken.*					
Spill on location and into pasture starting at wellhead (40' x 150'), etech will clean-up per OCD/BLM regulation.					
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOC rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOC marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOC acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.					
Signature: 		OIL CONSERVATION DIVISION			
Printed Name: Heather Dolphin		Approved by Environmental Specialist: 			
Title: Sr. Regulatory Specialist		Approval Date: 11/10/15		Expiration Date: N/A	
E-mail Address: heather.dolphin@memorialrd.com		Conditions of Approval:			
Date: 11/03/2015 Phone: 832-797-1334		Remediation per O.C.D. Rules & Guidelines <input type="checkbox"/>			
		SUBMIT REMEDIATION PROPOSAL NO			

\* Attach Additional Sheets If Necessary

LATER THAN: 12/2/15

2RP-3381

**Attachment B**  
**Annotated Aerial Imagery**

<b>Delineation &amp; Assessment Report ©</b>	<b>Lease Name:</b>	<b>NSLU 197</b>	<b>Case No.:</b>	<b>416-6683-000</b>
	<b>Date Assessed:</b>	November 4, 2015		



Assessment Results					
Sample I.D.	Depth (ft.)	Chlorides (mg/kg)	TPH (mg/kg)	Benzene (mg/kg)	BTEX (mg/kg)
AH 1	0-1/2	5640	34700	0.252	102.652
AH 1	1-2	4820	1150	ND	0.852
AH 1	2-3	7430	859	ND	0.19309
AH 1	3-4	6980	1260	ND	0.7897
AH 1	4-5	5300	5420	0.00736	1.55636
AH 1	5-6	6960	886	0.00146	0.48106
AH 1	6-7	14500	112	ND	ND
AH 1	7-8	16500	957	ND	0.3572
AH 1	8-9	9460	592	ND	0.2135
AH 2	0-1	7500	872	0.00334	0.805
AH 2	1-2	430	56.8	0.00294	0.20944
AH 2	2-3	373	165	ND	0.168
AH 2	3-4	148	44.2	ND	0.00358
AH 2	4-5	185	36	ND	ND
AH 2	5-6	110	39.6	ND	ND
AH 2	6-7	142	ND	ND	ND
AH 2	7-8	209	ND	ND	0.00612
AH 2	8-9	181	48.6	ND	0.04755
AH 3	0-1	8160	1110	0.00525	1.491
AH 3	1-2	866	58.2	ND	0.00274
AH 3	2-3	455	ND	ND	ND
AH 3	3-4	194	38.2	ND	ND
AH 3	4-5	145	52.5	ND	ND
AH 3	5-6	35.2	111	ND	ND
AH 3	6-7	64.5	143	ND	ND
AH 3	7-8	278	51.1	ND	0.00909
AH 3	8-9	394	148	ND	0.00119
AH 3	9-10	168	493	ND	0.00379



[illegible]





**Assessment Results**

Sample I.D.	Depth (ft.)	Chlorides (mg/kg)	TPH (mg/kg)
AH 1	12-13	ND	158
AH 1	13-14	ND	ND
AH 2	12-13	263	103
AH 2	13-14	ND	ND
AH 2	14-15	ND	ND
AH 2	15-16	ND	ND



**Attachment C**  
**Photograph Log**

NSLU 197





NSLU 197





NSLU 197





NSLU 197



**Attachment D**  
**Analytical Results**

**PERMIAN BASIN  
ENVIRONMENTAL LAB, LP  
10014 SCR 1213  
Midland, TX 79706**



# Analytical Report

**Prepared for:**

Tim McMinn  
E Tech Environmental & Safety Solutions, Inc.  
13000 West County Road 100  
Odessa, TX 79765

Project: NSLU 197  
Project Number: 416-6683-000  
Location: Memorial  
Lab Order Number: 5K06013



**NELAP/TCEQ # T104704156-13-3**

Report Date: 12/30/15

E Tech Environmental & Safety Solutions, Inc.  
13000 West County Road 100  
Odessa TX, 79765

Project: NSLU 197  
Project Number: 416-6683-000  
Project Manager: Tim McMinn

Fax: (432) 563-2213

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Auger hole 1 0-6"	5K06013-01	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 1 1-2'	5K06013-02	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 1 2-3'	5K06013-03	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 1 3-4'	5K06013-04	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 1 4-5'	5K06013-05	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 1 5-6'	5K06013-06	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 1 6-7'	5K06013-07	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 1 7-8'	5K06013-08	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 1 8-9'	5K06013-09	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 2 0-1'	5K06013-10	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 2 1-2'	5K06013-11	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 2 2-3'	5K06013-12	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 2 3-4'	5K06013-13	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 2 4-5'	5K06013-14	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 2 5-6'	5K06013-15	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 2 6-7'	5K06013-16	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 2 7-8'	5K06013-17	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 2 8-9'	5K06013-18	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 3 0-1'	5K06013-19	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 3 1-2'	5K06013-20	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 3 2-3'	5K06013-21	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 3 3-4'	5K06013-22	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 3 4-5'	5K06013-23	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 3 5-6'	5K06013-24	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 3 6-7'	5K06013-25	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 3 7-8'	5K06013-26	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 3 8-9'	5K06013-27	Soil	11/04/15 00:00	11-06-2015 16:17
Auger hole 3 9-10'	5K06013-28	Soil	11/04/15 00:00	11-06-2015 16:17



E Tech Environmental & Safety Solutions, Inc.  
13000 West County Road 100  
Odessa TX, 79765

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Project Number: 416-6683-000  
Project Manager: Tim McMinn

Fax: (432) 563-2213

**Auger hole 1 0-6"**

**5K06013-01 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

<b>Benzene</b>	<b>0.252</b>	0.106	mg/kg dry	100	P5K1204	11/10/15	11/11/15	EPA 8021B
<b>Toluene</b>	<b>13.3</b>	0.213	mg/kg dry	100	P5K1204	11/10/15	11/11/15	EPA 8021B
<b>Ethylbenzene</b>	<b>28.8</b>	0.106	mg/kg dry	100	P5K1204	11/10/15	11/11/15	EPA 8021B
<b>Xylene (p/m)</b>	<b>41.0</b>	0.213	mg/kg dry	100	P5K1204	11/10/15	11/11/15	EPA 8021B
<b>Xylene (o)</b>	<b>19.3</b>	0.106	mg/kg dry	100	P5K1204	11/10/15	11/11/15	EPA 8021B
<i>Surrogate: 4-Bromofluorobenzene</i>		83.4 %	75-125		P5K1204	11/10/15	11/11/15	EPA 8021B
<i>Surrogate: 1,4-Difluorobenzene</i>		108 %	75-125		P5K1204	11/10/15	11/11/15	EPA 8021B

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>5640</b>	26.6	mg/kg dry	25	P5K1207	11/12/15	11/12/15	EPA 300.0
<b>% Moisture</b>	<b>6.0</b>	0.1	%	1	P5K1001	11/10/15	11/10/15	% calculation

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>7170</b>	532	mg/kg dry	20	P5K1102	11/10/15	11/10/15	TPH 8015M
<b>&gt;C12-C28</b>	<b>24400</b>	532	mg/kg dry	20	P5K1102	11/10/15	11/10/15	TPH 8015M
<b>&gt;C28-C35</b>	<b>3130</b>	532	mg/kg dry	20	P5K1102	11/10/15	11/10/15	TPH 8015M
<i>Surrogate: 1-Chlorooctane</i>		110 %	70-130		P5K1102	11/10/15	11/10/15	TPH 8015M
<i>Surrogate: o-Terphenyl</i>		106 %	70-130		P5K1102	11/10/15	11/10/15	TPH 8015M
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>34700</b>	532	mg/kg dry	20	[CALC]	11/10/15	11/10/15	calc

E Tech Environmental & Safety Solutions, Inc.  
13000 West County Road 100  
Odessa TX, 79765

Project: NSLU 197  
Project Number: 416-6683-000  
Project Manager: Tim McMinn

Fax: (432) 563-2213

**Auger hole 1 1-2'**  
**5K06013-02 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00104	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Toluene	0.101	0.00208	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Ethylbenzene	0.244	0.00104	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Xylene (p/m)	0.349	0.00208	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Xylene (o)	0.158	0.00104	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		97.7 %	75-125		P5K1104	11/10/15	11/10/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		119 %	75-125		P5K1104	11/10/15	11/10/15	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	4820	26.0	mg/kg dry	25	P5K1207	11/12/15	11/12/15	EPA 300.0	
% Moisture	4.0	0.1	%	1	P5K1001	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	116	26.0	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
>C12-C28	914	26.0	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
>C28-C35	121	26.0	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
Surrogate: 1-Chlorooctane		93.2 %	70-130		P5K1102	11/10/15	11/10/15	TPH 8015M	
Surrogate: o-Terphenyl		102 %	70-130		P5K1102	11/10/15	11/10/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	1150	26.0	mg/kg dry	1	[CALC]	11/10/15	11/10/15	calc	

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**Auger hole 1 2-3'**  
**5K06013-03 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00104	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
<b>Toluene</b>	<b>0.00819</b>	0.00208	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
<b>Ethylbenzene</b>	<b>0.0652</b>	0.00104	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
<b>Xylene (p/m)</b>	<b>0.0828</b>	0.00208	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
<b>Xylene (o)</b>	<b>0.0369</b>	0.00104	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		80.1 %	75-125		P5K1104	11/10/15	11/10/15	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		82.8 %	75-125		P5K1104	11/10/15	11/10/15	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>7430</b>	26.0	mg/kg dry	25	P5K1207	11/12/15	11/12/15	EPA 300.0	
<b>% Moisture</b>	<b>4.0</b>	0.1	%	1	P5K1001	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>74.4</b>	26.0	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
<b>&gt;C12-C28</b>	<b>699</b>	26.0	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
<b>&gt;C28-C35</b>	<b>85.7</b>	26.0	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		86.0 %	70-130		P5K1102	11/10/15	11/10/15	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		95.7 %	70-130		P5K1102	11/10/15	11/10/15	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>859</b>	26.0	mg/kg dry	1	[CALC]	11/10/15	11/10/15	calc	

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**Auger hole 1 3-4'**  
**5K06013-04 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00104	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Toluene	0.0417	0.00208	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Ethylbenzene	0.246	0.00104	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Xylene (p/m)	0.361	0.00208	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Xylene (o)	0.141	0.00104	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		105 %	75-125		P5K1104	11/10/15	11/10/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		88.1 %	75-125		P5K1104	11/10/15	11/10/15	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	6980	26.0	mg/kg dry	25	P5K1207	11/12/15	11/12/15	EPA 300.0	
% Moisture	4.0	0.1	%	1	P5K1001	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	91.8	26.0	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
>C12-C28	1050	26.0	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
>C28-C35	122	26.0	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
Surrogate: 1-Chlorooctane		103 %	70-130		P5K1102	11/10/15	11/10/15	TPH 8015M	
Surrogate: o-Terphenyl		114 %	70-130		P5K1102	11/10/15	11/10/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	1260	26.0	mg/kg dry	1	[CALC]	11/10/15	11/10/15	calc	



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Project Number: 416-6683-000  
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**Auger hole 1 4-5'**  
**5K06013-05 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

<b>Benzene</b>	<b>0.00736</b>	0.00104	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
<b>Toluene</b>	<b>0.350</b>	0.00208	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
<b>Ethylbenzene</b>	<b>0.388</b>	0.00104	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
<b>Xylene (p/m)</b>	<b>0.482</b>	0.00208	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
<b>Xylene (o)</b>	<b>0.329</b>	0.00104	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		<i>108 %</i>	<i>75-125</i>		<i>P5K1104</i>	<i>11/10/15</i>	<i>11/10/15</i>	<i>EPA 8021B</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>83.0 %</i>	<i>75-125</i>		<i>P5K1104</i>	<i>11/10/15</i>	<i>11/10/15</i>	<i>EPA 8021B</i>	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>5300</b>	26.0	mg/kg dry	25	P5K1207	11/12/15	11/12/15	EPA 300.0	
<b>% Moisture</b>	<b>4.0</b>	0.1	%	1	P5K1001	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>529</b>	130	mg/kg dry	5	P5K1102	11/10/15	11/10/15	TPH 8015M	
<b>&gt;C12-C28</b>	<b>4310</b>	130	mg/kg dry	5	P5K1102	11/10/15	11/10/15	TPH 8015M	
<b>&gt;C28-C35</b>	<b>575</b>	130	mg/kg dry	5	P5K1102	11/10/15	11/10/15	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		<i>118 %</i>	<i>70-130</i>		<i>P5K1102</i>	<i>11/10/15</i>	<i>11/10/15</i>	<i>TPH 8015M</i>	
<i>Surrogate: o-Terphenyl</i>		<i>122 %</i>	<i>70-130</i>		<i>P5K1102</i>	<i>11/10/15</i>	<i>11/10/15</i>	<i>TPH 8015M</i>	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>5420</b>	130	mg/kg dry	5	[CALC]	11/10/15	11/10/15	calc	

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**Auger hole 1 5-6'**  
**5K06013-06 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

<b>Benzene</b>	<b>0.00146</b>	0.00104	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
<b>Toluene</b>	<b>0.0821</b>	0.00208	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
<b>Ethylbenzene</b>	<b>0.143</b>	0.00104	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
<b>Xylene (p/m)</b>	<b>0.179</b>	0.00208	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
<b>Xylene (o)</b>	<b>0.0755</b>	0.00104	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		71.9 %	75-125		P5K1104	11/10/15	11/10/15	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		121 %	75-125		P5K1104	11/10/15	11/10/15	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>6960</b>	26.0	mg/kg dry	25	P5K1207	11/12/15	11/12/15	EPA 300.0	
<b>% Moisture</b>	<b>4.0</b>	0.1	%	1	P5K1001	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>79.2</b>	26.0	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
<b>&gt;C12-C28</b>	<b>724</b>	26.0	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
<b>&gt;C28-C35</b>	<b>82.4</b>	26.0	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		98.7 %	70-130		P5K1102	11/10/15	11/10/15	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		112 %	70-130		P5K1102	11/10/15	11/10/15	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>886</b>	26.0	mg/kg dry	1	[CALC]	11/10/15	11/10/15	calc	

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**Auger hole 1 6-7'**  
**5K06013-07 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00108	mg/kg dry	1	P5K1601	11/11/15	11/12/15	EPA 8021B	
Toluene	ND	0.00215	mg/kg dry	1	P5K1601	11/11/15	11/12/15	EPA 8021B	
Ethylbenzene	ND	0.00108	mg/kg dry	1	P5K1601	11/11/15	11/12/15	EPA 8021B	
Xylene (p/m)	ND	0.00215	mg/kg dry	1	P5K1601	11/11/15	11/12/15	EPA 8021B	
Xylene (o)	ND	0.00108	mg/kg dry	1	P5K1601	11/11/15	11/12/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		102 %	75-125		P5K1601	11/11/15	11/12/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		130 %	75-125		P5K1601	11/11/15	11/12/15	EPA 8021B	S-GC

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	14500	53.8	mg/kg dry	50	P5K1207	11/12/15	11/12/15	EPA 300.0	
% Moisture	7.0	0.1	%	1	P5K1001	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.9	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
>C12-C28	112	26.9	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
Surrogate: 1-Chlorooctane		86.3 %	70-130		P5K1102	11/10/15	11/10/15	TPH 8015M	
Surrogate: o-Terphenyl		96.4 %	70-130		P5K1102	11/10/15	11/10/15	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>112</b>	26.9	mg/kg dry	1	[CALC]	11/10/15	11/10/15	calc	

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**Auger hole 1 7-8'**  
**5K06013-08 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00111	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Toluene	0.0456	0.00222	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Ethylbenzene	0.107	0.00111	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Xylene (p/m)	0.146	0.00222	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Xylene (o)	0.0586	0.00111	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		80.4 %	75-125		P5K1104	11/10/15	11/10/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		129 %	75-125		P5K1104	11/10/15	11/10/15	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	16500	55.6	mg/kg dry	50	P5K1207	11/12/15	11/12/15	EPA 300.0	
% Moisture	10.0	0.1	%	1	P5K1001	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	66.4	27.8	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
>C12-C28	793	27.8	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
>C28-C35	97.4	27.8	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
Surrogate: 1-Chlorooctane		88.2 %	70-130		P5K1102	11/10/15	11/10/15	TPH 8015M	
Surrogate: o-Terphenyl		98.8 %	70-130		P5K1102	11/10/15	11/10/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	957	27.8	mg/kg dry	1	[CALC]	11/10/15	11/10/15	calc	

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**Auger hole 1 8-9'**  
**5K06013-09 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00111	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Toluene	0.0276	0.00222	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Ethylbenzene	0.0636	0.00111	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Xylene (p/m)	0.0890	0.00222	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Xylene (o)	0.0333	0.00111	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		125 %	75-125		P5K1104	11/10/15	11/10/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		81.6 %	75-125		P5K1104	11/10/15	11/10/15	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	9460	27.8	mg/kg dry	25	P5K1207	11/12/15	11/12/15	EPA 300.0	
% Moisture	10.0	0.1	%	1	P5K1001	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	33.6	27.8	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
>C12-C28	491	27.8	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
>C28-C35	66.6	27.8	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
Surrogate: 1-Chlorooctane		101 %	70-130		P5K1102	11/10/15	11/10/15	TPH 8015M	
Surrogate: o-Terphenyl		114 %	70-130		P5K1102	11/10/15	11/10/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	592	27.8	mg/kg dry	1	[CALC]	11/10/15	11/10/15	calc	



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**Auger hole 2 0-1'**  
**5K06013-10 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

<b>Benzene</b>	<b>0.00334</b>	0.00112	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
<b>Toluene</b>	<b>0.180</b>	0.00225	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
<b>Ethylbenzene</b>	<b>0.218</b>	0.00112	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
<b>Xylene (p/m)</b>	<b>0.285</b>	0.00225	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
<b>Xylene (o)</b>	<b>0.122</b>	0.00112	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		107 %	75-125		P5K1104	11/10/15	11/10/15	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		73.1 %	75-125		P5K1104	11/10/15	11/10/15	EPA 8021B	S-GC

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>7500</b>	28.1	mg/kg dry	25	P5K1207	11/12/15	11/12/15	EPA 300.0	
<b>% Moisture</b>	<b>11.0</b>	0.1	%	1	P5K1001	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>60.5</b>	28.1	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
<b>&gt;C12-C28</b>	<b>727</b>	28.1	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
<b>&gt;C28-C35</b>	<b>84.7</b>	28.1	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		92.2 %	70-130		P5K1102	11/10/15	11/10/15	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		104 %	70-130		P5K1102	11/10/15	11/10/15	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>872</b>	28.1	mg/kg dry	1	[CALC]	11/10/15	11/10/15	calc	

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**Auger hole 2 1-2'**  
**5K06013-11 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

<b>Benzene</b>	<b>0.00294</b>	0.00102	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
<b>Toluene</b>	<b>0.0314</b>	0.00204	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
<b>Ethylbenzene</b>	<b>0.0617</b>	0.00102	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
<b>Xylene (p/m)</b>	<b>0.0824</b>	0.00204	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
<b>Xylene (o)</b>	<b>0.0310</b>	0.00102	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		125 %	75-125		P5K1104	11/10/15	11/10/15	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.1 %	75-125		P5K1104	11/10/15	11/10/15	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>430</b>	1.02	mg/kg dry	1	P5K1207	11/12/15	11/12/15	EPA 300.0	
<b>% Moisture</b>	<b>11.0</b>	0.1	%	1	P5K1001	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>ND</b>	25.5	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
<b>&gt;C12-C28</b>	<b>56.8</b>	25.5	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
<b>&gt;C28-C35</b>	<b>ND</b>	25.5	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		96.9 %	70-130		P5K1102	11/10/15	11/10/15	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		106 %	70-130		P5K1102	11/10/15	11/10/15	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>56.8</b>	25.5	mg/kg dry	1	[CALC]	11/10/15	11/10/15	calc	

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**Auger hole 2 2-3'**  
**5K06013-12 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00101	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Toluene	0.0309	0.00202	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Ethylbenzene	0.0451	0.00101	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Xylene (p/m)	0.0604	0.00202	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Xylene (o)	0.0316	0.00101	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		135 %	75-125		P5K1104	11/10/15	11/10/15	EPA 8021B	S-GC
Surrogate: 4-Bromofluorobenzene		106 %	75-125		P5K1104	11/10/15	11/10/15	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	373	1.01	mg/kg dry	1	P5K1207	11/12/15	11/12/15	EPA 300.0	
% Moisture	1.0	0.1	%	1	P5K1001	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	25.3	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
>C12-C28	138	25.3	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
>C28-C35	26.9	25.3	mg/kg dry	1	P5K1102	11/10/15	11/10/15	TPH 8015M	
Surrogate: 1-Chlorooctane		99.6 %	70-130		P5K1102	11/10/15	11/10/15	TPH 8015M	
Surrogate: o-Terphenyl		112 %	70-130		P5K1102	11/10/15	11/10/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	165	25.3	mg/kg dry	1	[CALC]	11/10/15	11/10/15	calc	

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**Auger hole 2 3-4'**  
**5K06013-13 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00101	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Toluene	ND	0.00202	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Ethylbenzene	ND	0.00101	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Xylene (p/m)	<b>0.00251</b>	0.00202	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Xylene (o)	<b>0.00107</b>	0.00101	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		93.1 %	75-125		P5K1104	11/10/15	11/10/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		133 %	75-125		P5K1104	11/10/15	11/10/15	EPA 8021B	S-GC

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	<b>148</b>	1.01	mg/kg dry	1	P5K1207	11/12/15	11/12/15	EPA 300.0	
% Moisture	<b>1.0</b>	0.1	%	1	P5K1001	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	25.3	mg/kg dry	1	P5K1102	11/10/15	11/11/15	TPH 8015M	
>C12-C28	<b>44.2</b>	25.3	mg/kg dry	1	P5K1102	11/10/15	11/11/15	TPH 8015M	
>C28-C35	ND	25.3	mg/kg dry	1	P5K1102	11/10/15	11/11/15	TPH 8015M	
Surrogate: 1-Chlorooctane		90.7 %	70-130		P5K1102	11/10/15	11/11/15	TPH 8015M	
Surrogate: o-Terphenyl		99.8 %	70-130		P5K1102	11/10/15	11/11/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	<b>44.2</b>	25.3	mg/kg dry	1	[CALC]	11/10/15	11/11/15	calc	

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**Auger hole 2 4-5'**  
**5K06013-14 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00101	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Toluene	ND	0.00202	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Ethylbenzene	ND	0.00101	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Xylene (p/m)	ND	0.00202	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Xylene (o)	ND	0.00101	mg/kg dry	1	P5K1104	11/10/15	11/10/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		136 %	75-125		P5K1104	11/10/15	11/10/15	EPA 8021B	S-GC
Surrogate: 4-Bromofluorobenzene		89.4 %	75-125		P5K1104	11/10/15	11/10/15	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	185	1.01	mg/kg dry	1	P5K1207	11/12/15	11/12/15	EPA 300.0	
% Moisture	1.0	0.1	%	1	P5K1001	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	25.3	mg/kg dry	1	P5K1102	11/10/15	11/11/15	TPH 8015M	
>C12-C28	36.0	25.3	mg/kg dry	1	P5K1102	11/10/15	11/11/15	TPH 8015M	
>C28-C35	ND	25.3	mg/kg dry	1	P5K1102	11/10/15	11/11/15	TPH 8015M	
Surrogate: 1-Chlorooctane		96.2 %	70-130		P5K1102	11/10/15	11/11/15	TPH 8015M	
Surrogate: o-Terphenyl		107 %	70-130		P5K1102	11/10/15	11/11/15	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>36.0</b>	25.3	mg/kg dry	1	[CALC]	11/10/15	11/11/15	calc	



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**Auger hole 2 5-6'**  
**5K06013-15 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00101	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Toluene	ND	0.00202	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Ethylbenzene	ND	0.00101	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Xylene (p/m)	ND	0.00202	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Xylene (o)	ND	0.00101	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		105 %	75-125		P5K1104	11/10/15	11/11/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		115 %	75-125		P5K1104	11/10/15	11/11/15	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	110	1.01	mg/kg dry	1	P5K1207	11/12/15	11/12/15	EPA 300.0	
% Moisture	1.0	0.1	%	1	P5K1001	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	25.3	mg/kg dry	1	P5K1102	11/10/15	11/11/15	TPH 8015M	
>C12-C28	39.6	25.3	mg/kg dry	1	P5K1102	11/10/15	11/11/15	TPH 8015M	
>C28-C35	ND	25.3	mg/kg dry	1	P5K1102	11/10/15	11/11/15	TPH 8015M	
Surrogate: 1-Chlorooctane		87.5 %	70-130		P5K1102	11/10/15	11/11/15	TPH 8015M	
Surrogate: o-Terphenyl		96.4 %	70-130		P5K1102	11/10/15	11/11/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	39.6	25.3	mg/kg dry	1	[CALC]	11/10/15	11/11/15	calc	

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**Auger hole 2 6-7'**  
**5K06013-16 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00101	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Toluene	ND	0.00202	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Ethylbenzene	ND	0.00101	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Xylene (p/m)	ND	0.00202	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Xylene (o)	ND	0.00101	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		94.1 %	75-125		P5K1104	11/10/15	11/11/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		131 %	75-125		P5K1104	11/10/15	11/11/15	EPA 8021B	S-GC

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	142	1.01	mg/kg dry	1	P5K1207	11/12/15	11/12/15	EPA 300.0	
% Moisture	1.0	0.1	%	1	P5K1001	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	25.3	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
>C12-C28	ND	25.3	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
>C28-C35	ND	25.3	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
Surrogate: 1-Chlorooctane		106 %	70-130		P5K1205	11/10/15	11/11/15	TPH 8015M	
Surrogate: o-Terphenyl		119 %	70-130		P5K1205	11/10/15	11/11/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.3	mg/kg dry	1	[CALC]	11/10/15	11/11/15	calc	

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**Auger hole 2 7-8'**  
**5K06013-17 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00106	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Toluene	ND	0.00213	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Ethylbenzene	<b>0.00121</b>	0.00106	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Xylene (p/m)	<b>0.00334</b>	0.00213	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Xylene (o)	<b>0.00157</b>	0.00106	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		135 %	75-125		P5K1104	11/10/15	11/11/15	EPA 8021B	S-GC
Surrogate: 4-Bromofluorobenzene		95.5 %	75-125		P5K1104	11/10/15	11/11/15	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	<b>209</b>	1.06	mg/kg dry	1	P5K1207	11/12/15	11/12/15	EPA 300.0	
% Moisture	<b>6.0</b>	0.1	%	1	P5K1001	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.6	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
Surrogate: 1-Chlorooctane		95.0 %	70-130		P5K1205	11/10/15	11/11/15	TPH 8015M	
Surrogate: o-Terphenyl		103 %	70-130		P5K1205	11/10/15	11/11/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	11/10/15	11/11/15	calc	

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**Auger hole 2 8-9'**  
**5K06013-18 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00112	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Toluene	0.00558	0.00225	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Ethylbenzene	0.0132	0.00112	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Xylene (p/m)	0.0207	0.00225	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Xylene (o)	0.00807	0.00112	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		97.3 %	75-125		P5K1104	11/10/15	11/11/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		129 %	75-125		P5K1104	11/10/15	11/11/15	EPA 8021B	S-GC

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	181	1.12	mg/kg dry	1	P5K1207	11/12/15	11/12/15	EPA 300.0	
% Moisture	11.0	0.1	%	1	P5K1001	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	28.1	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
>C12-C28	48.6	28.1	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
>C28-C35	ND	28.1	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
Surrogate: 1-Chlorooctane		94.9 %	70-130		P5K1205	11/10/15	11/11/15	TPH 8015M	
Surrogate: o-Terphenyl		105 %	70-130		P5K1205	11/10/15	11/11/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	48.6	28.1	mg/kg dry	1	[CALC]	11/10/15	11/11/15	calc	

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**Auger hole 3 0-1'**  
**5K06013-19 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

<b>Benzene</b>	<b>0.00525</b>	0.00115	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
<b>Toluene</b>	<b>0.308</b>	0.00230	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
<b>Ethylbenzene</b>	<b>0.396</b>	0.00115	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
<b>Xylene (p/m)</b>	<b>0.530</b>	0.00230	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
<b>Xylene (o)</b>	<b>0.257</b>	0.00115	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.1 %	75-125		P5K1104	11/10/15	11/11/15	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		117 %	75-125		P5K1104	11/10/15	11/11/15	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>8160</b>	28.7	mg/kg dry	25	P5K1207	11/12/15	11/12/15	EPA 300.0	
<b>% Moisture</b>	<b>13.0</b>	0.1	%	1	P5K1001	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>113</b>	28.7	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
<b>&gt;C12-C28</b>	<b>892</b>	28.7	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
<b>&gt;C28-C35</b>	<b>107</b>	28.7	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		102 %	70-130		P5K1205	11/10/15	11/11/15	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		113 %	70-130		P5K1205	11/10/15	11/11/15	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>1110</b>	28.7	mg/kg dry	1	[CALC]	11/10/15	11/11/15	calc	

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**Auger hole 3 1-2'**  
**5K06013-20 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00104	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Toluene	ND	0.00208	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
<b>Ethylbenzene</b>	<b>0.00150</b>	0.00104	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
<b>Xylene (o)</b>	<b>0.00124</b>	0.00104	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		140 %	75-125		P5K1104	11/10/15	11/11/15	EPA 8021B	S-GC
Surrogate: 4-Bromofluorobenzene		85.2 %	75-125		P5K1104	11/10/15	11/11/15	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>866</b>	1.04	mg/kg dry	1	P5K1207	11/12/15	11/12/15	EPA 300.0	
<b>% Moisture</b>	<b>4.0</b>	0.1	%	1	P5K1001	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.0	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
<b>&gt;C12-C28</b>	<b>58.2</b>	26.0	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
Surrogate: 1-Chlorooctane		92.9 %	70-130		P5K1205	11/10/15	11/11/15	TPH 8015M	
Surrogate: o-Terphenyl		102 %	70-130		P5K1205	11/10/15	11/11/15	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>58.2</b>	26.0	mg/kg dry	1	[CALC]	11/10/15	11/11/15	calc	

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**Auger hole 3 2-3'**  
**5K06013-21 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00103	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Toluene	ND	0.00206	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Ethylbenzene	ND	0.00103	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Xylene (p/m)	ND	0.00206	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Xylene (o)	ND	0.00103	mg/kg dry	1	P5K1104	11/10/15	11/11/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		82.5 %	75-125		P5K1104	11/10/15	11/11/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		138 %	75-125		P5K1104	11/10/15	11/11/15	EPA 8021B	S-GC

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	455	1.03	mg/kg dry	1	P5K1302	11/13/15	11/13/15	EPA 300.0	
% Moisture	3.0	0.1	%	1	P5K1001	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	25.8	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
>C12-C28	ND	25.8	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
>C28-C35	ND	25.8	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
Surrogate: 1-Chlorooctane		100 %	70-130		P5K1205	11/10/15	11/11/15	TPH 8015M	
Surrogate: o-Terphenyl		112 %	70-130		P5K1205	11/10/15	11/11/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.8	mg/kg dry	1	[CALC]	11/10/15	11/11/15	calc	

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**Auger hole 3 3-4'**  
**5K06013-22 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00102	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Toluene	ND	0.00204	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Ethylbenzene	ND	0.00102	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Xylene (p/m)	ND	0.00204	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Xylene (o)	ND	0.00102	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		92.4 %	75-125		P5K1204	11/10/15	11/11/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		122 %	75-125		P5K1204	11/10/15	11/11/15	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	194	1.02	mg/kg dry	1	P5K1302	11/13/15	11/13/15	EPA 300.0	
% Moisture	2.0	0.1	%	1	P5K1001	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	25.5	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
>C12-C28	38.2	25.5	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
>C28-C35	ND	25.5	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
Surrogate: 1-Chlorooctane		101 %	70-130		P5K1205	11/10/15	11/11/15	TPH 8015M	
Surrogate: o-Terphenyl		111 %	70-130		P5K1205	11/10/15	11/11/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	38.2	25.5	mg/kg dry	1	[CALC]	11/10/15	11/11/15	calc	



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**Auger hole 3 4-5'**  
**5K06013-23 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00102	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Toluene	ND	0.00204	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Ethylbenzene	ND	0.00102	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Xylene (p/m)	ND	0.00204	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Xylene (o)	ND	0.00102	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		93.9 %	75-125		P5K1204	11/10/15	11/11/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		134 %	75-125		P5K1204	11/10/15	11/11/15	EPA 8021B	S-GC

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	145	1.02	mg/kg dry	1	P5K1302	11/13/15	11/13/15	EPA 300.0	
% Moisture	2.0	0.1	%	1	P5K1001	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	25.5	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
>C12-C28	52.5	25.5	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
>C28-C35	ND	25.5	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
Surrogate: 1-Chlorooctane		91.7 %	70-130		P5K1205	11/10/15	11/11/15	TPH 8015M	
Surrogate: o-Terphenyl		102 %	70-130		P5K1205	11/10/15	11/11/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	52.5	25.5	mg/kg dry	1	[CALC]	11/10/15	11/11/15	calc	

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**Auger hole 3 5-6'**  
**5K06013-24 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00101	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Toluene	ND	0.00202	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Ethylbenzene	ND	0.00101	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Xylene (p/m)	ND	0.00202	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Xylene (o)	ND	0.00101	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		98.1 %	75-125		P5K1204	11/10/15	11/11/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		131 %	75-125		P5K1204	11/10/15	11/11/15	EPA 8021B	S-GC

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	35.2	1.01	mg/kg dry	1	P5K1302	11/13/15	11/13/15	EPA 300.0	
% Moisture	1.0	0.1	%	1	P5K1014	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	25.3	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
>C12-C28	111	25.3	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
>C28-C35	ND	25.3	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
Surrogate: 1-Chlorooctane		87.7 %	70-130		P5K1205	11/10/15	11/11/15	TPH 8015M	
Surrogate: o-Terphenyl		96.8 %	70-130		P5K1205	11/10/15	11/11/15	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>111</b>	25.3	mg/kg dry	1	[CALC]	11/10/15	11/11/15	calc	

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**Auger hole 3 6-7'**  
**5K06013-25 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00103	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Toluene	ND	0.00206	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Ethylbenzene	ND	0.00103	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Xylene (p/m)	ND	0.00206	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Xylene (o)	ND	0.00103	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		92.0 %	75-125		P5K1204	11/10/15	11/11/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		139 %	75-125		P5K1204	11/10/15	11/11/15	EPA 8021B	S-GC

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	64.5	1.03	mg/kg dry	1	P5K1302	11/13/15	11/13/15	EPA 300.0	
% Moisture	3.0	0.1	%	1	P5K1014	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	25.8	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
>C12-C28	143	25.8	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
>C28-C35	ND	25.8	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
Surrogate: 1-Chlorooctane		90.9 %	70-130		P5K1205	11/10/15	11/11/15	TPH 8015M	
Surrogate: o-Terphenyl		102 %	70-130		P5K1205	11/10/15	11/11/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	143	25.8	mg/kg dry	1	[CALC]	11/10/15	11/11/15	calc	

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**Auger hole 3 7-8'**  
**5K06013-26 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00110	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Toluene	ND	0.00220	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Ethylbenzene	<b>0.00203</b>	0.00110	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Xylene (p/m)	<b>0.00435</b>	0.00220	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Xylene (o)	<b>0.00271</b>	0.00110	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		91.0 %	75-125		P5K1204	11/10/15	11/11/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		138 %	75-125		P5K1204	11/10/15	11/11/15	EPA 8021B	S-GC

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	<b>278</b>	1.10	mg/kg dry	1	P5K1302	11/13/15	11/13/15	EPA 300.0	
% Moisture	<b>9.0</b>	0.1	%	1	P5K1014	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	27.5	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
>C12-C28	<b>51.1</b>	27.5	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
Surrogate: 1-Chlorooctane		89.0 %	70-130		P5K1205	11/10/15	11/11/15	TPH 8015M	
Surrogate: o-Terphenyl		99.1 %	70-130		P5K1205	11/10/15	11/11/15	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>51.1</b>	27.5	mg/kg dry	1	[CALC]	11/10/15	11/11/15	calc	

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**Auger hole 3 8-9'**  
**5K06013-27 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00111	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Toluene	ND	0.00222	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Ethylbenzene	ND	0.00111	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Xylene (p/m)	ND	0.00222	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
<b>Xylene (o)</b>	<b>0.00119</b>	0.00111	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		91.3 %	75-125		P5K1204	11/10/15	11/11/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		133 %	75-125		P5K1204	11/10/15	11/11/15	EPA 8021B	S-GC

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>394</b>	1.11	mg/kg dry	1	P5K1302	11/13/15	11/13/15	EPA 300.0	
<b>% Moisture</b>	<b>10.0</b>	0.1	%	1	P5K1014	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	27.8	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
<b>&gt;C12-C28</b>	<b>107</b>	27.8	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
<b>&gt;C28-C35</b>	<b>41.0</b>	27.8	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
Surrogate: 1-Chlorooctane		99.6 %	70-130		P5K1205	11/10/15	11/11/15	TPH 8015M	
Surrogate: o-Terphenyl		111 %	70-130		P5K1205	11/10/15	11/11/15	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>148</b>	27.8	mg/kg dry	1	[CALC]	11/10/15	11/11/15	calc	

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**Auger hole 3 9-10'**  
**5K06013-28 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00106	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Toluene	ND	0.00213	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Xylene (p/m)	<b>0.00265</b>	0.00213	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Xylene (o)	<b>0.00114</b>	0.00106	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		134 %	75-125		P5K1204	11/10/15	11/11/15	EPA 8021B	S-GC
Surrogate: 4-Bromofluorobenzene		89.5 %	75-125		P5K1204	11/10/15	11/11/15	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	<b>168</b>	1.06	mg/kg dry	1	P5K1302	11/13/15	11/13/15	EPA 300.0	
% Moisture	<b>6.0</b>	0.1	%	1	P5K1014	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.6	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
>C12-C28	<b>419</b>	26.6	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
>C28-C35	<b>73.1</b>	26.6	mg/kg dry	1	P5K1205	11/10/15	11/11/15	TPH 8015M	
Surrogate: 1-Chlorooctane		104 %	70-130		P5K1205	11/10/15	11/11/15	TPH 8015M	
Surrogate: o-Terphenyl		118 %	70-130		P5K1205	11/10/15	11/11/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	<b>493</b>	26.6	mg/kg dry	1	[CALC]	11/10/15	11/11/15	calc	

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**Organics by GC - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P5K1104 - General Preparation (GC)**

**Blank (P5K1104-BLK1)**

Prepared & Analyzed: 11/10/15

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 4-Bromofluorobenzene	0.0480		"	0.0500		96.0	75-125			
Surrogate: 1,4-Difluorobenzene	0.0628		"	0.0500		126	75-125			S-GC

**LCS (P5K1104-BS1)**

Prepared & Analyzed: 11/10/15

Benzene	0.0936	0.00100	mg/kg wet	0.100		93.6	70-130			
Toluene	0.103	0.00200	"	0.100		103	70-130			
Ethylbenzene	0.117	0.00100	"	0.100		117	70-130			
Xylene (p/m)	0.202	0.00200	"	0.200		101	70-130			
Xylene (o)	0.105	0.00100	"	0.100		105	70-130			
Surrogate: 1,4-Difluorobenzene	0.0676		"	0.0500		135	75-125			S-GC
Surrogate: 4-Bromofluorobenzene	0.0512		"	0.0500		102	75-125			

**LCS Dup (P5K1104-BSD1)**

Prepared & Analyzed: 11/10/15

Benzene	0.0891	0.00100	mg/kg wet	0.100		89.1	70-130	4.97	20	
Toluene	0.103	0.00200	"	0.100		103	70-130	0.0873	20	
Ethylbenzene	0.115	0.00100	"	0.100		115	70-130	2.17	20	
Xylene (p/m)	0.199	0.00200	"	0.200		99.3	70-130	1.91	20	
Xylene (o)	0.105	0.00100	"	0.100		105	70-130	0.419	20	
Surrogate: 1,4-Difluorobenzene	0.0730		"	0.0500		146	75-125			S-GC
Surrogate: 4-Bromofluorobenzene	0.0521		"	0.0500		104	75-125			

**Batch P5K1204 - General Preparation (GC)**

**Blank (P5K1204-BLK1)**

Prepared: 11/10/15 Analyzed: 11/11/15

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	0.0679		"	0.0500		136	75-125			S-GC
Surrogate: 4-Bromofluorobenzene	0.0432		"	0.0500		86.4	75-125			

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**Organics by GC - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P5K1204 - General Preparation (GC)**

**LCS (P5K1204-BS1)**

Prepared: 11/10/15 Analyzed: 11/11/15

Benzene	0.0778	0.00100	mg/kg wet	0.100		77.8	70-130			
Toluene	0.0945	0.00200	"	0.100		94.5	70-130			
Ethylbenzene	0.113	0.00100	"	0.100		113	70-130			
Xylene (p/m)	0.196	0.00200	"	0.200		98.2	70-130			
Xylene (o)	0.107	0.00100	"	0.100		107	70-130			
Surrogate: 1,4-Difluorobenzene	0.0692		"	0.0500		138	75-125			S-GC
Surrogate: 4-Bromofluorobenzene	0.0569		"	0.0500		114	75-125			

**LCS Dup (P5K1204-BSD1)**

Prepared: 11/10/15 Analyzed: 11/11/15

Benzene	0.0788	0.00100	mg/kg wet	0.100		78.8	70-130	1.30	20	
Toluene	0.0939	0.00200	"	0.100		93.9	70-130	0.637	20	
Ethylbenzene	0.104	0.00100	"	0.100		104	70-130	8.05	20	
Xylene (p/m)	0.180	0.00200	"	0.200		90.1	70-130	8.56	20	
Xylene (o)	0.0985	0.00100	"	0.100		98.5	70-130	8.37	20	
Surrogate: 4-Bromofluorobenzene	0.0511		"	0.0500		102	75-125			
Surrogate: 1,4-Difluorobenzene	0.0724		"	0.0500		145	75-125			S-GC

**Batch P5K1601 - General Preparation (GC)**

**Blank (P5K1601-BLK1)**

Prepared & Analyzed: 11/11/15

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 4-Bromofluorobenzene	0.0428		"	0.0500		85.5	75-125			
Surrogate: 1,4-Difluorobenzene	0.0662		"	0.0500		132	75-125			S-GC



E Tech Environmental & Safety Solutions, Inc.  
13000 West County Road 100  
Odessa TX, 79765

Project: NSLU 197  
Project Number: 416-6683-000  
Project Manager: Tim McMinn

Fax: (432) 563-2213

**Organics by GC - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P5K1601 - General Preparation (GC)**

**LCS (P5K1601-BS1)**

Prepared & Analyzed: 11/11/15

Benzene	0.0807	0.00100	mg/kg wet	0.100		80.7	70-130			
Toluene	0.0984	0.00200	"	0.100		98.4	70-130			
Ethylbenzene	0.114	0.00100	"	0.100		114	70-130			
Xylene (p/m)	0.200	0.00200	"	0.200		100	70-130			
Xylene (o)	0.110	0.00100	"	0.100		110	70-130			
Surrogate: 4-Bromofluorobenzene	0.0519		"	0.0500		104	75-125			
Surrogate: 1,4-Difluorobenzene	0.0713		"	0.0500		143	75-125			S-GC

**LCS Dup (P5K1601-BS1)**

Prepared & Analyzed: 11/11/15

Benzene	0.0816	0.00100	mg/kg wet	0.100		81.6	70-130	1.13	20	
Toluene	0.0968	0.00200	"	0.100		96.8	70-130	1.73	20	
Ethylbenzene	0.114	0.00100	"	0.100		114	70-130	0.0700	20	
Xylene (p/m)	0.199	0.00200	"	0.200		99.7	70-130	0.445	20	
Xylene (o)	0.110	0.00100	"	0.100		110	70-130	0.228	20	
Surrogate: 4-Bromofluorobenzene	0.0529		"	0.0500		106	75-125			
Surrogate: 1,4-Difluorobenzene	0.0680		"	0.0500		136	75-125			S-GC

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13000 West County Road 100  
Odessa TX, 79765

Project: NSLU 197  
Project Number: 416-6683-000  
Project Manager: Tim McMinn

Fax: (432) 563-2213

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P5K1001 - % Solids**

**Blank (P5K1001-BLK1)**

Prepared & Analyzed: 11/10/15

% Moisture ND 0.1 %

**Duplicate (P5K1001-DUP1)**

Source: 5K06010-01

Prepared & Analyzed: 11/10/15

% Moisture 7.0 0.1 % 6.0 15.4 20

**Duplicate (P5K1001-DUP2)**

Source: 5K06012-11

Prepared & Analyzed: 11/10/15

% Moisture 8.0 0.1 % 7.0 13.3 20

**Duplicate (P5K1001-DUP3)**

Source: 5K06013-03

Prepared & Analyzed: 11/10/15

% Moisture 4.0 0.1 % 4.0 0.00 20

**Batch P5K1014 - % Solids**

**Blank (P5K1014-BLK1)**

Prepared & Analyzed: 11/10/15

% Moisture ND 0.1 %

**Duplicate (P5K1014-DUP1)**

Source: 5K10002-01

Prepared & Analyzed: 11/10/15

% Moisture 11.0 0.1 % 12.0 8.70 20

**Batch P5K1207 - \*\*\* DEFAULT PREP \*\*\***

**Blank (P5K1207-BLK1)**

Prepared & Analyzed: 11/12/15

Chloride ND 1.00 mg/kg wet

**LCS (P5K1207-BS1)**

Prepared & Analyzed: 11/12/15

Chloride 92.1 1.00 mg/kg wet 100 92.1 80-120

E Tech Environmental & Safety Solutions, Inc.  
13000 West County Road 100  
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Project: NSLU 197  
Project Number: 416-6683-000  
Project Manager: Tim McMinn

Fax: (432) 563-2213

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P5K1207 - \*\*\* DEFAULT PREP \*\*\***

**LCS Dup (P5K1207-BSD1)**

Prepared & Analyzed: 11/12/15

Chloride	93.9	1.00	mg/kg wet	100	93.9	80-120	1.87	20
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**Duplicate (P5K1207-DUP1)**

Source: 5K06013-01

Prepared & Analyzed: 11/12/15

Chloride	5610	26.6	mg/kg dry	5640	0.534	20
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**Duplicate (P5K1207-DUP2)**

Source: 5K06013-10

Prepared & Analyzed: 11/12/15

Chloride	7560	28.1	mg/kg dry	7500	0.798	20
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**Batch P5K1302 - \*\*\* DEFAULT PREP \*\*\***

**Blank (P5K1302-BLK1)**

Prepared & Analyzed: 11/13/15

Chloride	ND	1.00	mg/kg wet
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**LCS (P5K1302-BS1)**

Prepared & Analyzed: 11/13/15

Chloride	106	1.00	mg/kg wet	100	106	80-120
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**LCS Dup (P5K1302-BSD1)**

Prepared & Analyzed: 11/13/15

Chloride	105	1.00	mg/kg wet	100	105	80-120	0.511	20
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**Duplicate (P5K1302-DUP1)**

Source: 5K06013-21

Prepared & Analyzed: 11/13/15

Chloride	454	1.03	mg/kg dry	455	0.334	20
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**Duplicate (P5K1302-DUP2)**

Source: 5K06014-03

Prepared & Analyzed: 11/13/15

Chloride	1980	5.75	mg/kg dry	1830	7.97	20
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**Matrix Spike (P5K1302-MS1)**

Source: 5K06013-21

Prepared & Analyzed: 11/13/15

Chloride	552	1.03	mg/kg dry	103	455	94.2	80-120
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E Tech Environmental & Safety Solutions, Inc.  
13000 West County Road 100  
Odessa TX, 79765

Project: NSLU 197  
Project Number: 416-6683-000  
Project Manager: Tim McMinn

Fax: (432) 563-2213

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P5K1102 - TX 1005**

**Blank (P5K1102-BLK1)**

Prepared & Analyzed: 11/10/15

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	103		"	100		103	70-130			
Surrogate: o-Terphenyl	61.1		"	50.0		122	70-130			

**LCS (P5K1102-BS1)**

Prepared & Analyzed: 11/10/15

C6-C12	1000	25.0	mg/kg wet	1000		100	75-125			
>C12-C28	1000	25.0	"	1000		100	75-125			
Surrogate: 1-Chlorooctane	119		"	100		119	70-130			
Surrogate: o-Terphenyl	58.3		"	50.0		117	70-130			

**LCS Dup (P5K1102-BSD1)**

Prepared & Analyzed: 11/10/15

C6-C12	1010	25.0	mg/kg wet	1000		101	75-125	1.17	20	
>C12-C28	1030	25.0	"	1000		103	75-125	2.10	20	
Surrogate: 1-Chlorooctane	123		"	100		123	70-130			
Surrogate: o-Terphenyl	63.7		"	50.0		127	70-130			

**Matrix Spike (P5K1102-MS1)**

Source: 5K06013-15

Prepared: 11/10/15 Analyzed: 11/11/15

C6-C12	956	25.3	mg/kg dry	1010	21.9	92.5	75-125			
>C12-C28	928	25.3	"	1010	39.6	88.0	75-125			
Surrogate: 1-Chlorooctane	114		"	101		113	70-130			
Surrogate: o-Terphenyl	50.7		"	50.5		100	70-130			

**Matrix Spike Dup (P5K1102-MSD1)**

Source: 5K06013-15

Prepared: 11/10/15 Analyzed: 11/11/15

C6-C12	948	25.3	mg/kg dry	1010	21.9	91.7	75-125	0.857	20	
>C12-C28	900	25.3	"	1010	39.6	85.1	75-125	3.28	20	
Surrogate: 1-Chlorooctane	111		"	101		110	70-130			
Surrogate: o-Terphenyl	49.7		"	50.5		98.4	70-130			

E Tech Environmental & Safety Solutions, Inc.  
13000 West County Road 100  
Odessa TX, 79765

Project: NSLU 197  
Project Number: 416-6683-000  
Project Manager: Tim McMinn

Fax: (432) 563-2213

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P5K1205 - TX 1005**

**Blank (P5K1205-BLK1)**

Prepared: 11/10/15 Analyzed: 11/11/15

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	97.3		"	100		97.3	70-130			
Surrogate: o-Terphenyl	54.1		"	50.0		108	70-130			

**LCS (P5K1205-BS1)**

Prepared: 11/10/15 Analyzed: 11/11/15

C6-C12	984	25.0	mg/kg wet	1000		98.4	75-125			
>C12-C28	942	25.0	"	1000		94.2	75-125			
Surrogate: 1-Chlorooctane	118		"	100		118	70-130			
Surrogate: o-Terphenyl	52.8		"	50.0		106	70-130			

**LCS Dup (P5K1205-BSD1)**

Prepared: 11/10/15 Analyzed: 11/11/15

C6-C12	963	25.0	mg/kg wet	1000		96.3	75-125	2.16	20	
>C12-C28	967	25.0	"	1000		96.7	75-125	2.66	20	
Surrogate: 1-Chlorooctane	120		"	100		120	70-130			
Surrogate: o-Terphenyl	54.2		"	50.0		108	70-130			

E Tech Environmental & Safety Solutions, Inc.  
13000 West County Road 100  
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### Notes and Definitions

S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date:

12/30/2015

Brent Barron, Laboratory Director/Technical Director

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-686-7235.

# Etech Environmental & Safety Solutions, Inc.

P.O. Box 8469  
Midland, Texas 79708

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Phone: 432-563-2200  
Fax: 432-563-2213

Project Manager:

Tim McMillon

Company Name

Etech Environmental & Safety Solutions, Inc.

Company Address:

P.O. Box 8469

City/State/Zip:

Midland/TX/79708

Telephone No:

432-563-2200

Fax No: 432-563-2213

Sampler Signature:

e-mail: Tim@etech.com

Project Name:

NSU 197

Project #:

410-009300

Project Loc:

Memorial

PO #:

Report Format:

☒ Standard ☐ TRRP ☐ NPDES

LAB: SPL - Lafayette, LA

ORDER #: SK00013

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	No. of Containers	Preservation & # of Containers							Matrix	Analyze For:														
							Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 418 1 8015M 1005 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO <sub>4</sub> , CO <sub>3</sub> , HCO <sub>3</sub> )	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 80218 5030 or BTEX 8260	RCI	N.O.R.M.	TOC	RUSH TAT (Pre-Schedule) 24HOUR	Standard TAT	
01	Auger hole 1	0	2	11-4-15		1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
02	"	1	3			1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
03	"	2	4			1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
04	"	3	5			1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
05	"	4	6			1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
06	"	5	7			1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
07	"	6	8			1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
08	"	7	9			1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
09	"	8				1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	"	9				1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	"	10				1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Special Instructions:

Auger hole 2

Relinquished by:

Date

Time

Received by:

Date

Time

Relinquished by:

Date

Time

Received by:

Date

Time

Relinquished by:

Date

Time

Received by:

Date

Time

Laboratory Comments:

Sample Containers Intact?  
VOCs Free of Headspace?  
Labels on container(s)  
Custody seals on container(s)  
Custody seals on cooler(s)  
Sample Hand Delivered  
by Sampler/Client Rep.?  
by Courier?  
UPS  
DHL  
FedEx  
LaserStar

Temperature Upon Receipt: 55.0 °C

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUIREMENTS

**Phone: 432-563-2200**  
**Fax: 432-563-2213**

Project Name: NSU 19

Project #: 416-10075-000

Project Loc: Memphis

PO#

Fax No: 432-563-2213

### Report Format:

Standard	IKRP	NPDES
✓		

e-mail: [Tim@etech.com](mailto:Tim@etech.com)

## Analyze For

[illegible]

Standard TAT

## Laboratory Comments:

**Sample Containers Intact?**  
**VOCs Free of Headspace?**

Custody seals on container(s)  
Custody seals on cooler(s)  
Sample Hand Delivered

by Sampler/Client Rep. ?  
by Courier? UPS

Temperature Upon Receipt

CMC

Page 40 of 41



# Etech Environmental & Safety Solutions, Inc.

P.O. Box 8469  
Midland, Texas 79708

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Phone: 432-563-2200  
Fax: 432-563-2213

Project Manager:

Tim McMillon

Company Name

Etech Environmental & Safety Solutions, Inc.

Company Address:

P.O. Box 8469

City/State/Zip:

Midland/TX/79708

Telephone No.:

432-563-2200

Fax No. 432-563-2213

Sampler Signature:

e-mail: Tim@etech.com

Report Format:

☒ Standard ☐ TRRP ☐ NPDES

PO #:

Project Name:

NSU44 197

Project #:

410-6683-000

Project Loc:

Memorial

LAB: SPL - Lafayette, LA

ORDER #:

SK00013

LAB # (lab use only)

FIELD CODE

Beginning Depth

Ending Depth

Date Sampled

Time Sampled

No. of Containers

Preservation & # of Containers

Matrix

Analyze For:

TCLP

TOTAL

Volatiles

Semivolatiles

BTEX 8021 B/5030 or BTEX 8260

RCI

N.O.R.M.

TOC

RUSH TAT (Pre-Schedule) 24HOUR

Standard TAT

Ice ☐ HNO<sub>3</sub> ☐ HCl ☐ H<sub>2</sub>SO<sub>4</sub> ☐ NaOH ☐ Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> ☐ None ☐ Other (Specify) ☐

DW=Drinking Water SL=Sludge  
GW= Groundwater S=Soil/Solid  
NP=Non-Potable Specify Other

TPH: 418, 8015M, 1005 1006

Cations (Ca, Mg, Na, K)

Anions (Cl, SO<sub>4</sub>, CO<sub>3</sub>, HCO<sub>3</sub>)

SAR / ESP / CEC

Metals: As Ag Ba Cd Cr Pb Hg Se

Volatiles

Semivolatiles

BTEX 8021 B/5030 or BTEX 8260

RCI

N.O.R.M.

TOC

Chlorides

RUSH TAT (Pre-Schedule) 24HOUR

Standard TAT

Special Instructions:

Relinquished by:

Date

Time

Received by:

Date

Time

Relinquished by:

Date

Time

Received by:

Date

Time

Relinquished by:

Date

Time

Received by:

Date

Time

Laboratory Comments:

Sample Containers Intact?  
VOCs Free of Headspace?  
Labels on container(s)  
Custody seals on container(s)  
Custody seals on cooler(s)  
Sample Hand Delivered  
by Sampler/Client Rep.?  
by Courier?

N N N N N N N N

Temperature Upon Receipt:

3.0

°C

DHL FedEx

Lone Star

**PERMIAN BASIN  
ENVIRONMENTAL LAB, LP  
10014 SCR 1213  
Midland, TX 79706**



# Analytical Report

**Prepared for:**

Tim McMinn  
E Tech Environmental & Safety Solutions, Inc.  
13000 West County Road 100  
Odessa, TX 79765

Project: NSLU 197  
Project Number: 416-6683-000  
Location: Memorial  
Lab Order Number: 5K10003



**NELAP/TCEQ # T104704156-13-3**

Report Date: 11/19/15

E Tech Environmental & Safety Solutions, Inc.  
13000 West County Road 100  
Odessa TX, 79765

Project: NSLU 197  
Project Number: 416-6683-000  
Project Manager: Tim McMinn

Fax: (432) 563-2213

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Auger hole 4 0-1	5K10003-01	Soil	11/04/15 00:00	11-06-2015 15:00
Auger hole 4 1-2	5K10003-02	Soil	11/04/15 00:00	11-06-2015 15:00
Auger hole 4 2-3	5K10003-03	Soil	11/04/15 00:00	11-06-2015 15:00
Auger hole 4 3-4	5K10003-04	Soil	11/04/15 00:00	11-06-2015 15:00
Background	5K10003-05	Soil	11/04/15 00:00	11-06-2015 15:00

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**Auger hole 4 0-1**

**5K10003-01 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

<b>Benzene</b>	<b>0.137</b>	0.0526	mg/kg dry	50	P5K1702	11/16/15	11/16/15	EPA 8021B
<b>Toluene</b>	<b>8.42</b>	0.105	mg/kg dry	50	P5K1702	11/16/15	11/16/15	EPA 8021B
<b>Ethylbenzene</b>	<b>18.3</b>	0.0526	mg/kg dry	50	P5K1702	11/16/15	11/16/15	EPA 8021B
<b>Xylene (p/m)</b>	<b>24.3</b>	0.105	mg/kg dry	50	P5K1702	11/16/15	11/16/15	EPA 8021B
<b>Xylene (o)</b>	<b>11.6</b>	0.0526	mg/kg dry	50	P5K1702	11/16/15	11/16/15	EPA 8021B
<i>Surrogate: 4-Bromofluorobenzene</i>		97.2 %		75-125	P5K1702	11/16/15	11/16/15	EPA 8021B
<i>Surrogate: 1,4-Difluorobenzene</i>		108 %		75-125	P5K1702	11/16/15	11/16/15	EPA 8021B

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>39.4</b>	1.05	mg/kg dry	1	P5K1301	11/13/15	11/13/15	EPA 300.0
<b>% Moisture</b>	<b>5.0</b>	0.1	%	1	P5K1014	11/10/15	11/10/15	% calculation

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>5600</b>	526	mg/kg dry	20	P5K1208	11/11/15	11/11/15	TPH 8015M
<b>&gt;C12-C28</b>	<b>19100</b>	526	mg/kg dry	20	P5K1208	11/11/15	11/11/15	TPH 8015M
<b>&gt;C28-C35</b>	<b>2710</b>	526	mg/kg dry	20	P5K1208	11/11/15	11/11/15	TPH 8015M
<i>Surrogate: 1-Chlorooctane</i>		110 %		70-130	P5K1208	11/11/15	11/11/15	TPH 8015M
<i>Surrogate: o-Terphenyl</i>		99.6 %		70-130	P5K1208	11/11/15	11/11/15	TPH 8015M
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>27400</b>	526	mg/kg dry	20	[CALC]	11/11/15	11/11/15	calc

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**Auger hole 4 1-2**  
**5K10003-02 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00105	mg/kg dry	1	P5K1702	11/16/15	11/16/15	EPA 8021B	
Toluene	ND	0.00211	mg/kg dry	1	P5K1702	11/16/15	11/16/15	EPA 8021B	
Ethylbenzene	ND	0.00105	mg/kg dry	1	P5K1702	11/16/15	11/16/15	EPA 8021B	
Xylene (p/m)	ND	0.00211	mg/kg dry	1	P5K1702	11/16/15	11/16/15	EPA 8021B	
Xylene (o)	ND	0.00105	mg/kg dry	1	P5K1702	11/16/15	11/16/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		98.9 %	75-125		P5K1702	11/16/15	11/16/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		123 %	75-125		P5K1702	11/16/15	11/16/15	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	22.6	1.05	mg/kg dry	1	P5K1301	11/13/15	11/13/15	EPA 300.0	
% Moisture	5.0	0.1	%	1	P5K1014	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.3	mg/kg dry	1	P5K1208	11/11/15	11/11/15	TPH 8015M	
>C12-C28	206	26.3	mg/kg dry	1	P5K1208	11/11/15	11/11/15	TPH 8015M	
>C28-C35	41.5	26.3	mg/kg dry	1	P5K1208	11/11/15	11/11/15	TPH 8015M	
Surrogate: 1-Chlorooctane		98.6 %	70-130		P5K1208	11/11/15	11/11/15	TPH 8015M	
Surrogate: o-Terphenyl		109 %	70-130		P5K1208	11/11/15	11/11/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	247	26.3	mg/kg dry	1	[CALC]	11/11/15	11/11/15	calc	

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**Auger hole 4 2-3**  
**5K10003-03 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00105	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Toluene	0.0579	0.00211	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Ethylbenzene	0.0864	0.00105	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Xylene (p/m)	0.258	0.00211	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Xylene (o)	0.167	0.00105	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		119 %	75-125		P5K1204	11/10/15	11/11/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		107 %	75-125		P5K1204	11/10/15	11/11/15	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	29.8	1.05	mg/kg dry	1	P5K1301	11/13/15	11/13/15	EPA 300.0	
% Moisture	5.0	0.1	%	1	P5K1014	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	45.8	26.3	mg/kg dry	1	P5K1208	11/11/15	11/11/15	TPH 8015M	
>C12-C28	579	26.3	mg/kg dry	1	P5K1208	11/11/15	11/11/15	TPH 8015M	
>C28-C35	69.5	26.3	mg/kg dry	1	P5K1208	11/11/15	11/11/15	TPH 8015M	
Surrogate: 1-Chlorooctane		98.1 %	70-130		P5K1208	11/11/15	11/11/15	TPH 8015M	
Surrogate: o-Terphenyl		110 %	70-130		P5K1208	11/11/15	11/11/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	694	26.3	mg/kg dry	1	[CALC]	11/11/15	11/11/15	calc	

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**Auger hole 4 3-4**  
**5K10003-04 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00108	mg/kg dry	1	P5K1702	11/16/15	11/16/15	EPA 8021B	
Toluene	ND	0.00215	mg/kg dry	1	P5K1702	11/16/15	11/16/15	EPA 8021B	
Ethylbenzene	<b>0.00111</b>	0.00108	mg/kg dry	1	P5K1702	11/16/15	11/16/15	EPA 8021B	
Xylene (p/m)	<b>0.00586</b>	0.00215	mg/kg dry	1	P5K1702	11/16/15	11/16/15	EPA 8021B	
Xylene (o)	<b>0.00141</b>	0.00108	mg/kg dry	1	P5K1702	11/16/15	11/16/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		133 %	75-125		P5K1702	11/16/15	11/16/15	EPA 8021B	S-GC
Surrogate: 4-Bromofluorobenzene		105 %	75-125		P5K1702	11/16/15	11/16/15	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	<b>45.4</b>	1.08	mg/kg dry	1	P5K1301	11/13/15	11/13/15	EPA 300.0	
% Moisture	<b>7.0</b>	0.1	%	1	P5K1014	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	<b>30.7</b>	26.9	mg/kg dry	1	P5K1208	11/11/15	11/11/15	TPH 8015M	
>C12-C28	<b>355</b>	26.9	mg/kg dry	1	P5K1208	11/11/15	11/11/15	TPH 8015M	
>C28-C35	<b>49.9</b>	26.9	mg/kg dry	1	P5K1208	11/11/15	11/11/15	TPH 8015M	
Surrogate: 1-Chlorooctane		102 %	70-130		P5K1208	11/11/15	11/11/15	TPH 8015M	
Surrogate: o-Terphenyl		114 %	70-130		P5K1208	11/11/15	11/11/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	<b>436</b>	26.9	mg/kg dry	1	[CALC]	11/11/15	11/11/15	calc	



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**Background**  
**5K10003-05 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00103	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Toluene	0.00260	0.00206	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Ethylbenzene	0.0126	0.00103	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Xylene (p/m)	0.0227	0.00206	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Xylene (o)	0.0157	0.00103	mg/kg dry	1	P5K1204	11/10/15	11/11/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		94.8 %	75-125		P5K1204	11/10/15	11/11/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		139 %	75-125		P5K1204	11/10/15	11/11/15	EPA 8021B	S-GC

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	ND	1.03	mg/kg dry	1	P5K1301	11/13/15	11/13/15	EPA 300.0	
% Moisture	3.0	0.1	%	1	P5K1014	11/10/15	11/10/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	25.8	mg/kg dry	1	P5K1208	11/11/15	11/12/15	TPH 8015M	
>C12-C28	ND	25.8	mg/kg dry	1	P5K1208	11/11/15	11/12/15	TPH 8015M	
>C28-C35	ND	25.8	mg/kg dry	1	P5K1208	11/11/15	11/12/15	TPH 8015M	
Surrogate: 1-Chlorooctane		92.5 %	70-130		P5K1208	11/11/15	11/12/15	TPH 8015M	
Surrogate: o-Terphenyl		101 %	70-130		P5K1208	11/11/15	11/12/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.8	mg/kg dry	1	[CALC]	11/11/15	11/12/15	calc	

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**Organics by GC - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P5K1204 - General Preparation (GC)**

**Blank (P5K1204-BLK1)**

Prepared: 11/10/15 Analyzed: 11/11/15

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	0.0679		"	0.0500		136	75-125			S-GC
Surrogate: 4-Bromofluorobenzene	0.0432		"	0.0500		86.4	75-125			

**LCS (P5K1204-BS1)**

Prepared: 11/10/15 Analyzed: 11/11/15

Benzene	0.0778	0.00100	mg/kg wet	0.100		77.8	70-130			
Toluene	0.0945	0.00200	"	0.100		94.5	70-130			
Ethylbenzene	0.113	0.00100	"	0.100		113	70-130			
Xylene (p/m)	0.196	0.00200	"	0.200		98.2	70-130			
Xylene (o)	0.107	0.00100	"	0.100		107	70-130			
Surrogate: 1,4-Difluorobenzene	0.0692		"	0.0500		138	75-125			S-GC
Surrogate: 4-Bromofluorobenzene	0.0569		"	0.0500		114	75-125			

**LCS Dup (P5K1204-BSD1)**

Prepared: 11/10/15 Analyzed: 11/11/15

Benzene	0.0788	0.00100	mg/kg wet	0.100		78.8	70-130	1.30	20	
Toluene	0.0939	0.00200	"	0.100		93.9	70-130	0.637	20	
Ethylbenzene	0.104	0.00100	"	0.100		104	70-130	8.05	20	
Xylene (p/m)	0.180	0.00200	"	0.200		90.1	70-130	8.56	20	
Xylene (o)	0.0985	0.00100	"	0.100		98.5	70-130	8.37	20	
Surrogate: 1,4-Difluorobenzene	0.0724		"	0.0500		145	75-125			S-GC
Surrogate: 4-Bromofluorobenzene	0.0511		"	0.0500		102	75-125			

**Batch P5K1702 - General Preparation (GC)**

**Blank (P5K1702-BLK1)**

Prepared & Analyzed: 11/16/15

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 4-Bromofluorobenzene	0.0488		"	0.0500		97.6	75-125			
Surrogate: 1,4-Difluorobenzene	0.0606		"	0.0500		121	75-125			

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**Organics by GC - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P5K1702 - General Preparation (GC)**

**LCS (P5K1702-BS1)**

Prepared & Analyzed: 11/16/15

Benzene	0.0978	0.00100	mg/kg wet				70-130			
Toluene	0.109	0.00200	"				70-130			
Ethylbenzene	0.110	0.00100	"				70-130			
Xylene (p/m)	0.210	0.00200	"				70-130			
Xylene (o)	0.107	0.00100	"				70-130			
Surrogate: 4-Bromofluorobenzene	0.0516		"	0.0500		103	75-125			
Surrogate: 1,4-Difluorobenzene	0.0659		"	0.0500		132	75-125			S-GC

**LCS Dup (P5K1702-BSD1)**

Prepared & Analyzed: 11/16/15

Benzene	0.0926	0.00100	mg/kg wet				70-130		20	
Toluene	0.107	0.00200	"				70-130		20	
Ethylbenzene	0.104	0.00100	"				70-130		20	
Xylene (p/m)	0.206	0.00200	"				70-130		20	
Xylene (o)	0.107	0.00100	"				70-130		20	
Surrogate: 1,4-Difluorobenzene	0.0694		"	0.0500		139	75-125			S-GC
Surrogate: 4-Bromofluorobenzene	0.0525		"	0.0500		105	75-125			

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**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch P5K1014 - % Solids</b>										
<b>Blank (P5K1014-BLK1)</b>				Prepared & Analyzed: 11/10/15						
% Moisture	ND	0.1	%							
<b>Duplicate (P5K1014-DUP1)</b>				Source: 5K10002-01 Prepared & Analyzed: 11/10/15						
% Moisture	11.0	0.1	%		12.0			8.70	20	
<b>Batch P5K1301 - *** DEFAULT PREP ***</b>										
<b>Blank (P5K1301-BLK1)</b>				Prepared & Analyzed: 11/13/15						
Chloride	ND	1.00	mg/kg wet							
<b>LCS (P5K1301-BS1)</b>				Prepared & Analyzed: 11/13/15						
Chloride	100	1.00	mg/kg wet	100		100	80-120			
<b>LCS Dup (P5K1301-BSD1)</b>				Prepared & Analyzed: 11/13/15						
Chloride	95.7	1.00	mg/kg wet	100		95.7	80-120	4.35	20	
<b>Duplicate (P5K1301-DUP1)</b>				Source: 5K10003-01 Prepared & Analyzed: 11/13/15						
Chloride	39.0	1.05	mg/kg dry		39.4			1.02	20	
<b>Duplicate (P5K1301-DUP2)</b>				Source: 5K10006-02 Prepared & Analyzed: 11/13/15						
Chloride	83.0	1.10	mg/kg dry		85.1			2.52	20	
<b>Matrix Spike (P5K1301-MS1)</b>				Source: 5K10003-01 Prepared & Analyzed: 11/13/15						
Chloride	175	1.05	mg/kg dry	132	39.4	103	80-120			

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**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P5K1208 - TX 1005**

**Blank (P5K1208-BLK1)**

Prepared & Analyzed: 11/11/15

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
<i>Surrogate: 1-Chlorooctane</i>	<i>104</i>		<i>"</i>	<i>100</i>		<i>104</i>	<i>70-130</i>			
<i>Surrogate: o-Terphenyl</i>	<i>58.4</i>		<i>"</i>	<i>50.0</i>		<i>117</i>	<i>70-130</i>			

**LCS (P5K1208-BS1)**

Prepared & Analyzed: 11/11/15

C6-C12	889	25.0	mg/kg wet	1000		88.9	75-125			
>C12-C28	892	25.0	"	1000		89.2	75-125			
<i>Surrogate: 1-Chlorooctane</i>	<i>101</i>		<i>"</i>	<i>100</i>		<i>101</i>	<i>70-130</i>			
<i>Surrogate: o-Terphenyl</i>	<i>48.7</i>		<i>"</i>	<i>50.0</i>		<i>97.4</i>	<i>70-130</i>			

**LCS Dup (P5K1208-BSD1)**

Prepared & Analyzed: 11/11/15

C6-C12	967	25.0	mg/kg wet	1000		96.7	75-125	8.47	20	
>C12-C28	951	25.0	"	1000		95.1	75-125	6.34	20	
<i>Surrogate: 1-Chlorooctane</i>	<i>108</i>		<i>"</i>	<i>100</i>		<i>108</i>	<i>70-130</i>			
<i>Surrogate: o-Terphenyl</i>	<i>52.3</i>		<i>"</i>	<i>50.0</i>		<i>105</i>	<i>70-130</i>			

**Matrix Spike (P5K1208-MS1)**

Source: 5K11002-01

Prepared: 11/11/15 Analyzed: 11/12/15

C6-C12	990	25.3	mg/kg dry	1010	67.6	91.3	75-125			
>C12-C28	5190	25.3	"	1010	4540	64.6	75-125			QM-05
<i>Surrogate: 1-Chlorooctane</i>	<i>113</i>		<i>"</i>	<i>101</i>		<i>112</i>	<i>70-130</i>			
<i>Surrogate: o-Terphenyl</i>	<i>57.7</i>		<i>"</i>	<i>50.5</i>		<i>114</i>	<i>70-130</i>			

**Matrix Spike Dup (P5K1208-MSD1)**

Source: 5K11002-01

Prepared: 11/11/15 Analyzed: 11/12/15

C6-C12	992	25.3	mg/kg dry	1010	67.6	91.5	75-125	0.276	20	
>C12-C28	5260	25.3	"	1010	4540	71.6	75-125	10.3	20	QM-05
<i>Surrogate: 1-Chlorooctane</i>	<i>114</i>		<i>"</i>	<i>101</i>		<i>113</i>	<i>70-130</i>			
<i>Surrogate: o-Terphenyl</i>	<i>57.3</i>		<i>"</i>	<i>50.5</i>		<i>113</i>	<i>70-130</i>			

### Notes and Definitions

S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By:



Date:

11/19/2015

Brent Barron, Laboratory Director/Technical Director

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-686-7235.

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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memorial

☐ Standard ☐ TRRP ☐ NPDES

☐ Standard ☐ TRRP ☐ NPDES

(lab use only)		ORDER #: 594 10003	
LAB #. (lab use only)		FIELD CODE	
01	01	01	01
02	02	02	02
03	03	03	03
04	04	04	04
05	05	05	05
Date Sampled		Time Sampled	
No. of Containers		Ice	
		HNO <sub>3</sub>	
		HCl	
		H <sub>2</sub> SO <sub>4</sub>	
		NaOH	
		Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	
		None	
		Other (Specify)	
DW=Drinking Water SL=Sludge		Matrix	
GW = Groundwater S=Soil/Solid			
NP=Non-Potable Specify Other			
TPH: 418.1 8015M 1005 1006		TOTAL	
Cations (Ca, Mg, Na, K)		TCLP	
Anions (Cl, SO <sub>4</sub> , CO <sub>3</sub> , HCO <sub>3</sub> )		Analyze For	
SAR / ESP / CEC			
Metals: As Ag Ba Cd Cr Pb Hg Se			
Volatiles			
Semivolatiles			
BTEX 802TS/5030 or BTEX 8260			
Pb			
N.O.R.M.			
Chlorides			
RUSH TAT (Pre-Schedule) 24, 48, 72 hrs			
Standard TAT			

**Special Instructions:**

Relinquished by 7

Reinquished by:

Reinquished by:

Date 11.10.15

大

Date

Time

## Take

Time

**Retention by**

Received by:

Received by

Topic	Time
1. Introduction	10:00 - 10:15
2. The Role of the Teacher	10:15 - 10:30
3. The Role of the Student	10:30 - 10:45
4. The Role of the Parent	10:45 - 11:00
5. The Role of the Community	11:00 - 11:15
6. The Role of the Government	11:15 - 11:30
7. The Role of the Media	11:30 - 11:45
8. The Role of the Church	11:45 - 12:00
9. The Role of the Family	12:00 - 12:15
10. The Role of the Individual	12:15 - 12:30
11. The Role of the Society	12:30 - 12:45
12. The Role of the Culture	12:45 - 1:00
13. The Role of the Economy	1:00 - 1:15
14. The Role of the Environment	1:15 - 1:30
15. The Role of the Technology	1:30 - 1:45
16. The Role of the Science	1:45 - 2:00
17. The Role of the Art	2:00 - 2:15
18. The Role of the Music	2:15 - 2:30
19. The Role of the Literature	2:30 - 2:45
20. The Role of the History	2:45 - 3:00
21. The Role of the Geography	3:00 - 3:15
22. The Role of the Politics	3:15 - 3:30
23. The Role of the Law	3:30 - 3:45
24. The Role of the Religion	3:45 - 4:00
25. The Role of the Philosophy	4:00 - 4:15
26. The Role of the Psychology	4:15 - 4:30
27. The Role of the Sociology	4:30 - 4:45
28. The Role of the Anthropology	4:45 - 5:00
29. The Role of the Linguistics	5:00 - 5:15
30. The Role of the Mathematics	5:15 - 5:30
31. The Role of the Physics	5:30 - 5:45
32. The Role of the Chemistry	5:45 - 6:00
33. The Role of the Biology	6:00 - 6:15
34. The Role of the Medicine	6:15 - 6:30
35. The Role of the Agriculture	6:30 - 6:45
36. The Role of the Industry	6:45 - 7:00
37. The Role of the Commerce	7:00 - 7:15
38. The Role of the Finance	7:15 - 7:30
39. The Role of the Insurance	7:30 - 7:45
40. The Role of the Transportation	7:45 - 8:00
41. The Role of the Communication	8:00 - 8:15
42. The Role of the Information	8:15 - 8:30
43. The Role of the Energy	8:30 - 8:45
44. The Role of the Environment	8:45 - 9:00
45. The Role of the Technology	9:00 - 9:15
46. The Role of the Science	9:15 - 9:30
47. The Role of the Art	9:30 - 9:45
48. The Role of the Music	9:45 - 10:00
49. The Role of the Literature	10:00 - 10:15
50. The Role of the History	10:15 - 10:30
51. The Role of the Geography	10:30 - 10:45
52. The Role of the Politics	10:45 - 11:00
53. The Role of the Law	11:00 - 11:15
54. The Role of the Religion	11:15 - 11:30
55. The Role of the Philosophy	11:30 - 11:45
56. The Role of the Psychology	11:45 - 12:00
57. The Role of the Sociology	12:00 - 12:15
58. The Role of the Anthropology	12:15 - 12:30
59. The Role of the Linguistics	12:30 - 12:45
60. The Role of the Mathematics	12:45 - 1:00
61. The Role of the Physics	1:00 - 1:15
62. The Role of the Chemistry	1:15 - 1:30
63. The Role of the Biology	1:30 - 1:45
64. The Role of the Medicine	1:45 - 2:00
65. The Role of the Agriculture	2:00 - 2:15
66. The Role of the Industry	2:15 - 2:30
67. The Role of the Commerce	2:30 - 2:45
68. The Role of the Finance	2:45 - 3:00
69. The Role of the Insurance	3:00 - 3:15
70. The Role of the Transportation	3:15 - 3:30
71. The Role of the Communication	3:30 - 3:45
72. The Role of the Information	3:45 - 4:00
73. The Role of the Energy	4:00 - 4:15
74. The Role of the Environment	4:15 - 4:30
75. The Role of the Technology	4:30 - 4:45
76. The Role of the Science	4:45 - 5:00
77. The Role of the Art	5:00 - 5:15
78. The Role of the Music	5:15 - 5:30
79. The Role of the Literature	5:30 - 5:45
80. The Role of the History	5:45 - 6:00
81. The Role of the Geography	6:00 - 6:15
82. The Role of the Politics	6:15 - 6:30
83. The Role of the Law	6:30 - 6:45
84. The Role of the Religion	6:45 - 7:00
85. The Role of the Philosophy	7:00 - 7:15
86. The Role of the Psychology	7:15 - 7:30
87. The Role of the Sociology	7:30 - 7:45
88. The Role of the Anthropology	7:45 - 8:00
89. The Role of the Linguistics	8:00 - 8:15
90. The Role of the Mathematics	8:15 - 8:30
91. The Role of the Physics	8:30 - 8:45
92. The Role of the Chemistry	8:45 - 9:00
93. The Role of the Biology	9:00 - 9:15
94. The Role of the Medicine	9:15 - 9:30
95. The Role of the Agriculture	9:30 - 9:45
96. The Role of the Industry	9:45 - 10:00
97. The Role of the Commerce	10:00 - 10:15
98. The Role of the Finance	10:15 - 10:30
99. The Role of the Insurance	10:30 - 10:45
100. The Role of the Transportation	10:45 - 11:00
101. The Role of the Communication	11:00 - 11:15
102. The Role of the Information	11:15 - 11:30
103. The Role of the Energy	11:30 - 11:45
104. The Role of the Environment	11:45 - 12:00
105. The Role of the Technology	12:00 - 12:15
106. The Role of the Science	12:15 - 12:30
107. The Role of the Art	12:30 - 12:45
108. The Role of the Music	12:45 - 1:

Date	Time
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Date	Time
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**Laboratory Comments:**  
Sample Containers Intact?  
VOCs Free of Headspace?  
Custody seals on containers?

**Custody seals on cooler(s)**

by Courier? UPS

### Temperature Upon Receipt

1

5

5

6

5

**PERMIAN BASIN  
ENVIRONMENTAL LAB, LP  
10014 SCR 1213  
Midland, TX 79706**



# Analytical Report

**Prepared for:**

Tim McMinn  
E Tech Environmental & Safety Solutions, Inc.  
13000 West County Road 100  
Odessa, TX 79765

Project: NSLU 197  
Project Number: 416-6683-000  
Location: Memorial  
Lab Order Number: 5L18003



**NELAP/TCEQ # T104704156-13-3**

Report Date: 12/22/15



E Tech Environmental & Safety Solutions, Inc.  
13000 West County Road 100  
Odessa TX, 79765

Project: NSLU 197  
Project Number: 416-6683-000  
Project Manager: Tim McMinn

Fax: (432) 563-2213

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AH1 13-14'	5L18003-01	Soil	12/09/15 00:00	12-18-2015 11:35
AH2 12-13'	5L18003-02	Soil	12/09/15 00:00	12-18-2015 11:35

E Tech Environmental & Safety Solutions, Inc.  
13000 West County Road 100  
Odessa TX, 79765

Project: NSLU 197  
Project Number: 416-6683-000  
Project Manager: Tim McMinn

Fax: (432) 563-2213

**AH1 13-14'**  
**5L18003-01 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	ND	1.06	mg/kg dry	1	P5L2201	12/22/15	12/22/15	EPA 300.0
% Moisture	6.0	0.1	%	1	P5L1806	12/18/15	12/18/15	% calculation

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.6	mg/kg dry	1	P5L2103	12/21/15	12/21/15	TPH 8015M
>C12-C28	ND	26.6	mg/kg dry	1	P5L2103	12/21/15	12/21/15	TPH 8015M
>C28-C35	ND	26.6	mg/kg dry	1	P5L2103	12/21/15	12/21/15	TPH 8015M
Surrogate: 1-Chlorooctane		94.2 %	70-130		P5L2103	12/21/15	12/21/15	TPH 8015M
Surrogate: o-Terphenyl		106 %	70-130		P5L2103	12/21/15	12/21/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	12/21/15	12/21/15	calc

E Tech Environmental & Safety Solutions, Inc.  
13000 West County Road 100  
Odessa TX, 79765

Project: NSLU 197  
Project Number: 416-6683-000  
Project Manager: Tim McMinn

Fax: (432) 563-2213

**AH2 12-13'**  
**5L18003-02 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>263</b>	1.04	mg/kg dry	1	P5L2201	12/22/15	12/22/15	EPA 300.0
<b>% Moisture</b>	<b>4.0</b>	0.1	%	1	P5L1806	12/18/15	12/18/15	% calculation

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.0	mg/kg dry	1	P5L2103	12/21/15	12/21/15	TPH 8015M
>C12-C28	<b>103</b>	26.0	mg/kg dry	1	P5L2103	12/21/15	12/21/15	TPH 8015M
>C28-C35	ND	26.0	mg/kg dry	1	P5L2103	12/21/15	12/21/15	TPH 8015M
Surrogate: 1-Chlorooctane		84.1 %	70-130		P5L2103	12/21/15	12/21/15	TPH 8015M
Surrogate: o-Terphenyl		93.7 %	70-130		P5L2103	12/21/15	12/21/15	TPH 8015M
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>103</b>	26.0	mg/kg dry	1	[CALC]	12/21/15	12/21/15	calc

E Tech Environmental & Safety Solutions, Inc.  
13000 West County Road 100  
Odessa TX, 79765

Project: NSLU 197  
Project Number: 416-6683-000  
Project Manager: Tim McMinn

Fax: (432) 563-2213

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch P5L1806 - *** DEFAULT PREP ***</b>										
<b>Blank (P5L1806-BLK1)</b>				Prepared & Analyzed: 12/18/15						
% Moisture	ND	0.1	%							
<b>Duplicate (P5L1806-DUP1)</b>				<b>Source: 5L18003-01</b>		Prepared & Analyzed: 12/18/15				
% Moisture	5.0	0.1	%		6.0			18.2	20	
<b>Batch P5L2201 - *** DEFAULT PREP ***</b>										
<b>Blank (P5L2201-BLK1)</b>				Prepared & Analyzed: 12/22/15						
Chloride	ND	1.00	mg/kg wet							
<b>LCS (P5L2201-BS1)</b>				Prepared & Analyzed: 12/22/15						
Chloride	228	1.00	mg/kg wet	200		114	80-120			
<b>LCS Dup (P5L2201-BSD1)</b>				Prepared & Analyzed: 12/22/15						
Chloride	231	1.00	mg/kg wet	200		115	80-120	1.14	20	
<b>Duplicate (P5L2201-DUP1)</b>				<b>Source: 5L18003-01</b>		Prepared & Analyzed: 12/22/15				
Chloride	ND	1.06	mg/kg dry		ND				20	
<b>Duplicate (P5L2201-DUP2)</b>				<b>Source: 5L16001-17</b>		Prepared & Analyzed: 12/22/15				
Chloride	9780	29.8	mg/kg dry		9850			0.695	20	
<b>Matrix Spike (P5L2201-MS1)</b>				<b>Source: 5L18003-01</b>		Prepared & Analyzed: 12/22/15				
Chloride	362	1.06	mg/kg dry	426	ND	85.1	80-120			

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13000 West County Road 100  
Odessa TX, 79765

Project: NSLU 197  
Project Number: 416-6683-000  
Project Manager: Tim McMinn

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**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P5L2103 - TX 1005**

**Blank (P5L2103-BLK1)**

Prepared & Analyzed: 12/21/15

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	82.9		"	100		82.9	70-130			
Surrogate: o-Terphenyl	44.4		"	50.0		88.7	70-130			

**LCS (P5L2103-BS1)**

Prepared & Analyzed: 12/21/15

C6-C12	875	25.0	mg/kg wet	1000		87.5	75-125			
>C12-C28	829	25.0	"	1000		82.9	75-125			
Surrogate: 1-Chlorooctane	101		"	100		101	70-130			
Surrogate: o-Terphenyl	44.1		"	50.0		88.2	70-130			

**LCS Dup (P5L2103-BSD1)**

Prepared & Analyzed: 12/21/15

C6-C12	863	25.0	mg/kg wet	1000		86.3	75-125	1.39	20	
>C12-C28	822	25.0	"	1000		82.2	75-125	0.846	20	
Surrogate: 1-Chlorooctane	102		"	100		102	70-130			
Surrogate: o-Terphenyl	44.2		"	50.0		88.5	70-130			

**Matrix Spike (P5L2103-MS1)**

Source: 5L18006-07

Prepared & Analyzed: 12/21/15

C6-C12	1060	26.9	mg/kg dry	1080	19.8	96.9	75-125			
>C12-C28	1080	26.9	"	1080	154	86.1	75-125			
Surrogate: 1-Chlorooctane	125		"	108		116	70-130			
Surrogate: o-Terphenyl	53.3		"	53.8		99.2	70-130			

**Matrix Spike Dup (P5L2103-MSD1)**

Source: 5L18006-07

Prepared: 12/21/15 Analyzed: 12/22/15

C6-C12	1050	26.9	mg/kg dry	1080	19.8	96.0	75-125	0.879	20	
>C12-C28	1050	26.9	"	1080	154	83.3	75-125	3.25	20	
Surrogate: 1-Chlorooctane	124		"	108		116	70-130			
Surrogate: o-Terphenyl	53.1		"	53.8		98.7	70-130			

E Tech Environmental & Safety Solutions, Inc.  
13000 West County Road 100  
Odessa TX, 79765

Project: NSLU 197  
Project Number: 416-6683-000  
Project Manager: Tim McMinn

Fax: (432) 563-2213

### Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference  
LCS Laboratory Control Spike  
MS Matrix Spike  
Dup Duplicate

Report Approved By:



Date: 12/22/2015

Brent Barron, Laboratory Director/Technical Director

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