

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 Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: WPX Energy/RKI Exploration	OGRID: 246289
Contact Name: Deborah Watson	Contact Telephone: 575-885-7561
Contact email: deborah.watson@wpxenergy.com	Incident # (assigned by OCD) 2RP-2442
Contact mailing address 5315 Buena Vista Dr., Carlsbad, NM	

Location of Release Source

Start: Latitude 32.009664 Longitude -103.965325
End: Latitude 32.014536 Longitude -103.965081
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: East Pecos Federal Com 22-7H (incident located near this well)	Site Type: Well Pad
Date Release Discovered: 7/8/2014 at 2:00 PM	API# (if applicable) 30-015-42287

Unit Letter	Section	Township	Range	County
I & P	22	26 South	29 East	Eddy

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (Name: _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 260	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Produced water spill from unauthorized truck unloading of two loads.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? The release exceeded 25 bbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Brandon Ripley (RKI Exploration and Production) notified Mike Bratcher with NMOCD on July 8, 2014 at 4:00 PM, via phone call. The initial C-141 was emailed to Mike Bratcher (NMOCD) on July 17, 2014. (initial C-141 from 2014 is attached)	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

<input type="checkbox"/> The source of the release has been stopped.	
<input type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why: Release is a result of an unauthorized truck dump-no one was notified that the spill had occurred. The spill was discovered on July 8, 2014.	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.	
Printed Name: _____	Title: _____
Signature: _____	Date: _____
email: _____	Telephone: _____
<u>OCD Only</u>	
Received by: _____	Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Deborah Watson

Title: Environmental Specialist

Signature: 

Date: April 30, 2019

email: deborah.watson@wpenergy.com

Telephone: 575-885-7561

OCD Only

Received by: _____

Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Ashley Maxwell Date: 3/30/2023

Printed Name: Ashley Maxwell

Title: Environmental Specialist



April 30, 2019

Mr. Bradford Billings
EMNRD - OCD
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: East Pecos Fed Com 22-7H Release Closure Report (2RP-2442)

Dear Mr. Billings:

This report summarizes the initial and confirmation soil sampling activities conducted at the East Pecos Federal Com 22-7H release location. Initial sampling and remediation activities were conducted by the prior operator of the well, RKI Exploration and Production (RKI). Confirmation sampling was conducted by the present operator, WPX Energy (WPX).

Release Summary

Site Name	East Pecos Federal Com 22-7H		
API #	30-015-42287	RP #	2RP-2442
Well Site Location Description	Unit Letter P, Section 22, Township 26 South, Range 29 East (N32.02077, W103.96630)		
Release Location Description	Unit Letters I & P, Section 27, Township 26 South, Range 29 East (Beginning at N32.009664, W103.965325 and ending at N32.014536, W103.965081)		
Land Jurisdiction	Private		
Agency Notification	New Mexico Oil Conservation Division (NMOCD), Artesia District Office	Agency Notification Date	July 8, 2014
Release Source	Unauthorized truck unloading	Release Contents	Produced water
Volume Released	Estimated 260 barrels	Volume Recovered	No recovery

Remediation Standards Determination

Remediation of the release began under 19.15.29 New Mexico Authority Code (NMAC) Release Notification (filed 12/1/2008), but continued through the transition to 19.15.29 NMAC Releases (filed 8/14/2018). The remediation standards per 19.15.29 NMAC are determined by depth to groundwater with a concentration of less than 10,000 milligrams per kilogram (mg/kg) total dissolved solids (TDS) and several factors outlined in 19.15.29.12(4)(e) NMAC.

Depth to groundwater at the site is estimated to be between 45 and 55 feet below ground surface (bgs) based on local well records and the area's geology and geomorphology.

East Pecos Fed Com 22-7H Release Closure Report
April 30, 2019
Page 2 of 3

Therefore, closure criteria for the soils impacted at the release location are determined by the "less than or equal to 50 feet" category of Table 1, 19.15.29.12 NMAC. These remedial standards are as follows: 600 mg/kg chloride per United States Environmental Protection Agency (USEPA) Method 300.0 or SM 4500-Cl B; 100 mg/kg total petroleum hydrocarbons (TPH) per USEPA Method 8015M; 50 mg/kg total benzene, toluene, ethylbenzene, and xylenes (BTEX) per USEPA Method 8021B or 8260B; and 10 mg/kg benzene per USEPA Method 8021B or 8260B. Total TPH includes gasoline range organics (GRO), diesel range organics (DRO), and mineral oil range organics (MRO).

Field Activities

On July 10, 2014, initial soil sampling of the release location was conducted by Apex Titan, Inc. (Apex) which included the collection of four soil samples from 0 to 6 inches below ground surface (bgs). Apex returned to the release location on September 11, 2014, to collect two background samples (one collected at 0 to 1 foot bgs and the other collected at 1 to 2 feet bgs). Based on elevated chloride concentrations reported in the initial sampling laboratory results, RKI performed remediation of the impacted soils.

On November 28, 2018, confirmation soil sampling was conducted by Vertex Resources Services, Inc. (Vertex) which included the collection of soil samples from ten sampling locations within the release path. At each sampling location, one discrete sample was collected from the ground surface and one discrete sample was collected from 2 feet bgs, resulting in the collection of twenty total confirmation soil samples. A site map with the soil sampling locations is included as Figure 1. A photograph log and sampling field notes are attached.

Soil Sampling

Soil samples were collected in laboratory provided sample containers and analyzed for the following parameters:

- BTEX per USEPA Method 8021 or 8260,
- TPH (GRO/DRO/MRO) per USEPA Method 8015, and
- Chlorides per USEPA Method 300.0 or SM 4500.

Laboratory analytical results are summarized in Tables 1 and 2. The laboratory reports are included as attachments.

Laboratory Analytical Results

Initial soil sample results reported benzene, total BTEX, and TPH concentrations below laboratory reporting limits, which are below the remediation standards for the site. However, chloride concentrations for the initial samples were reported above the remediation standards for the site. Background samples were only analyzed for chloride and the concentrations were reported below the laboratory reporting limit for both samples.

Confirmation soil sample laboratory analytical results are summarized as follows:

- Benzene concentrations are below the laboratory reporting limits.
- Total BTEX concentrations are below the laboratory reporting limits.
- TPH concentrations as GRO and DRO are below the laboratory reporting limits. TPH concentrations as MRO range from below the laboratory reporting limits to 7.1 mg/kg.
- Chloride concentrations are below laboratory reporting limits.

East Pecos Fed Com 22-7H Release Closure Report
April 30, 2019
Page 3 of 3

Laboratory reporting limits for all constituents are below the remediation standards. No qualifier flags were indicated for the laboratory results of the confirmation soil samples. Laboratory analytical results are summarized in Table 1, and the analytical laboratory reports are attached.

Conclusions

Laboratory analytical results for the confirmation soil samples collected at the release location report that concentrations of benzene, total BTEX, TPH (GRO/DRO/MRO), and chloride are below the closure criteria determined for the location per Table 1, 19.15.29.12 NMAC. Therefore, closure of the release is requested.

For additional information or questions regarding this release, please contact me at (575) 885-7561.

Sincerely,



Deborah Watson
Environmental Specialist

Attachments:

Figure 1. Site Map with Sample Locations
Table 1. Summary of Initial Soil Sampling Laboratory Analytical Results
Table 2. Summary of Confirmation Soil Sampling Laboratory Analytical Results
Photographic Log
Field Notes
Analytical Laboratory Reports (Trace Analysis, Inc. – 14071115 and 14091230; ALS
Environmental – 1812031, 1812014, and 1812013)





	<p align="center">Spill Path</p> <p align="center">East Pecos 22-7H</p> <p align="center">(Date 28/11/18)</p>	
	<p>DRAWN: PS</p>	<p>FIGURE:</p> <p align="center">1</p>
	<p>APPROVED: KM</p>	
	<p>DATE: JAN 11/19</p>	

Table 1. Summary of Initial Soil Sampling Laboratory Analytical Results**WPX Energy****East Pecos Fed Com 22-7H****Eddy County, New Mexico**

Sample Name	Date	Approximate Sample Depth (ft bgs)	Laboratory Analytical Results								
			Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH as GRO (mg/kg)	TPH as DRO (mg/kg)	TPH as MRO (mg/kg)	Chloride (mg/kg)
Remediation Standard*			10	NE	NE	NE	50	NE	NE	NE	600
AH-1 0-6"	7/10/2014	0 - 0.5	<0.0200	<0.0200	<0.0200	<0.0200	<0.0800	<4.00	<50.0	--	10,900
AH-2 0-6"	7/10/2014	0 - 0.5	<0.0200	<0.0200	<0.0200	<0.0200	<0.0800	<4.00	<50.0	--	7,390
AH-3 0-6"	7/10/2014	0 - 0.5	<0.0200	<0.0200	<0.0200	<0.0200	<0.0800	<4.00	<50.0	--	14,700
AH-4 0-6"	7/10/2014	0 - 0.5	<0.0200	<0.0200	<0.0200	<0.0200	<0.0800	<4.00	<50.0	--	14,300
Background 1	9/11/2014	0 - 1	--	--	--	--	--	--	--	--	<20.0
Background 2	9/11/2014	0 - 2	--	--	--	--	--	--	--	--	<20.0

Notes:

ft bgs - feet below grade surface

mg/kg - milligrams per kilogram

NE - not established

ND - not detected above laboratory reporting limits

*Per Table 1 of 19.15.29.12 NMAC, based on category "less than or equal to 50 feet" depth to groundwater

TPH - total petroleum hydrocarbons

GRO - gasoline range organics

DRO - diesel range organics

MRO - mineral oil range organics

Table 2. Summary of Confirmation Soil Sampling Laboratory Analytical Results**WPX Energy****East Pecos Fed Com 22-7H****Eddy County, New Mexico**

Sample Name	Date	Approximate Sample Depth (ft bgs)	Laboratory Analytical Results									
			Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH as GRO (mg/kg)	TPH as DRO (mg/kg)	TPH as MRO (mg/kg)	Total TPH as GRO/DRO/MRO (mg/kg)	Chloride (mg/kg)
Remediation Standard*			10	NE	NE	NE	50	NE	NE	NE	100	600
BH18-01 (0 ft)	11/28/2018	0	<0.031	<0.031	<0.031	<0.094	<0.187	<5.2	<4.9	<4.9	<15.0	<10
BH18-01 (2 ft)	11/28/2018	2	<0.031	<0.031	<0.031	<0.092	<0.185	<5.1	<4.9	<4.9	<14.9	<10
BH18-02 (0 ft)	11/28/2018	0	<0.031	<0.031	<0.031	<0.093	<0.186	<5.2	<5.0	<5.0	<15.2	<10
BH18-02 (2 ft)	11/28/2018	2	<0.031	<0.031	<0.031	<0.092	<0.185	<5.1	<5.1	<5.1	<15.3	<10
BH18-03 (0 ft)	11/28/2018	0	<0.031	<0.031	<0.031	<0.093	<0.186	<5.1	<4.9	7.1	7.1	<10
BH18-03 (2 ft)	11/28/2018	2	<0.033	<0.033	<0.033	<0.099	<0.198	<5.5	<5.2	<5.2	<15.6	<10
BH18-04 (0 ft)	11/28/2018	0	<0.030	<0.030	<0.030	<0.091	<0.181	<5.1	<4.9	<4.9	<14.9	<9.9
BH18-04 (2 ft)	11/28/2018	2	<0.030	<0.030	<0.030	<0.091	<0.181	<5.1	<4.9	<4.9	<14.9	<10
BH18-05 (0 ft)	11/28/2018	0	<0.031	<0.031	<0.031	<0.093	<0.186	<5.2	<5.0	5.4	5.4	<10
BH18-05 (2 ft)	11/28/2018	2	<0.031	<0.031	<0.031	<0.093	<0.186	<5.2	<5.0	<5.0	<15.2	<10
BH18-06 (0 ft)	11/28/2018	0	<0.034	<0.034	<0.034	<0.10	<0.20	<5.7	<5.3	<5.3	<16.3	<10
BH18-06 (2 ft)	11/28/2018	2	<0.033	<0.033	<0.033	<0.098	<0.197	<5.5	<5.1	<5.1	<15.7	<10
BH18-07 (0 ft)	11/28/2018	0	<0.031	<0.031	<0.031	<0.093	<0.186	<5.2	<4.8	<4.8	<14.8	<10
BH18-07 (2 ft)	11/28/2018	2	<0.034	<0.034	<0.034	<0.10	<0.20	<5.6	<5.2	<5.2	<16.0	<11
BH18-08 (0 ft)	11/28/2018	0	<0.035	<0.035	<0.035	<0.10	<0.21	<5.8	<5.2	<5.2	<16.2	<10
BH18-08 (2 ft)	11/28/2018	2	<0.035	<0.035	<0.035	<0.11	<0.22	<5.8	<5.3	<5.3	<16.4	<11
BH18-09 (0 ft)	11/28/2018	0	<0.034	<0.034	<0.034	<0.10	<0.20	<5.6	<5.1	<5.1	<15.8	<10
BH18-09 (2 ft)	11/28/2018	2	<0.032	<0.032	<0.032	<0.095	<0.191	<5.3	<4.9	6.1	6.1	<10
BH18-10 (0 ft)	11/28/2018	0	<0.033	<0.033	<0.033	<0.10	<0.20	<5.5	<5.2	<5.2	<15.9	<10
BH18-10 (2 ft)	11/28/2018	2	<0.031	<0.031	<0.031	<0.094	<0.187	<5.2	<4.9	<4.9	<15.0	<10

Notes: ft bgs - feet below grade surface TPH - total petroleum hydrocarbons
 mg/kg - milligrams per kilogram GRO - gasoline range organics
 NE - not established DRO - diesel range organics
 ND - not detected above laboratory reporting limits MRO - mineral oil range organics
 *Per Table 1 of 19.15.29.12 NMAC, based on category "less than or equal to 50 feet" depth to groundwater

WPX Energy Inc.
East Pecos Fed Com 22-7
30-015-42287 - 2RP - 2442

Spill Assessment
January 2019



Photo 1. Overview of spill area, looking south

Photo Date: November 26, 2018 GPS: N: 32.01439 W: -103.96499



Photo 2. Overview of spill area, looking south

Photo Date: November 26, 2018 GPS: N: 32.01354 W: -103.96507

WPX Energy Inc.
East Pecos Fed Com 22-7
30-015-42287 - 2RP - 2442

Spill Assessment
January 2019



Photo 3. Spill area, looking north

Photo Date: November 26, 2018 GPS: N: 32.01352 W: -103.96511



Photo 4. Spill area, looking south

Photo Date: November 26, 2018 GPS: N: 32.01282 W: -103.96508

WPX Energy Inc.
East Pecos Fed Com 22-7
30-015-42287 - 2RP - 2442

Spill Assessment
January 2019



Photo 5. Spill area, looking north

Photo Date: November 26, 2018 GPS: N: 32.01088 W: -103.96520



Photo 6. Spill area, looking north

Photo Date: November 26, 2018 GPS: N: 32.00962 W: -103.96537

WPX Energy Inc.
East Pecos 22-7
30-015-42287 - 2RP-2442

Spill Assessment
January 2019



Photo 1. BH18-01 soil sample location

Photo Date: November 28, 2018 GPS: N: 32.089814 W: -103.874650



Photo 2. BH18-02 soil sample location

Photo Date: November 28, 2018 GPS: N: 32.03031 W: -103.96511

WPX Energy Inc.
East Pecos 22-7
30-015-42287 - 2RP-2442

Spill Assessment
January 2019



Photo 3. BH18-03 soil sample location

Photo Date: November 28, 2018 GPS: N: 32.011870 W: -103.565280



Photo 4. BH18-04 soil sample location

Photo Date: November 28, 2018 GPS: N: 32.03031 W: -103.96511

WPX Energy Inc.
East Pecos 22-7
30-015-42287 - 2RP-2442

Spill Assessment
January 2019



Photo 5. BH18-05 soil sample location

Photo Date: November 28, 2018 GPS: N: 32.01277 W: -103.96579



Photo 6. BH18-06 soil sample location

Photo Date: November 28, 2018 GPS: N: 32.01282 W: -103.96518

WPX Energy Inc.
East Pecos 22-7
30-015-42287 - 2RP-2442

Spill Assessment
January 2019



Photo 7. BH18-07 soil sample location

Photo Date: November 28, 2018 GPS: N: 32.01282 W: -103.96586



Photo 8. BH18-08 soil sample location

Photo Date: November 28, 2018 GPS: N: 32.01355 W: -103.9651

WPX Energy Inc.
East Pecos 22-7
30-015-42287 - 2RP-2442

Spill Assessment
January 2019



Photo 9. BH18-09 soil sample location

Photo Date: November 28, 2018 GPS: N: 32.03406 W: -103.96508



Photo 8. BH18-10 soil sample location

Photo Date: November 28, 2018 GPS: N: 32.01439 W: -103.96509

Daily Field Report

Client:	<u>WPX</u>	Date:	<u>11/26/2018</u>
Site Location:	<u>East Pecos 22-7</u>	Project #:	<u>17E-00043</u>
Project Owner:	<u>Jason Crabtree</u>	API:	<u>30-015-42287</u>
Project Manager:	<u>Dhugal Hanton</u>	Incident Number:	<u>2RP-2442</u>

Summary of Daily Operations

- Arrive onsite at East Pecos 22-7 around 09:15, spill area actually about 2 miles south of pad site, found spill area using provided coordinates and began field screening for chlorides to delineate, no chloride hits higher than 50 ppm anywhere in spill area, finish up and leave by 12:00

Planned Activates and Recommendations

- Meet OCD to conduct final sampling for East Pecos 22-7 spill on Wednesday

Photo Log

Picture Number (Camera Label)	Viewing Direction	Description
IMG_1395	S	East Pecos 22-7 Spill Area
IMG_1396	S	East Pecos 22-7 Spill Area
IMG_1397	N	East Pecos 22-7 Spill Area
IMG_1398	S	East Pecos 22-7 Spill Area
IMG_1399	N	East Pecos 22-7 Spill Area
IMG_1400	N	East Pecos 22-7 Spill Area

Daily Field Report

Client:	<u>WPX</u>	Date:	<u>11/28/2018</u>
Site Location:	<u>East Pecos 22-7</u>	Project #:	<u>17E-00043</u>
Project Owner:	<u>Jason Crabtree</u>	API:	<u>30-015-42287</u>
Project Manager:	<u>Dhugal Hanton</u>	Incident:	<u>2RP-2442</u>

Summary of Daily Operations

- Leave for East Pecos 22-7 at 11:00 arrive around 12:30
- Begin collecting samples around 13:00 and finish around 16:00
- Finish jarring samples and head back to Carlsbad, arrive around 17:30

Planned Activates and Recommendations

- N/A

Photo Log

Picture Number (Camera Label)	Viewing Direction	Description
IMG_1430	N/A	BH18-01
IMG_1431	N/A	BH18-02
IMG_1432	N/A	BH18-03
IMG_1433	N/A	BH18-04
IMG_1434	N/A	BH18-05
IMG_1435	N/A	BH18-06
IMG_1436	N/A	BH18-07
IMG_1437	N/A	BH18-08
IMG_1438	N/A	BH18-09
IMG_1439	N/A	BH18-10

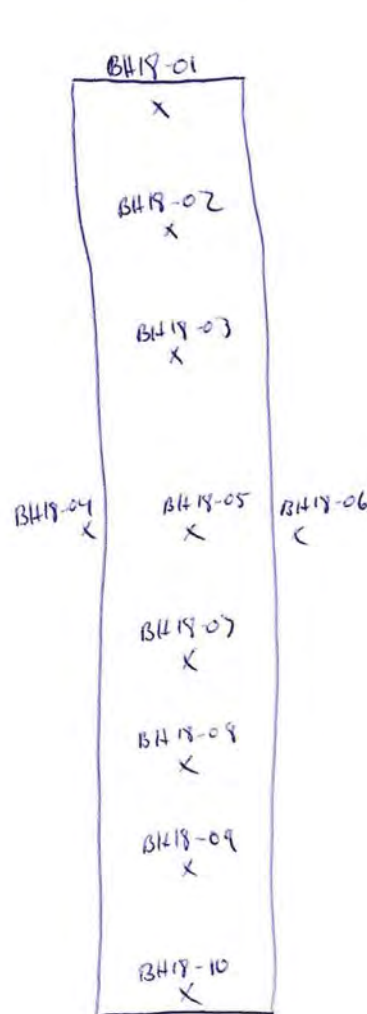
Spill Response and Sampling

Page _____ of _____

Client:	WPX
Date:	11-28-2018
Site Name:	East Pecos 22-7
Site Location:	32.009644, -103.965325 / 32.014536, -103.965081
Project Owner:	Jason Crabtree
Project Manager:	Dhugal Hanton
Project #:	1.70E-42
API:	30-015-42287 Incident 2RP-2442

Initial Spill Information - Record on First Visit	
Spill Date:	November 28, 2018
Spill Volume:	260 bbls
Spill Cause:	Unauthorized truck dump
Spill Product:	Salt water
Recovered Spill Volume:	0 bbls
Recovery Method:	None
On Lease/Off Lease	off lease / on roadway

Site Sketch



Approx. Total Spill Area _____

Site Wide Picture

Yes/No

Circle

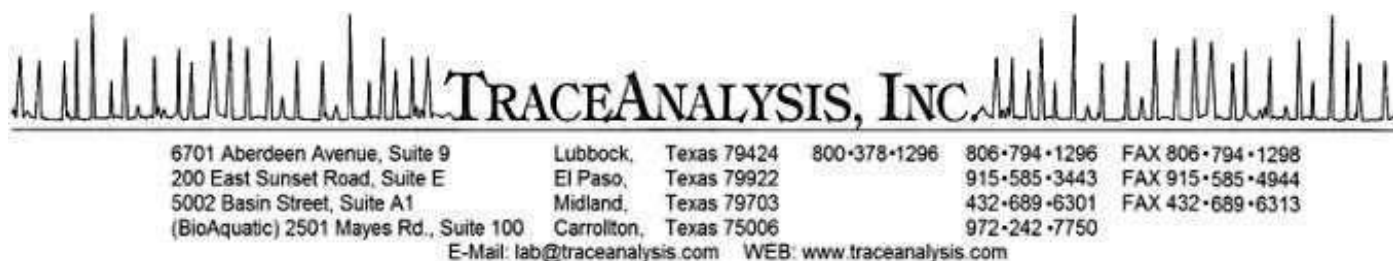
Site Placard Picture

Yes/No

Circle

Spill Response and Sampling

Client: WPX		Initial Spill Information - Record on First Visit					
Date: 11-28-2018		Spill Date: July 8, 2018					
Site Name: East Pecos 22-7 32.009644, -103.965325 / 32.014536, -103.965081		Spill Volume: 260 bbls					
Site Location: 103.965081		Spill Cause: Unauthorized truck dump					
Project Owner: Jason Crabtree		Spill Product: Salt water					
Project Manager: Dhugal Hanton		Recovered Spill Volume: 0 bbls					
Project #: 1.70E-42		Recovery Method: None					
Sampling							
		Field Screening		Data Collection (Check for Yes)			
Sample ID	Depth (ft)	VOC (PID)	Quantab (High/Low) + or -	Lab Analysis	Picture	Trimble Coordinates	Marked on Site Sketch
BH18-01	Ex. '2ft	Ex. 400 ppm	Ex. 'High +	Ex. Hydrocarbon Chloride			
BH18-01	0 FT	N/A	<50 PPM	Hydrocarbon, Chloride	Y	Y	Y
BH18-01	2 FT	N/A	<50 PPM	Hydrocarbon, Chloride	Y	Y	Y
BH18-02	0 FT	N/A	<50 PPM	Hydrocarbon, Chloride	Y	Y	Y
BH18-02	2 FT	N/A	<50 PPM	Hydrocarbon, Chloride	Y	Y	Y
BH18-03	0 FT	N/A	<50 PPM	Hydrocarbon, Chloride	Y	Y	Y
BH18-03	2 FT	N/A	<50 PPM	Hydrocarbon, Chloride	Y	Y	Y
BH18-04	0 FT	N/A	<50 PPM	Hydrocarbon, Chloride	Y	Y	Y
BH18-04	2 FT	N/A	<50 PPM	Hydrocarbon, Chloride	Y	Y	Y
BH18-05	0 FT	N/A	<50 PPM	Hydrocarbon, Chloride	Y	Y	Y
BH18-05	2 FT	N/A	<50 PPM	Hydrocarbon, Chloride	Y	Y	Y
BH18-06	0 FT	N/A	<50 PPM	Hydrocarbon, Chloride	Y	Y	Y
BH18-06	2 FT	N/A	<50 PPM	Hydrocarbon, Chloride	Y	Y	Y
BH18-07	0 FT	N/A	<50 PPM	Hydrocarbon, Chloride	Y	Y	Y
BH18-07	2 FT	N/A	<50 PPM	Hydrocarbon, Chloride	Y	Y	Y
BH18-08	0 FT	N/A	<50 PPM	Hydrocarbon, Chloride	Y	Y	Y
BH18-08	2 FT	N/A	<50 PPM	Hydrocarbon, Chloride	Y	Y	Y
BH18-09	0 FT	N/A	<50 PPM	Hydrocarbon, Chloride	Y	Y	Y
BH18-09	2 FT	N/A	<50 PPM	Hydrocarbon, Chloride	Y	Y	Y
BH18-10	0 FT	N/A	<50 PPM	Hydrocarbon, Chloride	Y	Y	Y
BH18-10	2 FT	N/A	<50 PPM	Hydrocarbon, Chloride	Y	Y	Y



Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Tim Reed
APEX/Titan
2351 W. Northwest Hwy.
Suite 3321
Dallas, Tx, 75220

Report Date: July 17, 2014

Work Order: 14071115




Project Location: Eddy Co, NM
Project Name: Truck Dump
Project Number: Truck Dump

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
368065	AH-1 0-6"	soil	2014-07-10	00:00	2014-07-11
368067	AH-2 0-6"	soil	2014-07-10	00:00	2014-07-11
368069	AH-3 0-6"	soil	2014-07-10	00:00	2014-07-11
368071	AH-4 0-6"	soil	2014-07-10	00:00	2014-07-11

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 23 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

A handwritten signature in black ink, reading "Blair Leftwich". The signature is written in a cursive style with a horizontal line underneath.

Dr. Blair Leftwich, Director
James Taylor, Assistant Director

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Case Narrative

Samples for project Truck Dump were received by TraceAnalysis, Inc. on 2014-07-11 and assigned to work order 14071115. Samples for work order 14071115 were received intact at a temperature of 4.6 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	96091	2014-07-15 at 11:45	113653	2014-07-16 at 07:54
Chloride (Titration)	SM 4500-Cl B	96073	2014-07-11 at 14:40	113589	2014-07-14 at 12:44
TPH DRO - NEW	S 8015 D	96138	2014-07-15 at 13:30	113663	2014-07-16 at 10:34
TPH GRO	S 8015 D	96024	2014-07-11 at 10:22	113610	2014-07-15 at 07:38

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 14071115 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: July 17, 2014
Truck Dump

Work Order: 14071115
Truck Dump

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Eddy Co, NM

Analytical Report

Sample: 368065 - AH-1 0-6"

Laboratory: Midland
Analysis: BTEX
QC Batch: 113653
Prep Batch: 96091

Analytical Method: S 8021B
Date Analyzed: 2014-07-16
Sample Preparation: 2014-07-15

Prep Method: S 5035
Analyzed By: AK
Prepared By: AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	5	<0.0200	mg/Kg	1	0.0200
Toluene	U	5	<0.0200	mg/Kg	1	0.0200
Ethylbenzene	U	5	<0.0200	mg/Kg	1	0.0200
Xylene	U	5	<0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.56	mg/Kg	1	2.00	78	70 - 130
4-Bromofluorobenzene (4-BFB)			1.66	mg/Kg	1	2.00	83	70 - 130

Sample: 368065 - AH-1 0-6"

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 113589
Prep Batch: 96073

Analytical Method: SM 4500-Cl B
Date Analyzed: 2014-07-14
Sample Preparation: 2014-07-11

Prep Method: N/A
Analyzed By: SC
Prepared By: SC

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Qs		10900	mg/Kg	10	4.00

Sample: 368065 - AH-1 0-6"

Laboratory: Lubbock
Analysis: TPH DRO - NEW
QC Batch: 113663
Prep Batch: 96138

Analytical Method: S 8015 D
Date Analyzed: 2014-07-16
Sample Preparation: 2014-07-15

Prep Method: N/A
Analyzed By: CM
Prepared By: CM

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Jb	1,2,3,4	<50.0	mg/Kg	1	50.0

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Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		3	109	mg/Kg	1	100	109	70 - 130

Sample: 368065 - AH-1 0-6"

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 113610
Prep Batch: 96024

Analytical Method: S 8015 D
Date Analyzed: 2014-07-15
Sample Preparation: 2014-07-11

Prep Method: S 5035
Analyzed By: AK
Prepared By: AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	U	5	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.16	mg/Kg	1	2.00	108	70 - 130
4-Bromofluorobenzene (4-BFB)			1.78	mg/Kg	1	2.00	89	70 - 130

Sample: 368067 - AH-2 0-6"

Laboratory: Midland
Analysis: BTEX
QC Batch: 113653
Prep Batch: 96091

Analytical Method: S 8021B
Date Analyzed: 2014-07-16
Sample Preparation: 2014-07-15

Prep Method: S 5035
Analyzed By: AK
Prepared By: AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	5	<0.0200	mg/Kg	1	0.0200
Toluene	U	5	<0.0200	mg/Kg	1	0.0200
Ethylbenzene	U	5	<0.0200	mg/Kg	1	0.0200
Xylene	U	5	<0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.33	mg/Kg	1	2.00	116	70 - 130
4-Bromofluorobenzene (4-BFB)	1 Q _{sr}	Q _{sr}	3.24	mg/Kg	1	2.00	162	70 - 130

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Sample: 368067 - AH-2 0-6"

Laboratory: Midland	Analytical Method: SM 4500-Cl B	Prep Method: N/A
Analysis: Chloride (Titration)	Date Analyzed: 2014-07-14	Analyzed By: SC
QC Batch: 113589	Sample Preparation: 2014-07-11	Prepared By: SC
Prep Batch: 96073		

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Qs		7390	mg/Kg	5	4.00

Sample: 368067 - AH-2 0-6"

Laboratory: Lubbock	Analytical Method: S 8015 D	Prep Method: N/A
Analysis: TPH DRO - NEW	Date Analyzed: 2014-07-16	Analyzed By: CM
QC Batch: 113663	Sample Preparation: 2014-07-15	Prepared By: CM
Prep Batch: 96138		

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Jb	1,2,3,4	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		3	110	mg/Kg	1	100	110	70 - 130

Sample: 368067 - AH-2 0-6"

Laboratory: Midland	Analytical Method: S 8015 D	Prep Method: S 5035
Analysis: TPH GRO	Date Analyzed: 2014-07-15	Analyzed By: AK
QC Batch: 113610	Sample Preparation: 2014-07-11	Prepared By: AK
Prep Batch: 96024		

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	U	5	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.17	mg/Kg	1	2.00	108	70 - 130
4-Bromofluorobenzene (4-BFB)			1.83	mg/Kg	1	2.00	92	70 - 130

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Sample: 368069 - AH-3 0-6"

Laboratory: Midland

Analysis: BTEX

QC Batch: 113653

Prep Batch: 96091

Analytical Method: S 8021B

Date Analyzed: 2014-07-16

Sample Preparation: 2014-07-15

Prep Method: S 5035

Analyzed By: AK

Prepared By: AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	u	5	<0.0200	mg/Kg	1	0.0200
Toluene	u	5	<0.0200	mg/Kg	1	0.0200
Ethylbenzene	u	5	<0.0200	mg/Kg	1	0.0200
Xylene	u	5	<0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.65	mg/Kg	1	2.00	82	70 - 130
4-Bromofluorobenzene (4-BFB)			1.73	mg/Kg	1	2.00	86	70 - 130

Sample: 368069 - AH-3 0-6"

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 113589

Prep Batch: 96073

Analytical Method: SM 4500-Cl B

Date Analyzed: 2014-07-14

Sample Preparation: 2014-07-11

Prep Method: N/A

Analyzed By: SC

Prepared By: SC

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Qs		14700	mg/Kg	10	4.00

Sample: 368069 - AH-3 0-6"

Laboratory: Lubbock

Analysis: TPH DRO - NEW

QC Batch: 113663

Prep Batch: 96138

Analytical Method: S 8015 D

Date Analyzed: 2014-07-16

Sample Preparation: 2014-07-15

Prep Method: N/A

Analyzed By: CM

Prepared By: CM

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Jb	1,2,3,4	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		3	111	mg/Kg	1	100	111	70 - 130

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Sample: 368069 - AH-3 0-6"

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 113610
Prep Batch: 96024

Analytical Method: S 8015 D
Date Analyzed: 2014-07-15
Sample Preparation: 2014-07-11

Prep Method: S 5035
Analyzed By: AK
Prepared By: AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	U	5	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.98	mg/Kg	1	2.00	99	70 - 130
4-Bromofluorobenzene (4-BFB)			1.65	mg/Kg	1	2.00	82	70 - 130

Sample: 368071 - AH-4 0-6"

Laboratory: Midland
Analysis: BTEX
QC Batch: 113653
Prep Batch: 96091

Analytical Method: S 8021B
Date Analyzed: 2014-07-16
Sample Preparation: 2014-07-15

Prep Method: S 5035
Analyzed By: AK
Prepared By: AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	5	<0.0200	mg/Kg	1	0.0200
Toluene	U	5	<0.0200	mg/Kg	1	0.0200
Ethylbenzene	U	5	<0.0200	mg/Kg	1	0.0200
Xylene	U	5	<0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.68	mg/Kg	1	2.00	84	70 - 130
4-Bromofluorobenzene (4-BFB)			1.74	mg/Kg	1	2.00	87	70 - 130

Sample: 368071 - AH-4 0-6"

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 113589
Prep Batch: 96073

Analytical Method: SM 4500-Cl B
Date Analyzed: 2014-07-14
Sample Preparation: 2014-07-11

Prep Method: N/A
Analyzed By: SC
Prepared By: SC

continued ...

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sample 368071 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Qs		14300	mg/Kg	10	4.00

Sample: 368071 - AH-4 0-6"

Laboratory:	Lubbock	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2014-07-16	Analyzed By:	CM
QC Batch:	113663	Sample Preparation:	2014-07-15	Prepared By:	CM
Prep Batch:	96138				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1,2,3,4	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		3	111	mg/Kg	1	100	111	70 - 130

Sample: 368071 - AH-4 0-6"

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2014-07-15	Analyzed By:	AK
QC Batch:	113610	Sample Preparation:	2014-07-11	Prepared By:	AK
Prep Batch:	96024				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	U	5	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.29	mg/Kg	1	2.00	114	70 - 130
4-Bromofluorobenzene (4-BFB)			1.99	mg/Kg	1	2.00	100	70 - 130

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Method Blanks

Method Blank (1) QC Batch: 113589

QC Batch: 113589 Date Analyzed: 2014-07-14 Analyzed By: SC
Prep Batch: 96073 QC Preparation: 2014-07-11 Prepared By: SC

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Method Blank (1) QC Batch: 113610

QC Batch: 113610 Date Analyzed: 2014-07-15 Analyzed By: AK
Prep Batch: 96024 QC Preparation: 2014-07-11 Prepared By: AK

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		5	<2.32	mg/Kg	4

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.84	mg/Kg	1	2.00	92	70 - 130
4-Bromofluorobenzene (4-BFB)			1.50	mg/Kg	1	2.00	75	70 - 130

Method Blank (1) QC Batch: 113653

QC Batch: 113653 Date Analyzed: 2014-07-16 Analyzed By: AK
Prep Batch: 96091 QC Preparation: 2014-07-15 Prepared By: AK

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		5	<0.00533	mg/Kg	0.02
Toluene		5	<0.00645	mg/Kg	0.02
Ethylbenzene		5	<0.0116	mg/Kg	0.02
Xylene		5	<0.00874	mg/Kg	0.02

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Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.60	mg/Kg	1	2.00	80	70 - 130
4-Bromofluorobenzene (4-BFB)			1.69	mg/Kg	1	2.00	84	70 - 130

Method Blank (1) QC Batch: 113663

QC Batch: 113663
Prep Batch: 96138

Date Analyzed: 2014-07-16
QC Preparation: 2014-07-15

Analyzed By: CM
Prepared By: CM

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1,2,3,4	5.43	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		3	108	mg/Kg	1	100	108	70 - 130

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Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 113589
Prep Batch: 96073

Date Analyzed: 2014-07-14
QC Preparation: 2014-07-11

Analyzed By: SC
Prepared By: SC

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2610	mg/Kg	5	2500	<19.2	104	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2610	mg/Kg	5	2500	<19.2	104	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 113610
Prep Batch: 96024

Date Analyzed: 2014-07-15
QC Preparation: 2014-07-11

Analyzed By: AK
Prepared By: AK

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		5	17.0	mg/Kg	1	20.0	<2.32	85	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		5	17.0	mg/Kg	1	20.0	<2.32	85	70 - 130	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.06	1.99	mg/Kg	1	2.00	103	100	70 - 130
4-Bromofluorobenzene (4-BFB)	1.89	1.80	mg/Kg	1	2.00	94	90	70 - 130

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Laboratory Control Spike (LCS-1)

QC Batch: 113653
Prep Batch: 96091

Date Analyzed: 2014-07-16
QC Preparation: 2014-07-15

Analyzed By: AK
Prepared By: AK

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		5	1.57	mg/Kg	1	2.00	<0.00533	78	70 - 130
Toluene		5	1.56	mg/Kg	1	2.00	<0.00645	78	70 - 130
Ethylbenzene		5	1.60	mg/Kg	1	2.00	<0.0116	80	70 - 130
Xylene		5	4.82	mg/Kg	1	6.00	<0.00874	80	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		5	1.62	mg/Kg	1	2.00	<0.00533	81	70 - 130	3	20
Toluene		5	1.58	mg/Kg	1	2.00	<0.00645	79	70 - 130	1	20
Ethylbenzene		5	1.61	mg/Kg	1	2.00	<0.0116	80	70 - 130	1	20
Xylene		5	4.85	mg/Kg	1	6.00	<0.00874	81	70 - 130	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.56	1.62	mg/Kg	1	2.00	78	81	70 - 130
4-Bromofluorobenzene (4-BFB)	1.78	1.73	mg/Kg	1	2.00	89	86	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 113663
Prep Batch: 96138

Date Analyzed: 2014-07-16
QC Preparation: 2014-07-15

Analyzed By: CM
Prepared By: CM

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1,2,3,4	241	mg/Kg	1	250	5.43	94	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1,2,3,4	241	mg/Kg	1	250	5.43	94	70 - 130	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

continued ...

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control spikes continued . . .

Surrogate		LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Surrogate		LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	3	105	106	mg/Kg	1	100	105	106	70 - 130

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Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 368071

QC Batch: 113589
Prep Batch: 96073

Date Analyzed: 2014-07-14
QC Preparation: 2014-07-11

Analyzed By: SC
Prepared By: SC

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	Q _s	Q _s	17800	mg/Kg	10	2500	14300	140	78.9 - 121

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	Q _s	Q _s	17800	mg/Kg	10	2500	14300	140	78.9 - 121	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 367977

QC Batch: 113610
Prep Batch: 96024

Date Analyzed: 2014-07-15
QC Preparation: 2014-07-11

Analyzed By: AK
Prepared By: AK

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		5	15.6	mg/Kg	1	20.0	<2.32	78	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		5	15.8	mg/Kg	1	20.0	<2.32	79	70 - 130	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.05	1.93	mg/Kg	1	2	102	96	70 - 130
4-Bromofluorobenzene (4-BFB)	1.86	1.81	mg/Kg	1	2	93	90	70 - 130

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Matrix Spike (MS-1) Spiked Sample: 368065

QC Batch: 113653
Prep Batch: 96091

Date Analyzed: 2014-07-16
QC Preparation: 2014-07-15

Analyzed By: AK
Prepared By: AK

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		5	1.67	mg/Kg	1	2.00	<0.00533	84	70 - 130
Toluene		5	1.64	mg/Kg	1	2.00	<0.00645	82	70 - 130
Ethylbenzene		5	1.66	mg/Kg	1	2.00	<0.0116	83	70 - 130
Xylene		5	4.96	mg/Kg	1	6.00	<0.00874	83	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		5	1.58	mg/Kg	1	2.00	<0.00533	79	70 - 130	6	20
Toluene		5	1.56	mg/Kg	1	2.00	<0.00645	78	70 - 130	5	20
Ethylbenzene		5	1.58	mg/Kg	1	2.00	<0.0116	79	70 - 130	5	20
Xylene		5	4.77	mg/Kg	1	6.00	<0.00874	80	70 - 130	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.64	1.63	mg/Kg	1	2	82	82	70 - 130
4-Bromofluorobenzene (4-BFB)	1.79	1.68	mg/Kg	1	2	90	84	70 - 130

Matrix Spike (MS-1) Spiked Sample: 368067

QC Batch: 113663
Prep Batch: 96138

Date Analyzed: 2014-07-16
QC Preparation: 2014-07-15

Analyzed By: CM
Prepared By: CM

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1,2,3,4	257	mg/Kg	1	250	8.26	99	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1,2,3,4	262	mg/Kg	1	250	8.26	101	70 - 130	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

continued ...

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matrix spikes continued . . .

Surrogate		MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Surrogate		MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	3	106	108	mg/Kg	1	100	106	108	70 - 130

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Calibration Standards

Standard (ICV-1)

QC Batch: 113589 Date Analyzed: 2014-07-14 Analyzed By: SC

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2014-07-14

Standard (CCV-1)

QC Batch: 113589 Date Analyzed: 2014-07-14 Analyzed By: SC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2014-07-14

Standard (CCV-1)

QC Batch: 113610 Date Analyzed: 2014-07-15 Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		5	mg/Kg	1.00	0.916	92	80 - 120	2014-07-15

Standard (CCV-2)

QC Batch: 113610 Date Analyzed: 2014-07-15 Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		5	mg/Kg	1.00	0.972	97	80 - 120	2014-07-15

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Standard (CCV-3)

QC Batch: 113610

Date Analyzed: 2014-07-15

Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		5	mg/Kg	1.00	0.919	92	80 - 120	2014-07-15

Standard (CCV-1)

QC Batch: 113653

Date Analyzed: 2014-07-16

Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		5	mg/kg	0.100	0.0892	89	80 - 120	2014-07-16
Toluene		5	mg/kg	0.100	0.0845	84	80 - 120	2014-07-16
Ethylbenzene		5	mg/kg	0.100	0.0805	80	80 - 120	2014-07-16
Xylene		5	mg/kg	0.300	0.242	81	80 - 120	2014-07-16

Standard (CCV-2)

QC Batch: 113653

Date Analyzed: 2014-07-16

Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		5	mg/kg	0.100	0.0881	88	80 - 120	2014-07-16
Toluene		5	mg/kg	0.100	0.0833	83	80 - 120	2014-07-16
Ethylbenzene		5	mg/kg	0.100	0.0814	81	80 - 120	2014-07-16
Xylene		5	mg/kg	0.300	0.242	81	80 - 120	2014-07-16

Standard (CCV-1)

QC Batch: 113663

Date Analyzed: 2014-07-16

Analyzed By: CM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1,2,3,4	mg/Kg	250	239	96	80 - 120	2014-07-16

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Standard (CCV-2)

QC Batch: 113663

Date Analyzed: 2014-07-16

Analyzed By: CM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1,2,3,4	mg/Kg	250	247	99	80 - 120	2014-07-16

Standard (CCV-3)

QC Batch: 113663

Date Analyzed: 2014-07-16

Analyzed By: CM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1,2,3,4	mg/Kg	250	241	96	80 - 120	2014-07-16

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Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	PJLA	L14-93	Lubbock
2	Kansas	Kansas E-10317	Lubbock
3	LELAP	LELAP-02003	Lubbock
4	NELAP	T104704219-14-10	Lubbock
5	NELAP	T104704392-14-8	Midland
6		2013-083	Lubbock

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less than ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.

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F	Description
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Result Comments

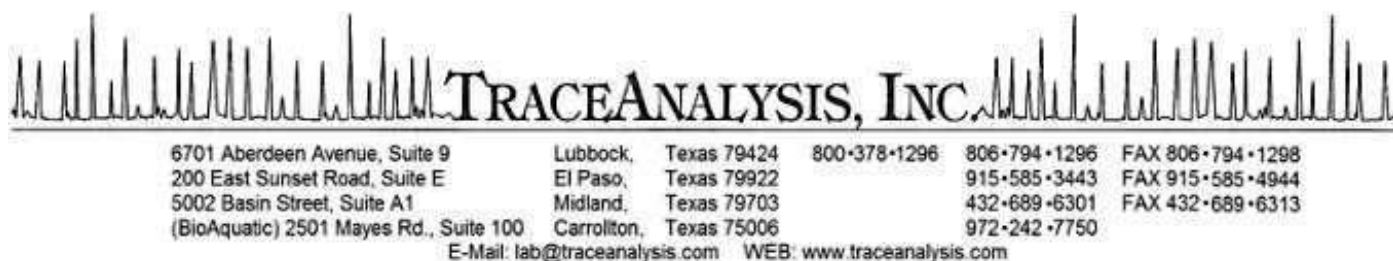
- 1 Power surge caused GC to stop leaving excess surrogate in the transfer line upon re-analysis.

Attachments

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

Chloride Titration Data Review Checklist

QC Batch:	Primary Review	Secondary Review
	✓ = Yes	✓ = Yes
Date of analysis and analyst identified	✓	
Check transcription from logbook to spreadsheet	✓	
ICV within 85-115%	✓	
CCV within 85-115%	✓	
Traceability of Standards, AgNO ₃ , K ₂ CrO ₄ and Soil Extration Complete	✓	
Check dilutions vs. prep and additional notes	✓	
LCS/D within acceptance range; re-run if not	✓	
LCSD RPD ≤ 20	✓	
MS/D within acceptance range; flagged if not	✓	
MSD RPD ≤ 20	✓	
Check transcription from spreadsheet to LIMS	✓	
Validation complete by initials of person validating and date of validation		
Validate QC batch in LIMS		
Notes: Samples 368031 and 368041 were prepped @ 10:10am on 11/11/14 and added to PB 96022 for analysis. Sample 368031 is a 5day RUSH. SMC 07.11.14		
Primary Reviewer:		Secondary Reviewer:
SMC		
Date:		Date:
07.11.14		



Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Tim Reed
APEX/Titan
2351 W. Northwest Hwy.
Suite 3321
Dallas, Tx, 75220

Report Date: September 17, 2014

Work Order: 14091230



Project Location: Eddy Co, NM
Project Name: RKI-Truck Dump
Project Number: 7030714G031

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
374404	Background 1	soil	2014-09-11	00:00	2014-09-12
374405	Background 2	soil	2014-09-11	00:00	2014-09-12

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 10 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director
James Taylor, Assistant Director
Brian Pellam, Operations Manager

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Case Narrative

Samples for project RKI-Truck Dump were received by TraceAnalysis, Inc. on 2014-09-12 and assigned to work order 14091230. Samples for work order 14091230 were received intact at a temperature of 6.0 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	97668	2014-09-15 at 15:43	115495	2014-09-16 at 10:21

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 14091230 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

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7030714G031

Work Order: 14091230
RKI-Truck Dump

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Analytical Report

Sample: 374404 - Background 1

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2014-09-16	Analyzed By:	MM
QC Batch:	115495	Sample Preparation:	2014-09-15	Prepared By:	MM
Prep Batch:	97668				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Qs,U		<20.0	mg/Kg	5	4.00

Sample: 374405 - Background 2

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2014-09-16	Analyzed By:	MM
QC Batch:	115495	Sample Preparation:	2014-09-15	Prepared By:	MM
Prep Batch:	97668				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Qs,U		<20.0	mg/Kg	5	4.00

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Method Blanks

Method Blank (1) QC Batch: 115495

QC Batch: 115495
Prep Batch: 97668

Date Analyzed: 2014-09-16
QC Preparation: 2014-09-15

Analyzed By: MM
Prepared By: SS

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

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Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 115495
Prep Batch: 97668

Date Analyzed: 2014-09-16
QC Preparation: 2014-09-15

Analyzed By: MM
Prepared By: SS

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2680	mg/Kg	5	2500	<19.2	107	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2580	mg/Kg	5	2500	<19.2	103	85 - 115	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

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Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 374407

QC Batch: 115495
Prep Batch: 97668

Date Analyzed: 2014-09-16
QC Preparation: 2014-09-15

Analyzed By: MM
Prepared By: SS

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	Q _s	Q _s	9860	mg/Kg	5	2500	8660	48	78.9 - 121

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	Q _s	Q _s	10300	mg/Kg	5	2500	8660	66	78.9 - 121	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Report Date: September 17, 2014
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Calibration Standards

Standard (ICV-1)

QC Batch: 115495				Date Analyzed: 2014-09-16			Analyzed By: MM	
Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2014-09-16

Standard (CCV-1)

QC Batch: 115495				Date Analyzed: 2014-09-16			Analyzed By: MM	
Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2014-09-16

Report Date: September 17, 2014
7030714G031

Work Order: 14091230
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Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Attachments

Report Date: September 17, 2014
7030714G031

Work Order: 14091230
RKI-Truck Dump

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Eddy Co, NM

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

14091230

Apex TITAN, Inc. • 505 N. Big Springs Drive, Suite 301A • Midland, Texas 79701 • Office: 432-695-6016



10-Dec-2018

James Raley
WPX Energy
5315 Buena Vista Dr.
Carlsbad, NM 88220

Re: **East Pecos 22-7**

Work Order: **1812031**

Dear James,

ALS Environmental received 8 samples on 01-Dec-2018 11:15 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 19.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton", is written over a horizontal line.

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 998501

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy
Project: East Pecos 22-7
Work Order: 1812031

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1812031-01	BH18-01 (0 ft)	Soil		11/28/2018	12/1/2018 11:15	<input type="checkbox"/>
1812031-02	BH18-01 (2 ft)	Soil		11/28/2018	12/1/2018 11:15	<input type="checkbox"/>
1812031-03	BH18-02 (0 ft)	Soil		11/28/2018	12/1/2018 11:15	<input type="checkbox"/>
1812031-04	BH18-02 (2 ft)	Soil		11/28/2018	12/1/2018 11:15	<input type="checkbox"/>
1812031-05	BH18-03 (0 ft)	Soil		11/28/2018	12/1/2018 11:15	<input type="checkbox"/>
1812031-06	BH18-03 (2 ft)	Soil		11/28/2018	12/1/2018 11:15	<input type="checkbox"/>
1812031-07	BH18-04 (0 ft)	Soil		11/28/2018	12/1/2018 11:15	<input type="checkbox"/>
1812031-08	BH18-04 (2 ft)	Soil		11/28/2018	12/1/2018 11:15	<input type="checkbox"/>

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy
Project: East Pecos 22-7
WorkOrder: 1812031

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
mg/Kg-dry	Milligrams per Kilogram Dry Weight

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy
 Project: East Pecos 22-7
 Sample ID: BH18-01 (0 ft)
 Collection Date: 11/28/2018

Work Order: 1812031
 Lab ID: 1812031-01
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 12/5/18 10:43	Analyst: RP
DRO (C10-C28)	ND		4.9	mg/Kg-dry	1	12/5/2018 09:06 PM
ORO (C28-C40)	ND		4.9	mg/Kg-dry	1	12/5/2018 09:06 PM
Surr: 4-Terphenyl-d14	68.6		34-130	%REC	1	12/5/2018 09:06 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 12/4/18 12:13	Analyst: RP
GRO (C6-C10)	ND		5.2	mg/Kg-dry	1	12/6/2018 11:13 PM
Surr: Toluene-d8	86.6		71-123	%REC	1	12/6/2018 11:13 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 12/3/18 15:01	Analyst: WH
Benzene	ND		0.031	mg/Kg-dry	1	12/6/2018 04:19 PM
Ethylbenzene	ND		0.031	mg/Kg-dry	1	12/6/2018 04:19 PM
m,p-Xylene	ND		0.062	mg/Kg-dry	1	12/6/2018 04:19 PM
o-Xylene	ND		0.031	mg/Kg-dry	1	12/6/2018 04:19 PM
Toluene	ND		0.031	mg/Kg-dry	1	12/6/2018 04:19 PM
Xylenes, Total	ND		0.094	mg/Kg-dry	1	12/6/2018 04:19 PM
Surr: 1,2-Dichloroethane-d4	94.4		70-130	%REC	1	12/6/2018 04:19 PM
Surr: 4-Bromofluorobenzene	97.2		70-130	%REC	1	12/6/2018 04:19 PM
Surr: Dibromofluoromethane	93.6		70-130	%REC	1	12/6/2018 04:19 PM
Surr: Toluene-d8	103		70-130	%REC	1	12/6/2018 04:19 PM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 12/3/18 19:00	Analyst: RLM
Chloride	ND		10	mg/Kg-dry	1	12/4/2018 03:20 PM
MOISTURE						
			SW3550C			Analyst: KTP
Moisture	2.0		0.10	% of sample	1	12/4/2018 01:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy
 Project: East Pecos 22-7
 Sample ID: BH18-01 (2 ft)
 Collection Date: 11/28/2018

Work Order: 1812031
 Lab ID: 1812031-02
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 12/5/18 10:43	Analyst: RP
DRO (C10-C28)	ND		4.9	mg/Kg-dry	1	12/5/2018 02:17 PM
ORO (C28-C40)	ND		4.9	mg/Kg-dry	1	12/5/2018 02:17 PM
Surr: 4-Terphenyl-d14	77.6		34-130	%REC	1	12/5/2018 02:17 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 12/4/18 12:13	Analyst: RP
GRO (C6-C10)	ND		5.1	mg/Kg-dry	1	12/6/2018 11:42 PM
Surr: Toluene-d8	88.5		71-123	%REC	1	12/6/2018 11:42 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 12/3/18 15:01	Analyst: WH
Benzene	ND		0.031	mg/Kg-dry	1	12/6/2018 04:35 PM
Ethylbenzene	ND		0.031	mg/Kg-dry	1	12/6/2018 04:35 PM
m,p-Xylene	ND		0.061	mg/Kg-dry	1	12/6/2018 04:35 PM
o-Xylene	ND		0.031	mg/Kg-dry	1	12/6/2018 04:35 PM
Toluene	ND		0.031	mg/Kg-dry	1	12/6/2018 04:35 PM
Xylenes, Total	ND		0.092	mg/Kg-dry	1	12/6/2018 04:35 PM
Surr: 1,2-Dichloroethane-d4	93.7		70-130	%REC	1	12/6/2018 04:35 PM
Surr: 4-Bromofluorobenzene	102		70-130	%REC	1	12/6/2018 04:35 PM
Surr: Dibromofluoromethane	91.3		70-130	%REC	1	12/6/2018 04:35 PM
Surr: Toluene-d8	100		70-130	%REC	1	12/6/2018 04:35 PM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 12/3/18 19:00	Analyst: RLM
Chloride	ND		10	mg/Kg-dry	1	12/4/2018 03:20 PM
MOISTURE						
			SW3550C			Analyst: KTP
Moisture	1.2		0.10	% of sample	1	12/4/2018 01:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy

Project: East Pecos 22-7

Sample ID: BH18-02 (0 ft)

Collection Date: 11/28/2018

Work Order: 1812031

Lab ID: 1812031-03

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 12/5/18 10:43	Analyst: RP
DRO (C10-C28)	ND		5.0	mg/Kg-dry	1	12/5/2018 09:35 PM
ORO (C28-C40)	ND		5.0	mg/Kg-dry	1	12/5/2018 09:35 PM
Surr: 4-Terphenyl-d14	58.1		34-130	%REC	1	12/5/2018 09:35 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 12/4/18 12:13	Analyst: RP
GRO (C6-C10)	ND		5.2	mg/Kg-dry	1	12/7/2018 12:10 PM
Surr: Toluene-d8	89.6		71-123	%REC	1	12/7/2018 12:10 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 12/3/18 15:01	Analyst: WH
Benzene	ND		0.031	mg/Kg-dry	1	12/6/2018 04:50 PM
Ethylbenzene	ND		0.031	mg/Kg-dry	1	12/6/2018 04:50 PM
m,p-Xylene	ND		0.062	mg/Kg-dry	1	12/6/2018 04:50 PM
o-Xylene	ND		0.031	mg/Kg-dry	1	12/6/2018 04:50 PM
Toluene	ND		0.031	mg/Kg-dry	1	12/6/2018 04:50 PM
Xylenes, Total	ND		0.093	mg/Kg-dry	1	12/6/2018 04:50 PM
Surr: 1,2-Dichloroethane-d4	97.4		70-130	%REC	1	12/6/2018 04:50 PM
Surr: 4-Bromofluorobenzene	96.4		70-130	%REC	1	12/6/2018 04:50 PM
Surr: Dibromofluoromethane	90.6		70-130	%REC	1	12/6/2018 04:50 PM
Surr: Toluene-d8	102		70-130	%REC	1	12/6/2018 04:50 PM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 12/3/18 19:00	Analyst: RLM
Chloride	ND		10	mg/Kg-dry	1	12/4/2018 03:20 PM
MOISTURE						
			SW3550C			Analyst: KTP
Moisture	1.6		0.10	% of sample	1	12/4/2018 01:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy
 Project: East Pecos 22-7
 Sample ID: BH18-02 (2 ft)
 Collection Date: 11/28/2018

Work Order: 1812031
 Lab ID: 1812031-04
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 12/5/18 10:43	Analyst: RP
DRO (C10-C28)	ND		5.1	mg/Kg-dry	1	12/5/2018 10:04 PM
ORO (C28-C40)	ND		5.1	mg/Kg-dry	1	12/5/2018 10:04 PM
Surr: 4-Terphenyl-d14	69.1		34-130	%REC	1	12/5/2018 10:04 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 12/4/18 12:13	Analyst: RP
GRO (C6-C10)	ND		5.1	mg/Kg-dry	1	12/7/2018 12:39 PM
Surr: Toluene-d8	91.1		71-123	%REC	1	12/7/2018 12:39 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 12/3/18 15:01	Analyst: WH
Benzene	ND		0.031	mg/Kg-dry	1	12/6/2018 05:06 PM
Ethylbenzene	ND		0.031	mg/Kg-dry	1	12/6/2018 05:06 PM
m,p-Xylene	ND		0.061	mg/Kg-dry	1	12/6/2018 05:06 PM
o-Xylene	ND		0.031	mg/Kg-dry	1	12/6/2018 05:06 PM
Toluene	ND		0.031	mg/Kg-dry	1	12/6/2018 05:06 PM
Xylenes, Total	ND		0.092	mg/Kg-dry	1	12/6/2018 05:06 PM
Surr: 1,2-Dichloroethane-d4	100		70-130	%REC	1	12/6/2018 05:06 PM
Surr: 4-Bromofluorobenzene	103		70-130	%REC	1	12/6/2018 05:06 PM
Surr: Dibromofluoromethane	93.6		70-130	%REC	1	12/6/2018 05:06 PM
Surr: Toluene-d8	98.8		70-130	%REC	1	12/6/2018 05:06 PM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 12/3/18 19:00	Analyst: RLM
Chloride	ND		10	mg/Kg-dry	1	12/4/2018 03:20 PM
MOISTURE						
			SW3550C			Analyst: KTP
Moisture	1.2		0.10	% of sample	1	12/4/2018 01:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy
 Project: East Pecos 22-7
 Sample ID: BH18-03 (0 ft)
 Collection Date: 11/28/2018

Work Order: 1812031
 Lab ID: 1812031-05
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 12/5/18 10:43	Analyst: RP
DRO (C10-C28)	ND		4.9	mg/Kg-dry	1	12/5/2018 11:02 PM
ORO (C28-C40)	7.1		4.9	mg/Kg-dry	1	12/5/2018 11:02 PM
Surr: 4-Terphenyl-d14	78.1		34-130	%REC	1	12/5/2018 11:02 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 12/4/18 12:13	Analyst: RP
GRO (C6-C10)	ND		5.1	mg/Kg-dry	1	12/7/2018 01:08 AM
Surr: Toluene-d8	85.1		71-123	%REC	1	12/7/2018 01:08 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 12/3/18 15:01	Analyst: WH
Benzene	ND		0.031	mg/Kg-dry	1	12/6/2018 05:21 PM
Ethylbenzene	ND		0.031	mg/Kg-dry	1	12/6/2018 05:21 PM
m,p-Xylene	ND		0.062	mg/Kg-dry	1	12/6/2018 05:21 PM
o-Xylene	ND		0.031	mg/Kg-dry	1	12/6/2018 05:21 PM
Toluene	ND		0.031	mg/Kg-dry	1	12/6/2018 05:21 PM
Xylenes, Total	ND		0.093	mg/Kg-dry	1	12/6/2018 05:21 PM
Surr: 1,2-Dichloroethane-d4	98.0		70-130	%REC	1	12/6/2018 05:21 PM
Surr: 4-Bromofluorobenzene	99.5		70-130	%REC	1	12/6/2018 05:21 PM
Surr: Dibromofluoromethane	92.2		70-130	%REC	1	12/6/2018 05:21 PM
Surr: Toluene-d8	99.4		70-130	%REC	1	12/6/2018 05:21 PM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 12/3/18 19:00	Analyst: RLM
Chloride	ND		10	mg/Kg-dry	1	12/4/2018 03:20 PM
MOISTURE						
			SW3550C			Analyst: KTP
Moisture	1.4		0.10	% of sample	1	12/4/2018 01:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy
 Project: East Pecos 22-7
 Sample ID: BH18-03 (2 ft)
 Collection Date: 11/28/2018

Work Order: 1812031
 Lab ID: 1812031-06
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 12/5/18 10:43	Analyst: RP
DRO (C10-C28)	ND		5.2	mg/Kg-dry	1	12/5/2018 11:32 PM
ORO (C28-C40)	ND		5.2	mg/Kg-dry	1	12/5/2018 11:32 PM
Surr: 4-Terphenyl-d14	75.6		34-130	%REC	1	12/5/2018 11:32 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 12/4/18 12:13	Analyst: RP
GRO (C6-C10)	ND		5.5	mg/Kg-dry	1	12/7/2018 01:37 AM
Surr: Toluene-d8	89.4		71-123	%REC	1	12/7/2018 01:37 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 12/3/18 15:01	Analyst: WH
Benzene	ND		0.033	mg/Kg-dry	1	12/6/2018 05:36 PM
Ethylbenzene	ND		0.033	mg/Kg-dry	1	12/6/2018 05:36 PM
m,p-Xylene	ND		0.066	mg/Kg-dry	1	12/6/2018 05:36 PM
o-Xylene	ND		0.033	mg/Kg-dry	1	12/6/2018 05:36 PM
Toluene	ND		0.033	mg/Kg-dry	1	12/6/2018 05:36 PM
Xylenes, Total	ND		0.099	mg/Kg-dry	1	12/6/2018 05:36 PM
Surr: 1,2-Dichloroethane-d4	101		70-130	%REC	1	12/6/2018 05:36 PM
Surr: 4-Bromofluorobenzene	101		70-130	%REC	1	12/6/2018 05:36 PM
Surr: Dibromofluoromethane	94.0		70-130	%REC	1	12/6/2018 05:36 PM
Surr: Toluene-d8	104		70-130	%REC	1	12/6/2018 05:36 PM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 12/3/18 19:00	Analyst: RLM
Chloride	ND		10	mg/Kg-dry	1	12/4/2018 03:20 PM
MOISTURE						
			SW3550C			Analyst: KTP
Moisture	4.7		0.10	% of sample	1	12/4/2018 01:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy
 Project: East Pecos 22-7
 Sample ID: BH18-04 (0 ft)
 Collection Date: 11/28/2018

Work Order: 1812031
 Lab ID: 1812031-07
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 12/5/18 10:43	Analyst: RP
DRO (C10-C28)	ND		4.9	mg/Kg-dry	1	12/6/2018 12:01 PM
ORO (C28-C40)	ND		4.9	mg/Kg-dry	1	12/6/2018 12:01 PM
Surr: 4-Terphenyl-d14	63.6		34-130	%REC	1	12/6/2018 12:01 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 12/4/18 12:13	Analyst: RP
GRO (C6-C10)	ND		5.1	mg/Kg-dry	1	12/7/2018 02:06 AM
Surr: Toluene-d8	88.5		71-123	%REC	1	12/7/2018 02:06 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 12/3/18 15:01	Analyst: WH
Benzene	ND		0.030	mg/Kg-dry	1	12/6/2018 05:52 PM
Ethylbenzene	ND		0.030	mg/Kg-dry	1	12/6/2018 05:52 PM
m,p-Xylene	ND		0.061	mg/Kg-dry	1	12/6/2018 05:52 PM
o-Xylene	ND		0.030	mg/Kg-dry	1	12/6/2018 05:52 PM
Toluene	ND		0.030	mg/Kg-dry	1	12/6/2018 05:52 PM
Xylenes, Total	ND		0.091	mg/Kg-dry	1	12/6/2018 05:52 PM
Surr: 1,2-Dichloroethane-d4	99.2		70-130	%REC	1	12/6/2018 05:52 PM
Surr: 4-Bromofluorobenzene	103		70-130	%REC	1	12/6/2018 05:52 PM
Surr: Dibromofluoromethane	92.6		70-130	%REC	1	12/6/2018 05:52 PM
Surr: Toluene-d8	103		70-130	%REC	1	12/6/2018 05:52 PM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 12/3/18 19:00	Analyst: RLM
Chloride	ND		9.9	mg/Kg-dry	1	12/4/2018 03:20 PM
MOISTURE						
			SW3550C			Analyst: KTP
Moisture	0.79		0.10	% of sample	1	12/4/2018 01:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy
 Project: East Pecos 22-7
 Sample ID: BH18-04 (2 ft)
 Collection Date: 11/28/2018

Work Order: 1812031
 Lab ID: 1812031-08
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 12/5/18 10:43	Analyst: RP
DRO (C10-C28)	ND		4.9	mg/Kg-dry	1	12/6/2018 12:30 PM
ORO (C28-C40)	ND		4.9	mg/Kg-dry	1	12/6/2018 12:30 PM
Surr: 4-Terphenyl-d14	82.6		34-130	%REC	1	12/6/2018 12:30 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 12/4/18 12:13	Analyst: RP
GRO (C6-C10)	ND		5.1	mg/Kg-dry	1	12/7/2018 02:35 AM
Surr: Toluene-d8	88.5		71-123	%REC	1	12/7/2018 02:35 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 12/3/18 15:01	Analyst: WH
Benzene	ND		0.030	mg/Kg-dry	1	12/6/2018 06:07 PM
Ethylbenzene	ND		0.030	mg/Kg-dry	1	12/6/2018 06:07 PM
m,p-Xylene	ND		0.061	mg/Kg-dry	1	12/6/2018 06:07 PM
o-Xylene	ND		0.030	mg/Kg-dry	1	12/6/2018 06:07 PM
Toluene	ND		0.030	mg/Kg-dry	1	12/6/2018 06:07 PM
Xylenes, Total	ND		0.091	mg/Kg-dry	1	12/6/2018 06:07 PM
Surr: 1,2-Dichloroethane-d4	97.8		70-130	%REC	1	12/6/2018 06:07 PM
Surr: 4-Bromofluorobenzene	99.2		70-130	%REC	1	12/6/2018 06:07 PM
Surr: Dibromofluoromethane	91.6		70-130	%REC	1	12/6/2018 06:07 PM
Surr: Toluene-d8	100		70-130	%REC	1	12/6/2018 06:07 PM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 12/3/18 19:00	Analyst: RLM
Chloride	ND		10	mg/Kg-dry	1	12/4/2018 03:20 PM
MOISTURE						
			SW3550C			Analyst: KTP
Moisture	0.50		0.10	% of sample	1	12/4/2018 01:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy

QC BATCH REPORT

Work Order: 1812031

Project: East Pecos 22-7

Batch ID: 128868

Instrument ID GC8

Method: SW8015C

MBLK		Sample ID: DBLKS1-128868-128868				Units: mg/Kg		Analysis Date: 12/5/2018 12:21 PM		
Client ID:		Run ID: GC8_181205B				SeqNo: 5422200		Prep Date: 12/5/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

ND

5.0

ORO (C28-C40)

ND

5.0

Surr: 4-Terphenyl-d14

2.517

0

3.33

0

75.6

34-130

0

LCS		Sample ID: DLCSS1-128868-128868				Units: mg/Kg		Analysis Date: 12/5/2018 12:50 PM		
Client ID:		Run ID: GC8_181205B				SeqNo: 5422201		Prep Date: 12/5/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

333.4

5.0

333

0

100

65-122

0

ORO (C28-C40)

330.1

5.0

333

0

99.1

81-116

0

Surr: 4-Terphenyl-d14

3.217

0

3.33

0

96.6

34-130

0

MS		Sample ID: 1812031-02A MS				Units: mg/Kg		Analysis Date: 12/5/2018 01:19 PM		
Client ID: BH18-01 (2 ft)		Run ID: GC8_181205B				SeqNo: 5422202		Prep Date: 12/5/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

311.3

4.8

317.3

0

98.1

65-122

0

ORO (C28-C40)

312.6

4.8

317.3

4.141

97.2

81-116

0

Surr: 4-Terphenyl-d14

2.525

0

3.173

0

79.6

34-130

0

MSD		Sample ID: 1812031-02A MSD				Units: mg/Kg		Analysis Date: 12/5/2018 01:48 PM		
Client ID: BH18-01 (2 ft)		Run ID: GC8_181205B				SeqNo: 5422203		Prep Date: 12/5/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

315.4

4.7

312.9

0

101

65-122

311.3

1.32

30

ORO (C28-C40)

308

4.7

312.9

4.141

97.1

81-116

312.6

1.48

30

Surr: 4-Terphenyl-d14

2.631

0

3.129

0

84.1

34-130

2.525

4.1

30

The following samples were analyzed in this batch:

1812031-01A	1812031-02A	1812031-03A
1812031-04A	1812031-05A	1812031-06A
1812031-07A	1812031-08A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 1 of 6

Client: WPX Energy
Work Order: 1812031
Project: East Pecos 22-7

QC BATCH REPORT

Batch ID: **128849** Instrument ID **GC9** Method: **SW8015D**

MBLK		Sample ID: MBLK-128849-128849				Units: µg/Kg-dry		Analysis Date: 12/6/2018 02:29 PM		
Client ID:		Run ID: GC9_181206A				SeqNo: 5424782		Prep Date: 12/4/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	ND	5,000								
Surr: Toluene-d8	4346	0	5000	0	86.9	71-123	0			

LCS		Sample ID: LCS-128849-128849				Units: µg/Kg-dry		Analysis Date: 12/6/2018 12:05 PM		
Client ID:		Run ID: GC9_181206A				SeqNo: 5424778		Prep Date: 12/4/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	264200	5,000	250000	0	106	71-123	0			
Surr: Toluene-d8	5062	0	5000	0	101	71-123	0			

MS		Sample ID: 1812013-01A MS				Units: µg/Kg-dry		Analysis Date: 12/7/2018 07:53 AM		
Client ID:		Run ID: GC9_181206A				SeqNo: 5424813		Prep Date: 12/4/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	561700	5,600	563800	0	99.6	71-123	0			
Surr: Toluene-d8	5831	0	5638	0	103	71-123	0			

MSD		Sample ID: 1812013-01A MSD				Units: µg/Kg-dry		Analysis Date: 12/7/2018 08:22 AM		
Client ID:		Run ID: GC9_181206A				SeqNo: 5424814		Prep Date: 12/4/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	585000	5,600	563800	0	104	71-123	561700	4.07	30	
Surr: Toluene-d8	6275	0	5638	0	111	71-123	5831	7.33	30	

The following samples were analyzed in this batch:

1812031-01A	1812031-02A	1812031-03A
1812031-04A	1812031-05A	1812031-06A
1812031-07A	1812031-08A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 2 of 6

Client: WPX Energy
Work Order: 1812031
Project: East Pecos 22-7

QC BATCH REPORT

Batch ID: **128804** Instrument ID **VMS9** Method: **SW8260C**

MBLK				Sample ID: MBLK-128804-128804				Units: µg/Kg-dry			Analysis Date: 12/5/2018 12:24 PM		
Client ID:			Run ID: VMS9_181204B			SeqNo: 5419563			Prep Date: 12/3/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Benzene	ND	30	0	0	0	0-0	0						
Ethylbenzene	ND	30	0	0	0	0-0	0						
m,p-Xylene	21	60	0	0	0	0-0	0			J			
o-Xylene	ND	30	0	0	0	0-0	0						
Toluene	ND	30	0	0	0	0-0	0						
Xylenes, Total	ND	90	0	0	0	0-0	0						
Surr: 1,2-Dichloroethane-d4	1024	0	1000	0	102	70-130	0						
Surr: 4-Bromofluorobenzene	921.5	0	1000	0	92.2	70-130	0						
Surr: Dibromofluoromethane	866	0	1000	0	86.6	70-130	0						
Surr: Toluene-d8	954	0	1000	0	95.4	70-130	0						

LCS				Sample ID: LCS-128804-128804				Units: µg/Kg-dry			Analysis Date: 12/4/2018 11:22 PM		
Client ID:			Run ID: VMS9_181204B			SeqNo: 5419532			Prep Date: 12/3/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Benzene	1062	30	1000	0	106	75-125	0						
Ethylbenzene	1075	30	1000	0	108	75-125	0						
m,p-Xylene	2066	60	2000	0	103	80-125	0						
o-Xylene	1124	30	1000	0	112	75-125	0						
Toluene	1047	30	1000	0	105	70-125	0						
Xylenes, Total	3190	90	3000	0	106	75-125	0						
Surr: 1,2-Dichloroethane-d4	986.5	0	1000	0	98.6	70-130	0						
Surr: 4-Bromofluorobenzene	1001	0	1000	0	100	70-130	0						
Surr: Dibromofluoromethane	1012	0	1000	0	101	70-130	0						
Surr: Toluene-d8	989	0	1000	0	98.9	70-130	0						

MS				Sample ID: 1812013-01A MS				Units: µg/Kg-dry			Analysis Date: 12/5/2018 06:50 PM		
Client ID:			Run ID: VMS9_181205A			SeqNo: 5421631		Prep Date: 12/3/2018		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Benzene	1057	34	1128	0	93.7	75-125	0						
Ethylbenzene	1114	34	1128	0	98.8	75-125	0						
m,p-Xylene	2095	68	2255	0	92.9	80-125	0						
o-Xylene	1132	34	1128	0	100	75-125	0						
Toluene	1156	34	1128	0	102	70-125	0						
Xylenes, Total	3227	100	3383	0	95.4	75-125	0						
Surr: 1,2-Dichloroethane-d4	1145	0	1128	0	102	70-130	0						
Surr: 4-Bromofluorobenzene	1151	0	1128	0	102	70-130	0						
Surr: Dibromofluoromethane	1021	0	1128	0	90.5	70-130	0						
Surr: Toluene-d8	1123	0	1128	0	99.6	70-130	0						

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: WPX Energy
Work Order: 1812031
Project: East Pecos 22-7

QC BATCH REPORT

Batch ID: 128804 Instrument ID VMS9 Method: SW8260C

MSD		Sample ID: 1812013-01A MSD				Units: µg/Kg-dry		Analysis Date: 12/5/2018 07:06 PM		
Client ID:		Run ID: VMS9_181205A				SeqNo: 5421632		Prep Date: 12/3/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1071	34	1128	0	95	75-125	1057	1.38	30	
Ethylbenzene	1146	34	1128	0	102	75-125	1114	2.84	30	
m,p-Xylene	2140	68	2255	0	94.9	80-125	2095	2.13	30	
o-Xylene	1151	34	1128	0	102	75-125	1132	1.68	30	
Toluene	1132	34	1128	0	100	70-125	1156	2.12	30	
Xylenes, Total	3291	100	3383	0	97.3	75-125	3227	1.97	30	
Surr: 1,2-Dichloroethane-d4	1110	0	1128	0	98.4	70-130	1145	3.05	30	
Surr: 4-Bromofluorobenzene	1152	0	1128	0	102	70-130	1151	0.0979	30	
Surr: Dibromofluoromethane	1009	0	1128	0	89.4	70-130	1021	1.17	30	
Surr: Toluene-d8	1113	0	1128	0	98.7	70-130	1123	0.908	30	

The following samples were analyzed in this batch:	1812031-01A	1812031-02A	1812031-03A
	1812031-04A	1812031-05A	1812031-06A
	1812031-07A	1812031-08A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: WPX Energy
Work Order: 1812031
Project: East Pecos 22-7

QC BATCH REPORT

Batch ID: **128862** Instrument ID **GALLERY** Method: **A4500-CI E-11**

MBLK		Sample ID: MBLK-128862-128862				Units: mg/Kg		Analysis Date: 12/4/2018 03:20 PM		
Client ID:		Run ID: GALLERY_181204C		SeqNo: 5417176		Prep Date: 12/3/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride ND 10

MS		Sample ID: 1812014-01AMS				Units: mg/Kg		Analysis Date: 12/4/2018 03:20 PM		
Client ID:		Run ID: GALLERY_181204C		SeqNo: 5417235		Prep Date: 12/3/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 506.8 10 498 2.243 101 75-125 0

MSD		Sample ID: 1812014-01AMSD				Units: mg/Kg		Analysis Date: 12/4/2018 03:20 PM		
Client ID:		Run ID: GALLERY_181204C		SeqNo: 5417236		Prep Date: 12/3/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 509.4 9.8 492.1 2.243 103 75-125 506.8 0.527 25

LCS1		Sample ID: LCS1-128862-128862				Units: mg/Kg		Analysis Date: 12/4/2018 03:20 PM		
Client ID:		Run ID: GALLERY_181204C		SeqNo: 5417177		Prep Date: 12/3/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 99.51 10 100 0 99.5 80-120 0

LCS2		Sample ID: LCS2-128862-128862				Units: mg/Kg		Analysis Date: 12/4/2018 03:20 PM		
Client ID:		Run ID: GALLERY_181204C		SeqNo: 5417239		Prep Date: 12/3/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 559.2 10 500 0 112 80-120 0

The following samples were analyzed in this batch:

1812031-01A	1812031-02A	1812031-03A
1812031-04A	1812031-05A	1812031-06A
1812031-07A	1812031-08A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 5 of 6

Client: WPX Energy
Work Order: 1812031
Project: East Pecos 22-7

QC BATCH REPORT

Batch ID: **R250614** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: MB-R250614-R250614				Units: % of sample		Analysis Date: 12/4/2018 01:45 PM		
Client ID:		Run ID: MOIST_181204C				SeqNo: 5418972		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture ND 0.10

LCS		Sample ID: LCS-R250614-R250614				Units: % of sample		Analysis Date: 12/4/2018 01:45 PM		
Client ID:		Run ID: MOIST_181204C				SeqNo: 5418973		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 100 0.10 100 0 100 99.5-100.5 0

DUP		Sample ID: 1812013-04A DUP				Units: % of sample		Analysis Date: 12/4/2018 01:45 PM		
Client ID:		Run ID: MOIST_181204C				SeqNo: 5418977		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 2.33 0.10 0 0 0 0-0 2.43 4.2 10

DUP		Sample ID: 1812014-01A DUP				Units: % of sample		Analysis Date: 12/4/2018 01:45 PM		
Client ID:		Run ID: MOIST_181204C				SeqNo: 5418979		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 1.7 0.10 0 0 0 0-0 1.75 2.9 10

The following samples were analyzed in this batch:

1812031-01A	1812031-02A	1812031-03A
1812031-04A	1812031-05A	1812031-06A
1812031-07A	1812031-08A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 6 of 6



ALS Laboratory Group

HOLLAND, Michigan 49424

Chain-of-Custody

Form 202r8

WORKORDER
#

1812031

PAGE

1 of 1

DISPOSAL

By Lab or Return to Client

PROJECT NAME	East Pecos 22-7	SAMPLER		DATE	29/11/2018	TURNAROUND	5 days
PROJECT No.	17E-00043	SITE ID	East Pecos 22-7				
		EDD FORMAT					
		PURCHASE ORDER					
COMPANY NAME	WPX Energy	BILL TO COMPANY	WPX Energy				
SEND REPORT TO	Raley	INVOICE ATTN TO	Jim Raley				
ADDRESS		ADDRESS	5315 Buena Vista Dr				
CITY / STATE / ZIP		CITY / STATE / ZIP	Carlsbad, NM 88220				
PHONE		PHONE	575-885-1313				
FAX		FAX	575-885-3509				
E-MAIL	Karolina.blaney@wpxenergy.com; james.raley@wpxenergy.com; dhanton@vertex.ca; kmeadows@vertex.ca; jcrabtree@vertex.ca	E-MAIL	karolina.blaney@wpxenergy.com; james.raley@wpxenergy.com; dhanton@vertex.ca; kmeadows@vertex.ca; jcrabtree@vertex.ca	DRO + GRO + ORO	BTEX	Chloride	Hold
Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC
	BH18-01 (0 ft)	S	28/11/2018		2		
	BH18-01 (2 ft)	S	28/11/2018		2		
	BH18-02 (0 ft)	S	28/11/2018		2		
	BH18-02 (2 ft)	S	28/11/2018		2		
	BH18-03 (0 ft)	S	28/11/2018		2		
	BH18-03 (2 ft)	S	28/11/2018		2		
	BH18-04 (0 ft)	S	28/11/2018		2		
	BH18-04 (2 ft)	S	28/11/2018		2		

For metals or anions, please detail analytes below.

Comments:	QC PACKAGE (check below)
	X LEVEL II (Standard QC)
	LEVEL III (Std QC + forms)
	LEVEL IV (Std QC + forms + raw data)

4.2% SPZ
①

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	Karolina Blaney	Karolina Blaney	29/11/2018	12:00
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY	Jason Crabtree	Jason Crabtree	29/11/2018	2:30
RELINQUISHED BY				
RECEIVED BY	Karen W. ERENKA	Karen W. ERENKA	12/1/18	1:15

ALS Group, USA

Sample Receipt Checklist

Client Name: **WPX - NM**Date/Time Received: **01-Dec-18 11:15**Work Order: **1812031**Received by: **KRW**

Checklist completed by <u>Keith Wurenga</u>	03-Dec-18	Reviewed by: <u>Chad Whelton</u>	04-Dec-18
eSignature	Date	eSignature	Date

Matrices: **Soil**Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>4.2/4.2 C</u> <u>SR2</u>		
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>12/3/2018 10:58:40 AM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:	<u>-</u>		
Login Notes:	<u></u>		

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



10-Dec-2018

James Raley
WPX Energy
5315 Buena Vista Dr.
Carlsbad, NM 88220

Re: **East Pecos 22-7**

Work Order: **1812014**

Dear James,

ALS Environmental received 8 samples on 01-Dec-2018 11:15 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 20.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton".

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 998501

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy
Project: East Pecos 22-7
Work Order: 1812014

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1812014-01	BH18-05 (0 ft)	Soil		11/28/2018	12/1/2018 11:15	<input type="checkbox"/>
1812014-02	BH18-05 (2 ft)	Soil		11/28/2018	12/1/2018 11:15	<input type="checkbox"/>
1812014-03	BH18-06 (0 ft)	Soil		11/28/2018	12/1/2018 11:15	<input type="checkbox"/>
1812014-04	BH18-06 (2 ft)	Soil		11/28/2018	12/1/2018 11:15	<input type="checkbox"/>
1812014-05	BH18-07 (0 ft)	Soil		11/28/2018	12/1/2018 11:15	<input type="checkbox"/>
1812014-06	BH18-07 (2 ft)	Soil		11/28/2018	12/1/2018 11:15	<input type="checkbox"/>
1812014-07	BH18-08 (0 ft)	Soil		11/28/2018	12/1/2018 11:15	<input type="checkbox"/>
1812014-08	BH18-08 (2 ft)	Soil		11/28/2018	12/1/2018 11:15	<input type="checkbox"/>

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy
Project: East Pecos 22-7
WorkOrder: 1812014

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
mg/Kg-dry	Milligrams per Kilogram Dry Weight

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy
 Project: East Pecos 22-7
 Sample ID: BH18-05 (0 ft)
 Collection Date: 11/28/2018

Work Order: 1812014
 Lab ID: 1812014-01
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 12/5/18 10:43	Analyst: RP
DRO (C10-C28)	ND		5.0	mg/Kg-dry	1	12/5/2018 04:43 PM
ORO (C28-C40)	5.4		5.0	mg/Kg-dry	1	12/5/2018 04:43 PM
Surr: 4-Terphenyl-d14	71.6		34-130	%REC	1	12/5/2018 04:43 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 12/4/18 10:17	Analyst: RP
GRO (C6-C10)	ND		5.2	mg/Kg-dry	1	12/6/2018 06:52 PM
Surr: Toluene-d8	88.4		71-123	%REC	1	12/6/2018 06:52 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 12/3/18 11:09	Analyst: EMR
Benzene	ND		0.031	mg/Kg-dry	1	12/5/2018 04:44 AM
Ethylbenzene	ND		0.031	mg/Kg-dry	1	12/5/2018 04:44 AM
m,p-Xylene	ND		0.062	mg/Kg-dry	1	12/5/2018 04:44 AM
o-Xylene	ND		0.031	mg/Kg-dry	1	12/5/2018 04:44 AM
Toluene	ND		0.031	mg/Kg-dry	1	12/5/2018 04:44 AM
Xylenes, Total	ND		0.093	mg/Kg-dry	1	12/5/2018 04:44 AM
Surr: 1,2-Dichloroethane-d4	101		70-130	%REC	1	12/5/2018 04:44 AM
Surr: 4-Bromofluorobenzene	95.3		70-130	%REC	1	12/5/2018 04:44 AM
Surr: Dibromofluoromethane	80.6		70-130	%REC	1	12/5/2018 04:44 AM
Surr: Toluene-d8	98.4		70-130	%REC	1	12/5/2018 04:44 AM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 12/3/18 19:00	Analyst: RLM
Chloride	ND		10	mg/Kg-dry	1	12/4/2018 03:20 PM
MOISTURE						
			SW3550C			Analyst: KTP
Moisture	1.8		0.10	% of sample	1	12/4/2018 01:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy
 Project: East Pecos 22-7
 Sample ID: BH18-05 (2 ft)
 Collection Date: 11/28/2018

Work Order: 1812014
 Lab ID: 1812014-02
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546	12/5/18 10:43
DRO (C10-C28)	ND		5.0	mg/Kg-dry	1	Analyst: RP 12/5/2018 05:41 PM
ORO (C28-C40)	ND		5.0	mg/Kg-dry	1	12/5/2018 05:41 PM
Surr: 4-Terphenyl-d14	72.1		34-130	%REC	1	12/5/2018 05:41 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035	12/4/18 10:17
GRO (C6-C10)	ND		5.2	mg/Kg-dry	1	Analyst: RP 12/6/2018 07:22 PM
Surr: Toluene-d8	91.3		71-123	%REC	1	12/6/2018 07:22 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035	12/3/18 11:09
Benzene	ND		0.031	mg/Kg-dry	1	Analyst: EMR 12/5/2018 04:59 AM
Ethylbenzene	ND		0.031	mg/Kg-dry	1	12/5/2018 04:59 AM
m,p-Xylene	ND		0.062	mg/Kg-dry	1	12/5/2018 04:59 AM
o-Xylene	ND		0.031	mg/Kg-dry	1	12/5/2018 04:59 AM
Toluene	ND		0.031	mg/Kg-dry	1	12/5/2018 04:59 AM
Xylenes, Total	ND		0.093	mg/Kg-dry	1	12/5/2018 04:59 AM
Surr: 1,2-Dichloroethane-d4	99.6		70-130	%REC	1	12/5/2018 04:59 AM
Surr: 4-Bromofluorobenzene	93.8		70-130	%REC	1	12/5/2018 04:59 AM
Surr: Dibromofluoromethane	81.6		70-130	%REC	1	12/5/2018 04:59 AM
Surr: Toluene-d8	97.4		70-130	%REC	1	12/5/2018 04:59 AM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT	12/3/18 19:00
Chloride	ND		10	mg/Kg-dry	1	Analyst: RLM 12/4/2018 03:20 PM
MOISTURE						
			SW3550C			Analyst: KTP
Moisture	1.5		0.10	% of sample	1	12/4/2018 01:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy
 Project: East Pecos 22-7
 Sample ID: BH18-06 (0 ft)
 Collection Date: 11/28/2018

Work Order: 1812014
 Lab ID: 1812014-03
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 12/5/18 10:43	Analyst: RP
DRO (C10-C28)	ND		5.3	mg/Kg-dry	1	12/5/2018 06:10 PM
ORO (C28-C40)	ND		5.3	mg/Kg-dry	1	12/5/2018 06:10 PM
Surr: 4-Terphenyl-d14	71.6		34-130	%REC	1	12/5/2018 06:10 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 12/4/18 10:17	Analyst: RP
GRO (C6-C10)	ND		5.7	mg/Kg-dry	1	12/6/2018 07:50 PM
Surr: Toluene-d8	109		71-123	%REC	1	12/6/2018 07:50 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 12/3/18 11:09	Analyst: EMR
Benzene	ND		0.034	mg/Kg-dry	1	12/5/2018 05:14 AM
Ethylbenzene	ND		0.034	mg/Kg-dry	1	12/5/2018 05:14 AM
m,p-Xylene	ND		0.068	mg/Kg-dry	1	12/5/2018 05:14 AM
o-Xylene	ND		0.034	mg/Kg-dry	1	12/5/2018 05:14 AM
Toluene	ND		0.034	mg/Kg-dry	1	12/5/2018 05:14 AM
Xylenes, Total	ND		0.10	mg/Kg-dry	1	12/5/2018 05:14 AM
Surr: 1,2-Dichloroethane-d4	101		70-130	%REC	1	12/5/2018 05:14 AM
Surr: 4-Bromofluorobenzene	89.3		70-130	%REC	1	12/5/2018 05:14 AM
Surr: Dibromofluoromethane	79.8		70-130	%REC	1	12/5/2018 05:14 AM
Surr: Toluene-d8	96.3		70-130	%REC	1	12/5/2018 05:14 AM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 12/3/18 19:00	Analyst: RLM
Chloride	ND		10	mg/Kg-dry	1	12/4/2018 03:20 PM
MOISTURE						
			SW3550C			Analyst: KTP
Moisture	6.6		0.10	% of sample	1	12/4/2018 01:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy
 Project: East Pecos 22-7
 Sample ID: BH18-06 (2 ft)
 Collection Date: 11/28/2018

Work Order: 1812014
 Lab ID: 1812014-04
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546	12/5/18 10:43
DRO (C10-C28)	ND		5.1	mg/Kg-dry	1	Analyst: RP 12/5/2018 06:40 PM
ORO (C28-C40)	ND		5.1	mg/Kg-dry	1	12/5/2018 06:40 PM
Surr: 4-Terphenyl-d14	70.6		34-130	%REC	1	12/5/2018 06:40 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035	12/4/18 10:17
GRO (C6-C10)	ND		5.5	mg/Kg-dry	1	Analyst: RP 12/6/2018 08:19 PM
Surr: Toluene-d8	90.5		71-123	%REC	1	12/6/2018 08:19 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035	12/3/18 11:09
Benzene	ND		0.033	mg/Kg-dry	1	Analyst: PM 12/5/2018 05:50 AM
Ethylbenzene	ND		0.033	mg/Kg-dry	1	12/5/2018 05:50 AM
m,p-Xylene	ND		0.066	mg/Kg-dry	1	12/5/2018 05:50 AM
o-Xylene	ND		0.033	mg/Kg-dry	1	12/5/2018 05:50 AM
Toluene	ND		0.033	mg/Kg-dry	1	12/5/2018 05:50 AM
Xylenes, Total	ND		0.098	mg/Kg-dry	1	12/5/2018 05:50 AM
Surr: 1,2-Dichloroethane-d4	88.5		70-130	%REC	1	12/5/2018 05:50 AM
Surr: 4-Bromofluorobenzene	95.2		70-130	%REC	1	12/5/2018 05:50 AM
Surr: Dibromofluoromethane	101		70-130	%REC	1	12/5/2018 05:50 AM
Surr: Toluene-d8	99.6		70-130	%REC	1	12/5/2018 05:50 AM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT	12/3/18 19:00
Chloride	ND		10	mg/Kg-dry	1	Analyst: RLM 12/4/2018 03:20 PM
MOISTURE						
			SW3550C			Analyst: KTP
Moisture	4.5		0.10	% of sample	1	12/4/2018 01:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy
 Project: East Pecos 22-7
 Sample ID: BH18-07 (0 ft)
 Collection Date: 11/28/2018

Work Order: 1812014
 Lab ID: 1812014-05
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546	12/5/18 10:43
DRO (C10-C28)	ND		4.8	mg/Kg-dry	1	Analyst: RP 12/5/2018 07:09 PM
ORO (C28-C40)	ND		4.8	mg/Kg-dry	1	12/5/2018 07:09 PM
Surr: 4-Terphenyl-d14	65.1		34-130	%REC	1	12/5/2018 07:09 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035	12/4/18 10:17
GRO (C6-C10)	ND		5.2	mg/Kg-dry	1	Analyst: RP 12/6/2018 08:48 PM
Surr: Toluene-d8	98.8		71-123	%REC	1	12/6/2018 08:48 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035	12/3/18 11:09
Benzene	ND		0.031	mg/Kg-dry	1	Analyst: PM 12/5/2018 06:06 AM
Ethylbenzene	ND		0.031	mg/Kg-dry	1	12/5/2018 06:06 AM
m,p-Xylene	ND		0.062	mg/Kg-dry	1	12/5/2018 06:06 AM
o-Xylene	ND		0.031	mg/Kg-dry	1	12/5/2018 06:06 AM
Toluene	ND		0.031	mg/Kg-dry	1	12/5/2018 06:06 AM
Xylenes, Total	ND		0.093	mg/Kg-dry	1	12/5/2018 06:06 AM
Surr: 1,2-Dichloroethane-d4	86.6		70-130	%REC	1	12/5/2018 06:06 AM
Surr: 4-Bromofluorobenzene	92.8		70-130	%REC	1	12/5/2018 06:06 AM
Surr: Dibromofluoromethane	91.9		70-130	%REC	1	12/5/2018 06:06 AM
Surr: Toluene-d8	102		70-130	%REC	1	12/5/2018 06:06 AM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT	12/3/18 19:00
Chloride	ND		10	mg/Kg-dry	1	Analyst: RLM 12/4/2018 03:20 PM
MOISTURE						
			SW3550C			Analyst: KTP
Moisture	1.5		0.10	% of sample	1	12/4/2018 01:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy
 Project: East Pecos 22-7
 Sample ID: BH18-07 (2 ft)
 Collection Date: 11/28/2018

Work Order: 1812014
 Lab ID: 1812014-06
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546	12/5/18 10:43
DRO (C10-C28)	ND		5.2	mg/Kg-dry	1	Analyst: RP 12/5/2018 07:38 PM
ORO (C28-C40)	ND		5.2	mg/Kg-dry	1	12/5/2018 07:38 PM
Surr: 4-Terphenyl-d14	69.1		34-130	%REC	1	12/5/2018 07:38 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035	12/4/18 10:17
GRO (C6-C10)	ND		5.6	mg/Kg-dry	1	Analyst: RP 12/6/2018 09:17 PM
Surr: Toluene-d8	85.5		71-123	%REC	1	12/6/2018 09:17 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035	12/3/18 11:09
Benzene	ND		0.034	mg/Kg-dry	1	Analyst: PM 12/5/2018 06:22 AM
Ethylbenzene	ND		0.034	mg/Kg-dry	1	12/5/2018 06:22 AM
m,p-Xylene	ND		0.068	mg/Kg-dry	1	12/5/2018 06:22 AM
o-Xylene	ND		0.034	mg/Kg-dry	1	12/5/2018 06:22 AM
Toluene	ND		0.034	mg/Kg-dry	1	12/5/2018 06:22 AM
Xylenes, Total	ND		0.10	mg/Kg-dry	1	12/5/2018 06:22 AM
Surr: 1,2-Dichloroethane-d4	104		70-130	%REC	1	12/5/2018 06:22 AM
Surr: 4-Bromofluorobenzene	91.7		70-130	%REC	1	12/5/2018 06:22 AM
Surr: Dibromofluoromethane	94.1		70-130	%REC	1	12/5/2018 06:22 AM
Surr: Toluene-d8	106		70-130	%REC	1	12/5/2018 06:22 AM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT	12/3/18 19:00
Chloride	ND		11	mg/Kg-dry	1	Analyst: RLM 12/4/2018 03:20 PM
MOISTURE						
			SW3550C			Analyst: KTP
Moisture	5.9		0.10	% of sample	1	12/4/2018 01:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy
 Project: East Pecos 22-7
 Sample ID: BH18-08 (0 ft)
 Collection Date: 11/28/2018

Work Order: 1812014
 Lab ID: 1812014-07
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 12/5/18 10:43	Analyst: RP
DRO (C10-C28)	ND		5.2	mg/Kg-dry	1	12/5/2018 08:07 PM
ORO (C28-C40)	ND		5.2	mg/Kg-dry	1	12/5/2018 08:07 PM
Surr: 4-Terphenyl-d14	68.6		34-130	%REC	1	12/5/2018 08:07 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 12/4/18 10:17	Analyst: RP
GRO (C6-C10)	ND		5.8	mg/Kg-dry	1	12/6/2018 09:46 PM
Surr: Toluene-d8	85.5		71-123	%REC	1	12/6/2018 09:46 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 12/3/18 11:09	Analyst: PM
Benzene	ND		0.035	mg/Kg-dry	1	12/5/2018 06:39 AM
Ethylbenzene	ND		0.035	mg/Kg-dry	1	12/5/2018 06:39 AM
m,p-Xylene	ND		0.069	mg/Kg-dry	1	12/5/2018 06:39 AM
o-Xylene	ND		0.035	mg/Kg-dry	1	12/5/2018 06:39 AM
Toluene	ND		0.035	mg/Kg-dry	1	12/5/2018 06:39 AM
Xylenes, Total	ND		0.10	mg/Kg-dry	1	12/5/2018 06:39 AM
Surr: 1,2-Dichloroethane-d4	87.1		70-130	%REC	1	12/5/2018 06:39 AM
Surr: 4-Bromofluorobenzene	90.4		70-130	%REC	1	12/5/2018 06:39 AM
Surr: Dibromofluoromethane	87.6		70-130	%REC	1	12/5/2018 06:39 AM
Surr: Toluene-d8	100		70-130	%REC	1	12/5/2018 06:39 AM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 12/3/18 19:00	Analyst: RLM
Chloride	ND		10	mg/Kg-dry	1	12/4/2018 03:20 PM
MOISTURE						
			SW3550C			Analyst: KTP
Moisture	7.0		0.10	% of sample	1	12/4/2018 01:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy
 Project: East Pecos 22-7
 Sample ID: BH18-08 (2 ft)
 Collection Date: 11/28/2018

Work Order: 1812014
 Lab ID: 1812014-08
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 12/5/18 10:43	Analyst: RP
DRO (C10-C28)	ND		5.3	mg/Kg-dry	1	12/5/2018 08:36 PM
ORO (C28-C40)	ND		5.3	mg/Kg-dry	1	12/5/2018 08:36 PM
Surr: 4-Terphenyl-d14	79.1		34-130	%REC	1	12/5/2018 08:36 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 12/4/18 10:17	Analyst: RP
GRO (C6-C10)	ND		5.8	mg/Kg-dry	1	12/6/2018 10:44 PM
Surr: Toluene-d8	85.1		71-123	%REC	1	12/6/2018 10:44 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 12/3/18 11:09	Analyst: WH
Benzene	ND		0.035	mg/Kg-dry	1	12/4/2018 12:51 PM
Ethylbenzene	ND		0.035	mg/Kg-dry	1	12/4/2018 12:51 PM
m,p-Xylene	ND		0.070	mg/Kg-dry	1	12/4/2018 12:51 PM
o-Xylene	ND		0.035	mg/Kg-dry	1	12/4/2018 12:51 PM
Toluene	ND		0.035	mg/Kg-dry	1	12/4/2018 12:51 PM
Xylenes, Total	ND		0.11	mg/Kg-dry	1	12/4/2018 12:51 PM
Surr: 1,2-Dichloroethane-d4	97.3		70-130	%REC	1	12/4/2018 12:51 PM
Surr: 4-Bromofluorobenzene	96.2		70-130	%REC	1	12/4/2018 12:51 PM
Surr: Dibromofluoromethane	90.4		70-130	%REC	1	12/4/2018 12:51 PM
Surr: Toluene-d8	99.3		70-130	%REC	1	12/4/2018 12:51 PM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 12/3/18 19:00	Analyst: RLM
Chloride	ND		11	mg/Kg-dry	1	12/4/2018 03:20 PM
MOISTURE						
			SW3550C			Analyst: KTP
Moisture	7.8		0.10	% of sample	1	12/4/2018 01:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy

QC BATCH REPORT

Work Order: 1812014

Project: East Pecos 22-7

Batch ID: 128868

Instrument ID GC8

Method: SW8015C

MBLK		Sample ID: DBLKS1-128868-128868				Units: mg/Kg		Analysis Date: 12/5/2018 12:21 PM		
Client ID:		Run ID: GC8_181205B				SeqNo: 5422200		Prep Date: 12/5/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

ND

5.0

ORO (C28-C40)

ND

5.0

Surr: 4-Terphenyl-d14

2.517

0

3.33

0

75.6

34-130

0

LCS		Sample ID: DLCSS1-128868-128868				Units: mg/Kg		Analysis Date: 12/5/2018 12:50 PM		
Client ID:		Run ID: GC8_181205B				SeqNo: 5422201		Prep Date: 12/5/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

333.4

5.0

333

0

100

65-122

0

ORO (C28-C40)

330.1

5.0

333

0

99.1

81-116

0

Surr: 4-Terphenyl-d14

3.217

0

3.33

0

96.6

34-130

0

MS		Sample ID: 1812031-02A MS				Units: mg/Kg		Analysis Date: 12/5/2018 01:19 PM		
Client ID:		Run ID: GC8_181205B				SeqNo: 5422202		Prep Date: 12/5/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

311.3

4.8

317.3

0

98.1

65-122

0

ORO (C28-C40)

312.6

4.8

317.3

4.141

97.2

81-116

0

Surr: 4-Terphenyl-d14

2.525

0

3.173

0

79.6

34-130

0

MSD		Sample ID: 1812031-02A MSD				Units: mg/Kg		Analysis Date: 12/5/2018 01:48 PM		
Client ID:		Run ID: GC8_181205B				SeqNo: 5422203		Prep Date: 12/5/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

315.4

4.7

312.9

0

101

65-122

311.3

1.32

30

ORO (C28-C40)

308

4.7

312.9

4.141

97.1

81-116

312.6

1.48

30

Surr: 4-Terphenyl-d14

2.631

0

3.129

0

84.1

34-130

2.525

4.1

30

The following samples were analyzed in this batch:

1812014-01A	1812014-02A	1812014-03A
1812014-04A	1812014-05A	1812014-06A
1812014-07A	1812014-08A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 1 of 7

Client: WPX Energy
Work Order: 1812014
Project: East Pecos 22-7

QC BATCH REPORT

Batch ID: **128834** Instrument ID **GC9** Method: **PUBL-SW-140**

MBLK	Sample ID: MBLK-128834-128834					Units: µg/Kg-dry		Analysis Date: 12/6/2018 02:37 AM		
Client ID:	Run ID: GC9_181205A				SeqNo: 5421308		Prep Date: 12/4/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10) ND 2,500

MBLK	Sample ID: MBLK-128834-128834					Units: µg/Kg-dry		Analysis Date: 12/6/2018 02:58 PM		
Client ID:	Run ID: GC9_181206A				SeqNo: 5424783		Prep Date: 12/4/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10) ND 5,000

Surr: Toluene-d8 4395 0 5000 0 87.9 71-123 0

LCS	Sample ID: LCS-128834-128834					Units: µg/Kg-dry		Analysis Date: 12/6/2018 01:39 AM		
Client ID:	Run ID: GC9_181205A				SeqNo: 5421307		Prep Date: 12/4/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10) 9564 2,500 10000 0 95.6 80-120 0

LCS	Sample ID: LCS-128834-128834					Units: µg/Kg-dry		Analysis Date: 12/6/2018 12:33 PM		
Client ID:	Run ID: GC9_181206A				SeqNo: 5424779		Prep Date: 12/4/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10) 255400 5,000 250000 0 102 71-123 0

Surr: Toluene-d8 5040 0 5000 0 101 71-123 0

LCSD	Sample ID: LCSD-128834-128834					Units: µg/Kg-dry		Analysis Date: 12/6/2018 06:00 AM		
Client ID:	Run ID: GC9_181205A				SeqNo: 5421332		Prep Date: 12/4/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10) 11190 2,500 10000 0 112 80-120 9564 15.7 20

MS	Sample ID: 1812059-01B MS					Units: µg/Kg-dry		Analysis Date: 12/7/2018 09:20 AM		
Client ID:	Run ID: GC9_181206A				SeqNo: 5424815		Prep Date: 12/4/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10) 722900 7,000 704800 0 103 71-123 0

Surr: Toluene-d8 7019 0 7048 0 99.6 71-123 0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 2 of 7

Client: WPX Energy
Work Order: 1812014
Project: East Pecos 22-7

QC BATCH REPORT

Batch ID: **128834** Instrument ID **GC9** Method: **PUBL-SW-140**

MSD		Sample ID: 1812059-01B MSD				Units: µg/Kg-dry		Analysis Date: 12/7/2018 09:48 AM		
Client ID:		Run ID: GC9_181206A				SeqNo: 5424816		Prep Date: 12/4/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	734600	7,000	704800	0	104	71-123	722900	1.6	30	
Surr: Toluene-d8	7535	0	7048	0	107	71-123	7019	7.08	30	

The following samples were analyzed in this batch:

1812014-01A	1812014-02A	1812014-03A
1812014-04A	1812014-05A	1812014-06A
1812014-07A	1812014-08A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: WPX Energy
Work Order: 1812014
Project: East Pecos 22-7

QC BATCH REPORT

Batch ID: **128782** Instrument ID **VMS7** Method: **SW8260C**

MBLK				Sample ID: MBLK-128782-128782				Units: µg/Kg-dry			Analysis Date: 12/3/2018 08:29 PM		
Client ID:			Run ID: VMS7_181203A			SeqNo: 5415941			Prep Date: 12/3/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Benzene	ND	30											
Ethylbenzene	ND	30											
m,p-Xylene	ND	60											
o-Xylene	ND	30											
Toluene	ND	30											
Xylenes, Total	ND	90											
Surr: 1,2-Dichloroethane-d4	988	0	1000	0	98.8	70-130	0						
Surr: 4-Bromofluorobenzene	957.5	0	1000	0	95.8	70-130	0						
Surr: Dibromofluoromethane	963	0	1000	0	96.3	70-130	0						
Surr: Toluene-d8	973	0	1000	0	97.3	70-130	0						

LCS				Sample ID: LCS-128782-128782				Units: µg/Kg-dry			Analysis Date: 12/3/2018 07:43 PM		
Client ID:			Run ID: VMS7_181203A			SeqNo: 5415940			Prep Date: 12/3/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Benzene	964	30	1000	0	96.4	75-125	0						
Ethylbenzene	1000	30	1000	0	100	75-125	0						
m,p-Xylene	2054	60	2000	0	103	80-125	0						
o-Xylene	1028	30	1000	0	103	75-125	0						
Toluene	956	30	1000	0	95.6	70-125	0						
Xylenes, Total	3082	90	3000	0	103	75-125	0						
Surr: 1,2-Dichloroethane-d4	981.5	0	1000	0	98.2	70-130	0						
Surr: 4-Bromofluorobenzene	991	0	1000	0	99.1	70-130	0						
Surr: Dibromofluoromethane	1012	0	1000	0	101	70-130	0						
Surr: Toluene-d8	998	0	1000	0	99.8	70-130	0						

MS				Sample ID: 1812014-08A MS		Units: µg/Kg-dry		Analysis Date: 12/4/2018 01:37 AM		
Client ID: BH18-08 (2 ft)			Run ID: VMS7_181203A		SeqNo: 5415944		Prep Date: 12/3/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1062	35	1169	0	90.8	75-125	0			
Ethylbenzene	1088	35	1169	0	93	75-125	0			
m,p-Xylene	2185	70	2338	5.261	93.2	80-125	0			
o-Xylene	1124	35	1169	7.6	95.5	75-125	0			
Toluene	1049	35	1169	0	89.7	70-125	0			
Xylenes, Total	3309	110	3508	0	94.4	75-125	0			
Surr: 1,2-Dichloroethane-d4	1176	0	1169	0	101	70-130	0			
Surr: 4-Bromofluorobenzene	1207	0	1169	0	103	70-130	0			
Surr: Dibromofluoromethane	1196	0	1169	0	102	70-130	0			
Surr: Toluene-d8	1176	0	1169	0	101	70-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 4 of 7

Client: WPX Energy
Work Order: 1812014
Project: East Pecos 22-7

QC BATCH REPORT

Batch ID: 128782 Instrument ID VMS7 Method: SW8260C

MSD				Sample ID: 1812014-08A MSD			Units: µg/Kg-dry		Analysis Date: 12/4/2018 01:52 AM	
Client ID: BH18-08 (2 ft)				Run ID: VMS7_181203A			SeqNo: 5415945		Prep Date: 12/3/2018	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1042	35	1169	0	89.2	75-125	1062	1.83	30	
Ethylbenzene	1084	35	1169	0	92.7	75-125	1088	0.377	30	
m,p-Xylene	2200	70	2338	5.261	93.9	80-125	2185	0.693	30	
o-Xylene	1117	35	1169	7.6	94.8	75-125	1124	0.678	30	
Toluene	1014	35	1169	0	86.7	70-125	1049	3.4	30	
Xylenes, Total	3317	110	3508	0	94.6	75-125	3309	0.229	30	
Surr: 1,2-Dichloroethane-d4	1164	0	1169	0	99.6	70-130	1176	1.05	30	
Surr: 4-Bromofluorobenzene	1212	0	1169	0	104	70-130	1207	0.435	30	
Surr: Dibromofluoromethane	1177	0	1169	0	101	70-130	1196	1.53	30	
Surr: Toluene-d8	1155	0	1169	0	98.8	70-130	1176	1.86	30	

The following samples were analyzed in this batch:	1812014-01A	1812014-02A	1812014-03A
	1812014-04A	1812014-05A	1812014-06A
	1812014-07A	1812014-08A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: WPX Energy
Work Order: 1812014
Project: East Pecos 22-7

QC BATCH REPORT

Batch ID: **128862** Instrument ID **GALLERY** Method: **A4500-CI E-11**

MBLK		Sample ID: MBLK-128862-128862				Units: mg/Kg		Analysis Date: 12/4/2018 03:20 PM		
Client ID:		Run ID: GALLERY_181204C		SeqNo: 5417176		Prep Date: 12/3/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride ND 10

MS		Sample ID: 1812014-01AMS				Units: mg/Kg		Analysis Date: 12/4/2018 03:20 PM		
Client ID: BH18-05 (0 ft)		Run ID: GALLERY_181204C		SeqNo: 5417235		Prep Date: 12/3/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 506.8 10 498 2.243 101 75-125 0

MSD		Sample ID: 1812014-01AMSD				Units: mg/Kg		Analysis Date: 12/4/2018 03:20 PM		
Client ID: BH18-05 (0 ft)		Run ID: GALLERY_181204C		SeqNo: 5417236		Prep Date: 12/3/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 509.4 9.8 492.1 2.243 103 75-125 506.8 0.527 25

LCS1		Sample ID: LCS1-128862-128862				Units: mg/Kg		Analysis Date: 12/4/2018 03:20 PM		
Client ID:		Run ID: GALLERY_181204C		SeqNo: 5417177		Prep Date: 12/3/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 99.51 10 100 0 99.5 80-120 0

LCS2		Sample ID: LCS2-128862-128862				Units: mg/Kg		Analysis Date: 12/4/2018 03:20 PM		
Client ID:		Run ID: GALLERY_181204C		SeqNo: 5417239		Prep Date: 12/3/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 559.2 10 500 0 112 80-120 0

The following samples were analyzed in this batch:

1812014-01A	1812014-02A	1812014-03A
1812014-04A	1812014-05A	1812014-06A
1812014-07A	1812014-08A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 6 of 7

Client: WPX Energy
Work Order: 1812014
Project: East Pecos 22-7

QC BATCH REPORT

Batch ID: **R250614** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: MB-R250614-R250614				Units: % of sample		Analysis Date: 12/4/2018 01:45 PM		
Client ID:		Run ID: MOIST_181204C		SeqNo: 5418972		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture ND 0.10

LCS		Sample ID: LCS-R250614-R250614				Units: % of sample		Analysis Date: 12/4/2018 01:45 PM		
Client ID:		Run ID: MOIST_181204C		SeqNo: 5418973		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 100 0.10 100 0 100 99.5-100.5 0

DUP		Sample ID: 1812013-04A DUP				Units: % of sample		Analysis Date: 12/4/2018 01:45 PM		
Client ID:		Run ID: MOIST_181204C		SeqNo: 5418977		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 2.33 0.10 0 0 0 0-0 2.43 4.2 10

DUP		Sample ID: 1812014-01A DUP				Units: % of sample		Analysis Date: 12/4/2018 01:45 PM		
Client ID: BH18-05 (0 ft)		Run ID: MOIST_181204C		SeqNo: 5418979		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 1.7 0.10 0 0 0 0-0 1.75 2.9 10

The following samples were analyzed in this batch:

1812014-01A	1812014-02A	1812014-03A
1812014-04A	1812014-05A	1812014-06A
1812014-07A	1812014-08A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 7 of 7



ALS Laboratory Group

HOLLAND, Michigan 49424

Chain-of-Custody

Form 202r8

WORKORDER #	1912014
PAGE	1 of 1
DISPOSAL	By Lab or Return to Client

PROJECT NAME	East Pecos 22-7	SAMPLER		DATE	29/11/2018	TURNAROUND	5 days
PROJECT No.	17E-00043	SITE ID	East Pecos 22-7				
		EDD FORMAT					
		PURCHASE ORDER					
COMPANY NAME	WPX Energy	BILL TO COMPANY	WPX Energy				
SEND REPORT TO	Raley	INVOICE ATTN TO	Jim Raley				
ADDRESS		ADDRESS	5315 Buena Vista Dr				
CITY / STATE / ZIP		CITY / STATE / ZIP	Carlsbad, NM 88220				
PHONE		PHONE	575-885-1313				
FAX		FAX	575-885-3509				
E-MAIL	Karolina.blaney@wpxenergy.com; james.raley@wpxenergy.com; dhanton@vertex.ca; kmeadows@vertex.ca; jcrabtree@vertex.ca	E-MAIL	karolina.blaney@wpxenergy.com; james.raley@wpxenergy.com; dhanton@vertex.ca; kmeadows@vertex.ca; jcrabtree@vertex.ca				
Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC
1	BH18-05 (0 ft)	S	28/11/2018		2		
2	BH18-05 (2 ft)	S	28/11/2018		2		
3	BH18-06 (0 ft)	S	28/11/2018		2		
4	BH18-06 (2 ft)	S	28/11/2018		2		
5	BH18-07 (0 ft)	S	28/11/2018		2		
6	BH18-07 (2 ft)	S	28/11/2018		2		
7	BH18-08 (0 ft)	S	28/11/2018		2		
8	BH18-08 (2 ft)	S	28/11/2018		2		

For metals or anions, please detail analytes below.

Comments:	QC PACKAGE (check below)
	X LEVEL II (Standard QC)
	LEVEL III (Std QC + forms)
	LEVEL IV (Std QC + forms + raw data)

4.86 SEC

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	Karolina Blaney	Karolina Blaney	29/11/2018	12:00
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY	Jason Cribben	Jason Cribben	11/19/18	2:30
RELINQUISHED BY				
RECEIVED BY	Keith Wierenga	Keith Wierenga	11/30/18	11:15

ALS Group, USA

Sample Receipt Checklist

Client Name: **WPX - NM**Date/Time Received: **01-Dec-18 11:15**Work Order: **1812014**Received by: **KRW**Checklist completed by Keith Wurenga
eSignature03-Dec-18
DateReviewed by: Chad Whelton
eSignature04-Dec-18
DateMatrices: **Soil**Carrier name: **FedEx**

Shipping container/cooler in good condition?

Yes ☒No ☐Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☐No ☐Not Present ☒

Custody seals intact on sample bottles?

Yes ☐No ☐Not Present ☒

Chain of custody present?

Yes ☒No ☐

Chain of custody signed when relinquished and received?

Yes ☒No ☐

Chain of custody agrees with sample labels?

Yes ☒No ☐

Samples in proper container/bottle?

Yes ☒No ☐

Sample containers intact?

Yes ☒No ☐

Sufficient sample volume for indicated test?

Yes ☒No ☐

All samples received within holding time?

Yes ☒No ☐

Container/Temp Blank temperature in compliance?

Yes ☒No ☐

Sample(s) received on ice?

Yes ☒No ☐

Temperature(s)/Thermometer(s):

4.8/4.8 CSR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage:

12/3/2018 9:17:37 AM

Water - VOA vials have zero headspace?

Yes ☐No ☐No VOA vials submitted ☒

Water - pH acceptable upon receipt?

Yes ☐No ☐N/A ☒

pH adjusted?

Yes ☐No ☐N/A ☒

pH adjusted by:

-

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



10-Dec-2018

James Raley
WPX Energy
5315 Buena Vista Dr.
Carlsbad, NM 88220

Re: **East Pecos 22-7**

Work Order: **1812013**

Dear James,

ALS Environmental received 4 samples on 01-Dec-2018 11:15 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 16.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton", is written over a horizontal line.

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 998501

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy
Project: East Pecos 22-7
Work Order: 1812013

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1812013-01	BH18-09 (0 ft)	Soil		11/28/2018	12/1/2018 11:15	<input type="checkbox"/>
1812013-02	BH18-09 (2 ft)	Soil		11/28/2018	12/1/2018 11:15	<input type="checkbox"/>
1812013-03	BH18-10 (0 ft)	Soil		11/28/2018	12/1/2018 11:15	<input type="checkbox"/>
1812013-04	BH18-10 (2 ft)	Soil		11/28/2018	12/1/2018 11:15	<input type="checkbox"/>

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy
Project: East Pecos 22-7
WorkOrder: 1812013

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
mg/Kg-dry	Milligrams per Kilogram Dry Weight

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy
 Project: East Pecos 22-7
 Sample ID: BH18-09 (0 ft)
 Collection Date: 11/28/2018

Work Order: 1812013
 Lab ID: 1812013-01
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 12/5/18 10:43	Analyst: RP
DRO (C10-C28)	ND		5.1	mg/Kg-dry	1	12/5/2018 02:46 PM
ORO (C28-C40)	ND		5.1	mg/Kg-dry	1	12/5/2018 02:46 PM
Surr: 4-Terphenyl-d14	74.6		34-130	%REC	1	12/5/2018 02:46 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 12/4/18 12:13	Analyst: RP
GRO (C6-C10)	ND		5.6	mg/Kg-dry	1	12/6/2018 04:28 PM
Surr: Toluene-d8	89.2		71-123	%REC	1	12/6/2018 04:28 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 12/3/18 15:01	Analyst: EMR
Benzene	ND		0.034	mg/Kg-dry	1	12/5/2018 03:42 AM
Ethylbenzene	ND		0.034	mg/Kg-dry	1	12/5/2018 03:42 AM
m,p-Xylene	ND		0.068	mg/Kg-dry	1	12/5/2018 03:42 AM
o-Xylene	ND		0.034	mg/Kg-dry	1	12/5/2018 03:42 AM
Toluene	ND		0.034	mg/Kg-dry	1	12/5/2018 03:42 AM
Xylenes, Total	ND		0.10	mg/Kg-dry	1	12/5/2018 03:42 AM
Surr: 1,2-Dichloroethane-d4	99.8		70-130	%REC	1	12/5/2018 03:42 AM
Surr: 4-Bromofluorobenzene	96.4		70-130	%REC	1	12/5/2018 03:42 AM
Surr: Dibromofluoromethane	83.6		70-130	%REC	1	12/5/2018 03:42 AM
Surr: Toluene-d8	97.1		70-130	%REC	1	12/5/2018 03:42 AM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 12/5/18 19:00	Analyst: RLM
Chloride	ND		10	mg/Kg-dry	1	12/6/2018 12:00 PM
MOISTURE						
			SW3550C			Analyst: KTP
Moisture	6.0		0.10	% of sample	1	12/4/2018 12:16 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy
 Project: East Pecos 22-7
 Sample ID: BH18-09 (2 ft)
 Collection Date: 11/28/2018

Work Order: 1812013
 Lab ID: 1812013-02
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 12/5/18 10:43	Analyst: RP
DRO (C10-C28)	ND		4.9	mg/Kg-dry	1	12/5/2018 03:16 PM
ORO (C28-C40)	6.1		4.9	mg/Kg-dry	1	12/5/2018 03:16 PM
Surr: 4-Terphenyl-d14	76.1		34-130	%REC	1	12/5/2018 03:16 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 12/4/18 12:13	Analyst: RP
GRO (C6-C10)	ND		5.3	mg/Kg-dry	1	12/6/2018 05:26 PM
Surr: Toluene-d8	90.3		71-123	%REC	1	12/6/2018 05:26 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 12/3/18 15:01	Analyst: EMR
Benzene	ND		0.032	mg/Kg-dry	1	12/5/2018 03:57 AM
Ethylbenzene	ND		0.032	mg/Kg-dry	1	12/5/2018 03:57 AM
m,p-Xylene	ND		0.063	mg/Kg-dry	1	12/5/2018 03:57 AM
o-Xylene	ND		0.032	mg/Kg-dry	1	12/5/2018 03:57 AM
Toluene	ND		0.032	mg/Kg-dry	1	12/5/2018 03:57 AM
Xylenes, Total	ND		0.095	mg/Kg-dry	1	12/5/2018 03:57 AM
Surr: 1,2-Dichloroethane-d4	102		70-130	%REC	1	12/5/2018 03:57 AM
Surr: 4-Bromofluorobenzene	94.4		70-130	%REC	1	12/5/2018 03:57 AM
Surr: Dibromofluoromethane	82.7		70-130	%REC	1	12/5/2018 03:57 AM
Surr: Toluene-d8	98.0		70-130	%REC	1	12/5/2018 03:57 AM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 12/5/18 19:00	Analyst: RLM
Chloride	ND		10	mg/Kg-dry	1	12/6/2018 12:00 PM
MOISTURE						
			SW3550C			Analyst: KTP
Moisture	2.7		0.10	% of sample	1	12/4/2018 01:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy
 Project: East Pecos 22-7
 Sample ID: BH18-10 (0 ft)
 Collection Date: 11/28/2018

Work Order: 1812013
 Lab ID: 1812013-03
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 12/5/18 10:43	Analyst: RP
DRO (C10-C28)	ND		5.2	mg/Kg-dry	1	12/5/2018 03:45 PM
ORO (C28-C40)	ND		5.2	mg/Kg-dry	1	12/5/2018 03:45 PM
Surr: 4-Terphenyl-d14	71.6		34-130	%REC	1	12/5/2018 03:45 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 12/4/18 12:13	Analyst: RP
GRO (C6-C10)	ND		5.5	mg/Kg-dry	1	12/6/2018 05:55 PM
Surr: Toluene-d8	89.2		71-123	%REC	1	12/6/2018 05:55 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 12/3/18 15:01	Analyst: EMR
Benzene	ND		0.033	mg/Kg-dry	1	12/5/2018 04:13 AM
Ethylbenzene	ND		0.033	mg/Kg-dry	1	12/5/2018 04:13 AM
m,p-Xylene	ND		0.067	mg/Kg-dry	1	12/5/2018 04:13 AM
o-Xylene	ND		0.033	mg/Kg-dry	1	12/5/2018 04:13 AM
Toluene	ND		0.033	mg/Kg-dry	1	12/5/2018 04:13 AM
Xylenes, Total	ND		0.10	mg/Kg-dry	1	12/5/2018 04:13 AM
Surr: 1,2-Dichloroethane-d4	101		70-130	%REC	1	12/5/2018 04:13 AM
Surr: 4-Bromofluorobenzene	93.2		70-130	%REC	1	12/5/2018 04:13 AM
Surr: Dibromofluoromethane	81.2		70-130	%REC	1	12/5/2018 04:13 AM
Surr: Toluene-d8	99.0		70-130	%REC	1	12/5/2018 04:13 AM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 12/5/18 19:00	Analyst: RLM
Chloride	ND		10	mg/Kg-dry	1	12/6/2018 12:00 PM
MOISTURE						
			SW3550C			Analyst: KTP
Moisture	5.2		0.10	% of sample	1	12/4/2018 01:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy
 Project: East Pecos 22-7
 Sample ID: BH18-10 (2 ft)
 Collection Date: 11/28/2018

Work Order: 1812013
 Lab ID: 1812013-04
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 12/5/18 10:43	Analyst: RP
DRO (C10-C28)	ND		4.9	mg/Kg-dry	1	12/5/2018 04:14 PM
ORO (C28-C40)	ND		4.9	mg/Kg-dry	1	12/5/2018 04:14 PM
Surr: 4-Terphenyl-d14	52.6		34-130	%REC	1	12/5/2018 04:14 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 12/4/18 12:13	Analyst: RP
GRO (C6-C10)	ND		5.2	mg/Kg-dry	1	12/6/2018 06:24 PM
Surr: Toluene-d8	90.9		71-123	%REC	1	12/6/2018 06:24 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 12/3/18 15:01	Analyst: EMR
Benzene	ND		0.031	mg/Kg-dry	1	12/5/2018 04:28 AM
Ethylbenzene	ND		0.031	mg/Kg-dry	1	12/5/2018 04:28 AM
m,p-Xylene	ND		0.063	mg/Kg-dry	1	12/5/2018 04:28 AM
o-Xylene	ND		0.031	mg/Kg-dry	1	12/5/2018 04:28 AM
Toluene	ND		0.031	mg/Kg-dry	1	12/5/2018 04:28 AM
Xylenes, Total	ND		0.094	mg/Kg-dry	1	12/5/2018 04:28 AM
Surr: 1,2-Dichloroethane-d4	102		70-130	%REC	1	12/5/2018 04:28 AM
Surr: 4-Bromofluorobenzene	94.2		70-130	%REC	1	12/5/2018 04:28 AM
Surr: Dibromofluoromethane	79.9		70-130	%REC	1	12/5/2018 04:28 AM
Surr: Toluene-d8	95.9		70-130	%REC	1	12/5/2018 04:28 AM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 12/5/18 19:00	Analyst: RLM
Chloride	ND		10	mg/Kg-dry	1	12/6/2018 12:00 PM
MOISTURE						
			SW3550C			Analyst: KTP
Moisture	2.4		0.10	% of sample	1	12/4/2018 01:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 10-Dec-18

Client: WPX Energy

QC BATCH REPORT

Work Order: 1812013

Project: East Pecos 22-7

Batch ID: 128868

Instrument ID GC8

Method: SW8015C

MBLK		Sample ID: DBLKS1-128868-128868				Units: mg/Kg		Analysis Date: 12/5/2018 12:21 PM		
Client ID:		Run ID: GC8_181205B				SeqNo: 5422200		Prep Date: 12/5/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

ND

5.0

ORO (C28-C40)

ND

5.0

Surr: 4-Terphenyl-d14

2.517

0

3.33

0

75.6

34-130

0

LCS		Sample ID: DLCSS1-128868-128868				Units: mg/Kg		Analysis Date: 12/5/2018 12:50 PM		
Client ID:		Run ID: GC8_181205B				SeqNo: 5422201		Prep Date: 12/5/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

333.4

5.0

333

0

100

65-122

0

ORO (C28-C40)

330.1

5.0

333

0

99.1

81-116

0

Surr: 4-Terphenyl-d14

3.217

0

3.33

0

96.6

34-130

0

MS		Sample ID: 1812031-02A MS				Units: mg/Kg		Analysis Date: 12/5/2018 01:19 PM		
Client ID:		Run ID: GC8_181205B				SeqNo: 5422202		Prep Date: 12/5/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

311.3

4.8

317.3

0

98.1

65-122

0

ORO (C28-C40)

312.6

4.8

317.3

4.141

97.2

81-116

0

Surr: 4-Terphenyl-d14

2.525

0

3.173

0

79.6

34-130

0

MSD		Sample ID: 1812031-02A MSD				Units: mg/Kg		Analysis Date: 12/5/2018 01:48 PM		
Client ID:		Run ID: GC8_181205B				SeqNo: 5422203		Prep Date: 12/5/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

315.4

4.7

312.9

0

101

65-122

311.3

1.32

30

ORO (C28-C40)

308

4.7

312.9

4.141

97.1

81-116

312.6

1.48

30

Surr: 4-Terphenyl-d14

2.631

0

3.129

0

84.1

34-130

2.525

4.1

30

The following samples were analyzed in this batch:

1812013-01A

1812013-02A

1812013-03A

1812013-04A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 1 of 7

Client: WPX Energy
Work Order: 1812013
Project: East Pecos 22-7

QC BATCH REPORT

Batch ID: **128849** Instrument ID **GC9** Method: **SW8015D**

MBLK		Sample ID: MBLK-128849-128849				Units: µg/Kg-dry		Analysis Date: 12/6/2018 02:29 PM		
Client ID:		Run ID: GC9_181206A				SeqNo: 5424782		Prep Date: 12/4/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	ND	5,000								
Surr: Toluene-d8	4346	0	5000	0	86.9	71-123	0			

LCS		Sample ID: LCS-128849-128849				Units: µg/Kg-dry		Analysis Date: 12/6/2018 12:05 PM		
Client ID:		Run ID: GC9_181206A				SeqNo: 5424778		Prep Date: 12/4/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	264200	5,000	250000	0	106	71-123	0			
Surr: Toluene-d8	5062	0	5000	0	101	71-123	0			

MS		Sample ID: 1812013-01A MS				Units: µg/Kg-dry		Analysis Date: 12/7/2018 07:53 AM		
Client ID: BH18-09 (0 ft)		Run ID: GC9_181206A				SeqNo: 5424813		Prep Date: 12/4/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	561700	5,600	563800	0	99.6	71-123	0			
Surr: Toluene-d8	5831	0	5638	0	103	71-123	0			

MSD		Sample ID: 1812013-01A MSD				Units: µg/Kg-dry		Analysis Date: 12/7/2018 08:22 AM		
Client ID: BH18-09 (0 ft)		Run ID: GC9_181206A				SeqNo: 5424814		Prep Date: 12/4/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	585000	5,600	563800	0	104	71-123	561700	4.07	30	
Surr: Toluene-d8	6275	0	5638	0	111	71-123	5831	7.33	30	

The following samples were analyzed in this batch:

1812013-01A	1812013-02A	1812013-03A
1812013-04A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 2 of 7

Client: WPX Energy
Work Order: 1812013
Project: East Pecos 22-7

QC BATCH REPORT

Batch ID: **128804** Instrument ID **VMS9** Method: **SW8260C**

MBLK				Sample ID: MBLK-128804-128804			Units: µg/Kg-dry		Analysis Date: 12/5/2018 12:24 PM		
Client ID:			Run ID: VMS9_181204B			SeqNo: 5419563		Prep Date: 12/3/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	ND	30	0	0	0	0-0	0				
Ethylbenzene	ND	30	0	0	0	0-0	0				
m,p-Xylene	21	60	0	0	0	0-0	0			J	
o-Xylene	ND	30	0	0	0	0-0	0				
Toluene	ND	30	0	0	0	0-0	0				
Xylenes, Total	ND	90	0	0	0	0-0	0				
Surr: 1,2-Dichloroethane-d4	1024	0	1000	0	102	70-130	0				
Surr: 4-Bromofluorobenzene	921.5	0	1000	0	92.2	70-130	0				
Surr: Dibromofluoromethane	866	0	1000	0	86.6	70-130	0				
Surr: Toluene-d8	954	0	1000	0	95.4	70-130	0				

LCS				Sample ID: LCS-128804-128804		Units: µg/Kg-dry		Analysis Date: 12/4/2018 11:22 PM		
Client ID:		Run ID: VMS9_181204B		SeqNo: 5419532		Prep Date: 12/3/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1062	30	1000	0	106	75-125	0			
Ethylbenzene	1075	30	1000	0	108	75-125	0			
m,p-Xylene	2066	60	2000	0	103	80-125	0			
o-Xylene	1124	30	1000	0	112	75-125	0			
Toluene	1047	30	1000	0	105	70-125	0			
Xylenes, Total	3190	90	3000	0	106	75-125	0			
Surr: 1,2-Dichloroethane-d4	986.5	0	1000	0	98.6	70-130	0			
Surr: 4-Bromofluorobenzene	1001	0	1000	0	100	70-130	0			
Surr: Dibromofluoromethane	1012	0	1000	0	101	70-130	0			
Surr: Toluene-d8	989	0	1000	0	98.9	70-130	0			

MS				Sample ID: 1812013-01A MS		Units: µg/Kg-dry		Analysis Date: 12/5/2018 06:50 PM		
Client ID: BH18-09 (0 ft)			Run ID: VMS9_181205A		SeqNo: 5421631		Prep Date: 12/3/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1057	34	1128	0	93.7	75-125	0			
Ethylbenzene	1114	34	1128	0	98.8	75-125	0			
m,p-Xylene	2095	68	2255	0	92.9	80-125	0			
o-Xylene	1132	34	1128	0	100	75-125	0			
Toluene	1156	34	1128	0	102	70-125	0			
Xylenes, Total	3227	100	3383	0	95.4	75-125	0			
Surr: 1,2-Dichloroethane-d4	1145	0	1128	0	102	70-130	0			
Surr: 4-Bromofluorobenzene	1151	0	1128	0	102	70-130	0			
Surr: Dibromofluoromethane	1021	0	1128	0	90.5	70-130	0			
Surr: Toluene-d8	1123	0	1128	0	99.6	70-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 3 of 7

Client: WPX Energy
Work Order: 1812013
Project: East Pecos 22-7

QC BATCH REPORT

Batch ID: 128804 Instrument ID VMS9 Method: SW8260C

MSD				Sample ID: 1812013-01A MSD			Units: µg/Kg-dry		Analysis Date: 12/5/2018 07:06 PM		
Client ID: BH18-09 (0 ft)			Run ID: VMS9_181205A			SeqNo: 5421632		Prep Date: 12/3/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1071	34	1128	0	95	75-125	1057	1.38	30		
Ethylbenzene	1146	34	1128	0	102	75-125	1114	2.84	30		
m,p-Xylene	2140	68	2255	0	94.9	80-125	2095	2.13	30		
o-Xylene	1151	34	1128	0	102	75-125	1132	1.68	30		
Toluene	1132	34	1128	0	100	70-125	1156	2.12	30		
Xylenes, Total	3291	100	3383	0	97.3	75-125	3227	1.97	30		
Surr: 1,2-Dichloroethane-d4	1110	0	1128	0	98.4	70-130	1145	3.05	30		
Surr: 4-Bromofluorobenzene	1152	0	1128	0	102	70-130	1151	0.0979	30		
Surr: Dibromofluoromethane	1009	0	1128	0	89.4	70-130	1021	1.17	30		
Surr: Toluene-d8	1113	0	1128	0	98.7	70-130	1123	0.908	30		

The following samples were analyzed in this batch:

1812013-01A	1812013-02A	1812013-03A
1812013-04A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: WPX Energy
Work Order: 1812013
Project: East Pecos 22-7

QC BATCH REPORT

Batch ID: **129027** Instrument ID **GALLERY** Method: **A4500-CI E-11**

MBLK		Sample ID: MBLK-129027-129027				Units: mg/Kg		Analysis Date: 12/6/2018 12:00 PM		
Client ID:		Run ID: GALLERY_181206A		SeqNo: 5424325		Prep Date: 12/5/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride ND 10

MS		Sample ID: 1812013-01AMS				Units: mg/Kg		Analysis Date: 12/6/2018 12:00 PM		
Client ID: BH18-09 (0 ft)		Run ID: GALLERY_181206A		SeqNo: 5424387		Prep Date: 12/5/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 520.8 10 499 1.62 104 75-125 0

MSD		Sample ID: 1812013-01AMSD				Units: mg/Kg		Analysis Date: 12/6/2018 12:00 PM		
Client ID: BH18-09 (0 ft)		Run ID: GALLERY_181206A		SeqNo: 5424388		Prep Date: 12/5/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 490.5 10 498 1.62 98.2 75-125 520.8 5.98 25

LCS1		Sample ID: LCS1-129027-129027				Units: mg/Kg		Analysis Date: 12/6/2018 12:00 PM		
Client ID:		Run ID: GALLERY_181206A		SeqNo: 5424326		Prep Date: 12/5/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 94.17 10 100 0 94.2 80-120 0

LCS2		Sample ID: LCS2-129027-129027				Units: mg/Kg		Analysis Date: 12/6/2018 12:00 PM		
Client ID:		Run ID: GALLERY_181206A		SeqNo: 5424372		Prep Date: 12/5/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 468.8 10 500 0 93.8 80-120 0

The following samples were analyzed in this batch:

1812013-01A	1812013-02A	1812013-03A
1812013-04A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 5 of 7

Client: WPX Energy
Work Order: 1812013
Project: East Pecos 22-7

QC BATCH REPORT

Batch ID: **R250606** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R250606				Units: % of sample		Analysis Date: 12/4/2018 12:16 PM		
Client ID:		Run ID: MOIST_181204B				SeqNo: 5418807		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	ND	0.10								

LCS		Sample ID: LCS-R250606				Units: % of sample		Analysis Date: 12/4/2018 12:16 PM		
Client ID:		Run ID: MOIST_181204B				SeqNo: 5418806		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.10	100	0	100	99.5-100.5	0			

DUP		Sample ID: 18111942-14C DUP				Units: % of sample		Analysis Date: 12/4/2018 12:16 PM		
Client ID:		Run ID: MOIST_181204B				SeqNo: 5418789		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	9.59	0.10	0	0	0	0-0	9.76	1.76	10	

DUP		Sample ID: 18111949-03A DUP				Units: % of sample		Analysis Date: 12/4/2018 12:16 PM		
Client ID:		Run ID: MOIST_181204B				SeqNo: 5418797		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	20.86	0.10	0	0	0	0-0	21	0.669	10	

The following samples were analyzed in this batch:

1812013-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 6 of 7

Client: WPX Energy
Work Order: 1812013
Project: East Pecos 22-7

QC BATCH REPORT

Batch ID: **R250614** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: MB-R250614-R250614				Units: % of sample		Analysis Date: 12/4/2018 01:45 PM		
Client ID:		Run ID: MOIST_181204C		SeqNo: 5418972		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	ND	0.10								

LCS		Sample ID: LCS-R250614-R250614				Units: % of sample		Analysis Date: 12/4/2018 01:45 PM		
Client ID:		Run ID: MOIST_181204C		SeqNo: 5418973		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.10	100	0	100	99.5-100.5	0			

DUP		Sample ID: 1812013-04A DUP				Units: % of sample		Analysis Date: 12/4/2018 01:45 PM		
Client ID: BH18-10 (2 ft)		Run ID: MOIST_181204C		SeqNo: 5418977		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	2.33	0.10	0	0	0	0-0	2.43	4.2	10	

DUP		Sample ID: 1812014-01A DUP				Units: % of sample		Analysis Date: 12/4/2018 01:45 PM		
Client ID:		Run ID: MOIST_181204C		SeqNo: 5418979		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	1.7	0.10	0	0	0	0-0	1.75	2.9	10	

The following samples were analyzed in this batch:

1812013-02A	1812013-03A	1812013-04A
-------------	-------------	-------------

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 7 of 7



ALS Laboratory Group

HOLLAND, Michigan 49424

Chain-of-Custody

Form 202r8

WORKORDER
#

1812013

PAGE

1 of 1

DISPOSAL

By Lab or Return to Client

[illegible]

For metals or anions, please detail analytes below.

For metals or alloys, please obtain analyses below: Comments:		QC PACKAGE (check below)		
<div style="text-align: center;"> <p>4.8%</p> <p>SR2</p> <p>①</p> </div>		X	LEVEL II (Standard QC)	
				LEVEL III (Std QC + forms)
				LEVEL IV (Std QC + forms + raw data)

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	<i>Karolina Blaney</i>	Karolina Blaney	29/11/2018	12:00
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY	<i>[Signature]</i>	Jason Crabtree	11-29-2018	2:30
RELINQUISHED BY				
RECEIVED BY	<i>[Signature]</i>	KERRY WARDENKA	11/1/18	1115

ALS Group, USA

Sample Receipt Checklist

Client Name: **WPX - NM**Date/Time Received: **01-Dec-18 11:15**Work Order: **1812013**Received by: **KRW**

Checklist completed by <u>Keith Wurenga</u>	03-Dec-18	Reviewed by: <u>Chad Whelton</u>	04-Dec-18
eSignature	Date	eSignature	Date

Matrices: **Soil**Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>4.8/4.8 C</u> <u>SR2</u>		
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>12/3/2018 9:13:11 AM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:	<u>-</u>		

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

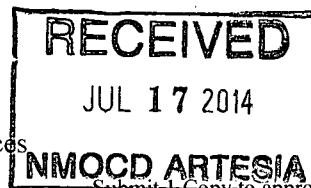
Comments:

CorrectiveAction:

SRC Page 1 of 1

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

Release Notification and Corrective Action

NAB 1422641434 *#246289* OPERATOR ☒ Initial Report ☐ Final Report

Name of Company	RKI XPLORATION AND PRODUCTION	Contact	BRANDON RIPLEY, PRODUCTION FOREMAN
Address	5315 BUENA VISTA DR., CARLSBAD, NM	Telephone No.	575-689-5431
Facility Name	near the East Pecos Fed Com 22-7H	Facility Type	OIL WELL
Surface Owner	WORTH ROSS	Mineral Owner	
		API No.	30-015- <i>42287</i>

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	22	26S	29E	250	SOUTH	990	EAST	Eddy

32.009664 } *103.965325* } → START Latitude *32°00.92* Longitude *-103°57.88* END: LAT *32°00.92* LONG *-103°57.92*
32.014536
103.965081

NATURE OF RELEASE

Type of Release	Salt Water	Volume of Release	260 BBLS	Volume Recovered	0 BBLS
Source of Release	UNAUTHORIZED TRUCK DUMP	Date and Hour of Occurrence	UNKN	Date and Hour of Discovery	JULY 8, 2014
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	MIKE BRATCHER, OCD 2:00 P.M.		
By Whom?	BRANDON RIPLEY	Date and Hour	JULY 8, 4:00 P.M.		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

SALT WATER SPILL, APPARENTLY FROM UNAUTHORIZED TRUCK DUMP, APPROXIMATELY 2 LOADS (260 BBLS). LAND OWNER REP, OCD, RKI, APEX/TITAN VISITED SITE ON JULY 10, 2014. APEX RETRIEVED SOIL SAMPLES. FURTHER WORK TO BE DETERMINED BY RESULTS OF TEST.

Describe Area Affected and Cleanup Action Taken.*

NO CLEAN-UP ACTION TAKEN UNTIL PROBLEM IS MORE CLEARLY IDENTIFIED.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOC D 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 D 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 D 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: <i>Jody Noerdlinger</i>	OIL CONSERVATION DIVISION	
Printed Name: JODY NOERDLINGER	Approved by Environmental <i>Mike Bratcher</i>	
Title: REGULATORY ANALYST	Approval Date: <i>8/14/14</i>	Expiration Date: <i>N/A</i>
E-mail Address: JNOERDLINGER@RKIXP.COM	Conditions of Approval: Remediation per OCD Rule & Guidelines. SUBMIT REMEDIATION PROPOSAL NO LATER THAN:	Attached <input type="checkbox"/>
Date: 7/15/2014 Phone: 405-996-5774		

* Attach Additional Sheets If Necessary

2RP-2442

Bratcher, Mike, EMNRD

From: Jody Noerdlinger <JNoerdlinger@rkixp.com>
Sent: Thursday, July 17, 2014 4:33 PM
To: Brandon Ripley; Bratcher, Mike, EMNRD; treed@apexc.com
Cc: Charles Ahn; Heather Brehm
Subject: East Pecos Spill
Attachments: EAST PECOS SPILL_C-141.pdf

Mike, I'm sending the attached C-141 on the recent East Pecos spill to Artesia, but I thought I'd email you a copy, as well. Please let me know if you think there's anything that should be added. Thanks.

Jody Noerdlinger
Regulatory Analyst
RKI Exploration and Production
Oklahoma Tower
210 Park Avenue, Suite 800
Oklahoma City, OK 73102
Office: 405-996-5774
Cell: 405-414-0151
jnoerdlinger@rkixp.com

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Phone:(505) 334-6178 Fax:(505) 334-6170
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1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 200923

CONDITIONS

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 200923
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	None	3/30/2023