



April 25, 2018

Spill Assessment Proposal: East Pecos 22-5H (Section 22 T26S R 29E)
API: 30-015-42270

Prepared For: **WPX Energy Inc.**
5315 Buena Vista
Carlsbad, New Mexico 88220

NMOCD District 2
811 S. 1st Street
Artesia, New Mexico 88210

RKI Exploration, LLC, a subsidiary of WPX Energy Inc., requested that Vertex Resource Services Inc. (Vertex) conduct a Spill Assessment and Excavation for a release at East Pecos 22-5H, API 30-015-42270 (hereafter referred to as "site"). This letter provides a description of the plans to achieve spill closure at the site.

General Information

Client:	<u>WPX Energy</u>	Site Location:	<u>East Pecos 22-5H</u>
Date:	<u>April 23, 2018</u>	Project #:	<u>17E-00043</u>
Client Contact:	<u>Jim Raley/Karolina Blaney</u>	Phone #:	<u>575 885-7514</u>
Vertex PM:	<u>Carl Davison</u>	Phone #:	<u>403 229-3969 ext. 652</u>
Field Personnel:	<u>Robyn Fisher</u>	Phone #:	<u>701 570-8933</u>
Field Personnel:	<u>Jason Crabtree</u>	Phone #:	<u>432-250-3456</u>
Contractor:	<u>TBD – Contact WPX Representative</u>	Phone #:	<u></u>

Objective

The objective is to conduct the excavation of material to below 600 mg/kg chlorides or down to 4', whichever is encountered first. Based on existing results it is assumed that the most of the excavation extent will be at a depth of 4'. Vertex will conduct sampling at 4' and if the excavation base fails for chlorides a liner will be installed. Vertex will source local caliche and backfill for the excavation.

Initial Site Assessment

The initial spill investigation was conducted on March 29, 2018. Six testpit holes were advanced to investigate and characterize the soil conditions. Chloride results of the initial investigation are presented below:

Table 1 - Chloride Soil Sampling Results March 29, 2018

Sample ID	Depth	Test	Result	Units
BH18-01	0'	Chloride	1700	mg/Kg- dry
BH18-01	2'	Chloride	360	mg/Kg- dry
BH18-01	4'	Chloride	1100	mg/Kg- dry
BH18-01	6'	Chloride	590	mg/Kg- dry
BH18-02	0'	Chloride	89	mg/Kg- dry
BH18-02	2'	Chloride	670	mg/Kg- dry
BH18-02	4'	Chloride	500	mg/Kg- dry
BH18-02	6'	Chloride	1000	mg/Kg- dry
BH18-03	0'	Chloride	100	mg/Kg- dry
BH18-03	2'	Chloride	380	mg/Kg- dry
BH18-03	4'	Chloride	380	mg/Kg- dry
BH18-03	6'	Chloride	1500	mg/Kg- dry
BH18-04	0'	Chloride	310	mg/Kg- dry
BH18-04	2'	Chloride	260	mg/Kg- dry
BH18-04	4'	Chloride	320	mg/Kg- dry
BH18-04	6'	Chloride	220	mg/Kg- dry
BH18-05	0'	Chloride	2000	mg/Kg- dry
BH18-05	2'	Chloride	1700	mg/Kg- dry
BH18-05	4'	Chloride	1600	mg/Kg- dry
BH18-05	6'	Chloride	1100	mg/Kg- dry
BH18-06	0'	Chloride	5500	mg/Kg- dry
BH18-06	2'	Chloride	2200	mg/Kg- dry
BH18-06	4'	Chloride	980	mg/Kg- dry
BH18-06	6'	Chloride	660	mg/Kg- dry

Methods

The excavation will include digging up impacted soils with a backhoe and taking samples of the soil at 4'. The soil sampling protocol is designed and implemented to identify and determine changes in soil condition within the vertical and lateral profiles. Soils will be classified utilizing the unified soil classification system as described in *American Society for Testing and Materials standard D2488* (American Society for Testing and Materials, 2000). Laboratory analysis on select samples will be performed according the following methods:

- Benzene, toluene, ethylbenzene and xylene – Method SW-8260B
- Total Petroleum Hydrocarbons (GRO,DRO, ORO) – Method SW-8015
- Chlorides – Method SW-9080, Method SW-9081 or Method A2500-CL E-97

Should you have any questions or concerns, please do not hesitate to contact the undersigned at 403.542.6426 or cdavison@vertex.ca.

Sincerely,



Carl Davison, B.Sc.
PROJECT MANAGER

Attachments

- Attachment 1. Initial C-141 Report
- Attachment 2. Aerial Photograph
- Attachment 3. Initial Spill Investigation Laboratory Results

Limitations

This report has been prepared for the sole benefit of WPX Energy Inc. This document may not be used by any other person or entity, with the exception of the New Mexico Oil Conservation Division, without the express written consent of Vertex Resource Services Inc. (Vertex) and WPX Energy Inc. Any use of this report by a third party, or any reliance on decisions made based on it, or damages suffered as a result of the use of this report are the sole responsibility of the user.

The information and conclusions contained in this report are based upon work undertaken by trained professional and technical staff in accordance with generally accepted scientific practices current at the time the work was performed. The conclusions and recommendations presented represent the best judgement of Vertex based on the data collected during the assessment. Due to the nature of the assessment and the data available, Vertex cannot warrant against undiscovered environmental liabilities. Conclusions and recommendations presented in this report should not be considered legal advice.

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 April 3, 2017

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: RKI Exploration / WPX Energy	Contact: James Raley	
Address: 5315 Buena Vista Dr.	Telephone No: 575-689-7597	
Facility Name: East Pecos Federal 22-05H	Facility Type: Well Pad	
Surface Owner: Private	Mineral Owner: Federal	API No. 30-015-42270

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
N	22	26S	29E	250	South	2185	West	Eddy

Latitude 32.0212364 Longitude -103.9734955 NAD83

NATURE OF RELEASE

Type of Release: Oil emulsion release from wellhead	Volume of Release: 3 bbl	Volume Recovered: 2 bbl
Source of Release: 1" fitting on wellhead	Date and Hour of Occurrence 03/03/2018 8:00 AM	Date and Hour of Discovery 03/03/2018 12:00PM
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom? Heather Patterson/Shelly Tucker	
By Whom?	Date and Hour:	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.* N/A

Describe Cause of Problem and Remedial Action Taken.*

Release was caused by failure of 1" valve, resulting in release of oil emulsion (mixed fluids) on to well pad surface. Leak was isolated and damaged valve on wellhead replaced. Vac truck was immediately dispatched to remove any standing liquids. Backhoe was dispatched to remove any saturated soils.

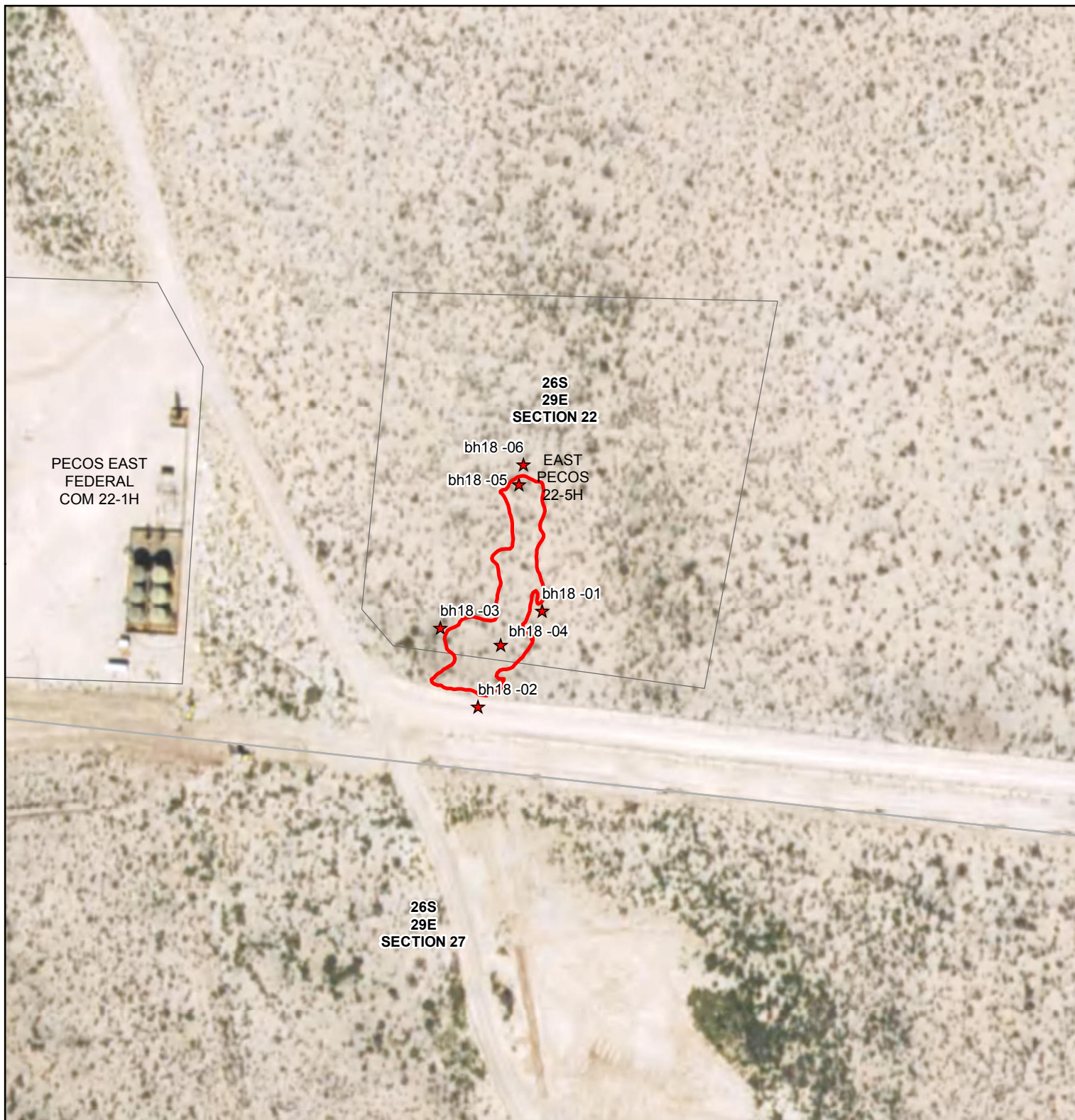
Describe Area Affected and Cleanup Action Taken.*

Well pad soils were impacted. Additional soils that display obvious impacts will be removed under supervision of environmental consultant. Samples will be collected when initial soil removal complete to evaluate if further remediation required. Spill area will be delineated both horizontally and vertically to determine impact depths.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD 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, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 		OIL CONSERVATION DIVISION	
Printed Name: Jim Raley		Approved by Environmental Specialist:	
Title: Environmental Specialist	Approval Date:	Expiration Date:	
E-mail Address: james.ralej@wpxenergy.com	Conditions of Approval:		Attached ☐
Date: 3/22/2018	Phone: 575-689-7597		

* Attach Additional Sheets If Necessary



East Pecos 22-5
Permian Basin

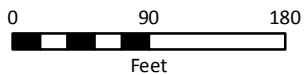


Date: 4/20/2018
Map Scale (at 8.5" x 11"): 1:1,521
Created By: Sarah Harrison
Geospatial Data Tech II
3800 One Williams Center
Tulsa, OK 74172

Projection: NAD 1983 StatePlane Texas Central FIPS 4203 Feet

Map Symbolology

- Area of Interest
- Point of Interest





11-Apr-2018

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

Re: **East Pecos 22-5H**

Work Order: **1804168**

Dear James,

ALS Environmental received 24 samples on 04-Apr-2018 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 42.

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

Client: WPX Energy
Project: East Pecos 22-5H
Work Order: 1804168

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>
1804168-01	BH18-01 (0)	Soil		3/29/2018	4/4/2018 10:00	☐
1804168-02	BH18-01 (2)	Soil		3/29/2018	4/4/2018 10:00	☐
1804168-03	BH18-01 (4)	Soil		3/29/2018	4/4/2018 10:00	☐
1804168-04	BH18-01 (6)	Soil		3/29/2018	4/4/2018 10:00	☐
1804168-05	BH18-02 (0)	Soil		3/29/2018	4/4/2018 10:00	☐
1804168-06	BH18-02 (2)	Soil		3/29/2018	4/4/2018 10:00	☐
1804168-07	BH18-02 (4)	Soil		3/29/2018	4/4/2018 10:00	☐
1804168-08	BH18-02 (6)	Soil		3/29/2018	4/4/2018 10:00	☐
1804168-09	BH18-03 (0)	Soil		3/29/2018	4/4/2018 10:00	☐
1804168-10	BH18-03 (2)	Soil		3/29/2018	4/4/2018 10:00	☐
1804168-11	BH18-03 (4)	Soil		3/29/2018	4/4/2018 10:00	☐
1804168-12	BH18-03 (6)	Soil		3/29/2018	4/4/2018 10:00	☐
1804168-13	BH18-04 (0)	Soil		3/29/2018	4/4/2018 10:00	☐
1804168-14	BH18-04 (2)	Soil		3/29/2018	4/4/2018 10:00	☐
1804168-15	BH18-04 (4)	Soil		3/29/2018	4/4/2018 10:00	☐
1804168-16	BH18-04 (6)	Soil		3/29/2018	4/4/2018 10:00	☐
1804168-17	BH18-05 (0)	Soil		3/29/2018	4/4/2018 10:00	☐
1804168-18	BH18-05 (2)	Soil		3/29/2018	4/4/2018 10:00	☐
1804168-19	BH18-05 (4)	Soil		3/29/2018	4/4/2018 10:00	☐
1804168-20	BH18-05 (6)	Soil		3/29/2018	4/4/2018 10:00	☐
1804168-21	BH18-06 (0)	Soil		3/29/2018	4/4/2018 10:00	☐
1804168-22	BH18-06 (2)	Soil		3/29/2018	4/4/2018 10:00	☐
1804168-23	BH18-06 (4)	Soil		3/29/2018	4/4/2018 10:00	☐
1804168-24	BH18-06 (6)	Soil		3/29/2018	4/4/2018 10:00	☐

Client: WPX Energy
Project: East Pecos 22-5H
Work Order: 1804168

Case Narrative

Batch 116417, Method CL_4500C_S, Sample 1804168-20A MSD: The MSD recovery was outside of the control limit for Chloride. However, the MS recovery and the RPD between the MS and MSD was in control. No qualification is required.

Batch 116515, Method DRLVI_8015_S, Sample 1804168-02A: Low DRO surrogate recovery due to sample matrix effects confirmed by re-extraction.

VOC and GRO sample were not preserved in methanol within hold time.

Client: WPX Energy
Project: East Pecos 22-5H
WorkOrder: 1804168

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
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: 11-Apr-18

Client: WPX Energy

Project: East Pecos 22-5H

Sample ID: BH18-01 (0)

Collection Date: 3/29/2018

Work Order: 1804168

Lab ID: 1804168-01

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 4/9/18 14:38	Analyst: MEB
DRO (C10-C28)	10		5.1	mg/Kg-dry	1	4/10/2018 01:56 AM
ORO (C28-C40)	18		5.1	mg/Kg-dry	1	4/10/2018 01:56 AM
Surr: 4-Terphenyl-d14	49.0		34-130	%REC	1	4/10/2018 01:56 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 4/6/18 15:37	Analyst: MEB
GRO (C6-C10)	ND		5.3	mg/Kg-dry	1	4/10/2018 06:30 AM
Surr: Toluene-d8	87.3		71-123	%REC	1	4/10/2018 06:30 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 4/6/18 15:37	Analyst: EMR
Benzene	ND		0.032	mg/Kg-dry	1	4/10/2018 12:22 PM
Ethylbenzene	ND		0.032	mg/Kg-dry	1	4/10/2018 12:22 PM
m,p-Xylene	ND		0.063	mg/Kg-dry	1	4/10/2018 12:22 PM
o-Xylene	ND		0.032	mg/Kg-dry	1	4/10/2018 12:22 PM
Toluene	ND		0.032	mg/Kg-dry	1	4/10/2018 12:22 PM
Xylenes, Total	ND		0.095	mg/Kg-dry	1	4/10/2018 12:22 PM
Surr: 1,2-Dichloroethane-d4	83.8		70-130	%REC	1	4/10/2018 12:22 PM
Surr: 4-Bromofluorobenzene	103		70-130	%REC	1	4/10/2018 12:22 PM
Surr: Dibromofluoromethane	86.2		70-130	%REC	1	4/10/2018 12:22 PM
Surr: Toluene-d8	99.2		70-130	%REC	1	4/10/2018 12:22 PM
CHLORIDE						
			A4500-CL C-11		Prep: EXTRACT 4/5/18 11:55	Analyst: STP
Chloride	1,700		31	mg/Kg-dry	1	4/10/2018 11:35 AM
MOISTURE						
			SW3550C			Analyst: NW
Moisture	2.7		0.050	% of sample	1	4/8/2018 12:45 AM

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

ALS Group, USA

Date: 11-Apr-18

Client: WPX Energy

Project: East Pecos 22-5H

Sample ID: BH18-01 (2)

Collection Date: 3/29/2018

Work Order: 1804168

Lab ID: 1804168-02

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 4/9/18 14:38	Analyst: MEB
DRO (C10-C28)	ND		5.4	mg/Kg-dry	1	4/10/2018 02:25 AM
ORO (C28-C40)	ND		5.4	mg/Kg-dry	1	4/10/2018 02:25 AM
Surr: 4-Terphenyl-d14	27.5	S	34-130	%REC	1	4/10/2018 02:25 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 4/6/18 15:37	Analyst: MEB
GRO (C6-C10)	ND		5.8	mg/Kg-dry	1	4/10/2018 06:56 AM
Surr: Toluene-d8	89.8		71-123	%REC	1	4/10/2018 06:56 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 4/6/18 15:37	Analyst: EMR
Benzene	ND		0.035	mg/Kg-dry	1	4/10/2018 12:37 PM
Ethylbenzene	ND		0.035	mg/Kg-dry	1	4/10/2018 12:37 PM
m,p-Xylene	ND		0.070	mg/Kg-dry	1	4/10/2018 12:37 PM
o-Xylene	ND		0.035	mg/Kg-dry	1	4/10/2018 12:37 PM
Toluene	ND		0.035	mg/Kg-dry	1	4/10/2018 12:37 PM
Xylenes, Total	ND		0.10	mg/Kg-dry	1	4/10/2018 12:37 PM
Surr: 1,2-Dichloroethane-d4	90.0		70-130	%REC	1	4/10/2018 12:37 PM
Surr: 4-Bromofluorobenzene	102		70-130	%REC	1	4/10/2018 12:37 PM
Surr: Dibromofluoromethane	87.8		70-130	%REC	1	4/10/2018 12:37 PM
Surr: Toluene-d8	97.4		70-130	%REC	1	4/10/2018 12:37 PM
CHLORIDE						
			A4500-CL C-11		Prep: EXTRACT 4/5/18 11:55	Analyst: STP
Chloride	360		32	mg/Kg-dry	1	4/10/2018 11:35 AM
MOISTURE						
			SW3550C			Analyst: NW
Moisture	7.6		0.050	% of sample	1	4/8/2018 12:45 AM

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

ALS Group, USA

Date: 11-Apr-18

Client: WPX Energy

Project: East Pecos 22-5H

Sample ID: BH18-01 (4)

Collection Date: 3/29/2018

Work Order: 1804168

Lab ID: 1804168-03

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CHLORIDE			A4500-CL C-11	Prep: EXTRACT 4/5/18 11:55		Analyst: STP
Chloride	1,100		32	mg/Kg-dry	1	4/10/2018 11:35 AM
MOISTURE			SW3550C			Analyst: NW
Moisture	7.9		0.050	% of sample	1	4/8/2018 12:45 AM

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

ALS Group, USA

Date: 11-Apr-18

Client: WPX Energy

Project: East Pecos 22-5H

Sample ID: BH18-01 (6)

Collection Date: 3/29/2018

Work Order: 1804168

Lab ID: 1804168-04

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CHLORIDE			A4500-CL C-11	Prep: EXTRACT 4/5/18 11:55		Analyst: STP
Chloride	590		31	mg/Kg-dry	1	4/10/2018 11:35 AM
MOISTURE			SW3550C			Analyst: NW
Moisture	5.3		0.050	% of sample	1	4/8/2018 12:45 AM

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

ALS Group, USA

Date: 11-Apr-18

Client: WPX Energy

Project: East Pecos 22-5H

Sample ID: BH18-02 (0)

Collection Date: 3/29/2018

Work Order: 1804168

Lab ID: 1804168-05

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 4/6/18 12:59	Analyst: MEB
DRO (C10-C28)	5.8		4.8	mg/Kg-dry	1	4/6/2018 08:10 PM
ORO (C28-C40)	13		4.8	mg/Kg-dry	1	4/6/2018 08:10 PM
Surr: 4-Terphenyl-d14	34.5		34-130	%REC	1	4/6/2018 08:10 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 4/6/18 15:37	Analyst: MEB
GRO (C6-C10)	ND		5.2	mg/Kg-dry	1	4/10/2018 07:22 AM
Surr: Toluene-d8	87.7		71-123	%REC	1	4/10/2018 07:22 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 4/6/18 15:37	Analyst: EMR
Benzene	ND		0.031	mg/Kg-dry	1	4/10/2018 12:53 PM
Ethylbenzene	ND		0.031	mg/Kg-dry	1	4/10/2018 12:53 PM
m,p-Xylene	ND		0.062	mg/Kg-dry	1	4/10/2018 12:53 PM
o-Xylene	ND		0.031	mg/Kg-dry	1	4/10/2018 12:53 PM
Toluene	ND		0.031	mg/Kg-dry	1	4/10/2018 12:53 PM
Xylenes, Total	ND		0.093	mg/Kg-dry	1	4/10/2018 12:53 PM
Surr: 1,2-Dichloroethane-d4	84.4		70-130	%REC	1	4/10/2018 12:53 PM
Surr: 4-Bromofluorobenzene	105		70-130	%REC	1	4/10/2018 12:53 PM
Surr: Dibromofluoromethane	80.3		70-130	%REC	1	4/10/2018 12:53 PM
Surr: Toluene-d8	98.6		70-130	%REC	1	4/10/2018 12:53 PM
CHLORIDE						
			A4500-CL C-11		Prep: EXTRACT 4/5/18 11:55	Analyst: STP
Chloride	89		30	mg/Kg-dry	1	4/10/2018 11:35 AM
MOISTURE						
			SW3550C			Analyst: NW
Moisture	1.7		0.050	% of sample	1	4/8/2018 12:45 AM

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

ALS Group, USA

Date: 11-Apr-18

Client: WPX Energy

Project: East Pecos 22-5H

Sample ID: BH18-02 (2)

Collection Date: 3/29/2018

Work Order: 1804168

Lab ID: 1804168-06

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 4/9/18 14:38	Analyst: MEB
DRO (C10-C28)	7.9		5.3	mg/Kg-dry	1	4/10/2018 02:54 AM
ORO (C28-C40)	ND		5.3	mg/Kg-dry	1	4/10/2018 02:54 AM
Surr: 4-Terphenyl-d14	41.5		34-130	%REC	1	4/10/2018 02:54 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 4/6/18 15:37	Analyst: MEB
GRO (C6-C10)	ND		5.8	mg/Kg-dry	1	4/10/2018 07:48 AM
Surr: Toluene-d8	89.5		71-123	%REC	1	4/10/2018 07:48 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 4/6/18 15:37	Analyst: EMR
Benzene	ND		0.035	mg/Kg-dry	1	4/10/2018 01:08 AM
Ethylbenzene	ND		0.035	mg/Kg-dry	1	4/10/2018 01:08 AM
m,p-Xylene	ND		0.070	mg/Kg-dry	1	4/10/2018 01:08 AM
o-Xylene	ND		0.035	mg/Kg-dry	1	4/10/2018 01:08 AM
Toluene	ND		0.035	mg/Kg-dry	1	4/10/2018 01:08 AM
Xylenes, Total	ND		0.10	mg/Kg-dry	1	4/10/2018 01:08 AM
Surr: 1,2-Dichloroethane-d4	87.2		70-130	%REC	1	4/10/2018 01:08 AM
Surr: 4-Bromofluorobenzene	102		70-130	%REC	1	4/10/2018 01:08 AM
Surr: Dibromofluoromethane	84.8		70-130	%REC	1	4/10/2018 01:08 AM
Surr: Toluene-d8	97.2		70-130	%REC	1	4/10/2018 01:08 AM
CHLORIDE						
			A4500-CL C-11		Prep: EXTRACT 4/5/18 11:55	Analyst: STP
Chloride	670		32	mg/Kg-dry	1	4/10/2018 11:35 AM
MOISTURE						
			SW3550C			Analyst: RZM
Moisture	7.4		0.050	% of sample	1	4/9/2018 04:49 PM

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

ALS Group, USA

Date: 11-Apr-18

Client: WPX Energy

Project: East Pecos 22-5H

Sample ID: BH18-02 (4)

Collection Date: 3/29/2018

Work Order: 1804168

Lab ID: 1804168-07

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CHLORIDE			A4500-CL C-11	Prep: EXTRACT 4/5/18 11:55		Analyst: STP
Chloride	500		32	mg/Kg-dry	1	4/10/2018 11:35 AM
MOISTURE			SW3550C			Analyst: NW
Moisture	7.0		0.050	% of sample	1	4/8/2018 12:45 AM

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

ALS Group, USA

Date: 11-Apr-18

Client: WPX Energy

Project: East Pecos 22-5H

Sample ID: BH18-02 (6)

Collection Date: 3/29/2018

Work Order: 1804168

Lab ID: 1804168-08

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CHLORIDE			A4500-CL C-11	Prep: EXTRACT 4/5/18 11:55		Analyst: STP
Chloride	1,000		32	mg/Kg-dry	1	4/10/2018 11:35 AM
MOISTURE			SW3550C			Analyst: NW
Moisture	6.7		0.050	% of sample	1	4/8/2018 12:45 AM

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

ALS Group, USA

Date: 11-Apr-18

Client: WPX Energy

Project: East Pecos 22-5H

Sample ID: BH18-03 (0)

Collection Date: 3/29/2018

Work Order: 1804168

Lab ID: 1804168-09

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 4/6/18 12:59	Analyst: MEB
DRO (C10-C28)	5.6		5.1	mg/Kg-dry	1	4/6/2018 09:09 PM
ORO (C28-C40)	ND		5.1	mg/Kg-dry	1	4/6/2018 09:09 PM
Surr: 4-Terphenyl-d14	34.0		34-130	%REC	1	4/6/2018 09:09 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 4/6/18 15:37	Analyst: MEB
GRO (C6-C10)	ND		5.4	mg/Kg-dry	1	4/10/2018 08:14 AM
Surr: Toluene-d8	89.8		71-123	%REC	1	4/10/2018 08:14 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 4/6/18 15:37	Analyst: EMR
Benzene	ND		0.032	mg/Kg-dry	1	4/10/2018 01:24 AM
Ethylbenzene	ND		0.032	mg/Kg-dry	1	4/10/2018 01:24 AM
m,p-Xylene	ND		0.065	mg/Kg-dry	1	4/10/2018 01:24 AM
o-Xylene	ND		0.032	mg/Kg-dry	1	4/10/2018 01:24 AM
Toluene	ND		0.032	mg/Kg-dry	1	4/10/2018 01:24 AM
Xylenes, Total	ND		0.097	mg/Kg-dry	1	4/10/2018 01:24 AM
Surr: 1,2-Dichloroethane-d4	89.2		70-130	%REC	1	4/10/2018 01:24 AM
Surr: 4-Bromofluorobenzene	102		70-130	%REC	1	4/10/2018 01:24 AM
Surr: Dibromofluoromethane	82.6		70-130	%REC	1	4/10/2018 01:24 AM
Surr: Toluene-d8	98.4		70-130	%REC	1	4/10/2018 01:24 AM
CHLORIDE						
			A4500-CL C-11		Prep: EXTRACT 4/5/18 11:55	Analyst: STP
Chloride	100		31	mg/Kg-dry	1	4/10/2018 11:35 AM
MOISTURE						
			SW3550C			Analyst: NW
Moisture	3.8		0.050	% of sample	1	4/8/2018 12:45 AM

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

ALS Group, USA

Date: 11-Apr-18

Client: WPX Energy

Project: East Pecos 22-5H

Sample ID: BH18-03 (2)

Collection Date: 3/29/2018

Work Order: 1804168

Lab ID: 1804168-10

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 4/6/18 12:59	Analyst: MEB
DRO (C10-C28)	5.3	J	5.3	mg/Kg-dry	1	4/6/2018 09:38 PM
ORO (C28-C40)	ND		5.3	mg/Kg-dry	1	4/6/2018 09:38 PM
Surr: 4-Terphenyl-d14	45.0		34-130	%REC	1	4/6/2018 09:38 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 4/6/18 15:37	Analyst: MEB
GRO (C6-C10)	ND		5.9	mg/Kg-dry	1	4/10/2018 08:40 AM
Surr: Toluene-d8	94.0		71-123	%REC	1	4/10/2018 08:40 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 4/6/18 15:37	Analyst: EMR
Benzene	ND		0.036	mg/Kg-dry	1	4/10/2018 01:39 AM
Ethylbenzene	ND		0.036	mg/Kg-dry	1	4/10/2018 01:39 AM
m,p-Xylene	ND		0.071	mg/Kg-dry	1	4/10/2018 01:39 AM
o-Xylene	ND		0.036	mg/Kg-dry	1	4/10/2018 01:39 AM
Toluene	ND		0.036	mg/Kg-dry	1	4/10/2018 01:39 AM
Xylenes, Total	ND		0.11	mg/Kg-dry	1	4/10/2018 01:39 AM
Surr: 1,2-Dichloroethane-d4	88.0		70-130	%REC	1	4/10/2018 01:39 AM
Surr: 4-Bromofluorobenzene	101		70-130	%REC	1	4/10/2018 01:39 AM
Surr: Dibromofluoromethane	84.8		70-130	%REC	1	4/10/2018 01:39 AM
Surr: Toluene-d8	94.3		70-130	%REC	1	4/10/2018 01:39 AM
CHLORIDE						
			A4500-CL C-11		Prep: EXTRACT 4/5/18 11:55	Analyst: STP
Chloride	380		33	mg/Kg-dry	1	4/10/2018 11:35 AM
MOISTURE						
			SW3550C			Analyst: NW
Moisture	8.6		0.050	% of sample	1	4/8/2018 12:45 AM

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

ALS Group, USA

Date: 11-Apr-18

Client: WPX Energy

Project: East Pecos 22-5H

Sample ID: BH18-03 (4)

Collection Date: 3/29/2018

Work Order: 1804168

Lab ID: 1804168-11

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CHLORIDE			A4500-CL C-11	Prep: EXTRACT 4/5/18 11:55		Analyst: STP
Chloride	380		33	mg/Kg-dry	1	4/10/2018 11:35 AM
MOISTURE			SW3550C			Analyst: NW
Moisture	8.5		0.050	% of sample	1	4/8/2018 12:45 AM

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

ALS Group, USA

Date: 11-Apr-18

Client: WPX Energy

Project: East Pecos 22-5H

Sample ID: BH18-03 (6)

Collection Date: 3/29/2018

Work Order: 1804168

Lab ID: 1804168-12

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CHLORIDE			A4500-CL C-11	Prep: EXTRACT 4/5/18 11:55		Analyst: STP
Chloride	1,500		33	mg/Kg-dry	1	4/10/2018 11:35 AM
MOISTURE			SW3550C			Analyst: NW
Moisture	10		0.050	% of sample	1	4/8/2018 12:45 AM

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

ALS Group, USA

Date: 11-Apr-18

Client: WPX Energy

Project: East Pecos 22-5H

Sample ID: BH18-04 (0)

Collection Date: 3/29/2018

Work Order: 1804168

Lab ID: 1804168-13

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 4/9/18 14:38	Analyst: MEB
DRO (C10-C28)	11		5.2	mg/Kg-dry	1	4/10/2018 03:53 AM
ORO (C28-C40)	9.3		5.2	mg/Kg-dry	1	4/10/2018 03:53 AM
Surr: 4-Terphenyl-d14	41.5		34-130	%REC	1	4/10/2018 03:53 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 4/6/18 15:37	Analyst: MEB
GRO (C6-C10)	8.2		5.5	mg/Kg-dry	1	4/10/2018 09:06 AM
Surr: Toluene-d8	82.2		71-123	%REC	1	4/10/2018 09:06 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 4/6/18 15:37	Analyst: EMR
Benzene	ND		0.033	mg/Kg-dry	1	4/10/2018 01:54 AM
Ethylbenzene	ND		0.033	mg/Kg-dry	1	4/10/2018 01:54 AM
m,p-Xylene	ND		0.066	mg/Kg-dry	1	4/10/2018 01:54 AM
o-Xylene	ND		0.033	mg/Kg-dry	1	4/10/2018 01:54 AM
Toluene	ND		0.033	mg/Kg-dry	1	4/10/2018 01:54 AM
Xylenes, Total	ND		0.098	mg/Kg-dry	1	4/10/2018 01:54 AM
Surr: 1,2-Dichloroethane-d4	86.6		70-130	%REC	1	4/10/2018 01:54 AM
Surr: 4-Bromofluorobenzene	102		70-130	%REC	1	4/10/2018 01:54 AM
Surr: Dibromofluoromethane	80.3		70-130	%REC	1	4/10/2018 01:54 AM
Surr: Toluene-d8	101		70-130	%REC	1	4/10/2018 01:54 AM
CHLORIDE						
			A4500-CL C-11		Prep: EXTRACT 4/5/18 11:55	Analyst: STP
Chloride	310		31	mg/Kg-dry	1	4/10/2018 11:35 AM
MOISTURE						
			SW3550C			Analyst: NW
Moisture	4.5		0.050	% of sample	1	4/8/2018 12:45 AM

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

ALS Group, USA

Date: 11-Apr-18

Client: WPX Energy

Project: East Pecos 22-5H

Sample ID: BH18-04 (2)

Collection Date: 3/29/2018

Work Order: 1804168

Lab ID: 1804168-14

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 4/6/18 12:59	Analyst: MEB
DRO (C10-C28)	ND		5.2	mg/Kg-dry	1	4/6/2018 10:36 PM
ORO (C28-C40)	ND		5.2	mg/Kg-dry	1	4/6/2018 10:36 PM
Surr: 4-Terphenyl-d14	49.0		34-130	%REC	1	4/6/2018 10:36 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 4/6/18 15:37	Analyst: MEB
GRO (C6-C10)	ND		5.8	mg/Kg-dry	1	4/10/2018 09:32 AM
Surr: Toluene-d8	92.9		71-123	%REC	1	4/10/2018 09:32 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 4/6/18 15:37	Analyst: EMR
Benzene	ND		0.035	mg/Kg-dry	1	4/10/2018 02:10 AM
Ethylbenzene	ND		0.035	mg/Kg-dry	1	4/10/2018 02:10 AM
m,p-Xylene	ND		0.070	mg/Kg-dry	1	4/10/2018 02:10 AM
o-Xylene	ND		0.035	mg/Kg-dry	1	4/10/2018 02:10 AM
Toluene	ND		0.035	mg/Kg-dry	1	4/10/2018 02:10 AM
Xylenes, Total	ND		0.11	mg/Kg-dry	1	4/10/2018 02:10 AM
Surr: 1,2-Dichloroethane-d4	86.2		70-130	%REC	1	4/10/2018 02:10 AM
Surr: 4-Bromofluorobenzene	102		70-130	%REC	1	4/10/2018 02:10 AM
Surr: Dibromofluoromethane	84.3		70-130	%REC	1	4/10/2018 02:10 AM
Surr: Toluene-d8	98.0		70-130	%REC	1	4/10/2018 02:10 AM
CHLORIDE						
			A4500-CL C-11		Prep: EXTRACT 4/5/18 11:55	Analyst: STP
Chloride	260		32	mg/Kg-dry	1	4/10/2018 11:35 AM
MOISTURE						
			SW3550C			Analyst: NW
Moisture	7.7		0.050	% of sample	1	4/8/2018 12:45 AM

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

ALS Group, USA

Date: 11-Apr-18

Client: WPX Energy

Project: East Pecos 22-5H

Sample ID: BH18-04 (4)

Collection Date: 3/29/2018

Work Order: 1804168

Lab ID: 1804168-15

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CHLORIDE			A4500-CL C-11	Prep: EXTRACT 4/5/18 11:55		Analyst: STP
Chloride	320		32	mg/Kg-dry	1	4/10/2018 11:35 AM
MOISTURE			SW3550C			Analyst: NW
Moisture	8.0		0.050	% of sample	1	4/8/2018 12:45 AM

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

ALS Group, USA

Date: 11-Apr-18

Client: WPX Energy

Project: East Pecos 22-5H

Sample ID: BH18-04 (6)

Collection Date: 3/29/2018

Work Order: 1804168

Lab ID: 1804168-16

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CHLORIDE			A4500-CL C-11	Prep: EXTRACT 4/5/18 11:55		Analyst: STP
Chloride	220		33	mg/Kg-dry	1	4/10/2018 11:35 AM
MOISTURE			SW3550C			Analyst: NW
Moisture	11		0.050	% of sample	1	4/8/2018 12:45 AM

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

ALS Group, USA

Date: 11-Apr-18

Client: WPX Energy

Project: East Pecos 22-5H

Sample ID: BH18-05 (0)

Collection Date: 3/29/2018

Work Order: 1804168

Lab ID: 1804168-17

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 4/6/18 12:59	Analyst: MEB
DRO (C10-C28)	180		5.4	mg/Kg-dry	1	4/6/2018 11:05 PM
ORO (C28-C40)	180		5.4	mg/Kg-dry	1	4/6/2018 11:05 PM
Surr: 4-Terphenyl-d14	99.6		34-130	%REC	1	4/6/2018 11:05 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 4/6/18 15:37	Analyst: MEB
GRO (C6-C10)	8.3		5.8	mg/Kg-dry	1	4/10/2018 10:51 AM
Surr: Toluene-d8	86.4		71-123	%REC	1	4/10/2018 10:51 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 4/6/18 15:37	Analyst: EMR
Benzene	ND		0.035	mg/Kg-dry	1	4/10/2018 02:25 AM
Ethylbenzene	ND		0.035	mg/Kg-dry	1	4/10/2018 02:25 AM
m,p-Xylene	0.42		0.069	mg/Kg-dry	1	4/10/2018 02:25 AM
o-Xylene	0.13		0.035	mg/Kg-dry	1	4/10/2018 02:25 AM
Toluene	ND		0.035	mg/Kg-dry	1	4/10/2018 02:25 AM
Xylenes, Total	0.55		0.10	mg/Kg-dry	1	4/10/2018 02:25 AM
Surr: 1,2-Dichloroethane-d4	85.0		70-130	%REC	1	4/10/2018 02:25 AM
Surr: 4-Bromofluorobenzene	108		70-130	%REC	1	4/10/2018 02:25 AM
Surr: Dibromofluoromethane	83.8		70-130	%REC	1	4/10/2018 02:25 AM
Surr: Toluene-d8	98.2		70-130	%REC	1	4/10/2018 02:25 AM
CHLORIDE						
			A4500-CL C-11		Prep: EXTRACT 4/5/18 11:55	Analyst: STP
Chloride	2,000		32	mg/Kg-dry	1	4/10/2018 11:35 AM
MOISTURE						
			SW3550C			Analyst: NW
Moisture	7.2		0.050	% of sample	1	4/8/2018 12:45 AM

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

ALS Group, USA

Date: 11-Apr-18

Client: WPX Energy

Project: East Pecos 22-5H

Sample ID: BH18-05 (2)

Collection Date: 3/29/2018

Work Order: 1804168

Lab ID: 1804168-18

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 4/9/18 14:38	Analyst: MEB
DRO (C10-C28)	290		5.5	mg/Kg-dry	1	4/10/2018 04:22 AM
ORO (C28-C40)	530		5.5	mg/Kg-dry	1	4/10/2018 04:22 AM
Surr: 4-Terphenyl-d14	51.6		34-130	%REC	1	4/10/2018 04:22 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 4/6/18 15:37	Analyst: MEB
GRO (C6-C10)	ND		6.1	mg/Kg-dry	1	4/10/2018 11:17 AM
Surr: Toluene-d8	88.7		71-123	%REC	1	4/10/2018 11:17 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 4/6/18 15:37	Analyst: EMR
Benzene	ND		0.037	mg/Kg-dry	1	4/10/2018 02:41 AM
Ethylbenzene	ND		0.037	mg/Kg-dry	1	4/10/2018 02:41 AM
m,p-Xylene	ND		0.073	mg/Kg-dry	1	4/10/2018 02:41 AM
o-Xylene	ND		0.037	mg/Kg-dry	1	4/10/2018 02:41 AM
Toluene	ND		0.037	mg/Kg-dry	1	4/10/2018 02:41 AM
Xylenes, Total	ND		0.11	mg/Kg-dry	1	4/10/2018 02:41 AM
Surr: 1,2-Dichloroethane-d4	85.0		70-130	%REC	1	4/10/2018 02:41 AM
Surr: 4-Bromofluorobenzene	104		70-130	%REC	1	4/10/2018 02:41 AM
Surr: Dibromofluoromethane	86.4		70-130	%REC	1	4/10/2018 02:41 AM
Surr: Toluene-d8	99.2		70-130	%REC	1	4/10/2018 02:41 AM
CHLORIDE						
			A4500-CL C-11		Prep: EXTRACT 4/5/18 11:55	Analyst: STP
Chloride	1,700		33	mg/Kg-dry	1	4/10/2018 11:35 AM
MOISTURE						
			SW3550C			Analyst: NW
Moisture	10		0.050	% of sample	1	4/8/2018 12:45 AM

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

ALS Group, USA

Date: 11-Apr-18

Client: WPX Energy

Project: East Pecos 22-5H

Sample ID: BH18-05 (4)

Collection Date: 3/29/2018

Work Order: 1804168

Lab ID: 1804168-19

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CHLORIDE			A4500-CL C-11	Prep: EXTRACT 4/5/18 11:55		Analyst: STP
Chloride	1,600		33	mg/Kg-dry	1	4/10/2018 11:35 AM
MOISTURE			SW3550C			Analyst: NW
Moisture	9.9		0.050	% of sample	1	4/8/2018 12:45 AM

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

ALS Group, USA

Date: 11-Apr-18

Client: WPX Energy

Project: East Pecos 22-5H

Sample ID: BH18-05 (6)

Collection Date: 3/29/2018

Work Order: 1804168

Lab ID: 1804168-20

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CHLORIDE			A4500-CL C-11	Prep: EXTRACT 4/5/18 12:35		Analyst: STP
Chloride	1,100		33	mg/Kg-dry	1	4/9/2018 05:40 PM
MOISTURE			SW3550C			Analyst: RZM
Moisture	8.5		0.050	% of sample	1	4/9/2018 04:49 PM

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

ALS Group, USA

Date: 11-Apr-18

Client: WPX Energy

Project: East Pecos 22-5H

Sample ID: BH18-06 (0)

Collection Date: 3/29/2018

Work Order: 1804168

Lab ID: 1804168-21

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 4/10/18 14:59	Analyst: MEB
DRO (C10-C28)	28		7.7	mg/Kg-dry	1	4/10/2018 06:08 PM
ORO (C28-C40)	34		7.7	mg/Kg-dry	1	4/10/2018 06:08 PM
Surr: 4-Terphenyl-d14	43.0		34-130	%REC	1	4/10/2018 06:08 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 4/6/18 15:37	Analyst: MEB
GRO (C6-C10)	ND		5.6	mg/Kg-dry	1	4/10/2018 11:43 AM
Surr: Toluene-d8	92.3		71-123	%REC	1	4/10/2018 11:43 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 4/6/18 15:37	Analyst: EMR
Benzene	ND		0.033	mg/Kg-dry	1	4/10/2018 02:56 AM
Ethylbenzene	ND		0.033	mg/Kg-dry	1	4/10/2018 02:56 AM
m,p-Xylene	ND		0.067	mg/Kg-dry	1	4/10/2018 02:56 AM
o-Xylene	ND		0.033	mg/Kg-dry	1	4/10/2018 02:56 AM
Toluene	ND		0.033	mg/Kg-dry	1	4/10/2018 02:56 AM
Xylenes, Total	ND		0.10	mg/Kg-dry	1	4/10/2018 02:56 AM
Surr: 1,2-Dichloroethane-d4	84.7		70-130	%REC	1	4/10/2018 02:56 AM
Surr: 4-Bromofluorobenzene	105		70-130	%REC	1	4/10/2018 02:56 AM
Surr: Dibromofluoromethane	83.2		70-130	%REC	1	4/10/2018 02:56 AM
Surr: Toluene-d8	95.7		70-130	%REC	1	4/10/2018 02:56 AM
CHLORIDE						
			A4500-CL C-11		Prep: EXTRACT 4/5/18 12:35	Analyst: STP
Chloride	5,500		32	mg/Kg-dry	1	4/9/2018 05:40 PM
MOISTURE						
			SW3550C			Analyst: RZM
Moisture	5.4		0.050	% of sample	1	4/9/2018 04:49 PM

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

ALS Group, USA

Date: 11-Apr-18

Client: WPX Energy

Project: East Pecos 22-5H

Sample ID: BH18-06 (2)

Collection Date: 3/29/2018

Work Order: 1804168

Lab ID: 1804168-22

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 4/10/18 14:59	Analyst: MEB
DRO (C10-C28)	9.7		8.3	mg/Kg-dry	1	4/10/2018 06:37 PM
ORO (C28-C40)	ND		8.3	mg/Kg-dry	1	4/10/2018 06:37 PM
Surr: 4-Terphenyl-d14	45.0		34-130	%REC	1	4/10/2018 06:37 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 4/6/18 15:37	Analyst: MEB
GRO (C6-C10)	ND		6.1	mg/Kg-dry	1	4/10/2018 12:09 PM
Surr: Toluene-d8	89.3		71-123	%REC	1	4/10/2018 12:09 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 4/6/18 15:37	Analyst: EMR
Benzene	ND		0.036	mg/Kg-dry	1	4/10/2018 03:12 AM
Ethylbenzene	ND		0.036	mg/Kg-dry	1	4/10/2018 03:12 AM
m,p-Xylene	ND		0.073	mg/Kg-dry	1	4/10/2018 03:12 AM
o-Xylene	ND		0.036	mg/Kg-dry	1	4/10/2018 03:12 AM
Toluene	ND		0.036	mg/Kg-dry	1	4/10/2018 03:12 AM
Xylenes, Total	ND		0.11	mg/Kg-dry	1	4/10/2018 03:12 AM
Surr: 1,2-Dichloroethane-d4	81.6		70-130	%REC	1	4/10/2018 03:12 AM
Surr: 4-Bromofluorobenzene	103		70-130	%REC	1	4/10/2018 03:12 AM
Surr: Dibromofluoromethane	83.5		70-130	%REC	1	4/10/2018 03:12 AM
Surr: Toluene-d8	96.9		70-130	%REC	1	4/10/2018 03:12 AM
CHLORIDE						
			A4500-CL C-11		Prep: EXTRACT 4/5/18 12:35	Analyst: STP
Chloride	2,200		33	mg/Kg-dry	1	4/9/2018 05:40 PM
MOISTURE						
			SW3550C			Analyst: RZM
Moisture	9.6		0.050	% of sample	1	4/9/2018 04:49 PM

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

ALS Group, USA

Date: 11-Apr-18

Client: WPX Energy

Project: East Pecos 22-5H

Sample ID: BH18-06 (4)

Collection Date: 3/29/2018

Work Order: 1804168

Lab ID: 1804168-23

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CHLORIDE			A4500-CL C-11	Prep: EXTRACT 4/5/18 12:35		Analyst: STP
Chloride	980		32	mg/Kg-dry	1	4/9/2018 05:40 PM
MOISTURE			SW3550C			Analyst: RZM
Moisture	7.2		0.050	% of sample	1	4/9/2018 04:49 PM

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

ALS Group, USA

Date: 11-Apr-18

Client: WPX Energy

Project: East Pecos 22-5H

Sample ID: BH18-06 (6)

Collection Date: 3/29/2018

Work Order: 1804168

Lab ID: 1804168-24

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CHLORIDE			A4500-CL C-11	Prep: EXTRACT 4/5/18 12:35		Analyst: STP
Chloride	660		31	mg/Kg-dry	1	4/9/2018 05:40 PM
MOISTURE			SW3550C			Analyst: RZM
Moisture	4.8		0.050	% of sample	1	4/9/2018 04:49 PM

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

Client: WPX Energy

Work Order: 1804168

Project: East Pecos 22-5H

QC BATCH REPORT

Batch ID: **116472**

Instrument ID **GC8**

Method: **SW8015C**

MBLK		Sample ID: DBLKS1-116472-116472				Units: mg/Kg		Analysis Date: 4/6/2018 02:50 PM		
Client ID:		Run ID: GC8_180406A				SeqNo: 4971907		Prep Date: 4/6/2018		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

2.467

0

3.33

0

74.1

34-130

0

LCS		Sample ID: DLCSS1-116472-116472				Units: mg/Kg		Analysis Date: 4/6/2018 03:19 PM		
Client ID:		Run ID: GC8_180406A				SeqNo: 4971908		Prep Date: 4/6/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

307.8

5.0

333

0

92.4

65-122

0

ORO (C28-C40)

342.8

5.0

333

0

103

81-116

0

Surr: 4-Terphenyl-d14

3.317

0

3.33

0

99.6

34-130

0

MS		Sample ID: 1804190-01A MS				Units: mg/Kg		Analysis Date: 4/6/2018 04:17 PM		
Client ID:		Run ID: GC8_180406A				SeqNo: 4971910		Prep Date: 4/6/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

298.9

4.9

324.6

5.174

90.5

65-122

0

ORO (C28-C40)

322.8

4.9

324.6

0

99.4

81-116

0

Surr: 4-Terphenyl-d14

2.649

0

3.246

0

81.6

34-130

0

MSD		Sample ID: 1804190-01A MSD				Units: mg/Kg		Analysis Date: 4/6/2018 04:47 PM		
Client ID:		Run ID: GC8_180406A				SeqNo: 4971911		Prep Date: 4/6/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

298.4

5.0

330.6

5.174

88.7

65-122

298.9

0.162

30

ORO (C28-C40)

325.2

5.0

330.6

0

98.4

81-116

322.8

0.746

30

Surr: 4-Terphenyl-d14

2.498

0

3.306

0

75.6

34-130

2.649

5.84

30

The following samples were analyzed in this batch:

1804168-01A	1804168-02A	1804168-05A
1804168-06A	1804168-09A	1804168-10A
1804168-13A	1804168-14A	1804168-17A

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

Client: WPX Energy
 Work Order: 1804168
 Project: East Pecos 22-5H

QC BATCH REPORT

Batch ID: **116515** Instrument ID **GC8** Method: **SW8015C**

MBLK		Sample ID: DBLKS1-116515-116515				Units: mg/Kg		Analysis Date: 4/9/2018 11:01 PM		
Client ID:		Run ID: GC8_180409B				SeqNo: 4973957		Prep Date: 4/9/2018		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

2.133

0

3.33

0

64.1

34-130

0

LCS		Sample ID: DLCSS1-116515-116515				Units: mg/Kg		Analysis Date: 4/9/2018 11:31 PM		
Client ID:		Run ID: GC8_180409B				SeqNo: 4973958		Prep Date: 4/9/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

304.9

5.0

333

0

91.6

65-122

0

ORO (C28-C40)

340.2

5.0

333

0

102

81-116

0

Surr: 4-Terphenyl-d14

2.35

0

3.33

0

70.6

34-130

0

MS		Sample ID: 1804227-01B MS				Units: mg/Kg		Analysis Date: 4/10/2018 12:29 PM		
Client ID:		Run ID: GC8_180409B				SeqNo: 4973977		Prep Date: 4/9/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

254.6

5.0

332

8.829

74

65-122

0

ORO (C28-C40)

270.8

5.0

332

1.67

81

81-116

0

Surr: 4-Terphenyl-d14

1.279

0

3.32

0

38.5

34-130

0

MSD		Sample ID: 1804227-01B MSD				Units: mg/Kg		Analysis Date: 4/10/2018 12:58 PM		
Client ID:		Run ID: GC8_180409B				SeqNo: 4973978		Prep Date: 4/9/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

292.9

5.0

330.5

8.829

86

65-122

254.6

14

30

ORO (C28-C40)

315.2

5.0

330.5

1.67

94.9

81-116

270.8

15.2

30

Surr: 4-Terphenyl-d14

3.49

0

3.305

0

106

34-130

1.279

92.7

30

R

The following samples were analyzed in this batch:

1804168-01A	1804168-02A	1804168-06A
1804168-13A	1804168-18A	1804168-21A
1804168-22A		

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

Client: WPX Energy
 Work Order: 1804168
 Project: East Pecos 22-5H

QC BATCH REPORT

Batch ID: **116603** Instrument ID **GC8** Method: **SW8015C**

MBLK		Sample ID: DBLKS1-116603-116603				Units: mg/Kg		Analysis Date: 4/10/2018 04:40 PM		
Client ID:		Run ID: GC8_180410C				SeqNo: 4976304		Prep Date: 4/10/2018		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								
<i>Surr: 4-Terphenyl-d14</i>	<i>2.117</i>	<i>0</i>	<i>3.33</i>	<i>0</i>	<i>63.6</i>	<i>34-130</i>	<i>0</i>			

LCS		Sample ID: DLCSS1-116603-116603				Units: mg/Kg		Analysis Date: 4/10/2018 05:09 PM		
Client ID:		Run ID: GC8_180410C				SeqNo: 4976305		Prep Date: 4/10/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	292.6	5.0	333	0	87.9	65-122	0			
ORO (C28-C40)	320.1	5.0	333	0	96.1	81-116	0			
<i>Surr: 4-Terphenyl-d14</i>	<i>2.283</i>	<i>0</i>	<i>3.33</i>	<i>0</i>	<i>68.6</i>	<i>34-130</i>	<i>0</i>			

LCSD		Sample ID: DLCSDS1-116603-116603				Units: mg/Kg		Analysis Date: 4/10/2018 05:38 PM		
Client ID:		Run ID: GC8_180410C				SeqNo: 4976306		Prep Date: 4/10/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	316.1	5.0	333	0	94.9	65-122	292.6	7.73	30	
ORO (C28-C40)	337	5.0	333	0	101	81-116	320.1	5.13	30	
<i>Surr: 4-Terphenyl-d14</i>	<i>3.017</i>	<i>0</i>	<i>3.33</i>	<i>0</i>	<i>90.6</i>	<i>34-130</i>	<i>2.283</i>	<i>27.7</i>	<i>30</i>	

The following samples were analyzed in this batch:

1804168-21A	1804168-22A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: WPX Energy
 Work Order: 1804168
 Project: East Pecos 22-5H

QC BATCH REPORT

Batch ID: **116489** Instrument ID **GC10** Method: **SW8015D**

MBLK		Sample ID: MBLK-116489-116489				Units: µg/Kg-dry		Analysis Date: 4/10/2018 06:04 AM		
Client ID:		Run ID: GC10_180409B				SeqNo: 4974756		Prep Date: 4/6/2018		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	4442	0	5000	0	88.8	71-123	0			

LCS		Sample ID: LCS-116489-116489				Units: µg/Kg-dry		Analysis Date: 4/10/2018 05:12 AM		
Client ID:		Run ID: GC10_180409B				SeqNo: 4974755		Prep Date: 4/6/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	514300	5,000	500000	0	103	71-123	0			
Surr: Toluene-d8	4342	0	5000	0	86.8	71-123	0			

MS		Sample ID: 1804168-09A MS				Units: µg/Kg-dry		Analysis Date: 4/10/2018 04:58 PM		
Client ID: BH18-03 (0)		Run ID: GC10_180409B				SeqNo: 4975925		Prep Date: 4/6/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	484500	5,400	539500	0	89.8	71-123	0			
Surr: Toluene-d8	4847	0	5395	0	89.8	71-123	0			

MSD		Sample ID: 1804168-09A MSD				Units: µg/Kg-dry		Analysis Date: 4/10/2018 05:24 PM		
Client ID: BH18-03 (0)		Run ID: GC10_180409B				SeqNo: 4975927		Prep Date: 4/6/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	510700	5,400	539500	0	94.7	71-123	484500	5.26	30	
Surr: Toluene-d8	4732	0	5395	0	87.7	71-123	4847	2.41	30	

The following samples were analyzed in this batch:

1804168-01A	1804168-02A	1804168-05A
1804168-06A	1804168-09A	1804168-10A
1804168-13A	1804168-14A	1804168-17A
1804168-18A	1804168-21A	1804168-22A

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

Client: WPX Energy
 Work Order: 1804168
 Project: East Pecos 22-5H

QC BATCH REPORT

Batch ID: **116488** Instrument ID **VMS8** Method: **SW8260B**

MBLK				Sample ID: MBLK-116488-116488				Units: µg/Kg-dry			Analysis Date: 4/9/2018 03:01 PM		
Client ID:			Run ID: VMS8_180409A				SeqNo: 4973783			Prep Date: 4/6/2018		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	886.5	0	1000	0	88.6	70-130	0						
Surr: 4-Bromofluorobenzene	1045	0	1000	0	104	70-130	0						
Surr: Dibromofluoromethane	920	0	1000	0	92	70-130	0						
Surr: Toluene-d8	1003	0	1000	0	100	70-130	0						

LCS				Sample ID: LCS-116488-116488			Units: µg/Kg-dry		Analysis Date: 4/9/2018 02:15 PM		
Client ID:		Run ID: VMS8_180409A			SeqNo: 4973779		Prep Date: 4/6/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1004	30	1000	0	100	75-125	0				
Ethylbenzene	968.5	30	1000	0	96.8	75-125	0				
m,p-Xylene	1864	60	2000	0	93.2	80-125	0				
o-Xylene	958	30	1000	0	95.8	75-125	0				
Toluene	951.5	30	1000	0	95.2	70-125	0				
Xylenes, Total	2822	90	3000	0	94	75-125	0				
Surr: 1,2-Dichloroethane-d4	906	0	1000	0	90.6	70-130	0				
Surr: 4-Bromofluorobenzene	1042	0	1000	0	104	70-130	0				
Surr: Dibromofluoromethane	970.5	0	1000	0	97	70-130	0				
Surr: Toluene-d8	963.5	0	1000	0	96.4	70-130	0				

MS					Sample ID: 1804168-09A MS			Units: µg/Kg-dry		Analysis Date: 4/10/2018 05:00 AM	
Client ID: BH18-03 (0)			Run ID: VMS8_180409B			SeqNo: 4973999		Prep Date: 4/6/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	915.5	32	1079	0	84.8	75-125	0				
Ethylbenzene	940.4	32	1079	0	87.2	75-125	0				
m,p-Xylene	1834	65	2158	0	85	80-125	0				
o-Xylene	939.3	32	1079	0	87	75-125	0				
Toluene	896.1	32	1079	0	83	70-125	0				
Xylenes, Total	2774	97	3237	0	85.7	75-125	0				
Surr: 1,2-Dichloroethane-d4	873.5	0	1079	0	81	70-130	0				
Surr: 4-Bromofluorobenzene	1093	0	1079	0	101	70-130	0				
Surr: Dibromofluoromethane	896.1	0	1079	0	83	70-130	0				
Surr: Toluene-d8	1066	0	1079	0	98.8	70-130	0				

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

Client: WPX Energy
Work Order: 1804168
Project: East Pecos 22-5H

QC BATCH REPORT

Batch ID: **116488** Instrument ID **VMS8** Method: **SW8260B**

MSD					Sample ID: 1804168-09A MSD			Units: µg/Kg-dry		Analysis Date: 4/10/2018 05:15 AM	
Client ID: BH18-03 (0)			Run ID: VMS8_180409B			SeqNo: 4974000		Prep Date: 4/6/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	930.1	32	1079	0	86.2	75-125	915.5	1.58	30		
Ethylbenzene	947.4	32	1079	0	87.8	75-125	940.4	0.743	30		
m,p-Xylene	1877	65	2158	0	87	80-125	1834	2.33	30		
o-Xylene	933.3	32	1079	0	86.5	75-125	939.3	0.634	30		
Toluene	929.6	32	1079	0	86.2	70-125	896.1	3.66	30		
Xylenes, Total	2811	97	3237	0	86.8	75-125	2774	1.33	30		
Surr: 1,2-Dichloroethane-d4	876.1	0	1079	0	81.2	70-130	873.5	0.308	30		
Surr: 4-Bromofluorobenzene	1101	0	1079	0	102	70-130	1093	0.689	30		
Surr: Dibromofluoromethane	904.2	0	1079	0	83.8	70-130	896.1	0.899	30		
Surr: Toluene-d8	1055	0	1079	0	97.8	70-130	1066	1.02	30		

The following samples were analyzed in this batch:

1804168-01A	1804168-02A	1804168-05A
1804168-06A	1804168-09A	1804168-10A
1804168-13A	1804168-14A	1804168-17A
1804168-18A	1804168-21A	1804168-22A

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

Client: WPX Energy
Work Order: 1804168
Project: East Pecos 22-5H

QC BATCH REPORT

Batch ID: **116416** Instrument ID **WETCHEM** Method: **A4500-CI C-11**

MBLK		Sample ID: MBLK-116416-116416				Units: mg/Kg		Analysis Date: 4/10/2018 11:35 AM		
Client ID:		Run ID: WETCHEM_180410D		SeqNo: 4974160		Prep Date: 4/5/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride ND 30

LCS		Sample ID: LCS-116416-116416				Units: mg/Kg		Analysis Date: 4/10/2018 11:35 AM		
Client ID:		Run ID: WETCHEM_180410D		SeqNo: 4974161		Prep Date: 4/5/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 519.8 30 500 0 104 87-112 0

MS		Sample ID: 1804168-03AMS				Units: mg/Kg		Analysis Date: 4/10/2018 11:35 AM		
Client ID: BH18-01 (4)		Run ID: WETCHEM_180410D		SeqNo: 4974166		Prep Date: 4/5/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 1527 29 487.3 989.8 110 87-112 0

MSD		Sample ID: 1804168-03AMSD				Units: mg/Kg		Analysis Date: 4/10/2018 11:35 AM		
Client ID: BH18-01 (4)		Run ID: WETCHEM_180410D		SeqNo: 4974167		Prep Date: 4/5/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 1482 30 494.1 989.8 99.6 87-112 1527 2.98 10

The following samples were analyzed in this batch:

1804168-01A	1804168-02A	1804168-03A
1804168-04A	1804168-05A	1804168-06A
1804168-07A	1804168-08A	1804168-09A
1804168-10A	1804168-11A	1804168-12A
1804168-13A	1804168-14A	1804168-15A
1804168-16A	1804168-17A	1804168-18A
1804168-19A		

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

Client: WPX Energy
Work Order: 1804168
Project: East Pecos 22-5H

QC BATCH REPORT

Batch ID: **116417** Instrument ID **WETCHEM** Method: **A4500-CI C-11**

MBLK		Sample ID: MBLK-116417-116417				Units: mg/Kg		Analysis Date: 4/9/2018 05:40 PM		
Client ID:		Run ID: WETCHEM_180409J		SeqNo: 4972912		Prep Date: 4/5/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride ND 30

LCS		Sample ID: LCS-116417-116417				Units: mg/Kg		Analysis Date: 4/9/2018 05:40 PM		
Client ID:		Run ID: WETCHEM_180409J		SeqNo: 4972913		Prep Date: 4/5/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 529.8 30 500 0 106 87-112 0

MS		Sample ID: 1804168-20AMS				Units: mg/Kg		Analysis Date: 4/9/2018 05:40 PM		
Client ID: BH18-05 (6)		Run ID: WETCHEM_180409J		SeqNo: 4972915		Prep Date: 4/5/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 1590 30 497 1048 109 87-112 0

MSD		Sample ID: 1804168-20AMSD				Units: mg/Kg		Analysis Date: 4/9/2018 05:40 PM		
Client ID: BH18-05 (6)		Run ID: WETCHEM_180409J		SeqNo: 4972916		Prep Date: 4/5/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 1627 30 493.1 1048 117 87-112 1590 2.29 10 S

The following samples were analyzed in this batch:

1804168-20A	1804168-21A	1804168-22A
1804168-23A	1804168-24A	

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

Client: WPX Energy
Work Order: 1804168
Project: East Pecos 22-5H

QC BATCH REPORT

Batch ID: **R233331** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R233331				Units: % of sample		Analysis Date: 4/8/2018 12:45 AM		
Client ID:		Run ID: MOIST_180408A		SeqNo: 4972166		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture ND 0.050

LCS		Sample ID: LCS-R233331				Units: % of sample		Analysis Date: 4/8/2018 12:45 AM		
Client ID:		Run ID: MOIST_180408A		SeqNo: 4972165		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 100 0.050 100 0 100 99.5-100.5 0

DUP		Sample ID: 1804168-02A DUP				Units: % of sample		Analysis Date: 4/8/2018 12:45 AM		
Client ID: BH18-01 (2)		Run ID: MOIST_180408A		SeqNo: 4972146		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 7.53 0.050 0 0 0 0-0 7.56 0.398 10

DUP		Sample ID: 1804168-12A DUP				Units: % of sample		Analysis Date: 4/8/2018 12:45 AM		
Client ID: BH18-03 (6)		Run ID: MOIST_180408A		SeqNo: 4972156		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 10.68 0.050 0 0 0 0-0 10.3 3.62 10

The following samples were analyzed in this batch:

1804168-01A	1804168-02A	1804168-03A
1804168-04A	1804168-05A	1804168-07A
1804168-08A	1804168-09A	1804168-10A
1804168-11A	1804168-12A	1804168-13A
1804168-14A	1804168-15A	1804168-16A
1804168-17A	1804168-18A	1804168-19A

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

Client: WPX Energy
Work Order: 1804168
Project: East Pecos 22-5H

QC BATCH REPORT

Batch ID: **R233421** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R233421				Units: % of sample		Analysis Date: 4/9/2018 04:49 PM		
Client ID:		Run ID: MOIST_180409A				SeqNo: 4974030		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture ND 0.050

LCS		Sample ID: LCS-R233421				Units: % of sample		Analysis Date: 4/9/2018 04:49 PM		
Client ID:		Run ID: MOIST_180409A				SeqNo: 4974029		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 100 0.050 100 0 100 99.5-100.5 0

DUP		Sample ID: 1804173-04A DUP				Units: % of sample		Analysis Date: 4/9/2018 04:49 PM		
Client ID:		Run ID: MOIST_180409A				SeqNo: 4974017		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 51.32 0.050 0 0 0 0-0 49.23 4.16 10

DUP		Sample ID: 1804173-05A DUP				Units: % of sample		Analysis Date: 4/9/2018 04:49 PM		
Client ID:		Run ID: MOIST_180409A				SeqNo: 4974019		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 19.74 0.050 0 0 0 0-0 16.9 15.5 10 R

The following samples were analyzed in this batch:

1804168-06A	1804168-20A	1804168-21A
1804168-22A	1804168-23A	1804168-24A

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

WORKORDER #	1804168
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[illegible]

*Time Zone (Circle): EST CST MST PST Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

For metals or anions, please detail analytes below.

Comments: FED EX 2.8°C 	QC PACKAGE (check below)							
	☒	LEVEL II (Standard QC)						
	☐	LEVEL III (Std QC + forms)						
	☐	LEVEL IV (Std QC + forms + raw data)						
	☐							
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		Robyn Fisher	03/04/2018	10:00
RECEIVED BY		PETE WESSON	4/4/18 4:13/10 PM	1000
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

WORKORDER #	1304168
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PROJECT NAME		East Pecos 22-5H		SITE ID		East Pecos 22-5H		TURNAROUND		5 days		DISPOSAL		By Lab or Return to Client	
PROJECT No.		17E-00043		EDD FORMAT											
				PURCHASE ORDER											
COMPANY NAME		WPX Energy		BILL TO COMPANY		WPX Energy									
SEND REPORT TO		Jim Raley		INVOICE ATTN TO		Jim Raley									
ADDRESS				ADDRESS		5315 Buena Vista Dr									
CITY / STATE / ZIP				CITY / STATE / ZIP		Carlsbad, NM 88220									
PHONE				PHONE		575-689-7595									
FAX				FAX											
E-MAIL		Karolina.blaney@wpxenergy.com; james.rale@wpxenergy.com		E-MAIL		Karolina.blaney@wpxenergy.com; James.Raley@wpxenergy.com									
Lab ID		Field ID		Matrix		Sample Date		Sample Time		# Bottles		Pres.		QC	
1804168-11		BH18-03 (4)		S		29/03/2018				2					
-12		BH18-03 (6)		S		29/03/2018				2					
-13		BH18-04 (0)		S		29/03/2018				2					
-14		BH18-04 (2)		S		29/03/2018				2					
-15		BH18-04 (4)		S		29/03/2018				2					
-16		BH18-04 (6)		S		29/03/2018				2					
-17		BH18-05 (0)		S		29/03/2018				2					
-18		BH18-05 (2)		S		29/03/2018				2					
-19		BH18-05 (4)		S		29/03/2018				2					
-20		BH18-05 (6)		S		29/03/2018				2					

*Time Zone (Circle): EST CST MST PST Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

For metals or anions, please detail analytes below.

Comments: FED EX 2.8°C Q	QC PACKAGE (check below)							
	X	LEVEL II (Standard QC)						
		LEVEL III (Std QC + forms)						
		LEVEL IV (Std QC + forms + raw data)						
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		Robyn Fisher	03/04/2018	10:00
RECEIVED BY		PETE WESSON	4/4/18 4/7/18 PM	1000
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

WORKORDER #	1804168
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*Time Zone (Circle): EST CST MST PST Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

Comments: 	QC PACKAGE (check below)	
	X	LEVEL II (Standard QC)
		LEVEL III (Std QC + forms)
		LEVEL IV (Std QC + forms + raw data)
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-NAHSO ₄ 7-Other 8-4 degrees C 9-5035		

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY		Robyn Fisher	03/04/2018	10:00
RECEIVED BY		PETE WESSON	4/4/18	1000
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

Sample Receipt Checklist

Client Name: **WPX - NM**

Date/Time Received: **04-Apr-18 00:00**

Work Order: **1804168**

Received by: **PW**

Checklist completed by Pete Wesson 04-Apr-18
eSignature Date

Reviewed by: Chad Whelton 04-Apr-18
eSignature Date

Matrices: **SOIL**

Carrier name: **FedEx Std Overnight**

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):	<u>2.8°C</u> <u>IR</u>		
Cooler(s)/Kit(s):	<u>1</u>		
Date/Time sample(s) sent to storage:	<u>4/4/2018 14:30</u>		
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:	<u>-</u>		

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction: