

Crystal Weaver
Environmental Specialist
NMOCD District II



March 23, 2018

Re: Pinnacle 2 – Case # 2RP-4492

Dear Ms. Weaver,

The purpose of this letter is to establish site characterization and update the work plan for case 2RP-4492 associated with the Pinnacle State #2 unauthorized release which occurred on and November 2, 2017. This release was the result of surface damage to an above ground poly line which runs along pipeline ROW. Release was estimated to be 18bbbls of produced water of which 13bbbls was recovered.

This release was immediately mapped with a Trimble to define the horizontal extent of the impacts, this data is used to produce attached spill map. Impacted soils on surface were scraped and initial samples were collected on 11/20/2017 using hand tools. NMOCD was updated of intent to gather further samples using mechanical equipment on 1/5/2018. Additional samples were collected on 1/14/2018 using a backhoe to attempt to confirm both horizontal and vertical extent of impacts. However, even use of a backhoe was unable to allow collection of samples below the hard pan of chalice that is present at approx. 2'. Further sampling in area may require use of rotary drill or large trackhoe to complete vertical delineation.

Sampling results within spill area currently indicate that recommended remediation action levels for BTEX, Benzene and TPH all fall well below NMOCD guidance. Only chlorides are slightly elevated to the currently established depth of 2' and based on horizontal delineation outside of the spill area do not appear to be migrating.

Based on the information obtained from the NMOSE web site, the closest surface water feature (ephemeral drainage) is located approx. 375' NW of the spill site. Based on the OSE ground water data, the Trend Map and the site elevation, depth to groundwater is more than 100'. There are no private domestic water sources within 1000' of the site. Therefore, the ranking for this site is 10 due to the drainage present NW of the release area. See attached OSE report for wells located within 5000m from the pad site.

WPX plans on collecting additional samples for vertical delineation of chlorides within the spill area either using a large trackhoe or rotary drill. The spill area falls mostly on an active lease road and existing pipeline ROW, scheduling to have this lease road disrupted and work near live lines in the ROW will present some difficulties. Seeing no evidence of horizontal migration of chlorides that could affect the ephemeral drainage to the NW and depth to ground water being greater than 100', there appears to be no immediate threat to water that would require expedited action. WPX requests additional time to collect vertical samples within the spill area, as it will require securing specialized equipment and coordination with lease operations in the area that may be disrupted by this sampling activity on the lease road and pipeline ROW. Our goal would be to complete this process within the next 120 days.

Please contact me if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jim Raley', with a stylized flourish at the end.

Jim Raley
WPX Energy
Environmental Specialist
(575) 689-7597
james.raley@wpxenergy.com



Legend

- ★ Point
- Area of Interest



Pinnacle State 2

Eddy County, NM

Summary Table

Pinnacle State #2 -- Case# 2RP-4492

Date	Sample Point	Depth in ft.	DRO mg/kg	ORO mg/kg	GRO mg/kg	Benzene mg/kg	Ethylbenzene mg/kg	Toluene mg/kg	Xylenes mg/kg	Chlorides mg/kg
11/20/2017	S1	0	ND	ND	ND	ND	0.051	ND	0.094	2100
""	S1	1	ND	ND	ND	ND	ND	ND	ND	780
""	S2	0	ND	ND	ND	ND	0.056		0.1	4300
""	S2	1	ND	ND	ND	ND	ND	ND	ND	6200
1/14/2018	BH18-01	0-2	ND	ND	7	ND	ND	ND	ND	1200
""	BH18-02	0-2	ND	ND	ND	ND	ND	ND	ND	ND
""	BH18-03	0-2	ND	ND	ND	ND	ND	ND	ND	52
""	BH18-04	0-2	160	ND	6.5	ND	ND	ND	ND	51
""	BH18-05	0-2	ND	ND	5.9	ND	ND	ND	ND	51
""	BH18-06	0-2	ND	ND	5.5	ND	ND	ND	ND	91



04-Dec-2017

Karolina Blaney
WPX Energy
5315 Buena Vista Dr.
Carlsbad, NM 88220

Re: **Pinnacle 2**

Work Order: **17111499**

Dear Karolina,

ALS Environmental received 4 samples on 22-Nov-2017 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental 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 15.

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

Sincerely,

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

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 998501

Report of Laboratory Analysis

ADDRESS 3352 128th Ave Holland, Michigan 49424 | PHONE (616) 399-6070 | FAX (616) 399-6185

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Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: WPX Energy
Project: Pinnacle 2
Work Order: 17111499

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>
17111499-01	Pinnacle 2 S1 0'	Soil		11/20/2017 08:00	11/22/2017 09:30	☐
17111499-02	Pinnacle 2 S1 1'	Soil		11/20/2017 08:05	11/22/2017 09:30	☐
17111499-03	Pinnacle 2 S2 0'	Soil		11/20/2017 08:10	11/22/2017 09:30	☐
17111499-04	Pinnacle 2 S2 1'	Soil		11/20/2017 08:15	11/22/2017 09:30	☐

Client: WPX Energy
Project: Pinnacle 2
WorkOrder: 17111499

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: 04-Dec-17

Client: WPX Energy

Project: Pinnacle 2

Sample ID: Pinnacle 2 S1 0'

Collection Date: 11/20/2017 08:00 AM

Work Order: 17111499

Lab ID: 17111499-01

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546	11/28/17 14:00
DRO (C10-C28)	ND		5.2	mg/Kg-dry	1	Analyst: KB 11/29/2017 12:42 PM
ORO (C28-C40)	ND		5.2	mg/Kg-dry	1	11/29/2017 12:42 PM
Surr: 4-Terphenyl-d14	44.0		34-130	%REC	1	11/29/2017 12:42 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035	11/27/17 13:48
GRO (C6-C10)	ND		5.6	mg/Kg-dry	1	Analyst: KB 11/28/2017 07:29 AM
Surr: Toluene-d8	92.0		71-123	%REC	1	11/28/2017 07:29 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035	11/27/17 13:46
Benzene	ND		0.034	mg/Kg-dry	1	Analyst: WH 11/29/2017 07:27 AM
Ethylbenzene	0.051		0.034	mg/Kg-dry	1	11/29/2017 07:27 AM
m,p-Xylene	0.094		0.068	mg/Kg-dry	1	11/29/2017 07:27 AM
o-Xylene	ND		0.034	mg/Kg-dry	1	11/29/2017 07:27 AM
Toluene	ND		0.034	mg/Kg-dry	1	11/29/2017 07:27 AM
Xylenes, Total	ND		0.10	mg/Kg-dry	1	11/29/2017 07:27 AM
Surr: 1,2-Dichloroethane-d4	101		70-130	%REC	1	11/29/2017 07:27 AM
Surr: 4-Bromofluorobenzene	101		70-130	%REC	1	11/29/2017 07:27 AM
Surr: Dibromofluoromethane	83.8		70-130	%REC	1	11/29/2017 07:27 AM
Surr: Toluene-d8	97.1		70-130	%REC	1	11/29/2017 07:27 AM
CHLORIDE						
			A4500-CL C-11		Prep: EXTRACT	12/1/17 14:45
Chloride	2,100		32	mg/Kg-dry	1	Analyst: JB 12/1/2017 03:45 PM
MOISTURE						
			SW3550C			Analyst: NW
Moisture	6.0		0.050	% of sample	1	11/29/2017 03:50 PM

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

ALS Group, USA

Date: 04-Dec-17

Client: WPX Energy

Project: Pinnacle 2

Sample ID: Pinnacle 2 S1 1'

Collection Date: 11/20/2017 08:05 AM

Work Order: 17111499

Lab ID: 17111499-02

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 11/28/17 14:00	Analyst: KB
DRO (C10-C28)	ND		5.1	mg/Kg-dry	1	11/29/2017 01:11 AM
ORO (C28-C40)	ND		5.1	mg/Kg-dry	1	11/29/2017 01:11 AM
Surr: 4-Terphenyl-d14	52.1		34-130	%REC	1	11/29/2017 01:11 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 11/27/17 13:48	Analyst: KB
GRO (C6-C10)	ND		5.4	mg/Kg-dry	1	11/28/2017 07:55 AM
Surr: Toluene-d8	90.3		71-123	%REC	1	11/28/2017 07:55 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 11/27/17 13:46	Analyst: WH
Benzene	ND		0.033	mg/Kg-dry	1	11/29/2017 07:42 AM
Ethylbenzene	ND		0.033	mg/Kg-dry	1	11/29/2017 07:42 AM
m,p-Xylene	ND		0.065	mg/Kg-dry	1	11/29/2017 07:42 AM
o-Xylene	ND		0.033	mg/Kg-dry	1	11/29/2017 07:42 AM
Toluene	ND		0.033	mg/Kg-dry	1	11/29/2017 07:42 AM
Xylenes, Total	ND		0.098	mg/Kg-dry	1	11/29/2017 07:42 AM
Surr: 1,2-Dichloroethane-d4	99.8		70-130	%REC	1	11/29/2017 07:42 AM
Surr: 4-Bromofluorobenzene	98.6		70-130	%REC	1	11/29/2017 07:42 AM
Surr: Dibromofluoromethane	82.4		70-130	%REC	1	11/29/2017 07:42 AM
Surr: Toluene-d8	97.8		70-130	%REC	1	11/29/2017 07:42 AM
CHLORIDE						
			A4500-CL C-11		Prep: EXTRACT 12/1/17 14:45	Analyst: JB
Chloride	780		31	mg/Kg-dry	1	12/1/2017 03:45 PM
MOISTURE						
			SW3550C			Analyst: NW
Moisture	4.2		0.050	% of sample	1	11/29/2017 03:50 PM

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

ALS Group, USA

Date: 04-Dec-17

Client: WPX Energy

Project: Pinnacle 2

Sample ID: Pinnacle 2 S2 0'

Collection Date: 11/20/2017 08:10 AM

Work Order: 17111499

Lab ID: 17111499-03

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 11/28/17 14:00	Analyst: KB
DRO (C10-C28)	ND		5.3	mg/Kg-dry	1	11/29/2017 01:40 AM
ORO (C28-C40)	ND		5.3	mg/Kg-dry	1	11/29/2017 01:40 AM
Surr: 4-Terphenyl-d14	40.0		34-130	%REC	1	11/29/2017 01:40 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 11/27/17 13:48	Analyst: KB
GRO (C6-C10)	ND		5.8	mg/Kg-dry	1	11/28/2017 08:21 AM
Surr: Toluene-d8	92.7		71-123	%REC	1	11/28/2017 08:21 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 11/27/17 13:46	Analyst: WH
Benzene	ND		0.035	mg/Kg-dry	1	11/29/2017 07:58 AM
Ethylbenzene	0.056		0.035	mg/Kg-dry	1	11/29/2017 07:58 AM
m,p-Xylene	0.10		0.070	mg/Kg-dry	1	11/29/2017 07:58 AM
o-Xylene	ND		0.035	mg/Kg-dry	1	11/29/2017 07:58 AM
Toluene	ND		0.035	mg/Kg-dry	1	11/29/2017 07:58 AM
Xylenes, Total	ND		0.10	mg/Kg-dry	1	11/29/2017 07:58 AM
Surr: 1,2-Dichloroethane-d4	101		70-130	%REC	1	11/29/2017 07:58 AM
Surr: 4-Bromofluorobenzene	99.0		70-130	%REC	1	11/29/2017 07:58 AM
Surr: Dibromofluoromethane	83.8		70-130	%REC	1	11/29/2017 07:58 AM
Surr: Toluene-d8	97.8		70-130	%REC	1	11/29/2017 07:58 AM
CHLORIDE						
			A4500-CL C-11		Prep: EXTRACT 12/1/17 14:45	Analyst: JB
Chloride	4,300		33	mg/Kg-dry	1	12/1/2017 03:45 PM
MOISTURE						
			SW3550C			Analyst: NW
Moisture	7.4		0.050	% of sample	1	11/29/2017 03:50 PM

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

ALS Group, USA

Date: 04-Dec-17

Client: WPX Energy

Project: Pinnacle 2

Sample ID: Pinnacle 2 S2 1'

Collection Date: 11/20/2017 08:15 AM

Work Order: 17111499

Lab ID: 17111499-04

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546	11/28/17 14:00
DRO (C10-C28)	ND		5.4	mg/Kg-dry	1	Analyst: KB 11/29/2017 02:09 AM
ORO (C28-C40)	ND		5.4	mg/Kg-dry	1	11/29/2017 02:09 AM
Surr: 4-Terphenyl-d14	40.5		34-130	%REC	1	11/29/2017 02:09 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035	11/27/17 13:48
GRO (C6-C10)	ND		6.0	mg/Kg-dry	1	Analyst: KB 11/28/2017 09:40 AM
Surr: Toluene-d8	93.2		71-123	%REC	1	11/28/2017 09:40 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035	11/27/17 13:46
Benzene	ND		0.036	mg/Kg-dry	1	Analyst: AK 11/30/2017 05:13 AM
Ethylbenzene	ND		0.036	mg/Kg-dry	1	11/30/2017 05:13 AM
m,p-Xylene	ND		0.072	mg/Kg-dry	1	11/30/2017 05:13 AM
o-Xylene	ND		0.036	mg/Kg-dry	1	11/30/2017 05:13 AM
Toluene	ND		0.036	mg/Kg-dry	1	11/30/2017 05:13 AM
Xylenes, Total	ND		0.11	mg/Kg-dry	1	11/30/2017 05:13 AM
Surr: 1,2-Dichloroethane-d4	101		70-130	%REC	1	11/30/2017 05:13 AM
Surr: 4-Bromofluorobenzene	96.0		70-130	%REC	1	11/30/2017 05:13 AM
Surr: Dibromofluoromethane	85.6		70-130	%REC	1	11/30/2017 05:13 AM
Surr: Toluene-d8	97.1		70-130	%REC	1	11/30/2017 05:13 AM
CHLORIDE						
			A4500-CL C-11		Prep: EXTRACT	12/1/17 14:45
Chloride	6,200		33	mg/Kg-dry	1	Analyst: JB 12/1/2017 03:45 PM
MOISTURE						
			SW3550C			Analyst: NW
Moisture	9.1		0.050	% of sample	1	11/29/2017 03:50 PM

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

Client: WPX Energy
Work Order: 17111499
Project: Pinnacle 2

QC BATCH REPORT

Batch ID: **111060** Instrument ID **GC8** Method: **SW8015C**

MBLK		Sample ID: DBLKS1-111060-111060				Units: mg/Kg		Analysis Date: 11/28/2017 04:58 PM		
Client ID:		Run ID: GC8_171128A				SeqNo: 4782809		Prep Date: 11/28/2017		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	2.4	0	3.33	0	72.1	34-130	0			

LCS		Sample ID: DLCSS1-111060-111060				Units: mg/Kg		Analysis Date: 11/28/2017 05:27 PM		
Client ID:		Run ID: GC8_171128A				SeqNo: 4782811		Prep Date: 11/28/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	335	5.0	333	0	101	65-122	0			
ORO (C28-C40)	334	5.0	333	0	100	81-116	0			
Surr: 4-Terphenyl-d14	2.483	0	3.33	0	74.6	34-130	0			

MS		Sample ID: 17111497-02A MS				Units: mg/Kg		Analysis Date: 11/28/2017 06:25 PM		
Client ID:		Run ID: GC8_171128A				SeqNo: 4782814		Prep Date: 11/28/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	342.1	5.0	331.3	0	103	65-122	0			
ORO (C28-C40)	346.1	5.0	331.3	7.526	102	81-116	0			
Surr: 4-Terphenyl-d14	2.553	0	3.313	0	77.1	34-130	0			

MSD		Sample ID: 17111497-02A MSD				Units: mg/Kg		Analysis Date: 11/28/2017 06:54 PM		
Client ID:		Run ID: GC8_171128A				SeqNo: 4782815		Prep Date: 11/28/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	323.9	5.0	330.3	0	98.1	65-122	342.1	5.48	30	
ORO (C28-C40)	341	5.0	330.3	7.526	101	81-116	346.1	1.5	30	
Surr: 4-Terphenyl-d14	2.43	0	3.303	0	73.6	34-130	2.553	4.94	30	

The following samples were analyzed in this batch:

17111499-01A	17111499-02A	17111499-03A
17111499-04A		

Client: WPX Energy
 Work Order: 17111499
 Project: Pinnacle 2

QC BATCH REPORT

Batch ID: **111034** Instrument ID **GC10** Method: **SW8015D**

MBLK		Sample ID: MBLK-111034-111034				Units: µg/Kg-dry		Analysis Date: 11/27/2017 07:22 PM		
Client ID:		Run ID: GC10_171127A				SeqNo: 4782664		Prep Date: 11/27/2017		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	4558	0	5000	0	91.2	71-123	0			

LCS		Sample ID: LCS-111034-111034				Units: µg/Kg-dry		Analysis Date: 11/27/2017 06:04 PM		
Client ID:		Run ID: GC10_171127A				SeqNo: 4782662		Prep Date: 11/27/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	495600	5,000	500000	0	99.1	71-123	0			
Surr: Toluene-d8	5092	0	5000	0	102	71-123	0			

MS		Sample ID: 17111505-01A MS				Units: µg/Kg-dry		Analysis Date: 11/28/2017 03:18 PM		
Client ID:		Run ID: GC10_171127A				SeqNo: 4782702		Prep Date: 11/27/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	550100	5,600	557100	0	98.7	71-123	0			
Surr: Toluene-d8	5406	0	5571	0	97	71-123	0			

MSD		Sample ID: 17111505-01A MSD				Units: µg/Kg-dry		Analysis Date: 11/28/2017 03:44 PM		
Client ID:		Run ID: GC10_171127A				SeqNo: 4782703		Prep Date: 11/27/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	559900	5,600	557100	0	101	71-123	550100	1.78	30	
Surr: Toluene-d8	5475	0	5571	0	98.3	71-123	5406	1.26	30	

The following samples were analyzed in this batch:

17111499-01A	17111499-02A	17111499-03A
17111499-04A		

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

Client: WPX Energy
 Work Order: 17111499
 Project: Pinnacle 2

QC BATCH REPORT

Batch ID: **111033** Instrument ID **VMS10** Method: **SW8260B**

Sample ID: MBLK-111033-111033				Units: µg/Kg-dry			Analysis Date: 11/29/2017 02:47 A			
Client ID:		Run ID: VMS10_171128B			SeqNo: 4783450		Prep Date: 11/27/2017		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								
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>1012</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>101</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>992.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>99.2</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Dibromofluoromethane</i>	<i>867</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>86.7</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Toluene-d8</i>	<i>975</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>97.5</i>	<i>70-130</i>	<i>0</i>			

LCS				Sample ID: LCS-111033-111033				Units: µg/Kg-dry			Analysis Date: 11/29/2017 02:00 A			
Client ID:				Run ID: VMS10_171128B				SeqNo: 4783449			Prep Date: 11/27/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Benzene	1090	30	1000	0	109	75-125	0							
Ethylbenzene	960.5	30	1000	0	96	75-125	0							
m,p-Xylene	1888	60	2000	0	94.4	80-125	0							
o-Xylene	948.5	30	1000	0	94.8	75-125	0							
Toluene	1082	30	1000	0	108	70-125	0							
Xylenes, Total	2836	90	3000	0	94.6	75-125	0							
Surr: 1,2-Dichloroethane-d4	968.5	0	1000	0	96.8	70-130	0							
Surr: 4-Bromofluorobenzene	1042	0	1000	0	104	70-130	0							
Surr: Dibromofluoromethane	996.5	0	1000	0	99.6	70-130	0							
Surr: Toluene-d8	995.5	0	1000	0	99.6	70-130	0							

MS				Sample ID: 17111505-01A MS				Units: µg/Kg-dry		Analysis Date: 11/29/2017 08:14 A	
Client ID:			Run ID: VMS10_171128B			SeqNo: 4783468		Prep Date: 11/27/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1221	33	1114	0	110	75-125		0			
Ethylbenzene	1017	33	1114	0	91.3	75-125		0			
m,p-Xylene	2030	67	2228	0	91.1	80-125		0			
o-Xylene	1016	33	1114	0	91.2	75-125		0			
Toluene	1138	33	1114	0	102	70-125		0			
Xylenes, Total	3046	100	3342	0	91.1	75-125		0			
Surr: 1,2-Dichloroethane-d4	1094	0	1114	0	98.2	70-130		0			
Surr: 4-Bromofluorobenzene	1200	0	1114	0	108	70-130		0			
Surr: Dibromofluoromethane	1042	0	1114	0	93.5	70-130		0			
Surr: Toluene-d8	1092	0	1114	0	98	70-130		0			

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

Client: WPX Energy
 Work Order: 17111499
 Project: Pinnacle 2

QC BATCH REPORT

Batch ID: **111033** Instrument ID **VMS10** Method: **SW8260B**

MSD		Sample ID: 17111505-01A MSD				Units: µg/Kg-dry		Analysis Date: 11/29/2017 08:29 A		
Client ID:		Run ID: VMS10_171128B				SeqNo: 4783469		Prep Date: 11/27/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1267	33	1114	0	114	75-125	1221	3.76	30	
Ethylbenzene	1083	33	1114	0	97.2	75-125	1017	6.26	30	
m,p-Xylene	2127	67	2228	0	95.5	80-125	2030	4.69	30	
o-Xylene	1066	33	1114	0	95.7	75-125	1016	4.87	30	
Toluene	1188	33	1114	0	107	70-125	1138	4.31	30	
Xylenes, Total	3194	100	3342	0	95.6	75-125	3046	4.75	30	
Surr: 1,2-Dichloroethane-d4	1089	0	1114	0	97.7	70-130	1094	0.46	30	
Surr: 4-Bromofluorobenzene	1241	0	1114	0	111	70-130	1200	3.38	30	
Surr: Dibromofluoromethane	1062	0	1114	0	95.4	70-130	1042	1.96	30	
Surr: Toluene-d8	1098	0	1114	0	98.6	70-130	1092	0.509	30	

The following samples were analyzed in this batch:

17111499-01A	17111499-02A	17111499-03A
17111499-04A		

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

Client: WPX Energy
Work Order: 17111499
Project: Pinnacle 2

QC BATCH REPORT

Batch ID: **111279** Instrument ID **WETCHEM** Method: **A4500-CI C-11**

MBLK		Sample ID: MBLK-111279-111279				Units: mg/Kg		Analysis Date: 12/1/2017 03:45 PM		
Client ID:		Run ID: WETCHEM_171201L		SeqNo: 4788677		Prep Date: 12/1/2017		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-111279-111279				Units: mg/Kg		Analysis Date: 12/1/2017 03:45 PM		
Client ID:		Run ID: WETCHEM_171201L		SeqNo: 4788678		Prep Date: 12/1/2017		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: 17111502-03A MS				Units: mg/Kg		Analysis Date: 12/1/2017 03:45 PM		
Client ID:		Run ID: WETCHEM_171201L		SeqNo: 4788686		Prep Date: 12/1/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 8231 30 502 7622 121 87-112 0 SO

MSD		Sample ID: 17111502-03A MSD				Units: mg/Kg		Analysis Date: 12/1/2017 03:45 PM		
Client ID:		Run ID: WETCHEM_171201L		SeqNo: 4788687		Prep Date: 12/1/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 8165 30 498 7622 109 87-112 8231 0.8 10 O

The following samples were analyzed in this batch:

17111499-01A	17111499-02A	17111499-03A
17111499-04A		

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

Client: WPX Energy
Work Order: 17111499
Project: Pinnacle 2

QC BATCH REPORT

Batch ID: **R225482** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R225482				Units: % of sample		Analysis Date: 11/29/2017 03:50 PM		
Client ID:		Run ID: MOIST_171129C		SeqNo: 4784962		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-R225482				Units: % of sample		Analysis Date: 11/29/2017 03:50 PM		
Client ID:		Run ID: MOIST_171129C		SeqNo: 4784961		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: 17111461-22B DUP				Units: % of sample		Analysis Date: 11/29/2017 03:50 PM		
Client ID:		Run ID: MOIST_171129C		SeqNo: 4784945		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 23.58 0.050 0 0 0 0-0 23 2.49 5

DUP		Sample ID: 17111500-01A DUP				Units: % of sample		Analysis Date: 11/29/2017 03:50 PM		
Client ID:		Run ID: MOIST_171129C		SeqNo: 4784956		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 58.43 0.050 0 0 0 0-0 58.36 0.12 5

The following samples were analyzed in this batch:

17111499-01A	17111499-02A	17111499-03A
17111499-04A		

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



ALS Laboratory Group

Houston TX

Chain-of-Custody

Form 202r8

WORKORDER
#

17111499

PAGE

1 of 1

DISPOSAL

Lab or Return to Client

PROJECT NAME

Pinnacle 2

SAMPLER

SITE ID

Pinnacle 2

DATE

11/21/2017

TURNAROUND

5 day

PROJECT No.

EDD FORMAT

PURCHASE ORDER

COMPANY NAME

WPX Energy

BILL TO COMPANY

WPX Energy

SEND REPORT TO

Blaney

INVOICE ATTN TO

Karolina Blaney

ADDRESS

ADDRESS

5315 Buena Vista Dr

CITY / STATE / ZIP

CITY / STATE / ZIP

Carlsbad, NM 88220

PHONE

PHONE

970 589 0743

FAX

FAX

E-MAIL

Karolina.blaney@wpxenergy.com;
james.raley@wpxenergy.com

E-MAIL

Karolina.blaney@wpxenergy.com;
James.Raley@wpxenergy.com

DRO+GRO+ORO

BTEX

Chlorides

Lab ID

Field ID

Matrix

Sample Date

Sample Time

Bottles

Pres.

QC

1

Pinnacle 2 S1 0'

S

11/20/2017

8:00

2

8

x

x

x

x

2

Pinnacle 2 S1 1'

S

11/20/2017

8:05

2

8

x

x

x

x

3

Pinnacle 2 S2 0'

S

11/20/2017

8:10

2

8

x

x

x

x

4

Pinnacle 2 S2 1'

S

11/20/2017

8:15

2

8

x

x

x

x

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

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)

Q

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

11/21/2017

15:00

RECEIVED BY

Nicole Fredenicks

Nicole Fredenicks

11-22-17 0930

RELINQUISHED BY

RECEIVED BY

RELINQUISHED BY

RECEIVED BY

Sample Receipt Checklist

Client Name: **WPX - NM**

Date/Time Received: **22-Nov-17 09:30**

Work Order: **17111499**

Received by: **NCF**

Checklist completed by Nicole Fredericks
eSignature

22-Nov-17
Date

Reviewed by: Chad Whelton
eSignature

27-Nov-17
Date

Matrices: **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):	<u>4.4/4.4</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>11/22/2017 12:26:39 PM</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:



24-Jan-2018

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

Re: **Pinnacle 2**

Work Order: **1801827**

Dear James,

ALS Environmental received 6 samples on 17-Jan-2018 12:30 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental 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 18.

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

Sincerely,

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

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 998501

Report of Laboratory Analysis

ADDRESS 3352 128th Ave Holland, Michigan 49424 | PHONE (616) 399-6070 | FAX (616) 399-6185

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: Pinnacle 2
Work Order: 1801827

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>
1801827-01	BH18-01 (0-2)	Soil		1/14/2018	1/17/2018 12:30	☐
1801827-02	BH18-02 (0-2)	Soil		1/14/2018	1/17/2018 12:30	☐
1801827-03	BH18-03 (0-2)	Soil		1/14/2018	1/17/2018 12:30	☐
1801827-04	BH18-04 (0-2)	Soil		1/14/2018	1/17/2018 12:30	☐
1801827-05	BH18-05 (0-2)	Soil		1/14/2018	1/17/2018 12:30	☐
1801827-06	BH18-06 (0-2)	Soil		1/14/2018	1/17/2018 12:30	☐

Client: WPX Energy**Project:** Pinnacle 2**Work Order:** 1801827**Case Narrative**

Batch 113207, Method DRLVI_8015_S, Sample 1801827-04A: Low DRO surrogate recovery due to sample matrix effects confirmed by re-extraction.

Batch 113279, Method CL_4500C_S, Sample 1801827-02A 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.

Client: WPX Energy**Project:** Pinnacle 2**WorkOrder:** 1801827**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: 24-Jan-18

Client: WPX Energy
Project: Pinnacle 2
Sample ID: BH18-01 (0-2)
Collection Date: 1/14/2018

Work Order: 1801827
Lab ID: 1801827-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 1/22/18 15:07	Analyst: MEB
DRO (C10-C28)	ND		7.0	mg/Kg-dry	1	1/23/2018 05:46 PM
ORO (C28-C40)	ND		7.0	mg/Kg-dry	1	1/23/2018 05:46 PM
Surr: 4-Terphenyl-d14	60.6		34-130	%REC	1	1/23/2018 05:46 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 1/18/18 14:21	Analyst: MEB
GRO (C6-C10)	7.0		5.8	mg/Kg-dry	1	1/20/2018 09:27 AM
Surr: Toluene-d8	94.7		71-123	%REC	1	1/20/2018 09:27 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 1/18/18 14:21	Analyst: EMR
Benzene	ND		0.035	mg/Kg-dry	1	1/18/2018 06:23 PM
Ethylbenzene	ND		0.035	mg/Kg-dry	1	1/18/2018 06:23 PM
m,p-Xylene	ND		0.070	mg/Kg-dry	1	1/18/2018 06:23 PM
o-Xylene	ND		0.035	mg/Kg-dry	1	1/18/2018 06:23 PM
Toluene	ND		0.035	mg/Kg-dry	1	1/18/2018 06:23 PM
Xylenes, Total	ND		0.11	mg/Kg-dry	1	1/18/2018 06:23 PM
Surr: 1,2-Dichloroethane-d4	92.3		70-130	%REC	1	1/18/2018 06:23 PM
Surr: 4-Bromofluorobenzene	92.6		70-130	%REC	1	1/18/2018 06:23 PM
Surr: Dibromofluoromethane	95.5		70-130	%REC	1	1/18/2018 06:23 PM
Surr: Toluene-d8	93.3		70-130	%REC	1	1/18/2018 06:23 PM
CHLORIDE						
			A4500-CL C-11		Prep: EXTRACT 1/23/18 16:35	Analyst: STP
Chloride	1,200		32	mg/Kg-dry	1	1/23/2018 05:30 PM
MOISTURE						
			SW3550C			Analyst: NW
Moisture	7.8		0.050	% of sample	1	1/20/2018 10:15 PM

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

ALS Group, USA

Date: 24-Jan-18

Client: WPX Energy
Project: Pinnacle 2
Sample ID: BH18-02 (0-2)
Collection Date: 1/14/2018

Work Order: 1801827
Lab ID: 1801827-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 1/22/18 15:07	Analyst: MEB
DRO (C10-C28)	ND		7.1	mg/Kg-dry	1	1/23/2018 06:16 PM
ORO (C28-C40)	ND		7.1	mg/Kg-dry	1	1/23/2018 06:16 PM
Surr: 4-Terphenyl-d14	87.1		34-130	%REC	1	1/23/2018 06:16 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 1/18/18 14:21	Analyst: MEB
GRO (C6-C10)	ND		5.5	mg/Kg-dry	1	1/20/2018 09:57 AM
Surr: Toluene-d8	97.7		71-123	%REC	1	1/20/2018 09:57 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 1/18/18 14:21	Analyst: EMR
Benzene	ND		0.033	mg/Kg-dry	1	1/18/2018 06:38 PM
Ethylbenzene	ND		0.033	mg/Kg-dry	1	1/18/2018 06:38 PM
m,p-Xylene	ND		0.066	mg/Kg-dry	1	1/18/2018 06:38 PM
o-Xylene	ND		0.033	mg/Kg-dry	1	1/18/2018 06:38 PM
Toluene	ND		0.033	mg/Kg-dry	1	1/18/2018 06:38 PM
Xylenes, Total	ND		0.099	mg/Kg-dry	1	1/18/2018 06:38 PM
Surr: 1,2-Dichloroethane-d4	90.2		70-130	%REC	1	1/18/2018 06:38 PM
Surr: 4-Bromofluorobenzene	92.0		70-130	%REC	1	1/18/2018 06:38 PM
Surr: Dibromofluoromethane	90.4		70-130	%REC	1	1/18/2018 06:38 PM
Surr: Toluene-d8	96.8		70-130	%REC	1	1/18/2018 06:38 PM
CHLORIDE						
			A4500-CL C-11		Prep: EXTRACT 1/23/18 16:35	Analyst: STP
Chloride	ND		31	mg/Kg-dry	1	1/23/2018 05:30 PM
MOISTURE						
			SW3550C			Analyst: NW
Moisture	4.8		0.050	% of sample	1	1/20/2018 10:15 PM

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

ALS Group, USA

Date: 24-Jan-18

Client: WPX Energy
Project: Pinnacle 2
Sample ID: BH18-03 (0-2)
Collection Date: 1/14/2018

Work Order: 1801827
Lab ID: 1801827-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 1/22/18 15:07	Analyst: MEB
DRO (C10-C28)	ND		6.8	mg/Kg-dry	1	1/23/2018 06:45 PM
ORO (C28-C40)	ND		6.8	mg/Kg-dry	1	1/23/2018 06:45 PM
Surr: 4-Terphenyl-d14	84.6		34-130	%REC	1	1/23/2018 06:45 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 1/18/18 14:21	Analyst: MEB
GRO (C6-C10)	ND		5.5	mg/Kg-dry	1	1/20/2018 12:25 PM
Surr: Toluene-d8	100		71-123	%REC	1	1/20/2018 12:25 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 1/18/18 14:21	Analyst: EMR
Benzene	ND		0.033	mg/Kg-dry	1	1/18/2018 06:54 PM
Ethylbenzene	ND		0.033	mg/Kg-dry	1	1/18/2018 06:54 PM
m,p-Xylene	ND		0.066	mg/Kg-dry	1	1/18/2018 06:54 PM
o-Xylene	ND		0.033	mg/Kg-dry	1	1/18/2018 06:54 PM
Toluene	ND		0.033	mg/Kg-dry	1	1/18/2018 06:54 PM
Xylenes, Total	ND		0.099	mg/Kg-dry	1	1/18/2018 06:54 PM
Surr: 1,2-Dichloroethane-d4	93.1		70-130	%REC	1	1/18/2018 06:54 PM
Surr: 4-Bromofluorobenzene	89.2		70-130	%REC	1	1/18/2018 06:54 PM
Surr: Dibromofluoromethane	93.6		70-130	%REC	1	1/18/2018 06:54 PM
Surr: Toluene-d8	95.4		70-130	%REC	1	1/18/2018 06:54 PM
CHLORIDE						
			A4500-CL C-11		Prep: EXTRACT 1/23/18 16:35	Analyst: STP
Chloride	52		31	mg/Kg-dry	1	1/23/2018 05:30 PM
MOISTURE						
			SW3550C			Analyst: NW
Moisture	4.7		0.050	% of sample	1	1/20/2018 10:15 PM

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

ALS Group, USA

Date: 24-Jan-18

Client: WPX Energy
Project: Pinnacle 2
Sample ID: BH18-04 (0-2)
Collection Date: 1/14/2018

Work Order: 1801827
Lab ID: 1801827-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 1/22/18 15:07	Analyst: MEB
DRO (C10-C28)	160		6.6	mg/Kg-dry	1	1/23/2018 07:14 PM
ORO (C28-C40)	ND		6.6	mg/Kg-dry	1	1/23/2018 07:14 PM
Surr: 4-Terphenyl-d14	24.5	S	34-130	%REC	1	1/23/2018 07:14 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 1/18/18 14:21	Analyst: MEB
GRO (C6-C10)	6.5		5.3	mg/Kg-dry	1	1/20/2018 12:55 PM
Surr: Toluene-d8	95.9		71-123	%REC	1	1/20/2018 12:55 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 1/18/18 14:21	Analyst: EMR
Benzene	ND		0.032	mg/Kg-dry	1	1/18/2018 07:09 PM
Ethylbenzene	ND		0.032	mg/Kg-dry	1	1/18/2018 07:09 PM
m,p-Xylene	ND		0.063	mg/Kg-dry	1	1/18/2018 07:09 PM
o-Xylene	ND		0.032	mg/Kg-dry	1	1/18/2018 07:09 PM
Toluene	ND		0.032	mg/Kg-dry	1	1/18/2018 07:09 PM
Xylenes, Total	ND		0.095	mg/Kg-dry	1	1/18/2018 07:09 PM
Surr: 1,2-Dichloroethane-d4	92.0		70-130	%REC	1	1/18/2018 07:09 PM
Surr: 4-Bromofluorobenzene	90.2		70-130	%REC	1	1/18/2018 07:09 PM
Surr: Dibromofluoromethane	93.1		70-130	%REC	1	1/18/2018 07:09 PM
Surr: Toluene-d8	94.8		70-130	%REC	1	1/18/2018 07:09 PM
CHLORIDE						
			A4500-CL C-11		Prep: EXTRACT 1/23/18 16:35	Analyst: STP
Chloride	51		31	mg/Kg-dry	1	1/23/2018 05:30 PM
MOISTURE						
			SW3550C			Analyst: NW
Moisture	2.6		0.050	% of sample	1	1/20/2018 10:15 PM

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

ALS Group, USA

Date: 24-Jan-18

Client: WPX Energy
Project: Pinnacle 2
Sample ID: BH18-05 (0-2)
Collection Date: 1/14/2018

Work Order: 1801827
Lab ID: 1801827-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 1/22/18 15:07	Analyst: MEB
DRO (C10-C28)	ND		6.6	mg/Kg-dry	1	1/23/2018 07:43 PM
ORO (C28-C40)	ND		6.6	mg/Kg-dry	1	1/23/2018 07:43 PM
Surr: 4-Terphenyl-d14	87.6		34-130	%REC	1	1/23/2018 07:43 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 1/18/18 14:21	Analyst: MEB
GRO (C6-C10)	5.9		5.5	mg/Kg-dry	1	1/20/2018 01:24 PM
Surr: Toluene-d8	94.7		71-123	%REC	1	1/20/2018 01:24 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 1/18/18 14:21	Analyst: EMR
Benzene	ND		0.033	mg/Kg-dry	1	1/18/2018 07:25 PM
Ethylbenzene	ND		0.033	mg/Kg-dry	1	1/18/2018 07:25 PM
m,p-Xylene	ND		0.066	mg/Kg-dry	1	1/18/2018 07:25 PM
o-Xylene	ND		0.033	mg/Kg-dry	1	1/18/2018 07:25 PM
Toluene	ND		0.033	mg/Kg-dry	1	1/18/2018 07:25 PM
Xylenes, Total	ND		0.098	mg/Kg-dry	1	1/18/2018 07:25 PM
Surr: 1,2-Dichloroethane-d4	92.7		70-130	%REC	1	1/18/2018 07:25 PM
Surr: 4-Bromofluorobenzene	89.0		70-130	%REC	1	1/18/2018 07:25 PM
Surr: Dibromofluoromethane	94.6		70-130	%REC	1	1/18/2018 07:25 PM
Surr: Toluene-d8	94.2		70-130	%REC	1	1/18/2018 07:25 PM
CHLORIDE						
			A4500-CL C-11		Prep: EXTRACT 1/23/18 16:35	Analyst: STP
Chloride	51		31	mg/Kg-dry	1	1/23/2018 05:30 PM
MOISTURE						
			SW3550C			Analyst: NW
Moisture	4.5		0.050	% of sample	1	1/20/2018 10:15 PM

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

ALS Group, USA

Date: 24-Jan-18

Client: WPX Energy
Project: Pinnacle 2
Sample ID: BH18-06 (0-2)
Collection Date: 1/14/2018

Work Order: 1801827
Lab ID: 1801827-06
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 1/22/18 15:07	Analyst: MEB
DRO (C10-C28)	ND		7.0	mg/Kg-dry	1	1/23/2018 08:12 PM
ORO (C28-C40)	ND		7.0	mg/Kg-dry	1	1/23/2018 08:12 PM
Surr: 4-Terphenyl-d14	91.1		34-130	%REC	1	1/23/2018 08:12 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 1/18/18 14:21	Analyst: MEB
GRO (C6-C10)	5.5		5.5	mg/Kg-dry	1	1/20/2018 01:54 PM
Surr: Toluene-d8	94.0		71-123	%REC	1	1/20/2018 01:54 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 1/18/18 14:21	Analyst: EMR
Benzene	ND		0.033	mg/Kg-dry	1	1/18/2018 07:40 PM
Ethylbenzene	ND		0.033	mg/Kg-dry	1	1/18/2018 07:40 PM
m,p-Xylene	ND		0.066	mg/Kg-dry	1	1/18/2018 07:40 PM
o-Xylene	ND		0.033	mg/Kg-dry	1	1/18/2018 07:40 PM
Toluene	ND		0.033	mg/Kg-dry	1	1/18/2018 07:40 PM
Xylenes, Total	ND		0.099	mg/Kg-dry	1	1/18/2018 07:40 PM
Surr: 1,2-Dichloroethane-d4	94.8		70-130	%REC	1	1/18/2018 07:40 PM
Surr: 4-Bromofluorobenzene	87.4		70-130	%REC	1	1/18/2018 07:40 PM
Surr: Dibromofluoromethane	97.2		70-130	%REC	1	1/18/2018 07:40 PM
Surr: Toluene-d8	93.6		70-130	%REC	1	1/18/2018 07:40 PM
CHLORIDE						
			A4500-CL C-11		Prep: EXTRACT 1/23/18 16:35	Analyst: STP
Chloride	91		31	mg/Kg-dry	1	1/23/2018 05:30 PM
MOISTURE						
			SW3550C			Analyst: NW
Moisture	4.6		0.050	% of sample	1	1/20/2018 10:15 PM

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

Client: WPX Energy
Work Order: 1801827
Project: Pinnacle 2

QC BATCH REPORT

Batch ID: **113207** Instrument ID **GC8** Method: **SW8015C**

MBLK		Sample ID: DBLKS1-113207-113207				Units: mg/Kg		Analysis Date: 1/23/2018 11:57 AM		
Client ID:		Run ID: GC8_180123A				SeqNo: 4860731		Prep Date: 1/22/2018		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	3.183	0	3.33	0	95.6	34-130		0		

LCS		Sample ID: DLCSS1-113207-113207				Units: mg/Kg		Analysis Date: 1/23/2018 12:26 PM		
Client ID:		Run ID: GC8_180123A				SeqNo: 4860732		Prep Date: 1/22/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	334.6	5.0	333	0	100	65-122		0		
ORO (C28-C40)	339.8	5.0	333	0	102	81-116		0		
Surr: 4-Terphenyl-d14	3.017	0	3.33	0	90.6	34-130		0		

MS		Sample ID: 1801764-19B MS				Units: mg/Kg		Analysis Date: 1/23/2018 01:24 PM		
Client ID:		Run ID: GC8_180123A				SeqNo: 4860734		Prep Date: 1/22/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	272.2	4.9	323.5	0	84.1	65-122		0		
ORO (C28-C40)	266	4.9	323.5	3.374	81.2	81-116		0		
Surr: 4-Terphenyl-d14	2.202	0	3.235	0	68.1	34-130		0		

MSD		Sample ID: 1801764-19B MSD				Units: mg/Kg		Analysis Date: 1/23/2018 01:54 PM		
Client ID:		Run ID: GC8_180123A				SeqNo: 4860735		Prep Date: 1/22/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	263	4.9	327.2	0	80.4	65-122	272.2	3.42	30	
ORO (C28-C40)	285.2	4.9	327.2	3.374	86.1	81-116	266	6.98	30	
Surr: 4-Terphenyl-d14	2.522	0	3.272	0	77.1	34-130	2.202	13.5	30	

The following samples were analyzed in this batch:

1801827-01A	1801827-02A	1801827-03A
1801827-04A	1801827-05A	1801827-06A

Client: WPX Energy
 Work Order: 1801827
 Project: Pinnacle 2

QC BATCH REPORT

Batch ID: **113091** Instrument ID **GC9** Method: **SW8015D**

MBLK		Sample ID: MBLK-113091-113091				Units: µg/Kg-dry		Analysis Date: 1/20/2018 06:59 AM		
Client ID:		Run ID: GC9_180119A				SeqNo: 4856420		Prep Date: 1/18/2018		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	4779	0	5000	0	95.6	71-123	0			

LCS		Sample ID: LCS-113091-113091				Units: µg/Kg-dry		Analysis Date: 1/20/2018 06:00 AM		
Client ID:		Run ID: GC9_180119A				SeqNo: 4856419		Prep Date: 1/18/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	491400	5,000	500000	0	98.3	71-123	0			
Surr: Toluene-d8	4254	0	5000	0	85.1	71-123	0			

MS		Sample ID: 1801829-07A MS				Units: µg/Kg-dry		Analysis Date: 1/20/2018 06:49 PM		
Client ID:		Run ID: GC9_180119A				SeqNo: 4856440		Prep Date: 1/18/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	547000	6,200	623600	4403	87	71-123	0			
Surr: Toluene-d8	5620	0	6236	0	90.1	71-123	0			

MSD		Sample ID: 1801829-07A MSD				Units: µg/Kg-dry		Analysis Date: 1/20/2018 07:19 PM		
Client ID:		Run ID: GC9_180119A				SeqNo: 4856441		Prep Date: 1/18/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	530500	6,200	623600	4403	84.4	71-123	547000	3.06	30	
Surr: Toluene-d8	5607	0	6236	0	89.9	71-123	5620	0.233	30	

The following samples were analyzed in this batch:

1801827-01A	1801827-02A	1801827-03A
1801827-04A	1801827-05A	1801827-06A

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

Client: WPX Energy
 Work Order: 1801827
 Project: Pinnacle 2

QC BATCH REPORT

Batch ID: **113089** Instrument ID **VMS8** Method: **SW8260B**

MBLK				Sample ID: MBLK-113089-113089				Units: µg/Kg-dry			Analysis Date: 1/18/2018 05:20 PM			
Client ID:				Run ID: VMS8_180118B				SeqNo: 4854623			Prep Date: 1/18/2018		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	976.5	0	1000	0	97.6	70-130	0							
Surr: 4-Bromofluorobenzene	808.5	0	1000	0	80.8	70-130	0							
Surr: Dibromofluoromethane	994.5	0	1000	0	99.4	70-130	0							
Surr: Toluene-d8	975.5	0	1000	0	97.6	70-130	0							

LCS				Sample ID: LCS-113089-113089				Units: µg/Kg-dry			Analysis Date: 1/18/2018 04:49 PM		
Client ID:			Run ID: VMS8_180118B				SeqNo: 4854622			Prep Date: 1/18/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Benzene	1029	30	1000	0	103	75-125	0						
Ethylbenzene	1060	30	1000	0	106	75-125	0						
m,p-Xylene	1914	60	2000	0	95.7	80-125	0						
o-Xylene	921.5	30	1000	0	92.2	75-125	0						
Toluene	1030	30	1000	0	103	70-125	0						
Xylenes, Total	2835	90	3000	0	94.5	75-125	0						
Surr: 1,2-Dichloroethane-d4	918.5	0	1000	0	91.8	70-130	0						
Surr: 4-Bromofluorobenzene	1044	0	1000	0	104	70-130	0						
Surr: Dibromofluoromethane	948	0	1000	0	94.8	70-130	0						
Surr: Toluene-d8	1010	0	1000	0	101	70-130	0						

MS				Sample ID: 1801829-07A MS				Units: µg/Kg-dry		Analysis Date: 1/19/2018 10:32 PM	
Client ID:			Run ID: VMS8_180119A			SeqNo: 4856751		Prep Date: 1/18/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	985.3	37	1247	0	79	75-125	0				
Ethylbenzene	1116	37	1247	0	89.5	75-125	0				
m,p-Xylene	1991	75	2494	0	79.8	80-125	0			S	
o-Xylene	1017	37	1247	0	81.6	75-125	0				
Toluene	1053	37	1247	0	84.4	70-125	0				
Xylenes, Total	3008	110	3742	0	80.4	75-125	0				
Surr: 1,2-Dichloroethane-d4	990.3	0	1247	0	79.4	70-130	0				
Surr: 4-Bromofluorobenzene	1276	0	1247	0	102	70-130	0				
Surr: Dibromofluoromethane	1053	0	1247	0	84.4	70-130	0				
Surr: Toluene-d8	1254	0	1247	0	101	70-130	0				

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

Client: WPX Energy
 Work Order: 1801827
 Project: Pinnacle 2

QC BATCH REPORT

Batch ID: **113089** Instrument ID **VMS8** Method: **SW8260B**

MSD				Sample ID: 1801829-07A MSD			Units: µg/Kg-dry		Analysis Date: 1/19/2018 10:48 PM		
Client ID:			Run ID: VMS8_180119A			SeqNo: 4856754		Prep Date: 1/18/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1092	37	1247	0	87.6	75-125	985.3	10.3	30		
Ethylbenzene	1245	37	1247	0	99.8	75-125	1116	10.9	30		
m,p-Xylene	2226	75	2494	0	89.2	80-125	1991	11.1	30		
o-Xylene	1146	37	1247	0	91.8	75-125	1017	11.9	30		
Toluene	1192	37	1247	0	95.6	70-125	1053	12.4	30		
Xylenes, Total	3371	110	3742	0	90.1	75-125	3008	11.4	30		
Surr: 1,2-Dichloroethane-d4	957.8	0	1247	0	76.8	70-130	990.3	3.33	30		
Surr: 4-Bromofluorobenzene	1248	0	1247	0	100	70-130	1276	2.17	30		
Surr: Dibromofluoromethane	1037	0	1247	0	83.2	70-130	1053	1.55	30		
Surr: Toluene-d8	1235	0	1247	0	99	70-130	1254	1.5	30		

The following samples were analyzed in this batch:

1801827-01A	1801827-02A	1801827-03A
1801827-04A	1801827-05A	1801827-06A

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

Client: WPX Energy
Work Order: 1801827
Project: Pinnacle 2

QC BATCH REPORT

Batch ID: **113279** Instrument ID **WETCHEM** Method: **A4500-CI C-11**

MBLK		Sample ID: MBLK-113279-113279				Units: mg/Kg		Analysis Date: 1/23/2018 05:30 PM		
Client ID:		Run ID: WETCHEM_180123K		SeqNo: 4860151		Prep Date: 1/23/2018		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-113279-113279				Units: mg/Kg		Analysis Date: 1/23/2018 05:30 PM		
Client ID:		Run ID: WETCHEM_180123K		SeqNo: 4860152		Prep Date: 1/23/2018		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: 1801827-02AMS				Units: mg/Kg		Analysis Date: 1/23/2018 05:30 PM		
Client ID: BH18-02 (0-2)		Run ID: WETCHEM_180123K		SeqNo: 4860158		Prep Date: 1/23/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 557.6 30 498 19.47 108 87-112 0

MSD		Sample ID: 1801827-02AMSD				Units: mg/Kg		Analysis Date: 1/23/2018 05:30 PM		
Client ID: BH18-02 (0-2)		Run ID: WETCHEM_180123K		SeqNo: 4860159		Prep Date: 1/23/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 598.6 30 499 19.47 116 87-112 557.6 7.1 10 S

The following samples were analyzed in this batch:

1801827-01A	1801827-02A	1801827-03A
1801827-04A	1801827-05A	1801827-06A

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

Client: WPX Energy
Work Order: 1801827
Project: Pinnacle 2

QC BATCH REPORT

Batch ID: **R228559** Instrument ID **MOIST** Method: **SW3550C**

MBLK				Sample ID: WBLKS-R228559				Units: % of sample			Analysis Date: 1/20/2018 10:15 PM			
Client ID:				Run ID: MOIST_180120C				SeqNo: 4857358			Prep Date:		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Moisture		0.03	0.050								J			

LCS		Sample ID: LCS-R228559				Units: % of sample		Analysis Date: 1/20/2018 10:15 PM		
Client ID:		Run ID: MOIST_180120C			SeqNo: 4857357		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: 1801828-01B DUP					Units: % of sample		Analysis Date: 1/20/2018 10:15 PM		
Client ID:		Run ID: MOIST_180120C			SeqNo: 4857352		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Moisture	7.44	0.050	0	0	0	0-0	7.63	2.52	10		

DUP				Sample ID: 1801828-02B DUP				Units: % of sample			Analysis Date: 1/20/2018 10:15 PM			
Client ID:				Run ID: MOIST_180120C				SeqNo: 4857354			Prep Date:		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Moisture		8.16	0.050	0	0	0	0-0	8.29	1.58	10				

The following samples were analyzed in this batch:

1801827-01A	1801827-02A	1801827-03A
1801827-04A	1801827-05A	1801827-06A

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

Kearney, NE 68847

Chain-of-Custody

Form 202r8

WORKORDER
#

1801 82-

PAGE

1 of 1

DISPOSAL

By Lab or Return to Client

[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: 802 4.6°C 	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	15/01/2018	10:00
RECEIVED BY		Diane F. Shaw	1/17/18	1230
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

Sample Receipt Checklist

Client Name: **WPX - NM**

Date/Time Received: **17-Jan-18 12:30**

Work Order: **1801827**

Received by: **DS**

Checklist completed by Diane Shaw 17-Jan-18
eSignature Date

Reviewed by: Chad Whelton 17-Jan-18
eSignature Date

Matrices: **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):	<u>4.6/4.6 c</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>1/17/2018 4:17:26 PM</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: