



Crystal Weaver
Environmental Specialist
NMOCD District II

January 2, 2017

Re: Brushy Booster workplan for the characterization of impacts – Case # 4011

Dear Ms. Weaver,

The purpose of this letter is to propose a workplan for the characterization of impacts associated with the produced water spill which occurred on July 13 and on November 13, 2016 at the Brushy Booster Station site, located south of the UCBH WW1 well pad.

The impacted area was sampled on 9/7/2016 and 11/2/2016; six grab samples were collected from two potholes located inside the SPCC containment. One surface sample was collected from the access road which was impacted by the July spill. The map of the impacted area along with the sample locations and the laboratory reports are included as an attachment. The results are summarized below:

Location	Depth	DRO (mg/kg)	GRO (mg/kg)	Benzene (mg/kg)	Ethylbenzene (mg/kg)	Toluene (mg/kg)	Xylenes (mg/kg)	Chlorides (mg/kg)
Brushy Booster 1	3'	740	33	ND	ND	ND	ND	7300
Brushy Booster 1	5'	35	ND	ND	ND	ND	ND	6900
Brushy Booster 1	7'	410	ND	ND	ND	ND	ND	2400
Brushy Booster 2	3'	44	ND	ND	ND	ND	ND	17000
Brushy Booster 2	5'	520	26	ND	0.067	0.08	0.46	3200
Brushy Booster 2	7'	9.7	ND	ND	ND	ND	ND	4100
Brushy Booster 3	0-6"	19	ND	ND	ND	ND	ND	630

The organic compounds tested below the OCD cleanup threshold. However, the chloride concentrations are exceeding the preferred cleanup concentration of 1000 mg/kg. Because of the existing infrastructure at this site and safety concerns, WPX proposes to delineate the salt impacts by conducting Electromagnetic conductivity (EM) and Electrical Resistivity Tomography (ERT) surveys.

An EM survey is a non-intrusive field-screening tool. EM surveys characterize where the soil and subsoil electrical properties have been altered by contamination, disturbance, or buried objects in the subsurface. By measuring subsurface Electrical Conductivity (EC), areas of the

subsurface with high or low EC are located. Oil and its by-products will lower the subsurface EC, while produced water, which is highly saline, will increase the subsurface EC.

An EM survey is an effective way to locate and characterize the aerial extent of salt impacts (see Figure 1). Elevated EC (yellow, orange and red shading) is indicative of salt impacts. The elevated EC depicted here is the average EC measured 3-7 ft. below ground surface (bgs). The EM survey clearly shows the extent of near-surface salt impacts, but this data is for the horizontal horizon only. To obtain more depth information and an estimated volume of impacted earth, another geophysical survey methodology is employed called electrical resistivity tomography (ERT), which images the subsurface EC in depth and more accurate lateral extent.

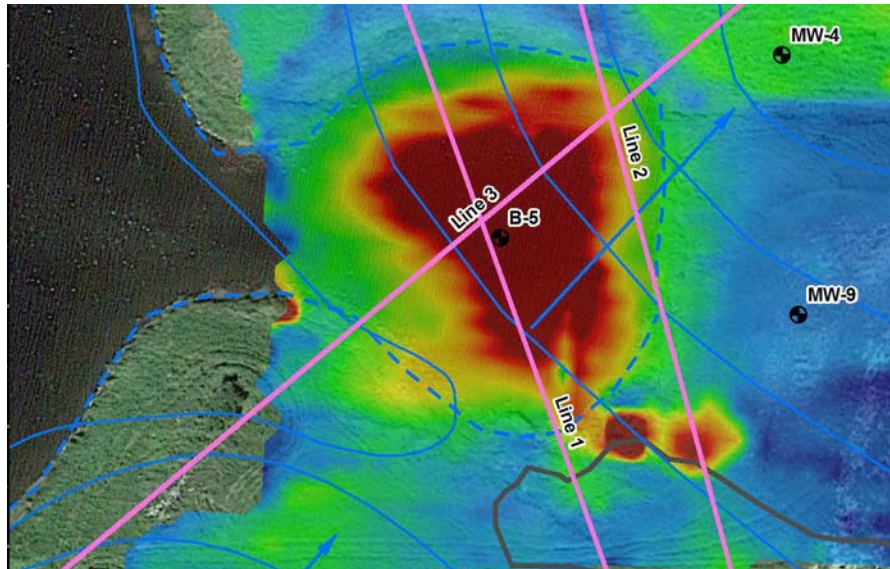


Figure 1: EM Survey over produced water spill – Elevated EC (red, orange and yellow shading) indicates salt impacts. Survey clearly delineates the aerial extent of spill impacts. ERT line locations are superimposed on EM survey for reference.

During an ERT survey, electrical current is injected into the subsurface with a grounded dipole antenna while voltage is measured with another grounded dipole. The EC is directly proportional to the voltage measured divided by the injected current. This technique is very flexible so that EC can be measured in many configurations including in a borehole or at the surface. Tomography is the process of creating an image from a dense regular array of measurements. Therefore, with ERT, a cross-sectional image of the subsurface EC (Figure 2) is generated.

Figure 2 demonstrates what a cross-sectional view of EC looks like. From the figure, it is easy to define the extents of elevated EC (green to red shaded areas) at a specific depth below ground surface (dashed line) and lateral extent. Once the dimensions of the spill impacts are combined with the aerial footprint from the EM survey a volume of impacted earth is easily estimated.

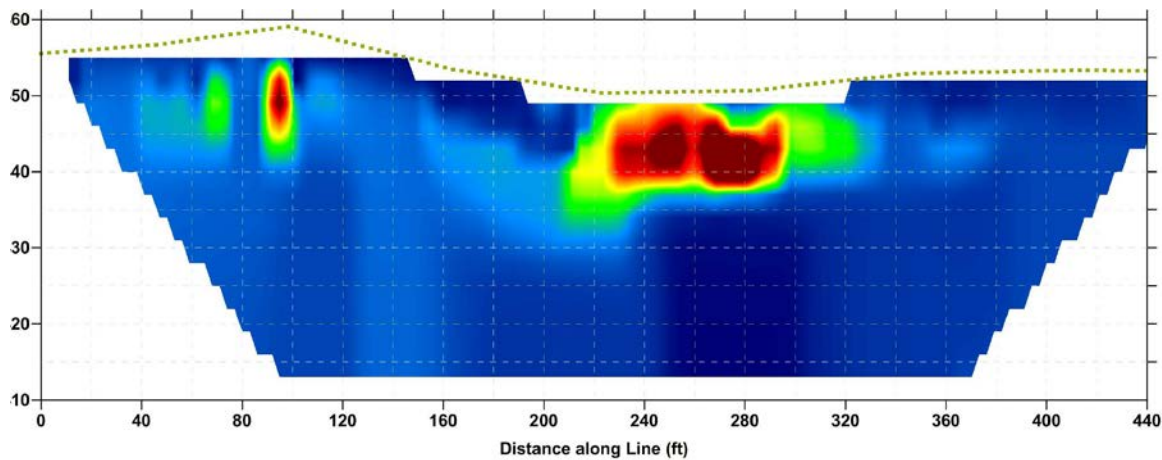


Figure 1: ERT Cross-section through produced water spill – Elevated EC (light green, red, orange and yellow shading) indicates salt impacts. The dashed line at the top indicates surface topography and the vertical axis is elevation in feet above a datum.

By comparing chloride concentrations with EC, it is possible to delineate where chlorides exceed cleanup concentrations. Statistically, the relationship between EC and chlorides is a direct comparison. To calibrate the relationship between EC and Chloride concentration, analytical results from the existing samples will be compared to the EC measured by the surveys. Additional control samples may be acquired to better assess the background EC and Chloride concentration in order to accurately correlate background conditions to potential impacts. Finally, after the relationship is confirmed a map with estimated chloride concentrations will be produced. This can accurately direct remediation efforts by

After the characterization is completed, WPX will submit the results to OCD along with a cleanup plan for prior approval. WPX will start the delineation activities upon the approval of this request. Please do not hesitate to call me if you have any questions.

Sincerely,

Karolina Blaney

Karolina Blaney
WPX Energy
Environmental Specialist
(970) 589-0743
karolina.blaney@wpxenergy.com



BRUSHY BOOSTER Permian Basin

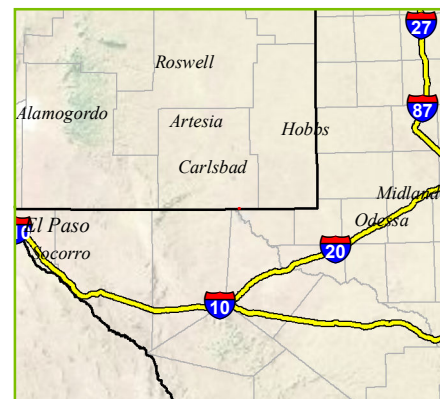


Date: 9/19/2016
Map Scale (at 8.5" x 11"): 1:1,000
Projection: NAD 1927 UTM Zone 13N
Created By: Jeremy Andarakes
Planning Project Specialist II
3500 One Williams Center
Tulsa, OK 74172

Map Symbolology

- ★ Point of Interest
- Area of Interest

0 50 100
Feet





16-Sep-2016

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

Re: **Bushy Draw Booster Station**

Work Order: **1609468**

Dear Karolina,

ALS Environmental received 5 samples on 09-Sep-2016 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 NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 19.

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

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 Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

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Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: WPX Energy
Project: Bushy Draw Booster Station
Work Order: 1609468

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>
1609468-01	Brushy Booster 1 3	Soil		9/7/2016 10:50	9/9/2016 09:30	☐
1609468-02	Brushy Booster 1 5	Soil		9/7/2016 11:10	9/9/2016 09:30	☐
1609468-03	Brushy Booster 3 6	Soil		9/7/2016 11:20	9/9/2016 09:30	☐
1609468-04	Brushy Booster 2 3	Soil		9/7/2016 11:40	9/9/2016 09:30	☐
1609468-05	Brushy Booster 2 5	Soil		9/7/2016 11:45	9/9/2016 09:30	☐

Client: WPX Energy
Project: Bushy Draw Booster Station
Work Order: 1609468

Case Narrative

Batch 91235, Method IC_9056_S, Sample 1609468-01A MS/MSD: The MS and MSD recovery was outside of the control limit for Chloride; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required.

Batch 91260, Method DRO_8015_S, Sample 1609468-05A MS: The MS recovery was outside of the control limit for DRO. However, the MSD recovery and the RPD between the MS and MSD were in control. No qualification is required.

Client: WPX Energy
Project: Bushy Draw Booster Station
WorkOrder: 1609468

QUALIFIERS, ACRONYMS, UNITS

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not 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
n	Not offered for accreditation
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, Corp

Date: 16-Sep-16

Client: WPX Energy
Project: Bushy Draw Booster Station
Sample ID: Brushy Booster 1 3
Collection Date: 9/7/2016 10:50 AM

Work Order: 1609468
Lab ID: 1609468-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3546 / 9/12/16	Analyst: IT
DRO (C10-C28)	740		9.2	mg/Kg-dry	1	9/13/2016 12:32 PM
Surr: 4-Terphenyl-d14	68.2		39-133	%REC	1	9/13/2016 12:32 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 9/12/16	Analyst: IT
GRO (C6-C10)	33		3.2	mg/Kg-dry	1	9/13/2016 01:30 AM
Surr: Toluene-d8	99.2		50-150	%REC	1	9/13/2016 01:30 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 / 9/12/16	Analyst: BG
Benzene	ND		0.030	mg/Kg-dry	1	9/12/2016 04:29 PM
Ethylbenzene	ND		0.030	mg/Kg-dry	1	9/12/2016 04:29 PM
m,p-Xylene	ND		0.060	mg/Kg-dry	1	9/12/2016 04:29 PM
o-Xylene	0.034		0.030	mg/Kg-dry	1	9/12/2016 04:29 PM
Toluene	ND		0.030	mg/Kg-dry	1	9/12/2016 04:29 PM
Xylenes, Total	ND		0.090	mg/Kg-dry	1	9/12/2016 04:29 PM
Surr: 1,2-Dichloroethane-d4	97.4		70-130	%REC	1	9/12/2016 04:29 PM
Surr: 4-Bromofluorobenzene	95.6		70-130	%REC	1	9/12/2016 04:29 PM
Surr: Dibromofluoromethane	87.4		70-130	%REC	1	9/12/2016 04:29 PM
Surr: Toluene-d8	96.2		70-130	%REC	1	9/12/2016 04:29 PM
ANIONS BY ION CHROMATOGRAPHY						
			SW9056A		Prep: EXTRACT / 9/12/16	Analyst: EE
Chloride	7,300		570	mg/Kg-dry	50	9/14/2016 06:49 AM
MOISTURE						
			SW3550C			Analyst: EDL
Moisture	12		0.050	% of sample	1	9/12/2016 07:48 PM

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

ALS Group USA, Corp

Date: 16-Sep-16

Client: WPX Energy
Project: Bushy Draw Booster Station
Sample ID: Brushy Booster 1 5
Collection Date: 9/7/2016 11:10 AM

Work Order: 1609468
Lab ID: 1609468-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3546 / 9/12/16	Analyst: IT
DRO (C10-C28)	35		9.3	mg/Kg-dry	1	9/13/2016 01:02 AM
Surr: 4-Terphenyl-d14	57.0		39-133	%REC	1	9/13/2016 01:02 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 9/12/16	Analyst: IT
GRO (C6-C10)	ND		3.2	mg/Kg-dry	1	9/13/2016 01:55 AM
Surr: Toluene-d8	90.6		50-150	%REC	1	9/13/2016 01:55 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 / 9/12/16	Analyst: BG
Benzene	ND		0.038	mg/Kg-dry	1	9/13/2016 04:53 PM
Ethylbenzene	ND		0.038	mg/Kg-dry	1	9/13/2016 04:53 PM
m,p-Xylene	ND		0.076	mg/Kg-dry	1	9/13/2016 04:53 PM
o-Xylene	ND		0.038	mg/Kg-dry	1	9/13/2016 04:53 PM
Toluene	ND		0.038	mg/Kg-dry	1	9/13/2016 04:53 PM
Xylenes, Total	ND		0.11	mg/Kg-dry	1	9/13/2016 04:53 PM
Surr: 1,2-Dichloroethane-d4	102		70-130	%REC	1	9/13/2016 04:53 PM
Surr: 4-Bromofluorobenzene	96.2		70-130	%REC	1	9/13/2016 04:53 PM
Surr: Dibromofluoromethane	89.2		70-130	%REC	1	9/13/2016 04:53 PM
Surr: Toluene-d8	98.1		70-130	%REC	1	9/13/2016 04:53 PM
ANIONS BY ION CHROMATOGRAPHY						
			SW9056A		Prep: EXTRACT / 9/12/16	Analyst: EE
Chloride	6,900		550	mg/Kg-dry	50	9/14/2016 07:50 AM
MOISTURE						
			SW3550C			Analyst: EDL
Moisture	12		0.050	% of sample	1	9/12/2016 07:48 PM

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

ALS Group USA, Corp

Date: 16-Sep-16

Client: WPX Energy
Project: Bushy Draw Booster Station
Sample ID: Brushy Booster 3 6
Collection Date: 9/7/2016 11:20 AM

Work Order: 1609468
Lab ID: 1609468-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3546 / 9/12/16	Analyst: IT
DRO (C10-C28)	19		10	mg/Kg-dry	1	9/13/2016 01:32 AM
Surr: 4-Terphenyl-d14	56.8		39-133	%REC	1	9/13/2016 01:32 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 9/12/16	Analyst: IT
GRO (C6-C10)	ND		3.7	mg/Kg-dry	1	9/13/2016 02:20 AM
Surr: Toluene-d8	92.7		50-150	%REC	1	9/13/2016 02:20 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 / 9/12/16	Analyst: BG
Benzene	ND		0.030	mg/Kg-dry	1	9/12/2016 05:21 PM
Ethylbenzene	ND		0.030	mg/Kg-dry	1	9/12/2016 05:21 PM
m,p-Xylene	ND		0.060	mg/Kg-dry	1	9/12/2016 05:21 PM
o-Xylene	ND		0.030	mg/Kg-dry	1	9/12/2016 05:21 PM
Toluene	ND		0.030	mg/Kg-dry	1	9/12/2016 05:21 PM
Xylenes, Total	ND		0.090	mg/Kg-dry	1	9/12/2016 05:21 PM
Surr: 1,2-Dichloroethane-d4	96.7		70-130	%REC	1	9/12/2016 05:21 PM
Surr: 4-Bromofluorobenzene	102		70-130	%REC	1	9/12/2016 05:21 PM
Surr: Dibromofluoromethane	88.0		70-130	%REC	1	9/12/2016 05:21 PM
Surr: Toluene-d8	96.2		70-130	%REC	1	9/12/2016 05:21 PM
ANIONS BY ION CHROMATOGRAPHY						
			SW9056A		Prep: EXTRACT / 9/12/16	Analyst: EE
Chloride	630		60	mg/Kg-dry	5	9/14/2016 08:10 AM
MOISTURE						
			SW3550C			Analyst: EDL
Moisture	19		0.050	% of sample	1	9/12/2016 07:48 PM

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

ALS Group USA, Corp

Date: 16-Sep-16

Client: WPX Energy
Project: Bushy Draw Booster Station
Sample ID: Brushy Booster 2 3
Collection Date: 9/7/2016 11:40 AM

Work Order: 1609468
Lab ID: 1609468-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3546 / 9/12/16	Analyst: IT
DRO (C10-C28)	44		9.1	mg/Kg-dry	1	9/13/2016 02:02 AM
Surr: 4-Terphenyl-d14	53.8		39-133	%REC	1	9/13/2016 02:02 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 9/12/16	Analyst: IT
GRO (C6-C10)	ND		3.1	mg/Kg-dry	1	9/13/2016 02:45 AM
Surr: Toluene-d8	94.9		50-150	%REC	1	9/13/2016 02:45 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 / 9/12/16	Analyst: BG
Benzene	ND		0.030	mg/Kg-dry	1	9/12/2016 05:47 PM
Ethylbenzene	ND		0.030	mg/Kg-dry	1	9/12/2016 05:47 PM
m,p-Xylene	ND		0.060	mg/Kg-dry	1	9/12/2016 05:47 PM
o-Xylene	ND		0.030	mg/Kg-dry	1	9/12/2016 05:47 PM
Toluene	ND		0.030	mg/Kg-dry	1	9/12/2016 05:47 PM
Xylenes, Total	ND		0.090	mg/Kg-dry	1	9/12/2016 05:47 PM
Surr: 1,2-Dichloroethane-d4	95.4		70-130	%REC	1	9/12/2016 05:47 PM
Surr: 4-Bromofluorobenzene	100		70-130	%REC	1	9/12/2016 05:47 PM
Surr: Dibromofluoromethane	86.3		70-130	%REC	1	9/12/2016 05:47 PM
Surr: Toluene-d8	93.7		70-130	%REC	1	9/12/2016 05:47 PM
ANIONS BY ION CHROMATOGRAPHY						
			SW9056A		Prep: EXTRACT / 9/12/16	Analyst: EE
Chloride	17,000		2,200	mg/Kg-dry	200	9/14/2016 09:11 AM
MOISTURE						
			SW3550C			Analyst: EDL
Moisture	11		0.050	% of sample	1	9/12/2016 07:48 PM

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

ALS Group USA, Corp

Date: 16-Sep-16

Client: WPX Energy
Project: Bushy Draw Booster Station
Sample ID: Brushy Booster 2 5
Collection Date: 9/7/2016 11:45 AM

Work Order: 1609468
Lab ID: 1609468-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3546 / 9/13/16	Analyst: IT
DRO (C10-C28)	520		9.2	mg/Kg-dry	1	9/13/2016 07:42 PM
Surr: 4-Terphenyl-d14	57.0		39-133	%REC	1	9/13/2016 07:42 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 9/12/16	Analyst: IT
GRO (C6-C10)	26		3.0	mg/Kg-dry	1	9/13/2016 03:10 AM
Surr: Toluene-d8	94.4		50-150	%REC	1	9/13/2016 03:10 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 / 9/12/16	Analyst: BG
Benzene	ND		0.030	mg/Kg-dry	1	9/12/2016 06:13 PM
Ethylbenzene	0.067		0.030	mg/Kg-dry	1	9/12/2016 06:13 PM
m,p-Xylene	0.31		0.060	mg/Kg-dry	1	9/12/2016 06:13 PM
o-Xylene	0.15		0.030	mg/Kg-dry	1	9/12/2016 06:13 PM
Toluene	0.080		0.030	mg/Kg-dry	1	9/12/2016 06:13 PM
Xylenes, Total	0.46		0.090	mg/Kg-dry	1	9/12/2016 06:13 PM
Surr: 1,2-Dichloroethane-d4	95.1		70-130	%REC	1	9/12/2016 06:13 PM
Surr: 4-Bromofluorobenzene	101		70-130	%REC	1	9/12/2016 06:13 PM
Surr: Dibromofluoromethane	84.7		70-130	%REC	1	9/12/2016 06:13 PM
Surr: Toluene-d8	94.6		70-130	%REC	1	9/12/2016 06:13 PM
ANIONS BY ION CHROMATOGRAPHY						
			SW9056A		Prep: EXTRACT / 9/12/16	Analyst: EE
Chloride	3,200		540	mg/Kg-dry	50	9/14/2016 09:31 AM
MOISTURE						
			SW3550C			Analyst: EDL
Moisture	9.6		0.050	% of sample	1	9/12/2016 09:04 PM

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

Client: WPX Energy

QC BATCH REPORT

Work Order: 1609468

Project: Bushy Draw Booster Station

Batch ID: 91214

Instrument ID GC8

Method: SW8015M

MBLK		Sample ID: DBLKS1-91214-91214				Units: mg/Kg		Analysis Date: 9/12/2016 04:02 PM		
Client ID:		Run ID: GC8_160912A				SeqNo: 4023502		Prep Date: 9/12/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

ND

8.3

Surr: 4-Terphenyl-d14

2.065

0

3.333

0

61.9

39-133

0

LCS		Sample ID: DLCSS1-91214-91214				Units: mg/Kg		Analysis Date: 9/12/2016 04:32 PM		
Client ID:		Run ID: GC8_160912A				SeqNo: 4023503		Prep Date: 9/12/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

321.5

8.3

333.3

0

96.4

61-109

0

Surr: 4-Terphenyl-d14

2.015

0

3.333

0

60.5

39-133

0

MS		Sample ID: 1609482-01C MS				Units: mg/Kg		Analysis Date: 9/12/2016 05:02 PM		
Client ID:		Run ID: GC8_160912A				SeqNo: 4023504		Prep Date: 9/12/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

277.7

8.3

330.5

6.663

82

48-110

0

Surr: 4-Terphenyl-d14

1.893

0

3.305

0

57.3

39-133

0

MSD		Sample ID: 1609482-01C MSD				Units: mg/Kg		Analysis Date: 9/12/2016 05:32 PM		
Client ID:		Run ID: GC8_160912A				SeqNo: 4023505		Prep Date: 9/12/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

284.7

7.9

315

6.663

88.3

48-110

277.7

2.49

30

Surr: 4-Terphenyl-d14

1.958

0

3.15

0

62.2

39-133

1.893

3.38

30

The following samples were analyzed in this batch:

1609468-01A

1609468-02A

1609468-03A

1609468-04A

Client: WPX Energy
 Work Order: 1609468
 Project: Bushy Draw Booster Station

QC BATCH REPORT

Batch ID: 91260 Instrument ID GC8 Method: SW8015M

MBLK		Sample ID: DBLKS1-91260-91260				Units: mg/Kg		Analysis Date: 9/13/2016 05:42 PM		
Client ID:		Run ID: GC8_160913A				SeqNo: 4025697		Prep Date: 9/13/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	ND	8.3								
Surr: 4-Terphenyl-d14	2.183	0	3.333	0	65.5	39-133	0			

LCS		Sample ID: DLCSS1-91260-91260				Units: mg/Kg		Analysis Date: 9/13/2016 06:12 PM		
Client ID:		Run ID: GC8_160913A				SeqNo: 4025698		Prep Date: 9/13/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	314.5	8.3	333.3	0	94.3	61-109	0			
Surr: 4-Terphenyl-d14	2.053	0	3.333	0	61.6	39-133	0			

MS		Sample ID: 1609468-05A MS				Units: mg/Kg		Analysis Date: 9/13/2016 06:42 PM		
Client ID: Brushy Booster 2 5		Run ID: GC8_160913A				SeqNo: 4025699		Prep Date: 9/13/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	863.2	8.3	331.4	474.3	117	48-110	0			S
Surr: 4-Terphenyl-d14	1.889	0	3.314	0	57	39-133	0			

MSD		Sample ID: 1609468-05A MSD				Units: mg/Kg		Analysis Date: 9/13/2016 07:12 PM		
Client ID: Brushy Booster 2 5		Run ID: GC8_160913A				SeqNo: 4025700		Prep Date: 9/13/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	692.3	8.2	329.2	474.3	66.2	48-110	863.2	22	30	
Surr: 4-Terphenyl-d14	2.064	0	3.292	0	62.7	39-133	1.889	8.86	30	

The following samples were analyzed in this batch: 1609468-05A

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

Client: WPX Energy
 Work Order: 1609468
 Project: Bushy Draw Booster Station

QC BATCH REPORT

Batch ID: **91254** Instrument ID **GC9** Method: **SW8015D**

MBLK		Sample ID: MBLK-91254-91254				Units: µg/Kg-dry		Analysis Date: 9/13/2016 01:06 AM		
Client ID:		Run ID: GC9_160912A				SeqNo: 4023584		Prep Date: 9/12/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	ND	2,500	0	0	0	0	0			
Surr: Toluene-d8	4491	0	5000	0	89.8	50-150	0			

LCS		Sample ID: LCS-91254-91254				Units: µg/Kg-dry		Analysis Date: 9/13/2016 12:41 PM		
Client ID:		Run ID: GC9_160912A				SeqNo: 4023596		Prep Date: 9/12/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	527600	2,500	500000	0	106	70-130	0			
Surr: Toluene-d8	5397	0	5000	0	108	50-150	0			

MS		Sample ID: 1609468-02A MS				Units: µg/Kg-dry		Analysis Date: 9/13/2016 04:00 AM		
Client ID: Brushy Booster 1 5		Run ID: GC9_160912A				SeqNo: 4023594		Prep Date: 9/12/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	709000	3,200	636400	0	111	70-130	0			
Surr: Toluene-d8	6805	0	6364	0	107	50-150	0			

MSD		Sample ID: 1609468-02A MSD				Units: µg/Kg-dry		Analysis Date: 9/13/2016 04:24 AM		
Client ID: Brushy Booster 1 5		Run ID: GC9_160912A				SeqNo: 4023595		Prep Date: 9/12/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	652300	3,200	636400	0	103	70-130	709000	8.32	30	
Surr: Toluene-d8	6754	0	6364	0	106	50-150	6805	0.751	30	

The following samples were analyzed in this batch:

1609468-01A	1609468-02A	1609468-03A
1609468-04A	1609468-05A	

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

Client: WPX Energy
 Work Order: 1609468
 Project: Bushy Draw Booster Station

QC BATCH REPORT

Batch ID: 91230 Instrument ID VMS6 Method: SW8260B

MBLK Sample ID: MBLK-91230-91230				Units: µg/Kg-dry			Analysis Date: 9/13/2016 12:17 PM			
Client ID:		Run ID: VMS6_160912B		SeqNo: 4023046		Prep Date: 9/12/2016		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	937.5	0	1000	0	93.8	70-130	0			
Surr: 4-Bromofluorobenzene	1008	0	1000	0	101	70-130	0			
Surr: Dibromofluoromethane	891	0	1000	0	89.1	70-130	0			
Surr: Toluene-d8	916	0	1000	0	91.6	70-130	0			

LCS Sample ID: LCS-91230-91230				Units: µg/Kg-dry			Analysis Date: 9/12/2016 11:00 PM			
Client ID:		Run ID: VMS6_160912B		SeqNo: 4023043		Prep Date: 9/12/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1110	30	1000	0	111	75-125	0			
Ethylbenzene	999	30	1000	0	99.9	75-125	0			
m,p-Xylene	1992	60	2000	0	99.6	80-125	0			
o-Xylene	984	30	1000	0	98.4	75-125	0			
Toluene	1006	30	1000	0	101	70-125	0			
Xylenes, Total	2976	90	3000	0	99.2	75-125	0			
Surr: 1,2-Dichloroethane-d4	952	0	1000	0	95.2	70-130	0			
Surr: 4-Bromofluorobenzene	1017	0	1000	0	102	70-130	0			
Surr: Dibromofluoromethane	1035	0	1000	0	104	70-130	0			
Surr: Toluene-d8	925	0	1000	0	92.5	70-130	0			

MS Sample ID: 1609468-02A MS				Units: µg/Kg-dry			Analysis Date: 9/13/2016 11:23 PM			
Client ID: Brushy Booster 1 5		Run ID: VMS6_160913A		SeqNo: 4024622		Prep Date: 9/12/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1456	38	1273	0	114	75-125	0			
Ethylbenzene	1509	38	1273	0	119	75-125	0			
m,p-Xylene	3040	76	2545	0	119	80-125	0			
o-Xylene	1499	38	1273	0	118	75-125	0			
Toluene	1508	38	1273	0	118	70-125	0			
Xylenes, Total	4539	110	3818	0	119	75-125	0			
Surr: 1,2-Dichloroethane-d4	1351	0	1273	0	106	70-130	0			
Surr: 4-Bromofluorobenzene	1241	0	1273	0	97.5	70-130	0			
Surr: Dibromofluoromethane	1278	0	1273	0	100	70-130	0			
Surr: Toluene-d8	1319	0	1273	0	104	70-130	0			

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

Client: WPX Energy
 Work Order: 1609468
 Project: Bushy Draw Booster Station

QC BATCH REPORT

Batch ID: 91230 Instrument ID VMS6 Method: SW8260B

MSD					Sample ID: 1609468-02A MSD			Units: µg/Kg-dry		Analysis Date: 9/13/2016 11:49 PM	
Client ID: Brushy Booster 1 5				Run ID: VMS6_160913A			SeqNo: 4024623		Prep Date: 9/12/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1364	38	1273	0	107	75-125	1456	6.5	30		
Ethylbenzene	1383	38	1273	0	109	75-125	1509	8.76	30		
m,p-Xylene	2773	76	2545	0	109	80-125	3040	9.17	30		
o-Xylene	1375	38	1273	0	108	75-125	1499	8.63	30		
Toluene	1385	38	1273	0	109	70-125	1508	8.45	30		
Xylenes, Total	4148	110	3818	0	109	75-125	4539	9	30		
Surr: 1,2-Dichloroethane-d4	1388	0	1273	0	109	70-130	1351	2.7	30		
Surr: 4-Bromofluorobenzene	1235	0	1273	0	97	70-130	1241	0.514	30		
Surr: Dibromofluoromethane	1293	0	1273	0	102	70-130	1278	1.19	30		
Surr: Toluene-d8	1315	0	1273	0	103	70-130	1319	0.338	30		

The following samples were analyzed in this batch:

1609468-01A	1609468-02A	1609468-03A
1609468-04A	1609468-05A	

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

Client: WPX Energy
 Work Order: 1609468
 Project: Bushy Draw Booster Station

QC BATCH REPORT

Batch ID: **91235** Instrument ID **IC4** Method: **SW9056A**

MBLK		Sample ID: MBLK-91235-91235					Units: mg/Kg		Analysis Date: 9/14/2016 01:06 AM		
Client ID:		Run ID: IC4_160914A					SeqNo: 4025451		Prep Date: 9/12/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Chloride ND 10

LCS		Sample ID: LCS-91235-91235				Units: mg/Kg		Analysis Date: 9/14/2016 01:26 AM		
Client ID:		Run ID: IC4_160914A				SeqNo: 4025452		Prep Date: 9/12/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 108.4 10 100 0 108 80-120 0

MS				Sample ID: 1609468-01A MS				Units: mg/Kg			Analysis Date: 9/14/2016 07:10 AM			
Client ID: Brushy Booster 1 3				Run ID: IC4_160914A				SeqNo: 4025469			Prep Date: 9/12/2016		DF: 50	
Analyte				Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 6844 500 99.6 6447 398 75-125 0 SO

MSD				Sample ID: 1609468-01A MSD				Units: mg/Kg			Analysis Date: 9/14/2016 07:30 AM			
Client ID: Brushy Booster 1 3				Run ID: IC4_160914A				SeqNo: 4025470			Prep Date: 9/12/2016		DF: 50	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			

Chloride 6401 500 99.4 6447 -46.2 75-125 6844 6.69 20 SO

The following samples were analyzed in this batch:

1609468-01A	1609468-02A	1609468-03A
1609468-04A	1609468-05A	

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

Client: WPX Energy
Work Order: 1609468
Project: Bushy Draw Booster Station

QC BATCH REPORT

Batch ID: **R195600** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R195600				Units: % of sample		Analysis Date: 9/12/2016 07:48 PM		
Client ID:		Run ID: MOIST_160912B				SeqNo: 4023115		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-R195600				Units: % of sample		Analysis Date: 9/12/2016 07:48 PM		
Client ID:		Run ID: MOIST_160912B				SeqNo: 4023114		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: 1609427-35B DUP				Units: % of sample		Analysis Date: 9/12/2016 07:48 PM		
Client ID:		Run ID: MOIST_160912B				SeqNo: 4023095		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	22.46	0.050	0	0	0		23.3	3.67	20	

DUP		Sample ID: 1609443-01A DUP				Units: % of sample		Analysis Date: 9/12/2016 07:48 PM		
Client ID:		Run ID: MOIST_160912B				SeqNo: 4023099		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	80.42	0.050	0	0	0		79.61	1.01	20	

The following samples were analyzed in this batch:

1609468-01A	1609468-02A	1609468-03A
1609468-04A		

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

Client: WPX Energy
Work Order: 1609468
Project: Bushy Draw Booster Station

QC BATCH REPORT

Batch ID: **R195602** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R195602					Units: % of sample		Analysis Date: 9/12/2016 09:04 PM		
Client ID:		Run ID: MOIST_160912C					SeqNo: 4023143		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-R195602					Units: % of sample		Analysis Date: 9/12/2016 09:04 PM		
Client ID:			Run ID: MOIST_160912C			SeqNo: 4023142		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: 1609194-03A DUP				Units: % of sample			Analysis Date: 9/12/2016 09:04 PM			
Client ID:				Run ID: MOIST_160912C				SeqNo: 4023123			Prep Date:		DF: 1	
Analyte				Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 13.63 0.050 0 0 0 12.67 7.3 20

DUP				Sample ID: 1609194-04A DUP				Units: % of sample			Analysis Date: 9/12/2016 09:04 PM		
Client ID:				Run ID: MOIST_160912C				SeqNo: 4023125		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			

Moisture 12.4 0.050 0 0 0 12.67 2.15 20

The following samples were analyzed in this batch:

1609468-05A

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



ALS Laboratory Group

HOLLAND, Michigan 49424

Chain-of-Custody

Form 202/8

WORKORDER
#

1609468

PROJECT NAME		Brushy Draw Booster Station		SITE ID		Brushy Draw Booster Station		DATE		9/7/2016		PAGE		1 of 1			
PROJECT No.				EDD FORMAT				TURNAROUND		5 day		DISPOSAL		By Lab or Return to Client			
COMPANY NAME		WPX Energy		BILL TO COMPANY		WPX Energy		TPH 418.1 or 8015 BTEX 8260 Chloride									
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		E-MAIL		Karolina.blaney@wpxenergy.com; leo.braun@wpxenergy.com											
Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC										
	Brushy Booster 1 3'	S	9/7/2016	10:50	1	8	x	x	x	x							
	Brushy Booster 1 5'	S	9/7/2016	11:10	1	8	x	x	x	x							
	Brushy Booster 3 6"	S	9/7/2016	11:20	1	8	x	x	x	x							
	Brushy Booster 2 3'	S	9/7/2016	11:40	1	8	x	x	x	x							
	Brushy Booster 2 5'	S	9/7/2016	11:45	1	8	x	x	x	x							

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

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)
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	9/7/2016	16:00
RECEIVED BY	MT Seel	9/9/16	930
RELINQUISHED BY			
RECEIVED BY			
RELINQUISHED BY			
RECEIVED BY			

Sample Receipt Checklist

Client Name: **WPX - NM**

Date/Time Received: **09-Sep-16 09:30**

Work Order: **1609468**

Received by: **MBB**

Checklist completed by Meghan Broadbent
eSignature

09-Sep-16
Date

Reviewed by: Chad Whelton
eSignature

12-Sep-16
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</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>9/9/2016 2:00:53 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:



14-Dec-2016

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

Re: **Brushy Booster Station**

Work Order: **1611352**

Dear Karolina,

ALS Environmental received 2 samples on 04-Nov-2016 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

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: Brushy Booster Station
Work Order: 1611352

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>
1611352-01	Brushy Booster 1 7'	Soil		11/2/2016 09:30	11/4/2016 09:30	☐
1611352-02	Brushy Booster 2 7'	Soil		11/2/2016 09:50	11/4/2016 09:30	☐

Client: WPX Energy
Project: Brushy Booster Station
Work Order: 1611352

Case Narrative

Batch 94275, Method DRO_8015_S, Sample 1611352-01A MS/MSD: The MS and MSD recovery was below the lower control limit for DRO. The corresponding result in the parent sample may be biased low.

Client: WPX Energy
Project: Brushy Booster Station
WorkOrder: 1611352

QUALIFIERS, ACRONYMS, UNITS

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
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: 14-Dec-16

Client: WPX Energy
Project: Brushy Booster Station
Sample ID: Brushy Booster 1 7'
Collection Date: 11/2/2016 09:30 AM

Work Order: 1611352
Lab ID: 1611352-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3546 / 11/9/16	Analyst: IT
DRO (C10-C28)	410		6.0	mg/Kg-dry	1	11/10/2016 01:15 AM
Surr: 4-Terphenyl-d14	58.4		39-133	%REC	1	11/10/2016 01:15 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 11/8/16	Analyst: IT
GRO (C6-C10)	ND		3.8	mg/Kg-dry	1	11/8/2016 02:06 PM
Surr: Toluene-d8	94.5		50-150	%REC	1	11/8/2016 02:06 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 / 11/8/16	Analyst: LSY
Benzene	ND		0.045	mg/Kg-dry	1	11/9/2016 04:39 PM
Ethylbenzene	ND		0.045	mg/Kg-dry	1	11/9/2016 04:39 PM
m,p-Xylene	ND		0.090	mg/Kg-dry	1	11/9/2016 04:39 PM
o-Xylene	ND		0.045	mg/Kg-dry	1	11/9/2016 04:39 PM
Toluene	ND		0.045	mg/Kg-dry	1	11/9/2016 04:39 PM
Xylenes, Total	ND		0.14	mg/Kg-dry	1	11/9/2016 04:39 PM
Surr: 1,2-Dichloroethane-d4	88.9		70-130	%REC	1	11/9/2016 04:39 PM
Surr: 4-Bromofluorobenzene	98.6		70-130	%REC	1	11/9/2016 04:39 PM
Surr: Dibromofluoromethane	89.2		70-130	%REC	1	11/9/2016 04:39 PM
Surr: Toluene-d8	100		70-130	%REC	1	11/9/2016 04:39 PM
CHLORIDE						
			A4500-CL E-97		Prep: EXTRACT / 11/4/16	Analyst: ED
Chloride	2,400		49	mg/Kg-dry	4	11/7/2016 06:25 PM
MOISTURE						
			SW3550C			Analyst: EDL
Moisture	20		0.050	% of sample	1	11/8/2016 02:18 PM

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

ALS Group, USA

Date: 14-Dec-16

Client: WPX Energy
Project: Brushy Booster Station
Sample ID: Brushy Booster 2 7'
Collection Date: 11/2/2016 09:50 AM

Work Order: 1611352
Lab ID: 1611352-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3546 / 11/9/16	Analyst: IT
DRO (C10-C28)	9.7		7.2	mg/Kg-dry	1	11/10/2016 04:41 AM
Surr: 4-Terphenyl-d14	71.0		39-133	%REC	1	11/10/2016 04:41 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 11/8/16	Analyst: IT
GRO (C6-C10)	ND		4.1	mg/Kg-dry	1	11/8/2016 02:31 PM
Surr: Toluene-d8	98.6		50-150	%REC	1	11/8/2016 02:31 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 / 11/8/16	Analyst: LSY
Benzene	ND		0.049	mg/Kg-dry	1	11/9/2016 05:04 PM
Ethylbenzene	ND		0.049	mg/Kg-dry	1	11/9/2016 05:04 PM
m,p-Xylene	ND		0.098	mg/Kg-dry	1	11/9/2016 05:04 PM
o-Xylene	ND		0.049	mg/Kg-dry	1	11/9/2016 05:04 PM
Toluene	ND		0.049	mg/Kg-dry	1	11/9/2016 05:04 PM
Xylenes, Total	ND		0.15	mg/Kg-dry	1	11/9/2016 05:04 PM
Surr: 1,2-Dichloroethane-d4	91.2		70-130	%REC	1	11/9/2016 05:04 PM
Surr: 4-Bromofluorobenzene	97.9		70-130	%REC	1	11/9/2016 05:04 PM
Surr: Dibromofluoromethane	87.9		70-130	%REC	1	11/9/2016 05:04 PM
Surr: Toluene-d8	97.2		70-130	%REC	1	11/9/2016 05:04 PM
CHLORIDE						
			A4500-CL E-97		Prep: EXTRACT / 11/4/16	Analyst: ED
Chloride	4,100		52	mg/Kg-dry	4	11/7/2016 06:25 PM
MOISTURE						
			SW3550C			Analyst: EDL
Moisture	24		0.050	% of sample	1	11/8/2016 02:18 PM

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

Client: WPX Energy
Work Order: 1611352
Project: Brushy Booster Station

QC BATCH REPORT

Batch ID: **94275** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: DBLKS1-94275-94275				Units: mg/Kg		Analysis Date: 11/9/2016 11:18 PM		
Client ID:		Run ID: GC8_161109A				SeqNo: 4145143		Prep Date: 11/9/2016		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
 Surr: 4-Terphenyl-d14 2.218 0 3.33 0 66.6 39-133 0

LCS		Sample ID: DLCSS1-94275-94275				Units: mg/Kg		Analysis Date: 11/9/2016 11:47 PM		
Client ID:		Run ID: GC8_161109A				SeqNo: 4145144		Prep Date: 11/9/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28) 264.7 5.0 333 0 79.5 61-109 0
 Surr: 4-Terphenyl-d14 1.943 0 3.33 0 58.4 39-133 0

MS		Sample ID: 1611352-01A MS				Units: mg/Kg		Analysis Date: 11/10/2016 12:17 PM		
Client ID: Brushy Booster 1 7'		Run ID: GC8_161109A				SeqNo: 4145152		Prep Date: 11/9/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28) 301.3 4.9 324.4 329.4 -8.66 48-110 0 S
 Surr: 4-Terphenyl-d14 1.875 0 3.244 0 57.8 39-133 0

MSD		Sample ID: 1611352-01A MSD				Units: mg/Kg		Analysis Date: 11/10/2016 12:46 PM		
Client ID: Brushy Booster 1 7'		Run ID: GC8_161109A				SeqNo: 4145153		Prep Date: 11/9/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28) 394.4 4.9 329.7 329.4 19.7 48-110 301.3 26.8 30 S
 Surr: 4-Terphenyl-d14 2.414 0 3.297 0 73.2 39-133 1.875 25.1 30

The following samples were analyzed in this batch: 1611352-01A 1611352-02A

Client: WPX Energy
 Work Order: 1611352
 Project: Brushy Booster Station

QC BATCH REPORT

Batch ID: 94217 Instrument ID GC9 Method: SW8015D

MBLK		Sample ID: MBLK-94217-94217				Units: µg/Kg-dry		Analysis Date: 11/8/2016 01:16 PM		
Client ID:		Run ID: GC9_161108A				SeqNo: 4142260		Prep Date: 11/8/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	ND	2,500								
Surr: Toluene-d8	4622	0	5000	0	92.4	50-150	0			

LCS		Sample ID: LCS-94217-94217				Units: µg/Kg-dry		Analysis Date: 11/8/2016 12:51 PM		
Client ID:		Run ID: GC9_161108A				SeqNo: 4142259		Prep Date: 11/8/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	504500	2,500	500000	0	101	70-130	0			
Surr: Toluene-d8	5113	0	5000	0	102	50-150	0			

MS		Sample ID: 1611331-01A MS				Units: µg/Kg-dry		Analysis Date: 11/8/2016 04:13 PM		
Client ID:		Run ID: GC9_161108A				SeqNo: 4142266		Prep Date: 11/8/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	711600	3,500	704800	0	101	70-130	0			
Surr: Toluene-d8	8019	0	7048	0	114	50-150	0			

MSD		Sample ID: 1611331-01A MSD				Units: µg/Kg-dry		Analysis Date: 11/8/2016 04:38 PM		
Client ID:		Run ID: GC9_161108A				SeqNo: 4142267		Prep Date: 11/8/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	775700	3,500	704800	0	110	70-130	711600	8.62	30	
Surr: Toluene-d8	7967	0	7048	0	113	50-150	8019	0.652	30	

The following samples were analyzed in this batch:

1611352-01A	1611352-02A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: WPX Energy
 Work Order: 1611352
 Project: Brushy Booster Station

QC BATCH REPORT

Batch ID: 94214 Instrument ID VMS6 Method: SW8260B

MBLK		Sample ID: MBLK-94214-94214				Units: µg/Kg-dry		Analysis Date: 11/8/2016 03:35 PM		
Client ID:		Run ID: VMS6_161108A				SeqNo: 4141496		Prep Date: 11/8/2016		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	928.5	0	1000	0	92.8	70-130	0			
Surr: 4-Bromofluorobenzene	935.5	0	1000	0	93.6	70-130	0			
Surr: Dibromofluoromethane	924	0	1000	0	92.4	70-130	0			
Surr: Toluene-d8	939.5	0	1000	0	94	70-130	0			

LCS		Sample ID: LCS-94214-94214				Units: µg/Kg-dry		Analysis Date: 11/8/2016 02:15 PM		
Client ID:		Run ID: VMS6_161108A				SeqNo: 4141495		Prep Date: 11/8/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1054	30	1000	0	105	75-125	0			
Ethylbenzene	1141	30	1000	0	114	75-125	0			
m,p-Xylene	2265	60	2000	0	113	80-125	0			
o-Xylene	1140	30	1000	0	114	75-125	0			
Toluene	1076	30	1000	0	108	70-125	0			
Xylenes, Total	3406	90	3000	0	114	75-125	0			
Surr: 1,2-Dichloroethane-d4	893.5	0	1000	0	89.4	70-130	0			
Surr: 4-Bromofluorobenzene	958.5	0	1000	0	95.8	70-130	0			
Surr: Dibromofluoromethane	1005	0	1000	0	100	70-130	0			
Surr: Toluene-d8	954.5	0	1000	0	95.4	70-130	0			

MS		Sample ID: 1611331-01A MS				Units: µg/Kg-dry		Analysis Date: 11/10/2016 09:48 A		
Client ID:		Run ID: VMS9_161109B				SeqNo: 4144952		Prep Date: 11/8/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1483	42	1410	0	105	75-125	0			
Ethylbenzene	1425	42	1410	0	101	75-125	0			
m,p-Xylene	2943	85	2819	0	104	80-125	0			
o-Xylene	1455	42	1410	0	103	75-125	0			
Toluene	1422	42	1410	0	101	70-125	0			
Xylenes, Total	4398	130	4229	0	104	75-125	0			
Surr: 1,2-Dichloroethane-d4	1382	0	1410	0	98	70-130	0			
Surr: 4-Bromofluorobenzene	1456	0	1410	0	103	70-130	0			
Surr: Dibromofluoromethane	1415	0	1410	0	100	70-130	0			
Surr: Toluene-d8	1408	0	1410	0	99.8	70-130	0			

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

Client: WPX Energy
Work Order: 1611352
Project: Brushy Booster Station

QC BATCH REPORT

Batch ID: **94214** Instrument ID **VMS6** Method: **SW8260B**

MSD				Sample ID: 1611331-01A MSD			Units: µg/Kg-dry		Analysis Date: 11/10/2016 10:12 A		
Client ID:		Run ID: VMS9_161109B			SeqNo: 4144953		Prep Date: 11/8/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1274	42	1410	0	90.4	75-125	1483	15.2	30		
Ethylbenzene	1370	42	1410	0	97.2	75-125	1425	3.93	30		
m,p-Xylene	2781	85	2819	0	98.6	80-125	2943	5.66	30		
o-Xylene	1384	42	1410	0	98.2	75-125	1455	4.97	30		
Toluene	1333	42	1410	0	94.6	70-125	1422	6.45	30		
Xylenes, Total	4165	130	4229	0	98.5	75-125	4398	5.43	30		
Surr: 1,2-Dichloroethane-d4	1301	0	1410	0	92.3	70-130	1382	6.04	30		
Surr: 4-Bromofluorobenzene	1452	0	1410	0	103	70-130	1456	0.291	30		
Surr: Dibromofluoromethane	1368	0	1410	0	97	70-130	1415	3.39	30		
Surr: Toluene-d8	1372	0	1410	0	97.4	70-130	1408	2.54	30		

The following samples were analyzed in this batch:

1611352-01A 1611352-02A

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

Client: WPX Energy
 Work Order: 1611352
 Project: Brushy Booster Station

QC BATCH REPORT

Batch ID: 94099 Instrument ID GALLERY Method: A4500-CI E-97

MBLK		Sample ID: MBLK-94099-94099				Units: mg/Kg		Analysis Date: 11/7/2016 06:25 PM		
Client ID:		Run ID: GALLERY_161107C		SeqNo: 4138147		Prep Date: 11/4/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride ND 10

MS		Sample ID: 1611055-01A MS				Units: mg/Kg		Analysis Date: 11/7/2016 06:25 PM		
Client ID:		Run ID: GALLERY_161107C		SeqNo: 4138157		Prep Date: 11/4/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 535.1 9.9 494.1 35.35 101 75-125 0

MSD		Sample ID: 1611055-01A MSD				Units: mg/Kg		Analysis Date: 11/7/2016 06:25 PM		
Client ID:		Run ID: GALLERY_161107C		SeqNo: 4138158		Prep Date: 11/4/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 527.3 9.9 494.1 35.35 99.6 75-125 535.1 1.47 25

LCS1		Sample ID: LCS1-94099-94099				Units: mg/Kg		Analysis Date: 11/7/2016 06:25 PM		
Client ID:		Run ID: GALLERY_161107C		SeqNo: 4138155		Prep Date: 11/4/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 96.59 10 100 0 96.6 80-120 0

LCS2		Sample ID: LCS2-94099-94099				Units: mg/Kg		Analysis Date: 11/7/2016 06:25 PM		
Client ID:		Run ID: GALLERY_161107C		SeqNo: 4138156		Prep Date: 11/4/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 511.6 10 500 0 102 80-120 0

The following samples were analyzed in this batch:

1611352-01A 1611352-02A

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

Client: WPX Energy
Work Order: 1611352
Project: Brushy Booster Station

QC BATCH REPORT

Batch ID: **R200186** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R200186				Units: % of sample		Analysis Date: 11/8/2016 02:18 PM		
Client ID:		Run ID: MOIST_161108B				SeqNo: 4142104		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-R200186				Units: % of sample		Analysis Date: 11/8/2016 02:18 PM		
Client ID:		Run ID: MOIST_161108B				SeqNo: 4142102		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: 1611363-01A DUP				Units: % of sample		Analysis Date: 11/8/2016 02:18 PM		
Client ID:		Run ID: MOIST_161108B				SeqNo: 4142066		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 16.26 0.050 0 0 0 16.92 3.98 20

DUP		Sample ID: 1611363-03A DUP				Units: % of sample		Analysis Date: 11/8/2016 02:18 PM		
Client ID:		Run ID: MOIST_161108B				SeqNo: 4142069		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 18.86 0.050 0 0 0 18.9 0.212 20

The following samples were analyzed in this batch:

1611352-01A 1611352-02A

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



ALS Laboratory Group

HOLLAND, Michigan 49424

Chain-of-Custody

Form 202r6

WORKORDER #

1611352

PAGE

1 of 1

DISPOSAL

By Lab or Return to Client

PROJECT NAME Brushy Booster Station

SAMPLER

SITE ID Brushy Booster Station

DATE

11/3/2016

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

E-MAIL

Karolina.blaney@wpxenergy.com

TPH TX1005

BTEX 8260

Chloride

Lab ID

Field ID

Matrix

Sample Date

Sample Time

Bottles

Pres.

QC

Brushy Booster 1

S

11/2/2016

9:30

1

8

x

x

x

x

Brushy Booster 1

S

11/2/2016

9:50

1

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 = filter

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)

52°C

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

11/3/2016

15:00

RECEIVED BY

MT Broadbent

MT Broadbent

11/4/16

930

RELINQUISHED BY

RECEIVED BY

RELINQUISHED BY

RECEIVED BY

00040

00252

FedEx Package
Express US Airbill

Tracking Number: 8108 0927 4135

23475

1800.GoFedEx 1800.463.3339

1 From
Date 11/3/16
Sender's Name KAROLINA BLANEY Phone 770 589 0743
Company WPX ENERGY
Address 5315 BUENA VISTA DR
City CARLSBAD State NH ZIP 88220

2 Your Internal Billing Reference

3 To
Recipient's Name SAMPLE RECEIVING Phone 816 399-6070
Company ALS ENVIRONMENTAL HOLLAND LAB
Address 3352 128TH AVE
We cannot deliver to P.O. boxes or P.O. ZIP codes.
Address
Use this line for the HOLD location address or for continuation of your shipping address.
City HOLLAND State MI ZIP 49424-9263

0124717978



8108 0927 4135

Form 0215

Rec

4 Express Package Service

* To most locations.

Next Business Day

- ☐ FedEx First Overnight
Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless Saturday Delivery is selected.
- ☒ FedEx Priority Overnight
Next business morning.* Friday shipments will be delivered on Monday unless Saturday Delivery is selected.
- ☐ FedEx Standard Overnight
Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

- ☐ FedEx 2Day A.M.
Second business morning.* Saturday Delivery NOT available.
- ☐ FedEx 2Day
Second business afternoon.* Thursday if business.* Friday if business.* Saturday Delivery NOT available.
- ☐ FedEx Express Saver
Third business day.* Saturday Delivery NOT available.

5 Packaging

* Declared value limit \$500.

- ☐ FedEx Envelope* ☐ FedEx Pak* ☐ FedEx Box ☐ FedEx Tube ☐ Other

6 Special Handling and Delivery Signature Options Fees may apply. See the FedEx Service Guide.

- ☐ Saturday Delivery
NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.
- ☒ No Signature Required
Package may be left without obtaining a signature for delivery.
- ☐ Direct Signature
Someone at recipient's address may sign for delivery.
- ☐ Indirect Signature
If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential delivery only.

Does this shipment contain dangerous goods?

- Does label must be checked.
☒ No ☐ Yes
As per attached Shipper's Declaration ☐ Shipper's Declaration not required.
- Freeze-dried apply for dangerous goods — see the current FedEx Service Guide. ☐ Dry Ice
Dry Ice, 9, UN 1845 ☐ Cargo Aircraft Only

7 Payment B/N to:

Enter FedEx Acct. No. or Credit Card No. below.

Option recip. Acct. No. ☐

- Send or Acct. No. in Section 1 will be billed. ☒ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

Total Packages

Total Weight

lbs.

Credit Card Acct.

*Our liability is limited to US\$500 unless you declare a higher value. See the current FedEx Service Guide for details.

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Sample Receipt Checklist

Client Name: **WPX - NM**

Date/Time Received: **04-Nov-16 09:30**

Work Order: **1611352**

Received by: **MBB**

Checklist completed by Meghan Broadbent
eSignature

04-Nov-16
Date

Reviewed by: Chad Whelton
eSignature

06-Nov-16
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>5.2/5.2</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>11/4/2016 1:27:56 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: