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.

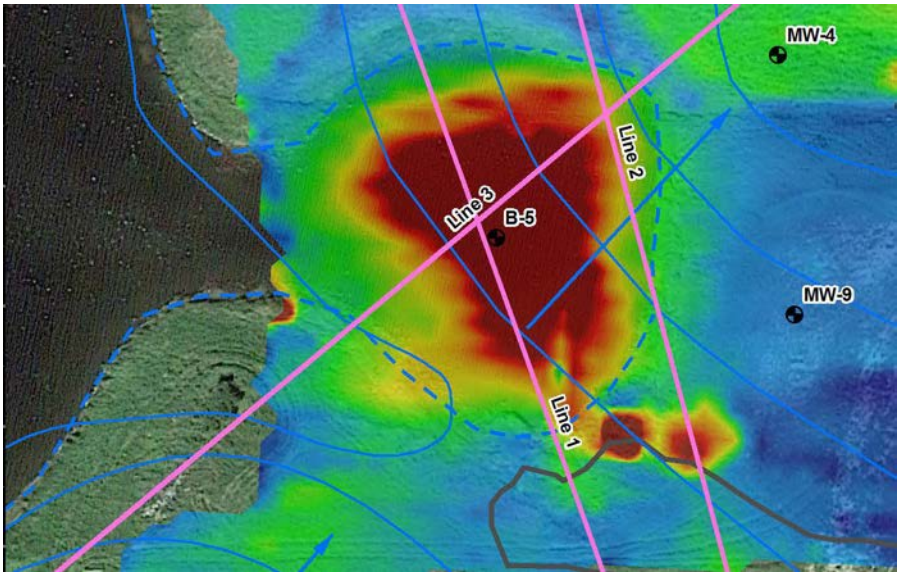


Figure 1: EM Survey over produced water spill – Elevated EC (red, orange and yellow shading) indicates salt impacts. Survey clearly delineates the aerial extent of spill impacts. ERT line locations are superimposed on EM survey for reference.

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.

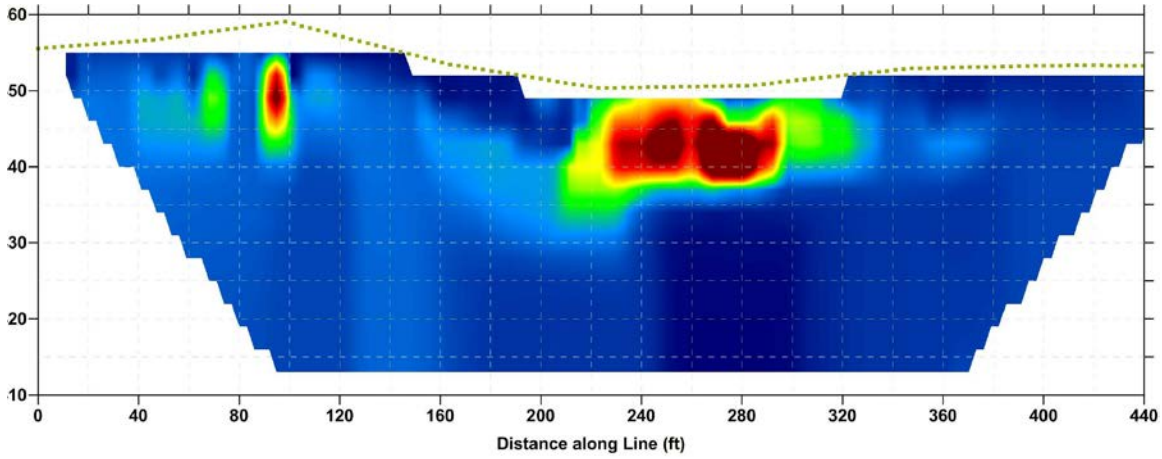


Figure 1: ERT Cross-section through produced water spill – Elevated EC (light green, red, orange and yellow shading) indicates salt impacts. The dashed line at the top indicates surface topography and the vertical axis is elevation in feet above a datum.

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

WPXENERGY

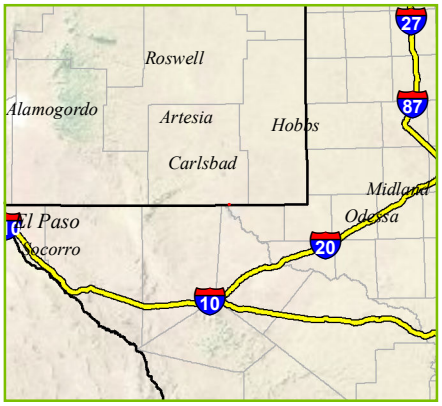
Date: 9/19/2016
Map Scale (at 8.5" x 11"): 1:1,000
Projection: NAD 1927 UTM Zone 13N
Created By: Jeremy Andarakes
Planning Project Specialist II
3500 One Williams Center
Tulsa, OK 74172

0 50 100
Feet

Map Symbology

Point of Interest

Area of Interest



X:\PERMIAN\MAPS\CUSTOM MAPS\Spill - Brushy Booster - Permian - 8x11 P - KBlaney - 20160919.mxd

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,

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 998501

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

ALS Group USA, Corp

Date: 16-Sep-16

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

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
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	☐

ALS Group USA, Corp

Date: 16-Sep-16

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.

ALS Group USA, Corp

Date: 16-Sep-16

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

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	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.

Acronym	Description
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

Units Reported	Description
% 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.

ALS Group USA, Corp

Date: 16-Sep-16

Client: WPX Energy

Work Order: 1609468

Project: Bushy Draw Booster Station

QC BATCH REPORT

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

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: **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			
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 202r8

WORKORDER #	16094168				
SAMPLER		DATE	9/7/2016	PAGE	1 of 1
PROJECT NAME	Brushy Draw Booster Station	SITE ID	Brushy Draw Booster Station	TURNAROUND	5 day
PROJECT No.		EDD FORMAT		DISPOSAL	By Lab or Return to Client
		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; leo.braun@wpxenergy.com		

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	TPH 418.1 or 8015	BTEX 8260	Chloride
	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 = soil NS = non-soil solid W = water L = liquid E = extract F = filter

For metals or anions, please detail analytes below.

Comments: 4.6

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

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	Karolina Blaney	Karolina Blaney	9/7/2016	16:00
RECEIVED BY	[signature]	[signature]	9/9/16	930
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

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

ALS Group USA, Corp

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):	4.6/4.6	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	9/9/2016 2:00:53 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

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,

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 998501

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

ALS Group, USA

Date: 14-Dec-16

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

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
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	☐

ALS Group, USA

Date: 14-Dec-16

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.

ALS Group, USA

Date: 14-Dec-16

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

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	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.

Acronym	Description
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

Units Reported	Description
% 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.

ALS Group, USA

Date: 14-Dec-16

Client: WPX Energy

QC BATCH REPORT

Work Order: 1611352

Project: Brushy Booster Station

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

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: **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

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-Cl 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 202r8

WORKORDER #	1611352				
SAMPLER		DATE	11/3/2016	PAGE	1 of 1
PROJECT NAME	Brushy Booster Station	SITE ID	Brushy Booster Station	TURNAROUND	5 day	DISPOSAL	By Lab or Return to Client
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				

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	TPH TX1005	BTEX 8260	Chloride
	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:

5.2C

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	Karolina Blaney	11/3/2016	15:00
RECEIVED BY	MTBroadbent	MTBroadbent	11/4/16	930
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

00040

00252

23475

FedEx Express Package US Airbill

FedEx Tracking Number 8108 0927 4135

Form ID No. 0215

1 From [redacted]

Date 11/3/16

Sender's Name KAROLINA BLANEY Phone 970 5890743

Company WPX ENERGY

Address 5315 BUENA VISTA DR

Dept./Floor/Suite/Room

City CARLSBAD State NM ZIP 88220

2 Your Internal Billing Reference

3 To

Recipient's Name SAMPLE RECEIVING Phone 616 399-6070

Company ALS ENVIRONMENTAL HOLLAND LAB

Address 3352 128TH AVE

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Dept./Floor/Suite/Room

Hold Weekday — FedEx location address REQUIRED. NOT available for FedEx First Overnight.

Hold Saturday — FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

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

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.
- [x] 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 shipments will be delivered on Monday unless Saturday Delivery is selected.
- [ ] 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.
- [x] 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 deliveries only.

Does this shipment contain dangerous goods? One box must be checked.

- [x] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ___ x ___ kg
- [ ] Cargo Aircraft Only

Restrictions apply for dangerous goods — see the current FedEx Service Guide.

7 Payment Bill to:

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

- [ ] Sender — Acct. No. in Section 1 will be billed.
- [x] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check
- [ ] Obtain recip. Acct. No.

[redacted]

Total Packages 1 Total Weight 32 lbs. Credit Card Auth.

† Our liability is limited to US$100 unless you declare a higher value. See the current FedEx Service Guide for details.

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fedex.com 1.800.GoFedEx 1.800.463.3339

RT 828 ST 9 5 10:30 4135 11:04 B

ALS Group, USA

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):	5.2/5.2	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	11/4/2016 1:27:56 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction: