

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Form C-141
Revised April 3, 2017

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

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: RKI Exploration and Production, LLC	Contact Karolina Blaney	
Address 5315 Buena Vista Dr. Carlsbad, NM 88220	Telephone No. 970 589 0743	
Facility Name North Brushy Draw Federal 35-6H	Facility Type Production Facility	
Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-42293

LOCATION OF RELEASE

Unit Letter B	Section 35	Township 25S	Range 29E	Feet from the 175	North/South Line FNL	Feet from the 2290	East/West Line FEL	County Eddy
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Latitude 32.0930557 Longitude -103.9538727 NAD83

NATURE OF RELEASE

Type of Release: Crude Oil	Volume of Release 25 bbls	Volume Recovered 10 bbls
Source of Release Heater Treater	Date and Hour of Occurrence 2/7/2018 4:00 am	Date and Hour of Discovery 2/7/2018 5:00 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Crystal Weaver	
By Whom? Jim Raley	Date and Hour 2/7/18 5:15 pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	
If a Watercourse was Impacted, Describe Fully.* N/A		
Describe Cause of Problem and Remedial Action Taken.* See attached closure report.		
Describe Area Affected and Cleanup Action Taken.* See attached closure report.		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.		
Signature: 	<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Karolina Blaney	Approved by Environmental Specialist:	
Title: Environmental Specialist	Approval Date:	Expiration Date:
E-mail Address: Karolina.blaney@wpenergy.com	Conditions of Approval:	Attached ☐
Date: 8-13-18 Phone: 970 589 0743		

* Attach Additional Sheets If Necessary



Maria Pruett
Environmental Specialist
NMOCD Artesia - District II

August 13, 2018

Re: North Brushy Draw Federal 35-06H closure request – Case # 2RP 4634

Dear Ms. Pruett,

The purpose of this letter is to summarize spill cleanup activities completed at the North Brushy Draw Federal 35-06.

Immediately after the spill discovery, the impacted area was mapped with a Trimble to delineate the horizontal extent of the impacts. As soon as the line locating services were completed, the affected area on the pad was scraped off to prevent from vertical migration of the spilled fluids. After this initial response, 40 baseline samples were collected from five sampling locations to determine if any additional remedial activities are needed. Although the map depicts a large impacted area, the vast majority of the impacts were limited to a very light misting on the vegetation. Therefore, the samples were collected where the impacts to soil and vegetation were clearly visible; the majority of the impacts were located adjacent to the treater. This sampling event was summarized in the Characterization Plan submitted to OCD and BLM on April 5, 2018.

With BLM's permission, the top 6" to 1' of impacted soil was removed and five confirmation samples were collected. Per BLM request, additional samples were collected from sampling locations S3 and S4 to vertically delineate chloride impacts identified during the initial sampling. Additional three confirmation samples were collected from sampling points located outside the spill perimeter to confirm the horizontal delineation.

The vegetation that was impacted by the mist was treated with microblaze on June 25, 2018 and one confirmation sample (S8) was collected to confirm that chloride and hydrocarbon concentrations are below the cleanup standards.

All sampling results are well below the cleanup standards. The results are summarized in table below. The laboratory reports are included as an attachment.

Based on the information obtained from the NMOSE web site, there are two surface water features located less than 1000' north and south of the pad, defined by OSE as "intermittent". Based on the OSE ground water data, the Trend Map and the site elevation, depth do groundwater is more than 100'. There are no private domestic water sources within 1000' of the site. Therefore, the ranking for this site is 0.

WPX is respectfully asking for closure of this incident. Once BLM and OCD approve the closure, the excavated area will be recontoured and reseeded with BLM seed mix #2.

Please do not hesitate to call me if you have any questions.

Sincerely,



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

Table 1.

Date	Sample Point	Depth	DRO mg/kg	ORO mg/kg	GRO mg/kg	Benzene mg/kg	Ethylbenzene mg/kg	Toluene mg/kg	Xylenes mg/kg	Chlorides mg/kg
7/9/2018	S1	0'	220	140	ND	ND	ND	ND	ND	140
7/9/2018	S2	0'	29	ND	ND	ND	ND	ND	ND	30
7/9/2018	S3	0'	ND	ND	9.1	ND	ND	ND	ND	96
7/9/2018	S3	1'	ND	ND	7.8	ND	ND	ND	ND	ND
7/9/2018	S3	2'	ND	ND	8.3	ND	ND	ND	ND	ND
7/9/2018	S3	3'	ND	ND	8.4	ND	ND	ND	ND	ND
7/9/2018	S3	4'	ND	ND	ND	ND	ND	ND	ND	ND
7/9/2018	S3	5'	ND	ND	ND	ND	ND	ND	ND	ND
7/9/2018	S3	6'	ND	ND	ND	ND	ND	ND	ND	ND
7/9/2018	S4	0'	220	510	ND	ND	ND	ND	ND	170
7/9/2018	S4	1'	ND	ND	ND	ND	ND	ND	ND	47
7/9/2018	S4	2'	ND	30	ND	ND	ND	ND	ND	48
7/9/2018	S4	3'	ND	ND	ND	ND	ND	ND	ND	76
7/9/2018	S4	4'	16	ND	ND	ND	ND	ND	ND	ND
7/9/2018	S4	5'	ND	ND	ND	ND	ND	ND	ND	15
7/9/2018	S4	6'	ND	ND	ND	ND	ND	ND	ND	ND
7/9/2018	S4	7'	ND	ND	ND	ND	ND	ND	ND	14
7/9/2018	S4	8'	16	13	ND	ND	ND	ND	ND	ND
7/9/2018	S4	9'	ND	ND	ND	ND	ND	ND	ND	17
7/9/2018	S5	0'	15	13	ND	ND	ND	ND	ND	69
7/9/2018	S6	0'	ND	ND	ND	ND	ND	ND	ND	ND
7/9/2018	S7	0'	ND	ND	ND	ND	ND	ND	ND	37
7/9/2018	S8	0'	ND	ND	ND	ND	ND	ND	ND	16

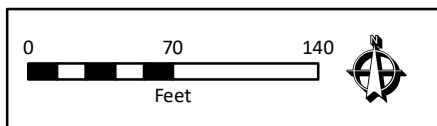


North Brushy Fed 35-6
NMOCD # 2RP-4634
Permian Basin

WPXENERGY.

Date: 7/9/2018
Map Scale (at 8.5" x 11"): 1:1,113
Created By: Graham Russell
3800 One Williams Center
Tulsa, OK 74172

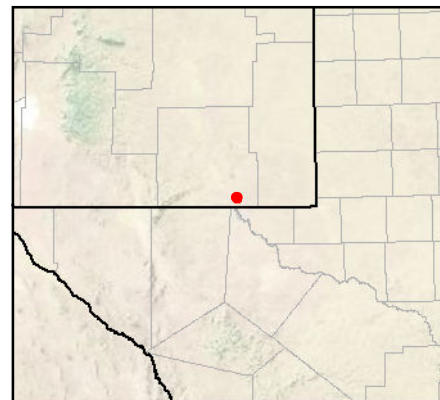
Projection: NAD 1983 StatePlane Texas Central FIPS 4203 Feet



Map Symbology

★ Point of Interest

Area of Interest





27-Jul-2018

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

Re: **North Brushy 35-6 post excavation**

Work Order: **1807622**

Dear Karolina,

ALS Environmental received 7 samples on 12-Jul-2018 10:00 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 23.

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

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

Sincerely,

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

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 998501

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

Environmental

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: WPX Energy
Project: North Brushy 35-6 post excavation
Work Order: 1807622

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>
1807622-01	S3 0'	Soil		7/9/2018 09:50	7/12/2018 10:00	☐
1807622-02	S3 1'	Soil		7/9/2018 09:55	7/12/2018 10:00	☐
1807622-03	S3 2'	Soil		7/9/2018 10:00	7/12/2018 10:00	☐
1807622-04	S3 3'	Soil		7/9/2018 10:05	7/12/2018 10:00	☐
1807622-05	S3 4'	Soil		7/9/2018 10:10	7/12/2018 10:00	☐
1807622-06	S3 5'	Soil		7/9/2018 10:15	7/12/2018 10:00	☐
1807622-07	S3 6'	Soil		7/9/2018 10:20	7/12/2018 10:00	☐

Client: WPX Energy
Project: North Brushy 35-6 post excavation
WorkOrder: 1807622

QUALIFIERS, ACRONYMS, UNITS

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

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

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

ALS Group, USA

Date: 27-Jul-18

Client: WPX Energy
Project: North Brushy 35-6 post excavation
Sample ID: S3 0'
Collection Date: 7/9/2018 09:50 AM

Work Order: 1807622
Lab ID: 1807622-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 7/13/18 10:38	Analyst: RP
GRO (C6-C10)	9.1		5.4	mg/Kg-dry	1	7/14/2018 09:21 AM
Surr: Toluene-d8	119		71-123	%REC	1	7/14/2018 09:21 AM
DIESEL RANGE ORGANICS BY GC-FID						
			SW8270		Prep: SW3546 7/13/18 13:22	Analyst: RM
DRO (C10-C28)	ND		5.0	mg/Kg-dry	1	7/26/2018 01:42 AM
ORO (C28-C40)	ND		5.0	mg/Kg-dry	1	7/26/2018 01:42 AM
Surr: 4-Terphenyl-d14	109		25-150	%REC	1	7/26/2018 01:42 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 7/13/18 10:38	Analyst: WH
Benzene	ND		0.033	mg/Kg-dry	1	7/14/2018 04:55 AM
Ethylbenzene	ND		0.033	mg/Kg-dry	1	7/14/2018 04:55 AM
m,p-Xylene	ND		0.065	mg/Kg-dry	1	7/14/2018 04:55 AM
o-Xylene	ND		0.033	mg/Kg-dry	1	7/14/2018 04:55 AM
Toluene	ND		0.033	mg/Kg-dry	1	7/14/2018 04:55 AM
Xylenes, Total	ND		0.098	mg/Kg-dry	1	7/14/2018 04:55 AM
Surr: 1,2-Dichloroethane-d4	99.8		70-130	%REC	1	7/14/2018 04:55 AM
Surr: 4-Bromofluorobenzene	101		70-130	%REC	1	7/14/2018 04:55 AM
Surr: Dibromofluoromethane	84.2		70-130	%REC	1	7/14/2018 04:55 AM
Surr: Toluene-d8	100		70-130	%REC	1	7/14/2018 04:55 AM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 7/17/18 12:30	Analyst: ED
Chloride	96		10	mg/Kg-dry	1	7/17/2018 01:00 PM
MOISTURE						
			SW3550C			Analyst: SBR
Moisture	4.3		0.050	% of sample	1	7/17/2018 11:14 AM

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

ALS Group, USA

Date: 27-Jul-18

Client: WPX Energy
Project: North Brushy 35-6 post excavation
Sample ID: S3 1'
Collection Date: 7/9/2018 09:55 AM

Work Order: 1807622
Lab ID: 1807622-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 7/13/18 10:38	Analyst: RP
GRO (C6-C10)	7.8		5.3	mg/Kg-dry	1	7/14/2018 09:47 AM
Surr: Toluene-d8	120		71-123	%REC	1	7/14/2018 09:47 AM
DIESEL RANGE ORGANICS BY GC-FID						
			SW8270		Prep: SW3546 7/13/18 13:22	Analyst: RM
DRO (C10-C28)	ND		5.0	mg/Kg-dry	1	7/26/2018 02:15 AM
ORO (C28-C40)	ND		5.0	mg/Kg-dry	1	7/26/2018 02:15 AM
Surr: 4-Terphenyl-d14	118		25-150	%REC	1	7/26/2018 02:15 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 7/13/18 10:38	Analyst: WH
Benzene	ND		0.032	mg/Kg-dry	1	7/14/2018 05:10 AM
Ethylbenzene	ND		0.032	mg/Kg-dry	1	7/14/2018 05:10 AM
m,p-Xylene	ND		0.063	mg/Kg-dry	1	7/14/2018 05:10 AM
o-Xylene	ND		0.032	mg/Kg-dry	1	7/14/2018 05:10 AM
Toluene	ND		0.032	mg/Kg-dry	1	7/14/2018 05:10 AM
Xylenes, Total	ND		0.095	mg/Kg-dry	1	7/14/2018 05:10 AM
Surr: 1,2-Dichloroethane-d4	99.6		70-130	%REC	1	7/14/2018 05:10 AM
Surr: 4-Bromofluorobenzene	103		70-130	%REC	1	7/14/2018 05:10 AM
Surr: Dibromofluoromethane	82.2		70-130	%REC	1	7/14/2018 05:10 AM
Surr: Toluene-d8	103		70-130	%REC	1	7/14/2018 05:10 AM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 7/17/18 12:30	Analyst: ED
Chloride	ND		10	mg/Kg-dry	1	7/17/2018 01:00 PM
MOISTURE						
			SW3550C			Analyst: SBR
Moisture	2.6		0.050	% of sample	1	7/17/2018 11:14 AM

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

ALS Group, USA

Date: 27-Jul-18

Client: WPX Energy
Project: North Brushy 35-6 post excavation
Sample ID: S3 2'
Collection Date: 7/9/2018 10:00 AM

Work Order: 1807622
Lab ID: 1807622-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 7/13/18 10:38	Analyst: RP
GRO (C6-C10)	8.3		5.4	mg/Kg-dry	1	7/14/2018 10:14 AM
Surr: Toluene-d8	118		71-123	%REC	1	7/14/2018 10:14 AM
DIESEL RANGE ORGANICS BY GC-FID						
			SW8270		Prep: SW3546 7/13/18 13:22	Analyst: RM
DRO (C10-C28)	ND		5.1	mg/Kg-dry	1	7/26/2018 02:48 AM
ORO (C28-C40)	ND		5.1	mg/Kg-dry	1	7/26/2018 02:48 AM
Surr: 4-Terphenyl-d14	116		25-150	%REC	1	7/26/2018 02:48 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 7/13/18 10:38	Analyst: WH
Benzene	ND		0.032	mg/Kg-dry	1	7/14/2018 05:25 AM
Ethylbenzene	ND		0.032	mg/Kg-dry	1	7/14/2018 05:25 AM
m,p-Xylene	ND		0.064	mg/Kg-dry	1	7/14/2018 05:25 AM
o-Xylene	ND		0.032	mg/Kg-dry	1	7/14/2018 05:25 AM
Toluene	ND		0.032	mg/Kg-dry	1	7/14/2018 05:25 AM
Xylenes, Total	ND		0.097	mg/Kg-dry	1	7/14/2018 05:25 AM
Surr: 1,2-Dichloroethane-d4	95.4		70-130	%REC	1	7/14/2018 05:25 AM
Surr: 4-Bromofluorobenzene	102		70-130	%REC	1	7/14/2018 05:25 AM
Surr: Dibromofluoromethane	81.0		70-130	%REC	1	7/14/2018 05:25 AM
Surr: Toluene-d8	100		70-130	%REC	1	7/14/2018 05:25 AM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 7/17/18 12:30	Analyst: ED
Chloride	ND		10	mg/Kg-dry	1	7/17/2018 01:00 PM
MOISTURE						
			SW3550C			Analyst: SBR
Moisture	3.5		0.050	% of sample	1	7/17/2018 11:14 AM

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

ALS Group, USA

Date: 27-Jul-18

Client: WPX Energy
Project: North Brushy 35-6 post excavation
Sample ID: S3 3'
Collection Date: 7/9/2018 10:05 AM

Work Order: 1807622
Lab ID: 1807622-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 7/13/18 10:38	Analyst: RP
GRO (C6-C10)	8.4		5.4	mg/Kg-dry	1	7/14/2018 11:32 AM
Surr: Toluene-d8	119		71-123	%REC	1	7/14/2018 11:32 AM
DIESEL RANGE ORGANICS BY GC-FID						
			SW8270		Prep: SW3546 7/13/18 13:22	Analyst: RM
DRO (C10-C28)	ND		5.1	mg/Kg-dry	1	7/26/2018 03:22 AM
ORO (C28-C40)	ND		5.1	mg/Kg-dry	1	7/26/2018 03:22 AM
Surr: 4-Terphenyl-d14	119		25-150	%REC	1	7/26/2018 03:22 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 7/13/18 10:38	Analyst: LSY
Benzene	ND		0.032	mg/Kg-dry	1	7/14/2018 07:13 AM
Ethylbenzene	ND		0.032	mg/Kg-dry	1	7/14/2018 07:13 AM
m,p-Xylene	ND		0.065	mg/Kg-dry	1	7/14/2018 07:13 AM
o-Xylene	ND		0.032	mg/Kg-dry	1	7/14/2018 07:13 AM
Toluene	ND		0.032	mg/Kg-dry	1	7/14/2018 07:13 AM
Xylenes, Total	ND		0.097	mg/Kg-dry	1	7/14/2018 07:13 AM
Surr: 1,2-Dichloroethane-d4	115		70-130	%REC	1	7/14/2018 07:13 AM
Surr: 4-Bromofluorobenzene	101		70-130	%REC	1	7/14/2018 07:13 AM
Surr: Dibromofluoromethane	90.8		70-130	%REC	1	7/14/2018 07:13 AM
Surr: Toluene-d8	102		70-130	%REC	1	7/14/2018 07:13 AM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 7/17/18 12:30	Analyst: ED
Chloride	ND		10	mg/Kg-dry	1	7/17/2018 01:00 PM
MOISTURE						
			SW3550C			Analyst: SBR
Moisture	3.7		0.050	% of sample	1	7/17/2018 11:14 AM

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

ALS Group, USA

Date: 27-Jul-18

Client: WPX Energy
Project: North Brushy 35-6 post excavation
Sample ID: S3 4'
Collection Date: 7/9/2018 10:10 AM

Work Order: 1807622
Lab ID: 1807622-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 7/16/18 16:21	Analyst: RP
DRO (C10-C28)	ND		5.1	mg/Kg-dry	1	7/27/2018 01:24 AM
ORO (C28-C40)	ND		5.1	mg/Kg-dry	1	7/27/2018 01:24 AM
Surr: 4-Terphenyl-d14	37.5		34-130	%REC	1	7/27/2018 01:24 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 7/13/18 10:38	Analyst: RP
GRO (C6-C10)	9.4		5.4	mg/Kg-dry	1	7/14/2018 11:58 AM
Surr: Toluene-d8	119		71-123	%REC	1	7/14/2018 11:58 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 7/13/18 10:38	Analyst: LSY
Benzene	ND		0.033	mg/Kg-dry	1	7/14/2018 07:35 AM
Ethylbenzene	ND		0.033	mg/Kg-dry	1	7/14/2018 07:35 AM
m,p-Xylene	ND		0.065	mg/Kg-dry	1	7/14/2018 07:35 AM
o-Xylene	ND		0.033	mg/Kg-dry	1	7/14/2018 07:35 AM
Toluene	ND		0.033	mg/Kg-dry	1	7/14/2018 07:35 AM
Xylenes, Total	ND		0.098	mg/Kg-dry	1	7/14/2018 07:35 AM
Surr: 1,2-Dichloroethane-d4	115		70-130	%REC	1	7/14/2018 07:35 AM
Surr: 4-Bromofluorobenzene	97.6		70-130	%REC	1	7/14/2018 07:35 AM
Surr: Dibromofluoromethane	93.5		70-130	%REC	1	7/14/2018 07:35 AM
Surr: Toluene-d8	100		70-130	%REC	1	7/14/2018 07:35 AM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 7/17/18 12:30	Analyst: ED
Chloride	ND		10	mg/Kg-dry	1	7/17/2018 01:00 PM
MOISTURE						
			SW3550C			Analyst: SBR
Moisture	3.7		0.050	% of sample	1	7/17/2018 11:14 AM

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

ALS Group, USA

Date: 27-Jul-18

Client: WPX Energy
Project: North Brushy 35-6 post excavation
Sample ID: S3 5'
Collection Date: 7/9/2018 10:15 AM

Work Order: 1807622
Lab ID: 1807622-06
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 7/16/18 16:21	Analyst: RP
DRO (C10-C28)	ND		5.2	mg/Kg-dry	1	7/27/2018 01:54 AM
ORO (C28-C40)	ND		5.2	mg/Kg-dry	1	7/27/2018 01:54 AM
Surr: 4-Terphenyl-d14	45.5		34-130	%REC	1	7/27/2018 01:54 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 7/13/18 10:38	Analyst: RP
GRO (C6-C10)	ND		5.5	mg/Kg-dry	1	7/16/2018 11:39 PM
Surr: Toluene-d8	115		71-123	%REC	1	7/16/2018 11:39 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 7/13/18 10:38	Analyst: EMR
Benzene	ND		0.033	mg/Kg-dry	1	7/13/2018 08:32 PM
Ethylbenzene	ND		0.033	mg/Kg-dry	1	7/13/2018 08:32 PM
m,p-Xylene	ND		0.066	mg/Kg-dry	1	7/13/2018 08:32 PM
o-Xylene	ND		0.033	mg/Kg-dry	1	7/13/2018 08:32 PM
Toluene	ND		0.033	mg/Kg-dry	1	7/13/2018 08:32 PM
Xylenes, Total	ND		0.099	mg/Kg-dry	1	7/13/2018 08:32 PM
Surr: 1,2-Dichloroethane-d4	107		70-130	%REC	1	7/13/2018 08:32 PM
Surr: 4-Bromofluorobenzene	99.0		70-130	%REC	1	7/13/2018 08:32 PM
Surr: Dibromofluoromethane	96.4		70-130	%REC	1	7/13/2018 08:32 PM
Surr: Toluene-d8	95.6		70-130	%REC	1	7/13/2018 08:32 PM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 7/17/18 12:30	Analyst: ED
Chloride	ND		10	mg/Kg-dry	1	7/17/2018 01:00 PM
MOISTURE						
			SW3550C			Analyst: SBR
Moisture	5.0		0.050	% of sample	1	7/17/2018 11:14 AM

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

ALS Group, USA

Date: 27-Jul-18

Client: WPX Energy
Project: North Brushy 35-6 post excavation
Sample ID: S3 6'
Collection Date: 7/9/2018 10:20 AM

Work Order: 1807622
Lab ID: 1807622-07
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 7/16/18 16:21	Analyst: RP
DRO (C10-C28)	ND		5.2	mg/Kg-dry	1	7/27/2018 02:23 AM
ORO (C28-C40)	ND		5.2	mg/Kg-dry	1	7/27/2018 02:23 AM
Surr: 4-Terphenyl-d14	45.5		34-130	%REC	1	7/27/2018 02:23 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 7/13/18 10:38	Analyst: RP
GRO (C6-C10)	ND		5.5	mg/Kg-dry	1	7/17/2018 12:05 PM
Surr: Toluene-d8	117		71-123	%REC	1	7/17/2018 12:05 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 7/13/18 10:38	Analyst: LSY
Benzene	ND		0.033	mg/Kg-dry	1	7/14/2018 07:58 AM
Ethylbenzene	ND		0.033	mg/Kg-dry	1	7/14/2018 07:58 AM
m,p-Xylene	ND		0.066	mg/Kg-dry	1	7/14/2018 07:58 AM
o-Xylene	ND		0.033	mg/Kg-dry	1	7/14/2018 07:58 AM
Toluene	ND		0.033	mg/Kg-dry	1	7/14/2018 07:58 AM
Xylenes, Total	ND		0.098	mg/Kg-dry	1	7/14/2018 07:58 AM
Surr: 1,2-Dichloroethane-d4	111		70-130	%REC	1	7/14/2018 07:58 AM
Surr: 4-Bromofluorobenzene	96.3		70-130	%REC	1	7/14/2018 07:58 AM
Surr: Dibromofluoromethane	86.6		70-130	%REC	1	7/14/2018 07:58 AM
Surr: Toluene-d8	102		70-130	%REC	1	7/14/2018 07:58 AM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 7/17/18 12:30	Analyst: ED
Chloride	ND		10	mg/Kg-dry	1	7/17/2018 01:00 PM
MOISTURE						
			SW3550C			Analyst: SBR
Moisture	4.4		0.050	% of sample	1	7/17/2018 11:14 AM

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

Client: WPX Energy

Work Order: 1807622

Project: North Brushy 35-6 post excavation

QC BATCH REPORT

Batch ID: 121202

Instrument ID GC8

Method: SW8015C

MBLK		Sample ID: DBLKS1-121202-121202				Units: mg/Kg		Analysis Date: 7/18/2018 02:43 AM		
Client ID:		Run ID: GC8_180717A				SeqNo: 5152596		Prep Date: 7/13/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

ND

5.0

ORO (C28-C40)

ND

5.0

Surr: 4-Terphenyl-d14

3.067

0

3.33

0

92.1

34-130

0

LCS		Sample ID: DLCSS1-121202-121202				Units: mg/Kg		Analysis Date: 7/18/2018 03:12 AM		
Client ID:		Run ID: GC8_180717A				SeqNo: 5152597		Prep Date: 7/13/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

335.1

5.0

333

0

101

65-122

0

ORO (C28-C40)

350.6

5.0

333

0

105

81-116

0

Surr: 4-Terphenyl-d14

3.2

0

3.33

0

96.1

34-130

0

MS		Sample ID: 1807613-01A MS				Units: mg/Kg		Analysis Date: 7/18/2018 04:11 AM		
Client ID:		Run ID: GC8_180717A				SeqNo: 5152599		Prep Date: 7/13/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

513.5

4.9

324.7

192.9

98.7

65-122

0

ORO (C28-C40)

803.3

4.9

324.7

455.4

107

81-116

0

Surr: 4-Terphenyl-d14

1.869

0

3.247

0

57.6

34-130

0

MSD		Sample ID: 1807613-01A MSD				Units: mg/Kg		Analysis Date: 7/18/2018 04:40 AM		
Client ID:		Run ID: GC8_180717A				SeqNo: 5152600		Prep Date: 7/13/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

544.6

4.9

323.9

192.9

109

65-122

513.5

5.86

30

ORO (C28-C40)

825.2

4.9

323.9

455.4

114

81-116

803.3

2.69

30

Surr: 4-Terphenyl-d14

1.929

0

3.239

0

59.6

34-130

1.869

3.17

30

The following samples were analyzed in this batch:

1807622-01A

1807622-02A

1807622-03A

1807622-04A

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

Client: WPX Energy
 Work Order: 1807622
 Project: North Brushy 35-6 post excavation

QC BATCH REPORT

Batch ID: **121332** Instrument ID **GC8** Method: **SW8015C**

MBLK		Sample ID: DBLKS1-121332-121332				Units: mg/Kg		Analysis Date: 7/19/2018 06:27 AM		
Client ID:		Run ID: GC8_180718A				SeqNo: 5155741		Prep Date: 7/16/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

ND

5.0

ORO (C28-C40)

ND

5.0

Surr: 4-Terphenyl-d14

2.95

0

3.33

0

88.6

34-130

0

LCS		Sample ID: DLCSS1-121332-121332				Units: mg/Kg		Analysis Date: 7/19/2018 06:56 AM		
Client ID:		Run ID: GC8_180718A				SeqNo: 5155742		Prep Date: 7/16/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

328.2

5.0

333

0

98.6

65-122

0

ORO (C28-C40)

338

5.0

333

0

101

81-116

0

Surr: 4-Terphenyl-d14

3.133

0

3.33

0

94.1

34-130

0

MS		Sample ID: 1807628-01A MS				Units: mg/Kg		Analysis Date: 7/19/2018 07:26 AM		
Client ID:		Run ID: GC8_180718A				SeqNo: 5155743		Prep Date: 7/16/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

397.3

4.8

321.6

209.7

58.3

65-122

0

S

ORO (C28-C40)

568.4

4.8

321.6

490.2

24.3

81-116

0

S

Surr: 4-Terphenyl-d14

1.803

0

3.216

0

56.1

34-130

0

MSD		Sample ID: 1807628-01A MSD				Units: mg/Kg		Analysis Date: 7/19/2018 07:55 AM		
Client ID:		Run ID: GC8_180718A				SeqNo: 5155744		Prep Date: 7/16/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

496.7

5.0

330.2

209.7

86.9

65-122

397.3

22.2

30

ORO (C28-C40)

641

5.0

330.2

490.2

45.7

81-116

568.4

12

30

S

Surr: 4-Terphenyl-d14

3.454

0

3.302

0

105

34-130

1.803

62.8

30

R

The following samples were analyzed in this batch:

1807622-05A

1807622-06A

1807622-07A

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

Client: WPX Energy
 Work Order: 1807622
 Project: North Brushy 35-6 post excavation

QC BATCH REPORT

Batch ID: **121252** Instrument ID **GC10** Method: **SW8015D**

MBLK		Sample ID: MBLK-121252-121252				Units: µg/Kg-dry		Analysis Date: 7/14/2018 01:32 AM		
Client ID:		Run ID: GC10_180713B				SeqNo: 5147680		Prep Date: 7/13/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	ND	5,000								
Surr: Toluene-d8	5957	0	5000	0	119	71-123	0			

LCS		Sample ID: LCS-121252-121252				Units: µg/Kg-dry		Analysis Date: 7/14/2018 12:39 PM		
Client ID:		Run ID: GC10_180713B				SeqNo: 5147702		Prep Date: 7/13/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	535900	5,000	500000	0	107	71-123	0			
Surr: Toluene-d8	5811	0	5000	0	116	71-123	0			

MS		Sample ID: 1807614-03A MS				Units: µg/Kg-dry		Analysis Date: 7/14/2018 12:25 PM		
Client ID:		Run ID: GC10_180713B				SeqNo: 5147701		Prep Date: 7/13/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	500500	6,100	611100	13980	79.6	71-123	0			
Surr: Toluene-d8	7032	0	6111	0	115	71-123	0			

MSD		Sample ID: 1807614-03A MSD				Units: µg/Kg-dry		Analysis Date: 7/14/2018 12:51 PM		
Client ID:		Run ID: GC10_180713B				SeqNo: 5147703		Prep Date: 7/13/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	244800	6,100	611100	13980	37.8	71-123	500500	68.6	30	SR
Surr: Toluene-d8	6920	0	6111	0	113	71-123	7032	1.61	30	

The following samples were analyzed in this batch:

1807622-01A	1807622-02A	1807622-03A
1807622-04A	1807622-05A	

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

Client: WPX Energy
 Work Order: 1807622
 Project: North Brushy 35-6 post excavation

QC BATCH REPORT

Batch ID: **121254** Instrument ID **GC10** Method: **SW8015D**

MBLK		Sample ID: MBLK-121254-121254				Units: µg/Kg-dry		Analysis Date: 7/16/2018 11:13 PM		
Client ID:		Run ID: GC10_180716A				SeqNo: 5149984		Prep Date: 7/13/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	ND	5,000								
Surr: Toluene-d8	5801	0	5000	0	116	71-123	0			

LCS		Sample ID: LCS-121254-121254				Units: µg/Kg-dry		Analysis Date: 7/16/2018 10:20 PM		
Client ID:		Run ID: GC10_180716A				SeqNo: 5149983		Prep Date: 7/13/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	430200	5,000	500000	0	86	71-123	0			
Surr: Toluene-d8	5692	0	5000	0	114	71-123	0			

MS		Sample ID: 1807622-06A MS				Units: µg/Kg-dry		Analysis Date: 7/17/2018 09:15 AM		
Client ID: S3 5'		Run ID: GC10_180716A				SeqNo: 5150007		Prep Date: 7/13/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	533700	5,500	552600	0	96.6	71-123	0			
Surr: Toluene-d8	6612	0	5526	0	120	71-123	0			

MSD		Sample ID: 1807622-06A MSD				Units: µg/Kg-dry		Analysis Date: 7/17/2018 09:41 AM		
Client ID: S3 5'		Run ID: GC10_180716A				SeqNo: 5150009		Prep Date: 7/13/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	543900	5,500	552600	0	98.4	71-123	533700	1.89	30	
Surr: Toluene-d8	6009	0	5526	0	109	71-123	6612	9.55	30	

The following samples were analyzed in this batch:

1807622-06A	1807622-07A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: WPX Energy
 Work Order: 1807622
 Project: North Brushy 35-6 post excavation

QC BATCH REPORT

Batch ID: **121202** Instrument ID **SVMS9** Method: **SW8270**

MBLK		Sample ID: DBLKS1-121202-121202				Units: mg/Kg		Analysis Date: 7/25/2018 10:57 PM		
Client ID:		Run ID: SVMS9_180724A				SeqNo: 5168617		Prep Date: 7/13/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	ND	5.0								
ORO (C28-C40)	ND	5.0								
<i>Surr: 4-Terphenyl-d14</i>	<i>4.683</i>	<i>0</i>	<i>3.33</i>	<i>0</i>	<i>141</i>	<i>30-150</i>	<i>0</i>			

LCS		Sample ID: DLCSS1-121202-121202				Units: mg/Kg		Analysis Date: 7/25/2018 11:30 PM		
Client ID:		Run ID: SVMS9_180724A				SeqNo: 5168618		Prep Date: 7/13/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	441.1	5.0	333	0	132	50-150	0			
ORO (C28-C40)	412.8	5.0	333	0	124	50-150	0			
<i>Surr: 4-Terphenyl-d14</i>	<i>4.9</i>	<i>0</i>	<i>3.33</i>	<i>0</i>	<i>147</i>	<i>30-150</i>	<i>0</i>			

MS		Sample ID: 1807613-01A MS				Units: mg/Kg		Analysis Date: 7/26/2018 12:03 PM		
Client ID:		Run ID: SVMS9_180724A				SeqNo: 5168651		Prep Date: 7/13/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	603.4	4.9	324.7	217.4	119	50-150	0			
ORO (C28-C40)	1068	4.9	324.7	602.5	143	50-150	0			
<i>Surr: 4-Terphenyl-d14</i>	<i>2.535</i>	<i>0</i>	<i>3.247</i>	<i>0</i>	<i>78.1</i>	<i>30-150</i>	<i>0</i>			

MSD		Sample ID: 1807613-01A MSD				Units: mg/Kg		Analysis Date: 7/26/2018 12:36 PM		
Client ID:		Run ID: SVMS9_180724A				SeqNo: 5168652		Prep Date: 7/13/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	573.3	4.9	323.9	217.4	110	50-150	603.4	5.11	30	
ORO (C28-C40)	1031	4.9	323.9	602.5	132	50-150	1068	3.54	30	
<i>Surr: 4-Terphenyl-d14</i>	<i>2.448</i>	<i>0</i>	<i>3.239</i>	<i>0</i>	<i>75.6</i>	<i>30-150</i>	<i>2.535</i>	<i>3.5</i>	<i>30</i>	

The following samples were analyzed in this batch:

1807622-01A	1807622-02A	1807622-03A
1807622-04A		

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

Client: WPX Energy
 Work Order: 1807622
 Project: North Brushy 35-6 post excavation

QC BATCH REPORT

Batch ID: **121251** Instrument ID **VMS9** Method: **SW8260C**

MBLK				Sample ID: MBLK-121251-121251				Units: µg/Kg-dry		Analysis Date: 7/14/2018 12:53 PM	
Client ID:			Run ID: VMS9_180713B			SeqNo: 5147949		Prep Date: 7/13/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	ND	30	0	0	0	0-0	0				
Ethylbenzene	ND	30	0	0	0	0-0	0				
m,p-Xylene	ND	60	0	0	0	0-0	0				
o-Xylene	ND	30	0	0	0	0-0	0				
Toluene	ND	30	0	0	0	0-0	0				
Xylenes, Total	ND	90	0	0	0	0-0	0				
Surr: 1,2-Dichloroethane-d4	1016	0	1000	0	102	70-130	0				
Surr: 4-Bromofluorobenzene	1014	0	1000	0	101	70-130	0				
Surr: Dibromofluoromethane	870	0	1000	0	87	70-130	0				
Surr: Toluene-d8	1039	0	1000	0	104	70-130	0				

LCS				Sample ID: LCS-121251-121251			Units: µg/Kg-dry		Analysis Date: 7/14/2018 12:08 PM		
Client ID:			Run ID: VMS9_180713B			SeqNo: 5147948		Prep Date: 7/13/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1046	30	1000	0	105	75-125	0				
Ethylbenzene	1119	30	1000	0	112	75-125	0				
m,p-Xylene	2216	60	2000	0	111	80-125	0				
o-Xylene	1100	30	1000	0	110	75-125	0				
Toluene	1078	30	1000	0	108	70-125	0				
Xylenes, Total	3316	90	3000	0	111	75-125	0				
Surr: 1,2-Dichloroethane-d4	1012	0	1000	0	101	70-130	0				
Surr: 4-Bromofluorobenzene	1036	0	1000	0	104	70-130	0				
Surr: Dibromofluoromethane	988.5	0	1000	0	98.8	70-130	0				
Surr: Toluene-d8	1092	0	1000	0	109	70-130	0				

MS					Sample ID: 1807614-03A MS		Units: µg/Kg-dry		Analysis Date: 7/14/2018 05:40 AM		
Client ID:			Run ID: VMS9_180713B			SeqNo: 5147943		Prep Date: 7/13/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1307	37	1222	0	107	75-125	0				
Ethylbenzene	1439	37	1222	0	118	75-125	0				
m,p-Xylene	2838	73	2444	0	116	80-125	0				
o-Xylene	1400	37	1222	0	115	75-125	0				
Toluene	1241	37	1222	0	102	70-125	0				
Xylenes, Total	4238	110	3667	0	116	75-125	0				
Surr: 1,2-Dichloroethane-d4	1220	0	1222	0	99.8	70-130	0				
Surr: 4-Bromofluorobenzene	1222	0	1222	0	100	70-130	0				
Surr: Dibromofluoromethane	1104	0	1222	0	90.3	70-130	0				
Surr: Toluene-d8	1217	0	1222	0	99.6	70-130	0				

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

Client: WPX Energy
Work Order: 1807622
Project: North Brushy 35-6 post excavation

QC BATCH REPORT

Batch ID: **121251** Instrument ID **VMS9** Method: **SW8260C**

MSD				Sample ID: 1807614-03A MSD				Units: µg/Kg-dry			Analysis Date: 7/14/2018 05:56 AM				
Client ID:				Run ID: VMS9_180713B				SeqNo: 5147945			Prep Date: 7/13/2018			DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual					
Benzene	1250	37	1222	0	102	75-125	1307	4.49	30						
Ethylbenzene	1368	37	1222	0	112	75-125	1439	5.05	30						
m,p-Xylene	2683	73	2444	0	110	80-125	2838	5.62	30						
o-Xylene	1434	37	1222	0	117	75-125	1400	2.37	30						
Toluene	1268	37	1222	0	104	70-125	1241	2.19	30						
Xylenes, Total	4116	110	3667	0	112	75-125	4238	2.91	30						
Surr: 1,2-Dichloroethane-d4	1247	0	1222	0	102	70-130	1220	2.18	30						
Surr: 4-Bromofluorobenzene	1340	0	1222	0	110	70-130	1222	9.21	30						
Surr: Dibromofluoromethane	1107	0	1222	0	90.6	70-130	1104	0.332	30						
Surr: Toluene-d8	1269	0	1222	0	104	70-130	1217	4.13	30						

The following samples were analyzed in this batch:

1807622-01A	1807622-02A	1807622-03A
1807622-04A	1807622-05A	

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

Client: WPX Energy
 Work Order: 1807622
 Project: North Brushy 35-6 post excavation

QC BATCH REPORT

Batch ID: **121253** Instrument ID **VMS8** Method: **SW8260C**

MBLK				Sample ID: MBLK-121253-121253			Units: µg/Kg-dry		Analysis Date: 7/13/2018 08:15 PM		
Client ID:			Run ID: VMS8_180713B			SeqNo: 5147645		Prep Date: 7/13/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	ND	30	0	0	0	0-0	0				
Ethylbenzene	ND	30	0	0	0	0-0	0				
m,p-Xylene	ND	60	0	0	0	0-0	0				
o-Xylene	ND	30	0	0	0	0-0	0				
Toluene	ND	30	0	0	0	0-0	0				
Xylenes, Total	ND	90	0	0	0	0-0	0				
Surr: 1,2-Dichloroethane-d4	1036	0	1000	0	104	70-130	0				
Surr: 4-Bromofluorobenzene	1020	0	1000	0	102	70-130	0				
Surr: Dibromofluoromethane	970	0	1000	0	97	70-130	0				
Surr: Toluene-d8	964	0	1000	0	96.4	70-130	0				

LCS				Sample ID: LCS-121253-121253			Units: µg/Kg-dry		Analysis Date: 7/13/2018 07:26 PM		
Client ID:		Run ID: VMS8_180713B			SeqNo: 5147644		Prep Date: 7/13/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	997	30	1000	0	99.7	75-125	0				
Ethylbenzene	955	30	1000	0	95.5	75-125	0				
m,p-Xylene	1934	60	2000	0	96.7	80-125	0				
o-Xylene	975.5	30	1000	0	97.6	75-125	0				
Toluene	978.5	30	1000	0	97.8	70-125	0				
Xylenes, Total	2909	90	3000	0	97	75-125	0				
Surr: 1,2-Dichloroethane-d4	1042	0	1000	0	104	70-130	0				
Surr: 4-Bromofluorobenzene	976.5	0	1000	0	97.6	70-130	0				
Surr: Dibromofluoromethane	1029	0	1000	0	103	70-130	0				
Surr: Toluene-d8	997	0	1000	0	99.7	70-130	0				

MS				Sample ID: 1807622-06A MS				Units: µg/Kg-dry		Analysis Date: 7/14/2018 01:39 AM	
Client ID: S3 5'			Run ID: VMS8_180713B			SeqNo: 5147657		Prep Date: 7/13/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1046	33	1105	0	94.6	75-125	0				
Ethylbenzene	1065	33	1105	0	96.4	75-125	0				
m,p-Xylene	2160	66	2211	0	97.7	80-125	0				
o-Xylene	1089	33	1105	0	98.5	75-125	0				
Toluene	1069	33	1105	0	96.8	70-125	0				
Xylenes, Total	3248	99	3316	0	98	75-125	0				
Surr: 1,2-Dichloroethane-d4	1142	0	1105	0	103	70-130	0				
Surr: 4-Bromofluorobenzene	1152	0	1105	0	104	70-130	0				
Surr: Dibromofluoromethane	1070	0	1105	0	96.8	70-130	0				
Surr: Toluene-d8	1135	0	1105	0	103	70-130	0				

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

Client: WPX Energy
Work Order: 1807622
Project: North Brushy 35-6 post excavation

QC BATCH REPORT

Batch ID: **121253** Instrument ID **VMS8** Method: **SW8260C**

MSD				Sample ID: 1807622-06A MSD			Units: µg/Kg-dry		Analysis Date: 7/14/2018 01:55 AM	
Client ID: S3 5'				Run ID: VMS8_180713B			SeqNo: 5147658		Prep Date: 7/13/2018	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1068	33	1105	0	96.6	75-125	1046	2.09	30	
Ethylbenzene	1048	33	1105	0	94.8	75-125	1065	1.57	30	
m,p-Xylene	2132	66	2211	0	96.4	80-125	2160	1.31	30	
o-Xylene	1047	33	1105	0	94.8	75-125	1089	3.88	30	
Toluene	1068	33	1105	0	96.6	70-125	1069	0.155	30	
Xylenes, Total	3179	99	3316	0	95.9	75-125	3248	2.17	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>1174</i>	<i>0</i>	<i>1105</i>	<i>0</i>	<i>106</i>	<i>70-130</i>	<i>1142</i>	<i>2.77</i>	<i>30</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>1072</i>	<i>0</i>	<i>1105</i>	<i>0</i>	<i>97</i>	<i>70-130</i>	<i>1152</i>	<i>7.21</i>	<i>30</i>	
<i>Surr: Dibromofluoromethane</i>	<i>1099</i>	<i>0</i>	<i>1105</i>	<i>0</i>	<i>99.4</i>	<i>70-130</i>	<i>1070</i>	<i>2.7</i>	<i>30</i>	
<i>Surr: Toluene-d8</i>	<i>1087</i>	<i>0</i>	<i>1105</i>	<i>0</i>	<i>98.4</i>	<i>70-130</i>	<i>1135</i>	<i>4.33</i>	<i>30</i>	

The following samples were analyzed in this batch:

1807622-06A 1807622-07A

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

Client: WPX Energy
Work Order: 1807622
Project: North Brushy 35-6 post excavation

QC BATCH REPORT

Batch ID: **121467** Instrument ID **GALLERY** Method: **A4500-CI E-11**

MBLK		Sample ID: MBLK-121467-121467				Units: mg/Kg		Analysis Date: 7/17/2018 01:00 PM		
Client ID:		Run ID: GALLERY_180717A		SeqNo: 5150929		Prep Date: 7/17/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride ND 10

MS		Sample ID: 1807622-05A MS				Units: mg/Kg		Analysis Date: 7/17/2018 01:00 PM		
Client ID: S3 4'		Run ID: GALLERY_180717A		SeqNo: 5150935		Prep Date: 7/17/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 511.1 10 498 6.806 101 75-125 0

MSD		Sample ID: 1807622-05A MSD				Units: mg/Kg		Analysis Date: 7/17/2018 01:00 PM		
Client ID: S3 4'		Run ID: GALLERY_180717A		SeqNo: 5150936		Prep Date: 7/17/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 509.5 10 498 6.806 101 75-125 511.1 0.312 25

LCS1		Sample ID: LCS1-121467-121467				Units: mg/Kg		Analysis Date: 7/17/2018 01:00 PM		
Client ID:		Run ID: GALLERY_180717A		SeqNo: 5150952		Prep Date: 7/17/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 100.1 10 100 0 100 80-120 0

LCS2		Sample ID: LCS2-121467-121467				Units: mg/Kg		Analysis Date: 7/17/2018 01:00 PM		
Client ID:		Run ID: GALLERY_180717A		SeqNo: 5150953		Prep Date: 7/17/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 529.4 10 500 0 106 80-120 0

The following samples were analyzed in this batch:

1807622-01A	1807622-02A	1807622-03A
1807622-04A	1807622-05A	1807622-06A
1807622-07A		

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

Client: WPX Energy
Work Order: 1807622
Project: North Brushy 35-6 post excavation

QC BATCH REPORT

Batch ID: **R240373** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R240373				Units: % of sample		Analysis Date: 7/17/2018 11:14 AM		
Client ID:		Run ID: MOIST_180717A				SeqNo: 5151868		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-R240373				Units: % of sample		Analysis Date: 7/17/2018 11:14 AM		
Client ID:		Run ID: MOIST_180717A				SeqNo: 5151867		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 99.99 0.050 100 0 100 99.5-100.5 0

DUP		Sample ID: 1807614-10A DUP				Units: % of sample		Analysis Date: 7/17/2018 11:14 AM		
Client ID:		Run ID: MOIST_180717A				SeqNo: 5151846		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 7.08 0.050 0 0 0 0-0 6.94 2 10

DUP		Sample ID: 1807628-03A DUP				Units: % of sample		Analysis Date: 7/17/2018 11:14 AM		
Client ID:		Run ID: MOIST_180717A				SeqNo: 5151857		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 2.56 0.050 0 0 0 0-0 2.55 0.391 10

The following samples were analyzed in this batch:

1807622-01A	1807622-02A	1807622-03A
1807622-04A	1807622-05A	1807622-06A
1807622-07A		

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



ALS Laboratory Group

Houston TX

Chain-of-Custody

Form 202r8

WORKORDER
#

1807622

PROJECT NAME		North Brushy 35-6 post excavation		SAMPLER				DATE		7/11/2018		PAGE		1 of 1	
PROJECT No.				SITE ID		North Brushy 35-6 post excavation		TURNAROUND		5 day		DISPOSAL		Lab or Return to Client	
COMPANY NAME		WPX Energy		EDD FORMAT				GRO, DRO, ORO BTEX Chlorides							
SEND REPORT TO		Blaney		PURCHASE ORDER											
ADDRESS				BILL TO COMPANY		WPX Energy									
CITY / STATE / ZIP				INVOICE ATTN TO		Karolina Blaney									
PHONE				ADDRESS		5315 Buena Vista Dr									
FAX				CITY / STATE / ZIP		Carlsbad, NM 88220									
E-MAIL		Karolina.blaney@wpxenergy.com; james.raley@wpxenergy.com		PHONE		970 589 0743									
Lab ID		Field ID		Matrix		Sample Date		Sample Time		# Bottles		Pres.		QC	
		S3 0'		S		7/9/2018		9:50		2		8		x	
		S3 1'		S		7/9/2018		9:55		2		8		x	
		S3 2'		S		7/9/2018		10:00		2		8		x	
		S3 3'		S		7/9/2018		10:05		2		8		x	
		S3 4'		S		7/9/2018		10:10		2		8		x	
		S3 5'		S		7/9/2018		10:15		2		8		x	
		S3 6'		S		7/9/2018		10:20		2		8		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: 38c SR2 Ⓢ	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		7/11/2018		15:00	
RECEIVED BY Nina France		Nina France		7-12-18		1000	
RELINQUISHED BY							
RECEIVED BY							
RELINQUISHED BY							
RECEIVED BY							

Sample Receipt Checklist

Client Name: **WPX - NM**

Date/Time Received: **12-Jul-18 10:00**

Work Order: **1807622**

Received by: **KRW**

Checklist completed by Keith Wurenga
eSignature

12-Jul-18

Date

Reviewed by: Chad Whelton
eSignature

13-Jul-18

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):

3.8/3.8

SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage:

7/12/2018 12:51:14 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:



31-Jul-2018

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

Re: **North Brushy 35-6 Post Excavation**

Work Order: **1807628**

Dear Karolina,

ALS Environmental received 10 samples on 12-Jul-2018 10:00 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 24.

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

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

Sincerely,

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

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 998501

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

Environmental

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: WPX Energy
Project: North Brushy 35-6 Post Exccavation
Work Order: 1807628

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>
1807628-01	S4 0'	Soil		7/9/2018 08:40	7/12/2018 10:00	☐
1807628-02	S4 1'	Soil		7/9/2018 08:45	7/12/2018 10:00	☐
1807628-03	S4 2'	Soil		7/9/2018 08:55	7/12/2018 10:00	☐
1807628-04	S4 3'	Soil		7/9/2018 09:00	7/12/2018 10:00	☐
1807628-05	S4 4'	Soil		7/9/2018 09:05	7/12/2018 10:00	☐
1807628-06	S4 5'	Soil		7/9/2018 09:10	7/12/2018 10:00	☐
1807628-07	S4 6'	Soil		7/9/2018 09:15	7/12/2018 10:00	☐
1807628-08	S4 7'	Soil		7/9/2018 09:20	7/12/2018 10:00	☐
1807628-09	S4 8'	Soil		7/9/2018 09:25	7/12/2018 10:00	☐
1807628-10	S4 9'	Soil		7/9/2018 09:30	7/12/2018 10:00	☐

Client: WPX Energy
Project: North Brushy 35-6 Post Exccavation
Work Order: 1807628

Case Narrative

Batch 121332, Method DRLVI_8015_S, Sample 1807628-01A MS: The MS recovery was below the lower control limit for DRO. However, the MSD recovery and the RPD between the MS and MSD were within control limits. No qualification is required.

Batch 121332, Method DRLVI_8015_S, Sample 1807628-01A MS/MSD: The MS/MSD recovery was below the lower control limit for ORO. The corresponding result in the parent sample may be biased low.

Batch 121417, Method DRLVI_8270_S, Samples 1807628-05A and -06A: One or more surrogate recoveries were above the upper control limits. The sample was non-detect, therefore, no qualification is required.

Client: WPX Energy
Project: North Brushy 35-6 Post Exccavation
WorkOrder: 1807628

QUALIFIERS, ACRONYMS, UNITS

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

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

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

ALS Group, USA

Date: 31-Jul-18

Client: WPX Energy
Project: North Brushy 35-6 Post Exccavation
Sample ID: S4 0'
Collection Date: 7/9/2018 08:40 AM

Work Order: 1807628
Lab ID: 1807628-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 7/16/18 16:21	Analyst: RP
DRO (C10-C28)	220		5.2	mg/Kg-dry	1	7/19/2018 08:24 AM
ORO (C28-C40)	510		5.2	mg/Kg-dry	1	7/19/2018 08:24 AM
Surr: 4-Terphenyl-d14	99.1		34-130	%REC	1	7/19/2018 08:24 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 7/13/18 10:38	Analyst: RP
GRO (C6-C10)	ND		5.4	mg/Kg-dry	1	7/17/2018 12:31 PM
Surr: Toluene-d8	117		71-123	%REC	1	7/17/2018 12:31 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 7/13/18 10:38	Analyst: EMR
Benzene	ND		0.032	mg/Kg-dry	1	7/13/2018 08:48 PM
Ethylbenzene	ND		0.032	mg/Kg-dry	1	7/13/2018 08:48 PM
m,p-Xylene	ND		0.065	mg/Kg-dry	1	7/13/2018 08:48 PM
o-Xylene	ND		0.032	mg/Kg-dry	1	7/13/2018 08:48 PM
Toluene	ND		0.032	mg/Kg-dry	1	7/13/2018 08:48 PM
Xylenes, Total	ND		0.097	mg/Kg-dry	1	7/13/2018 08:48 PM
Surr: 1,2-Dichloroethane-d4	104		70-130	%REC	1	7/13/2018 08:48 PM
Surr: 4-Bromofluorobenzene	101		70-130	%REC	1	7/13/2018 08:48 PM
Surr: Dibromofluoromethane	99.4		70-130	%REC	1	7/13/2018 08:48 PM
Surr: Toluene-d8	98.6		70-130	%REC	1	7/13/2018 08:48 PM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 7/17/18 21:30	Analyst: ED
Chloride	170	x	10	mg/Kg-dry	1	7/18/2018 11:00 AM
MOISTURE						
			SW3550C			Analyst: SBR
Moisture	3.9		0.050	% of sample	1	7/17/2018 11:14 AM

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

ALS Group, USA

Date: 31-Jul-18

Client: WPX Energy
Project: North Brushy 35-6 Post Exccavation
Sample ID: S4 1'
Collection Date: 7/9/2018 08:45 AM

Work Order: 1807628
Lab ID: 1807628-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 7/16/18 16:21	Analyst: RP
DRO (C10-C28)	ND		5.1	mg/Kg-dry	1	7/27/2018 02:52 AM
ORO (C28-C40)	ND		5.1	mg/Kg-dry	1	7/27/2018 02:52 AM
Surr: 4-Terphenyl-d14	43.5		34-130	%REC	1	7/27/2018 02:52 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 7/13/18 10:38	Analyst: RP
GRO (C6-C10)	ND		5.3	mg/Kg-dry	1	7/17/2018 12:57 PM
Surr: Toluene-d8	114		71-123	%REC	1	7/17/2018 12:57 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 7/13/18 10:38	Analyst: EMR
Benzene	ND		0.032	mg/Kg-dry	1	7/13/2018 09:04 PM
Ethylbenzene	ND		0.032	mg/Kg-dry	1	7/13/2018 09:04 PM
m,p-Xylene	ND		0.063	mg/Kg-dry	1	7/13/2018 09:04 PM
o-Xylene	ND		0.032	mg/Kg-dry	1	7/13/2018 09:04 PM
Toluene	ND		0.032	mg/Kg-dry	1	7/13/2018 09:04 PM
Xylenes, Total	ND		0.095	mg/Kg-dry	1	7/13/2018 09:04 PM
Surr: 1,2-Dichloroethane-d4	104		70-130	%REC	1	7/13/2018 09:04 PM
Surr: 4-Bromofluorobenzene	103		70-130	%REC	1	7/13/2018 09:04 PM
Surr: Dibromofluoromethane	101		70-130	%REC	1	7/13/2018 09:04 PM
Surr: Toluene-d8	99.5		70-130	%REC	1	7/13/2018 09:04 PM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 7/17/18 21:30	Analyst: ED
Chloride	47	x	10	mg/Kg-dry	1	7/18/2018 11:00 AM
MOISTURE						
			SW3550C			Analyst: SBR
Moisture	2.5		0.050	% of sample	1	7/17/2018 11:14 AM

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

ALS Group, USA

Date: 31-Jul-18

Client: WPX Energy
Project: North Brushy 35-6 Post Exccavation
Sample ID: S4 2'
Collection Date: 7/9/2018 08:55 AM

Work Order: 1807628
Lab ID: 1807628-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 7/16/18 16:21	Analyst: RP
DRO (C10-C28)	ND		5.1	mg/Kg-dry	1	7/27/2018 03:22 AM
ORO (C28-C40)	30		5.1	mg/Kg-dry	1	7/27/2018 03:22 AM
Surr: 4-Terphenyl-d14	46.0		34-130	%REC	1	7/27/2018 03:22 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 7/13/18 10:38	Analyst: RP
GRO (C6-C10)	ND		5.3	mg/Kg-dry	1	7/17/2018 01:23 AM
Surr: Toluene-d8	119		71-123	%REC	1	7/17/2018 01:23 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 7/13/18 10:38	Analyst: EMR
Benzene	ND		0.032	mg/Kg-dry	1	7/13/2018 09:20 PM
Ethylbenzene	ND		0.032	mg/Kg-dry	1	7/13/2018 09:20 PM
m,p-Xylene	ND		0.063	mg/Kg-dry	1	7/13/2018 09:20 PM
o-Xylene	ND		0.032	mg/Kg-dry	1	7/13/2018 09:20 PM
Toluene	ND		0.032	mg/Kg-dry	1	7/13/2018 09:20 PM
Xylenes, Total	ND		0.095	mg/Kg-dry	1	7/13/2018 09:20 PM
Surr: 1,2-Dichloroethane-d4	104		70-130	%REC	1	7/13/2018 09:20 PM
Surr: 4-Bromofluorobenzene	98.8		70-130	%REC	1	7/13/2018 09:20 PM
Surr: Dibromofluoromethane	98.0		70-130	%REC	1	7/13/2018 09:20 PM
Surr: Toluene-d8	96.9		70-130	%REC	1	7/13/2018 09:20 PM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 7/17/18 21:30	Analyst: ED
Chloride	48	x	10	mg/Kg-dry	1	7/18/2018 11:00 AM
MOISTURE						
			SW3550C			Analyst: SBR
Moisture	2.6		0.050	% of sample	1	7/17/2018 11:14 AM

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

ALS Group, USA

Date: 31-Jul-18

Client: WPX Energy
Project: North Brushy 35-6 Post Exccavation
Sample ID: S4 3'
Collection Date: 7/9/2018 09:00 AM

Work Order: 1807628
Lab ID: 1807628-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 7/16/18 16:21	Analyst: RP
DRO (C10-C28)	ND		5.0	mg/Kg-dry	1	7/27/2018 03:51 AM
ORO (C28-C40)	7.9		5.0	mg/Kg-dry	1	7/27/2018 03:51 AM
Surr: 4-Terphenyl-d14	46.5		34-130	%REC	1	7/27/2018 03:51 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 7/13/18 10:38	Analyst: RP
GRO (C6-C10)	ND		5.3	mg/Kg-dry	1	7/17/2018 01:50 AM
Surr: Toluene-d8	119		71-123	%REC	1	7/17/2018 01:50 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 7/13/18 10:38	Analyst: EMR
Benzene	ND		0.032	mg/Kg-dry	1	7/13/2018 09:36 PM
Ethylbenzene	ND		0.032	mg/Kg-dry	1	7/13/2018 09:36 PM
m,p-Xylene	ND		0.063	mg/Kg-dry	1	7/13/2018 09:36 PM
o-Xylene	ND		0.032	mg/Kg-dry	1	7/13/2018 09:36 PM
Toluene	ND		0.032	mg/Kg-dry	1	7/13/2018 09:36 PM
Xylenes, Total	ND		0.095	mg/Kg-dry	1	7/13/2018 09:36 PM
Surr: 1,2-Dichloroethane-d4	102		70-130	%REC	1	7/13/2018 09:36 PM
Surr: 4-Bromofluorobenzene	105		70-130	%REC	1	7/13/2018 09:36 PM
Surr: Dibromofluoromethane	98.8		70-130	%REC	1	7/13/2018 09:36 PM
Surr: Toluene-d8	99.6		70-130	%REC	1	7/13/2018 09:36 PM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 7/17/18 21:30	Analyst: ED
Chloride	76	x	10	mg/Kg-dry	1	7/18/2018 11:00 AM
MOISTURE						
			SW3550C			Analyst: SBR
Moisture	2.5		0.050	% of sample	1	7/17/2018 11:14 AM

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

ALS Group, USA

Date: 31-Jul-18

Client: WPX Energy
Project: North Brushy 35-6 Post Exccavation
Sample ID: S4 4'
Collection Date: 7/9/2018 09:05 AM

Work Order: 1807628
Lab ID: 1807628-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 7/13/18 10:38	Analyst: RP
GRO (C6-C10)	ND		5.4	mg/Kg-dry	1	7/17/2018 02:16 AM
Surr: Toluene-d8	116		71-123	%REC	1	7/17/2018 02:16 AM
DIESEL RANGE ORGANICS BY GC-FID						
			SW8270		Prep: SW3546 7/17/18 12:43	Analyst: EB
DRO (C10-C28)	16		7.5	mg/Kg-dry	1	7/28/2018 04:16 AM
ORO (C28-C40)	ND		7.5	mg/Kg-dry	1	7/28/2018 04:16 AM
Surr: 4-Terphenyl-d14	162	S	25-150	%REC	1	7/28/2018 04:16 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 7/13/18 10:38	Analyst: EMR
Benzene	ND		0.032	mg/Kg-dry	1	7/13/2018 09:53 PM
Ethylbenzene	ND		0.032	mg/Kg-dry	1	7/13/2018 09:53 PM
m,p-Xylene	ND		0.064	mg/Kg-dry	1	7/13/2018 09:53 PM
o-Xylene	ND		0.032	mg/Kg-dry	1	7/13/2018 09:53 PM
Toluene	ND		0.032	mg/Kg-dry	1	7/13/2018 09:53 PM
Xylenes, Total	ND		0.096	mg/Kg-dry	1	7/13/2018 09:53 PM
Surr: 1,2-Dichloroethane-d4	104		70-130	%REC	1	7/13/2018 09:53 PM
Surr: 4-Bromofluorobenzene	102		70-130	%REC	1	7/13/2018 09:53 PM
Surr: Dibromofluoromethane	99.6		70-130	%REC	1	7/13/2018 09:53 PM
Surr: Toluene-d8	101		70-130	%REC	1	7/13/2018 09:53 PM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 7/17/18 21:30	Analyst: ED
Chloride	ND	x	10	mg/Kg-dry	1	7/18/2018 11:00 AM
MOISTURE						
			SW3550C			Analyst: SBR
Moisture	3.4		0.050	% of sample	1	7/17/2018 11:14 AM

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

ALS Group, USA

Date: 31-Jul-18

Client: WPX Energy
Project: North Brushy 35-6 Post Exccavation
Sample ID: S4 5'
Collection Date: 7/9/2018 09:10 AM

Work Order: 1807628
Lab ID: 1807628-06
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 7/13/18 10:38	Analyst: RP
GRO (C6-C10)	ND		5.3	mg/Kg-dry	1	7/17/2018 02:42 AM
Surr: Toluene-d8	120		71-123	%REC	1	7/17/2018 02:42 AM
DIESEL RANGE ORGANICS BY GC-FID						
			SW8270		Prep: SW3546 7/17/18 12:43	Analyst: EB
DRO (C10-C28)	ND		7.7	mg/Kg-dry	1	7/28/2018 03:43 AM
ORO (C28-C40)	ND		7.7	mg/Kg-dry	1	7/28/2018 03:43 AM
Surr: 4-Terphenyl-d14	151	S	25-150	%REC	1	7/28/2018 03:43 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 7/13/18 10:38	Analyst: EMR
Benzene	ND		0.032	mg/Kg-dry	1	7/13/2018 10:09 PM
Ethylbenzene	ND		0.032	mg/Kg-dry	1	7/13/2018 10:09 PM
m,p-Xylene	ND		0.064	mg/Kg-dry	1	7/13/2018 10:09 PM
o-Xylene	ND		0.032	mg/Kg-dry	1	7/13/2018 10:09 PM
Toluene	ND		0.032	mg/Kg-dry	1	7/13/2018 10:09 PM
Xylenes, Total	ND		0.096	mg/Kg-dry	1	7/13/2018 10:09 PM
Surr: 1,2-Dichloroethane-d4	106		70-130	%REC	1	7/13/2018 10:09 PM
Surr: 4-Bromofluorobenzene	101		70-130	%REC	1	7/13/2018 10:09 PM
Surr: Dibromofluoromethane	101		70-130	%REC	1	7/13/2018 10:09 PM
Surr: Toluene-d8	97.6		70-130	%REC	1	7/13/2018 10:09 PM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 7/17/18 21:30	Analyst: ED
Chloride	15	x	10	mg/Kg-dry	1	7/18/2018 11:00 AM
MOISTURE						
			SW3550C			Analyst: SBR
Moisture	3.0		0.050	% of sample	1	7/17/2018 11:14 AM

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

ALS Group, USA

Date: 31-Jul-18

Client: WPX Energy
Project: North Brushy 35-6 Post Exccavation
Sample ID: S4 6'
Collection Date: 7/9/2018 09:15 AM

Work Order: 1807628
Lab ID: 1807628-07
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 7/13/18 10:38	Analyst: RP
GRO (C6-C10)	ND		5.4	mg/Kg-dry	1	7/17/2018 03:34 AM
Surr: Toluene-d8	117		71-123	%REC	1	7/17/2018 03:34 AM
DIESEL RANGE ORGANICS BY GC-FID						
			SW8270		Prep: SW3546 7/17/18 12:43	Analyst: EB
DRO (C10-C28)	ND		7.6	mg/Kg-dry	1	7/28/2018 03:10 AM
ORO (C28-C40)	ND		7.6	mg/Kg-dry	1	7/28/2018 03:10 AM
Surr: 4-Terphenyl-d14	129		25-150	%REC	1	7/28/2018 03:10 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 7/13/18 10:38	Analyst: EMR
Benzene	ND		0.032	mg/Kg-dry	1	7/13/2018 10:25 PM
Ethylbenzene	ND		0.032	mg/Kg-dry	1	7/13/2018 10:25 PM
m,p-Xylene	ND		0.065	mg/Kg-dry	1	7/13/2018 10:25 PM
o-Xylene	ND		0.032	mg/Kg-dry	1	7/13/2018 10:25 PM
Toluene	ND		0.032	mg/Kg-dry	1	7/13/2018 10:25 PM
Xylenes, Total	ND		0.098	mg/Kg-dry	1	7/13/2018 10:25 PM
Surr: 1,2-Dichloroethane-d4	102		70-130	%REC	1	7/13/2018 10:25 PM
Surr: 4-Bromofluorobenzene	101		70-130	%REC	1	7/13/2018 10:25 PM
Surr: Dibromofluoromethane	98.2		70-130	%REC	1	7/13/2018 10:25 PM
Surr: Toluene-d8	98.7		70-130	%REC	1	7/13/2018 10:25 PM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 7/17/18 21:30	Analyst: ED
Chloride	ND	x	10	mg/Kg-dry	1	7/18/2018 11:00 AM
MOISTURE						
			SW3550C			Analyst: SBR
Moisture	4.0		0.050	% of sample	1	7/17/2018 11:14 AM

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

ALS Group, USA

Date: 31-Jul-18

Client: WPX Energy
Project: North Brushy 35-6 Post Exccavation
Sample ID: S4 7'
Collection Date: 7/9/2018 09:20 AM

Work Order: 1807628
Lab ID: 1807628-08
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 7/13/18 10:38	Analyst: RP
GRO (C6-C10)	ND		5.4	mg/Kg-dry	1	7/17/2018 04:00 AM
Surr: Toluene-d8	118		71-123	%REC	1	7/17/2018 04:00 AM
DIESEL RANGE ORGANICS BY GC-FID						
			SW8270		Prep: SW3546 7/17/18 12:43	Analyst: EB
DRO (C10-C28)	ND		7.7	mg/Kg-dry	1	7/28/2018 02:36 AM
ORO (C28-C40)	ND		7.7	mg/Kg-dry	1	7/28/2018 02:36 AM
Surr: 4-Terphenyl-d14	130		25-150	%REC	1	7/28/2018 02:36 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 7/13/18 10:38	Analyst: EMR
Benzene	ND		0.033	mg/Kg-dry	1	7/13/2018 10:42 PM
Ethylbenzene	ND		0.033	mg/Kg-dry	1	7/13/2018 10:42 PM
m,p-Xylene	ND		0.065	mg/Kg-dry	1	7/13/2018 10:42 PM
o-Xylene	ND		0.033	mg/Kg-dry	1	7/13/2018 10:42 PM
Toluene	ND		0.033	mg/Kg-dry	1	7/13/2018 10:42 PM
Xylenes, Total	ND		0.098	mg/Kg-dry	1	7/13/2018 10:42 PM
Surr: 1,2-Dichloroethane-d4	107		70-130	%REC	1	7/13/2018 10:42 PM
Surr: 4-Bromofluorobenzene	104		70-130	%REC	1	7/13/2018 10:42 PM
Surr: Dibromofluoromethane	98.2		70-130	%REC	1	7/13/2018 10:42 PM
Surr: Toluene-d8	98.3		70-130	%REC	1	7/13/2018 10:42 PM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 7/17/18 21:30	Analyst: ED
Chloride	14	x	10	mg/Kg-dry	1	7/18/2018 11:00 AM
MOISTURE						
			SW3550C			Analyst: SBR
Moisture	4.3		0.050	% of sample	1	7/17/2018 11:14 AM

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

ALS Group, USA

Date: 31-Jul-18

Client: WPX Energy
Project: North Brushy 35-6 Post Exccavation
Sample ID: S4 8'
Collection Date: 7/9/2018 09:25 AM

Work Order: 1807628
Lab ID: 1807628-09
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 7/13/18 10:38	Analyst: RP
GRO (C6-C10)	7.9		5.3	mg/Kg-dry	1	7/17/2018 04:26 AM
Surr: Toluene-d8	116		71-123	%REC	1	7/17/2018 04:26 AM
DIESEL RANGE ORGANICS BY GC-FID						
			SW8270		Prep: SW3546 7/17/18 12:43	Analyst: EB
DRO (C10-C28)	16		7.5	mg/Kg-dry	1	7/28/2018 02:03 AM
ORO (C28-C40)	13		7.5	mg/Kg-dry	1	7/28/2018 02:03 AM
Surr: 4-Terphenyl-d14	134		25-150	%REC	1	7/28/2018 02:03 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 7/13/18 10:38	Analyst: EMR
Benzene	ND		0.032	mg/Kg-dry	1	7/13/2018 10:58 PM
Ethylbenzene	ND		0.032	mg/Kg-dry	1	7/13/2018 10:58 PM
m,p-Xylene	ND		0.064	mg/Kg-dry	1	7/13/2018 10:58 PM
o-Xylene	ND		0.032	mg/Kg-dry	1	7/13/2018 10:58 PM
Toluene	ND		0.032	mg/Kg-dry	1	7/13/2018 10:58 PM
Xylenes, Total	ND		0.096	mg/Kg-dry	1	7/13/2018 10:58 PM
Surr: 1,2-Dichloroethane-d4	102		70-130	%REC	1	7/13/2018 10:58 PM
Surr: 4-Bromofluorobenzene	99.6		70-130	%REC	1	7/13/2018 10:58 PM
Surr: Dibromofluoromethane	94.5		70-130	%REC	1	7/13/2018 10:58 PM
Surr: Toluene-d8	97.3		70-130	%REC	1	7/13/2018 10:58 PM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 7/17/18 21:30	Analyst: ED
Chloride	ND	x	10	mg/Kg-dry	1	7/18/2018 11:00 AM
MOISTURE						
			SW3550C			Analyst: SBR
Moisture	3.2		0.050	% of sample	1	7/17/2018 11:14 AM

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

ALS Group, USA

Date: 31-Jul-18

Client: WPX Energy
Project: North Brushy 35-6 Post Exccavation
Sample ID: S4 9'
Collection Date: 7/9/2018 09:30 AM

Work Order: 1807628
Lab ID: 1807628-10
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 7/13/18 10:38	Analyst: RP
GRO (C6-C10)	ND		5.4	mg/Kg-dry	1	7/17/2018 04:52 AM
Surr: Toluene-d8	115		71-123	%REC	1	7/17/2018 04:52 AM
DIESEL RANGE ORGANICS BY GC-FID						
			SW8270		Prep: SW3546 7/17/18 12:43	Analyst: EB
DRO (C10-C28)	ND		7.8	mg/Kg-dry	1	7/28/2018 01:30 AM
ORO (C28-C40)	ND		7.8	mg/Kg-dry	1	7/28/2018 01:30 AM
Surr: 4-Terphenyl-d14	123		25-150	%REC	1	7/28/2018 01:30 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 7/13/18 10:38	Analyst: EMR
Benzene	ND		0.032	mg/Kg-dry	1	7/13/2018 11:14 PM
Ethylbenzene	ND		0.032	mg/Kg-dry	1	7/13/2018 11:14 PM
m,p-Xylene	ND		0.065	mg/Kg-dry	1	7/13/2018 11:14 PM
o-Xylene	ND		0.032	mg/Kg-dry	1	7/13/2018 11:14 PM
Toluene	ND		0.032	mg/Kg-dry	1	7/13/2018 11:14 PM
Xylenes, Total	ND		0.097	mg/Kg-dry	1	7/13/2018 11:14 PM
Surr: 1,2-Dichloroethane-d4	103		70-130	%REC	1	7/13/2018 11:14 PM
Surr: 4-Bromofluorobenzene	99.0		70-130	%REC	1	7/13/2018 11:14 PM
Surr: Dibromofluoromethane	96.0		70-130	%REC	1	7/13/2018 11:14 PM
Surr: Toluene-d8	96.0		70-130	%REC	1	7/13/2018 11:14 PM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 7/17/18 21:30	Analyst: ED
Chloride	17	x	10	mg/Kg-dry	1	7/18/2018 11:00 AM
MOISTURE						
			SW3550C			Analyst: SBR
Moisture	3.8		0.050	% of sample	1	7/17/2018 11:14 AM

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

Client: WPX Energy
Work Order: 1807628
Project: North Brushy 35-6 Post Exccavation

QC BATCH REPORT

Batch ID: **121332** Instrument ID **GC8** Method: **SW8015C**

MBLK		Sample ID: DBLKS1-121332-121332				Units: mg/Kg		Analysis Date: 7/19/2018 06:27 AM		
Client ID:		Run ID: GC8_180718A				SeqNo: 5155741		Prep Date: 7/16/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	ND	5.0								
ORO (C28-C40)	ND	5.0								
Surr: 4-Terphenyl-d14	2.95	0	3.33	0	88.6	34-130	0			

LCS		Sample ID: DLCSS1-121332-121332				Units: mg/Kg		Analysis Date: 7/19/2018 06:56 AM		
Client ID:		Run ID: GC8_180718A				SeqNo: 5155742		Prep Date: 7/16/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	328.2	5.0	333	0	98.6	65-122	0			
ORO (C28-C40)	338	5.0	333	0	101	81-116	0			
Surr: 4-Terphenyl-d14	3.133	0	3.33	0	94.1	34-130	0			

MS		Sample ID: 1807628-01A MS				Units: mg/Kg		Analysis Date: 7/19/2018 07:26 AM		
Client ID: S4 0'		Run ID: GC8_180718A				SeqNo: 5155743		Prep Date: 7/16/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	397.3	4.8	321.6	209.7	58.3	65-122	0			S
ORO (C28-C40)	568.4	4.8	321.6	490.2	24.3	81-116	0			S
Surr: 4-Terphenyl-d14	1.803	0	3.216	0	56.1	34-130	0			

MSD		Sample ID: 1807628-01A MSD				Units: mg/Kg		Analysis Date: 7/19/2018 07:55 AM		
Client ID: S4 0'		Run ID: GC8_180718A				SeqNo: 5155744		Prep Date: 7/16/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	496.7	5.0	330.2	209.7	86.9	65-122	397.3	22.2	30	
ORO (C28-C40)	641	5.0	330.2	490.2	45.7	81-116	568.4	12	30	S
Surr: 4-Terphenyl-d14	3.454	0	3.302	0	105	34-130	1.803	62.8	30	R

The following samples were analyzed in this batch:

1807628-01A	1807628-02A	1807628-03A
1807628-04A		

Client: WPX Energy
Work Order: 1807628
Project: North Brushy 35-6 Post Exccavation

QC BATCH REPORT

Batch ID: **121417** Instrument ID **GC8** Method: **SW8015C**

MBLK		Sample ID: DBLKS1-121417-121417				Units: mg/Kg		Analysis Date: 7/20/2018 01:24 AM		
Client ID:		Run ID: GC8_180719A				SeqNo: 5158502		Prep Date: 7/17/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	ND	5.0								
ORO (C28-C40)	ND	5.0								
<i>Surr: 4-Terphenyl-d14</i>	2.95	0	3.33	0	88.6	34-130	0			

LCS		Sample ID: DLCSS1-121417-121417				Units: mg/Kg		Analysis Date: 7/20/2018 01:53 AM		
Client ID:		Run ID: GC8_180719A				SeqNo: 5158503		Prep Date: 7/17/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	344.7	5.0	333	0	104	65-122	0			
ORO (C28-C40)	335.1	5.0	333	0	101	81-116	0			
<i>Surr: 4-Terphenyl-d14</i>	3.167	0	3.33	0	95.1	34-130	0			

MS		Sample ID: 1807673-09C MS				Units: mg/Kg		Analysis Date: 7/20/2018 02:22 AM		
Client ID:		Run ID: GC8_180719A				SeqNo: 5158504		Prep Date: 7/17/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	360.7	5.0	332.5	8.009	106	65-122	0			
ORO (C28-C40)	338.3	5.0	332.5	22.45	95	81-116	0			
<i>Surr: 4-Terphenyl-d14</i>	3.379	0	3.325	0	102	34-130	0			

MSD		Sample ID: 1807673-09C MSD				Units: mg/Kg		Analysis Date: 7/20/2018 02:52 AM		
Client ID:		Run ID: GC8_180719A				SeqNo: 5158505		Prep Date: 7/17/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	337.5	5.0	332.1	8.009	99.2	65-122	360.7	6.67	30	
ORO (C28-C40)	346.7	5.0	332.1	22.45	97.6	81-116	338.3	2.45	30	
<i>Surr: 4-Terphenyl-d14</i>	3.375	0	3.321	0	102	34-130	3.379	0.12	30	

The following samples were analyzed in this batch:

1807628-05A	1807628-06A	1807628-07A
1807628-08A	1807628-09A	1807628-10A

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

Client: WPX Energy
 Work Order: 1807628
 Project: North Brushy 35-6 Post Exccavation

QC BATCH REPORT

Batch ID: **121254** Instrument ID **GC10** Method: **SW8015D**

MBLK		Sample ID: MBLK-121254-121254				Units: µg/Kg-dry		Analysis Date: 7/16/2018 11:13 PM		
Client ID:		Run ID: GC10_180716A				SeqNo: 5149984		Prep Date: 7/13/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10) ND 5,000
 Surr: Toluene-d8 5801 0 5000 0 116 71-123 0

LCS		Sample ID: LCS-121254-121254				Units: µg/Kg-dry		Analysis Date: 7/16/2018 10:20 PM		
Client ID:		Run ID: GC10_180716A				SeqNo: 5149983		Prep Date: 7/13/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10) 430200 5,000 500000 0 86 71-123 0
 Surr: Toluene-d8 5692 0 5000 0 114 71-123 0

MS		Sample ID: 1807622-06A MS				Units: µg/Kg-dry		Analysis Date: 7/17/2018 09:15 AM		
Client ID:		Run ID: GC10_180716A				SeqNo: 5150007		Prep Date: 7/13/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10) 533700 5,500 552600 0 96.6 71-123 0
 Surr: Toluene-d8 6612 0 5526 0 120 71-123 0

MSD		Sample ID: 1807622-06A MSD				Units: µg/Kg-dry		Analysis Date: 7/17/2018 09:41 AM		
Client ID:		Run ID: GC10_180716A				SeqNo: 5150009		Prep Date: 7/13/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10) 543900 5,500 552600 0 98.4 71-123 533700 1.89 30
 Surr: Toluene-d8 6009 0 5526 0 109 71-123 6612 9.55 30

The following samples were analyzed in this batch:

1807628-01A	1807628-02A	1807628-03A
1807628-04A	1807628-05A	1807628-06A
1807628-07A	1807628-08A	1807628-09A
1807628-10A		

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

Client: WPX Energy
 Work Order: 1807628
 Project: North Brushy 35-6 Post Exccavation

QC BATCH REPORT

Batch ID: **121417** Instrument ID **SVMS9** Method: **SW8270**

MBLK		Sample ID: DBLKS1-121417-121417				Units: mg/Kg		Analysis Date: 7/27/2018 06:53 PM		
Client ID:		Run ID: SVMS9_180727A				SeqNo: 5175161		Prep Date: 7/17/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	ND	5.0								
ORO (C28-C40)	ND	5.0								
<i>Surr: 4-Terphenyl-d14</i>	3.333	0	3.33	0	100	30-150	0			

LCS		Sample ID: DLCSS1-121417-121417				Units: mg/Kg		Analysis Date: 7/27/2018 07:26 PM		
Client ID:		Run ID: SVMS9_180727A				SeqNo: 5175162		Prep Date: 7/17/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	331.4	5.0	333	0	99.5	50-150	0			
ORO (C28-C40)	283.5	5.0	333	0	85.1	50-150	0			
<i>Surr: 4-Terphenyl-d14</i>	3.6	0	3.33	0	108	30-150	0			

MS		Sample ID: 1807673-09C MS				Units: mg/Kg		Analysis Date: 7/27/2018 07:59 PM		
Client ID:		Run ID: SVMS9_180727A				SeqNo: 5175163		Prep Date: 7/17/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	318.5	5.0	332.5	13.22	91.8	50-150	0			
ORO (C28-C40)	271.3	5.0	332.5	13.32	77.6	50-150	0			
<i>Surr: 4-Terphenyl-d14</i>	3.329	0	3.325	0	100	30-150	0			

MSD		Sample ID: 1807673-09C MSD				Units: mg/Kg		Analysis Date: 7/27/2018 08:32 PM		
Client ID:		Run ID: SVMS9_180727A				SeqNo: 5175164		Prep Date: 7/17/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	338.7	5.0	332.1	13.22	98	50-150	318.5	6.15	30	
ORO (C28-C40)	292.9	5.0	332.1	13.32	84.2	50-150	271.3	7.66	30	
<i>Surr: 4-Terphenyl-d14</i>	3.557	0	3.321	0	107	30-150	3.329	6.64	30	

The following samples were analyzed in this batch:

1807628-05A	1807628-06A	1807628-07A
1807628-08A	1807628-09A	1807628-10A

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

Client: WPX Energy
 Work Order: 1807628
 Project: North Brushy 35-6 Post Exccavation

QC BATCH REPORT

Batch ID: **121253** Instrument ID **VMS8** Method: **SW8260C**

MBLK				Sample ID: MBLK-121253-121253				Units: µg/Kg-dry		Analysis Date: 7/13/2018 08:15 PM	
Client ID:			Run ID: VMS8_180713B			SeqNo: 5147645		Prep Date: 7/13/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	ND	30	0	0	0	0-0	0				
Ethylbenzene	ND	30	0	0	0	0-0	0				
m,p-Xylene	ND	60	0	0	0	0-0	0				
o-Xylene	ND	30	0	0	0	0-0	0				
Toluene	ND	30	0	0	0	0-0	0				
Xylenes, Total	ND	90	0	0	0	0-0	0				
Surr: 1,2-Dichloroethane-d4	1036	0	1000	0	104	70-130	0				
Surr: 4-Bromofluorobenzene	1020	0	1000	0	102	70-130	0				
Surr: Dibromofluoromethane	970	0	1000	0	97	70-130	0				
Surr: Toluene-d8	964	0	1000	0	96.4	70-130	0				

LCS				Sample ID: LCS-121253-121253			Units: µg/Kg-dry		Analysis Date: 7/13/2018 07:26 PM		
Client ID:		Run ID: VMS8_180713B			SeqNo: 5147644		Prep Date: 7/13/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	997	30	1000	0	99.7	75-125	0				
Ethylbenzene	955	30	1000	0	95.5	75-125	0				
m,p-Xylene	1934	60	2000	0	96.7	80-125	0				
o-Xylene	975.5	30	1000	0	97.6	75-125	0				
Toluene	978.5	30	1000	0	97.8	70-125	0				
Xylenes, Total	2909	90	3000	0	97	75-125	0				
Surr: 1,2-Dichloroethane-d4	1042	0	1000	0	104	70-130	0				
Surr: 4-Bromofluorobenzene	976.5	0	1000	0	97.6	70-130	0				
Surr: Dibromofluoromethane	1029	0	1000	0	103	70-130	0				
Surr: Toluene-d8	997	0	1000	0	99.7	70-130	0				

MS				Sample ID: 1807622-06A MS				Units: µg/Kg-dry		Analysis Date: 7/14/2018 01:39 AM	
Client ID:			Run ID: VMS8_180713B			SeqNo: 5147657		Prep Date: 7/13/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1046	33	1105	0	94.6	75-125	0				
Ethylbenzene	1065	33	1105	0	96.4	75-125	0				
m,p-Xylene	2160	66	2211	0	97.7	80-125	0				
o-Xylene	1089	33	1105	0	98.5	75-125	0				
Toluene	1069	33	1105	0	96.8	70-125	0				
Xylenes, Total	3248	99	3316	0	98	75-125	0				
Surr: 1,2-Dichloroethane-d4	1142	0	1105	0	103	70-130	0				
Surr: 4-Bromofluorobenzene	1152	0	1105	0	104	70-130	0				
Surr: Dibromofluoromethane	1070	0	1105	0	96.8	70-130	0				
Surr: Toluene-d8	1135	0	1105	0	103	70-130	0				

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

Client: WPX Energy
Work Order: 1807628
Project: North Brushy 35-6 Post Exccavation

QC BATCH REPORT

Batch ID: **121253** Instrument ID **VMS8** Method: **SW8260C**

MSD				Sample ID: 1807622-06A MSD			Units: µg/Kg-dry		Analysis Date: 7/14/2018 01:55 AM	
Client ID:				Run ID: VMS8_180713B			SeqNo: 5147658		Prep Date: 7/13/2018	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1068	33	1105	0	96.6	75-125	1046	2.09	30	
Ethylbenzene	1048	33	1105	0	94.8	75-125	1065	1.57	30	
m,p-Xylene	2132	66	2211	0	96.4	80-125	2160	1.31	30	
o-Xylene	1047	33	1105	0	94.8	75-125	1089	3.88	30	
Toluene	1068	33	1105	0	96.6	70-125	1069	0.155	30	
Xylenes, Total	3179	99	3316	0	95.9	75-125	3248	2.17	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>1174</i>	<i>0</i>	<i>1105</i>	<i>0</i>	<i>106</i>	<i>70-130</i>	<i>1142</i>	<i>2.77</i>	<i>30</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>1072</i>	<i>0</i>	<i>1105</i>	<i>0</i>	<i>97</i>	<i>70-130</i>	<i>1152</i>	<i>7.21</i>	<i>30</i>	
<i>Surr: Dibromofluoromethane</i>	<i>1099</i>	<i>0</i>	<i>1105</i>	<i>0</i>	<i>99.4</i>	<i>70-130</i>	<i>1070</i>	<i>2.7</i>	<i>30</i>	
<i>Surr: Toluene-d8</i>	<i>1087</i>	<i>0</i>	<i>1105</i>	<i>0</i>	<i>98.4</i>	<i>70-130</i>	<i>1135</i>	<i>4.33</i>	<i>30</i>	

The following samples were analyzed in this batch:

1807628-01A	1807628-02A	1807628-03A
1807628-04A	1807628-05A	1807628-06A
1807628-07A	1807628-08A	1807628-09A
1807628-10A		

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

Client: WPX Energy
 Work Order: 1807628
 Project: North Brushy 35-6 Post Exccavation

QC BATCH REPORT

Batch ID: **121528** Instrument ID **GALLERY** Method: **A4500-CI E-11**

MBLK		Sample ID: MBLK-121528-121528					Units: mg/Kg		Analysis Date: 7/18/2018 11:00 AM		
Client ID:			Run ID: GALLERY_180718A			SeqNo: 5155049		Prep Date: 7/17/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Chloride 8.323 10 Jx

MS				Sample ID: 1807628-01A MS				Units: mg/Kg			Analysis Date: 7/18/2018 11:00 AM			
Client ID: S4 0'				Run ID: GALLERY_180718A				SeqNo: 5155114			Prep Date: 7/17/2018		DF: 1	
Analyte				Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 679.9 10 500 165.6 103 75-125 0 x

MSD				Sample ID: 1807628-01A MSD				Units: mg/Kg			Analysis Date: 7/18/2018 11:00 AM				
Client ID: S4 0'				Run ID: GALLERY_180718A				SeqNo: 5155115			Prep Date: 7/17/2018			DF: 1	
Analyte				Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Chloride 674.5 10 499 165.6 102 75-125 679.9 0.805 25 x

LCS1		Sample ID: LCS1-121528-121528				Units: mg/Kg		Analysis Date: 7/18/2018 11:00 AM		
Client ID:		Run ID: GALLERY_180718A		SeqNo: 5155050		Prep Date: 7/17/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 97.82 10 100 0 97.8 80-120 0 x

LCS2		Sample ID: LCS2-121528-121528				Units: mg/Kg		Analysis Date: 7/18/2018 11:00 AM		
Client ID:		Run ID: GALLERY_180718A		SeqNo: 5155116		Prep Date: 7/17/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 509.4 10 500 0 102 80-120 0 x

The following samples were analyzed in this batch:

1807628-01A	1807628-02A	1807628-03A
1807628-04A	1807628-05A	1807628-06A
1807628-07A	1807628-08A	1807628-09A
1807628-10A		

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

Client: WPX Energy
Work Order: 1807628
Project: North Brushy 35-6 Post Exccavation

QC BATCH REPORT

Batch ID: **R240373** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R240373				Units: % of sample		Analysis Date: 7/17/2018 11:14 AM		
Client ID:		Run ID: MOIST_180717A				SeqNo: 5151868		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-R240373				Units: % of sample		Analysis Date: 7/17/2018 11:14 AM		
Client ID:		Run ID: MOIST_180717A				SeqNo: 5151867		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 99.99 0.050 100 0 100 99.5-100.5 0

DUP		Sample ID: 1807614-10A DUP				Units: % of sample		Analysis Date: 7/17/2018 11:14 AM		
Client ID:		Run ID: MOIST_180717A				SeqNo: 5151846		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 7.08 0.050 0 0 0 0-0 6.94 2 10

DUP		Sample ID: 1807628-03A DUP				Units: % of sample		Analysis Date: 7/17/2018 11:14 AM		
Client ID: S4 2'		Run ID: MOIST_180717A				SeqNo: 5151857		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 2.56 0.050 0 0 0 0-0 2.55 0.391 10

The following samples were analyzed in this batch:

1807628-01A	1807628-02A	1807628-03A
1807628-04A	1807628-05A	1807628-06A
1807628-07A	1807628-08A	1807628-09A
1807628-10A		

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



ALS Laboratory Group

Houston TX

Chain-of-Custody

Form 202r8

WORKORDER
#

1807628

PROJECT NAME		North Brushy 35-6 post excavation		SAMPLER				DATE		7/11/2018		PAGE		1 of 1	
PROJECT No.				SITE ID		North Brushy 35-6 post excavation		TURNAROUND		5 day		DISPOSAL		Lab or Return to Client	
COMPANY NAME		WPX Energy		EDD FORMAT				GRO, DRO, ORO BTX Chlorides							
SEND REPORT TO		Blaney		PURCHASE ORDER											
ADDRESS				BILL TO COMPANY		WPX Energy									
CITY / STATE / ZIP				INVOICE ATTN TO		Karolina Blaney									
PHONE				ADDRESS		5315 Buena Vista Dr									
FAX				CITY / STATE / ZIP		Carlsbad, NM 88220									
E-MAIL		Karolina.blaney@wpxenergy.com; james.raley@wpxenergy.com		PHONE		970 589 0743									
				FAX											
				E-MAIL		Karolina.blaney@wpxenergy.com; James.Raley@wpxenergy.com									
Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC								
1	S4 0'	S	7/9/2018	8:40	2	8	x	x	x	x					
2	S4 1'	S	7/9/2018	8:45	2	8	x	x	x	x					
3	S4 2'	S	7/9/2018	8:55	2	8	x	x	x	x					
4	S4 3'	S	7/9/2018	9:00	2	8	x	x	x	x					
5	S4 4'	S	7/9/2018	9:05	2	8	x	x	x	x					
6	S4 5'	S	7/9/2018	9:10	2	8	x	x	x	x					
7	S4 6'	S	7/9/2018	9:15	2	8	x	x	x	x					
8	S4 7'	S	7/9/2018	9:20	2	8	x	x	x	x					
9	S4 8'	S	7/9/2018	9:25	2	8	x	x	x	x					
10	S4 9'	S	7/9/2018	9:30	2	8	x	x	x	x					

*Time Zone (Circle): EST CST MST PST Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = 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	Karolina Blaney	7/11/2018	15:00
RECEIVED BY				
RELINQUISHED BY	Nina France	Nina France	7-12-18	1000
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

Sample Receipt Checklist

Client Name: **WPX - NM**

Date/Time Received: **12-Jul-18 10:00**

Work Order: **1807628**

Received by: **KRW**

Checklist completed by Keith Wurenga
eSignature

12-Jul-18
Date

Reviewed by: Chad Whelton
eSignature

13-Jul-18
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): 3.8/3.8 SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 7/12/2018 1:24:29 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:



31-Jul-2018

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

Re: **North Brushy 35-6 post excavation**

Work Order: **1807632**

Dear Karolina,

ALS Environmental received 7 samples on 12-Jul-2018 10:00 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 20.

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

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

Sincerely,

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

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 998501

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

Environmental

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: WPX Energy
Project: North Brushy 35-6 post excavation
Work Order: 1807632

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>
1807632-01	S1 0'	Soil		7/9/2018 10:40	7/12/2018 10:00	☐
1807632-02	S2 0'	Soil		7/9/2018 10:30	7/12/2018 10:00	☐
1807632-03	S5 0'	Soil		7/9/2018 10:35	7/12/2018 10:00	☐
1807632-04	S6 0'	Soil		7/9/2018 10:45	7/12/2018 10:00	☐
1807632-05	S7 0'	Soil		7/9/2018 10:50	7/12/2018 10:00	☐
1807632-06	S8 0'	Soil		7/9/2018 10:55	7/12/2018 10:00	☐
1807632-07	S9 0'	Soil		7/9/2018 11:00	7/12/2018 10:00	☐

Client: WPX Energy
Project: North Brushy 35-6 post excavation
Work Order: 1807632

Case Narrative

Batch 121254, Method GRO_8015_S, Samples 1807632-02A, -03A, and -04A: GRO surrogate recoveries high due to matrix interference.

Client: WPX Energy
Project: North Brushy 35-6 post excavation
WorkOrder: 1807632

QUALIFIERS, ACRONYMS, UNITS

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

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

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

ALS Group, USA

Date: 31-Jul-18

Client: WPX Energy
Project: North Brushy 35-6 post excavation
Sample ID: S1 0'
Collection Date: 7/9/2018 10:40 AM

Work Order: 1807632
Lab ID: 1807632-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 7/13/18 10:38	Analyst: RP
GRO (C6-C10)	ND		5.3	mg/Kg-dry	1	7/17/2018 05:19 AM
Surr: Toluene-d8	120		71-123	%REC	1	7/17/2018 05:19 AM
DIESEL RANGE ORGANICS BY GC-FID						
			SW8270		Prep: SW3546 7/17/18 12:43	Analyst: EB
DRO (C10-C28)	220		7.4	mg/Kg-dry	1	7/28/2018 12:57 PM
ORO (C28-C40)	140		7.4	mg/Kg-dry	1	7/28/2018 12:57 PM
Surr: 4-Terphenyl-d14	118		25-150	%REC	1	7/28/2018 12:57 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 7/13/18 10:38	Analyst: LSY
Benzene	ND		0.032	mg/Kg-dry	1	7/14/2018 08:21 AM
Ethylbenzene	ND		0.032	mg/Kg-dry	1	7/14/2018 08:21 AM
m,p-Xylene	ND		0.064	mg/Kg-dry	1	7/14/2018 08:21 AM
o-Xylene	ND		0.032	mg/Kg-dry	1	7/14/2018 08:21 AM
Toluene	ND		0.032	mg/Kg-dry	1	7/14/2018 08:21 AM
Xylenes, Total	ND		0.096	mg/Kg-dry	1	7/14/2018 08:21 AM
Surr: 1,2-Dichloroethane-d4	114		70-130	%REC	1	7/14/2018 08:21 AM
Surr: 4-Bromofluorobenzene	98.2		70-130	%REC	1	7/14/2018 08:21 AM
Surr: Dibromofluoromethane	86.0		70-130	%REC	1	7/14/2018 08:21 AM
Surr: Toluene-d8	103		70-130	%REC	1	7/14/2018 08:21 AM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 7/18/18 11:45	Analyst: ED
Chloride	140		10	mg/Kg-dry	1	7/18/2018 02:30 PM
MOISTURE						
			SW3550C			Analyst: SBR
Moisture	3.2		0.050	% of sample	1	7/17/2018 11:14 AM

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

ALS Group, USA

Date: 31-Jul-18

Client: WPX Energy
Project: North Brushy 35-6 post excavation
Sample ID: S2 0'
Collection Date: 7/9/2018 10:30 AM

Work Order: 1807632
Lab ID: 1807632-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 7/13/18 10:38	Analyst: RP
GRO (C6-C10)	ND		5.3	mg/Kg-dry	1	7/17/2018 05:45 AM
Surr: Toluene-d8	129	S	71-123	%REC	1	7/17/2018 05:45 AM
DIESEL RANGE ORGANICS BY GC-FID						
			SW8270		Prep: SW3546 7/17/18 12:43	Analyst: EB
DRO (C10-C28)	29		7.6	mg/Kg-dry	1	7/28/2018 12:24 PM
ORO (C28-C40)	ND		7.6	mg/Kg-dry	1	7/28/2018 12:24 PM
Surr: 4-Terphenyl-d14	121		25-150	%REC	1	7/28/2018 12:24 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 7/13/18 10:38	Analyst: LSY
Benzene	ND		0.032	mg/Kg-dry	1	7/14/2018 08:43 AM
Ethylbenzene	ND		0.032	mg/Kg-dry	1	7/14/2018 08:43 AM
m,p-Xylene	ND		0.063	mg/Kg-dry	1	7/14/2018 08:43 AM
o-Xylene	ND		0.032	mg/Kg-dry	1	7/14/2018 08:43 AM
Toluene	ND		0.032	mg/Kg-dry	1	7/14/2018 08:43 AM
Xylenes, Total	ND		0.095	mg/Kg-dry	1	7/14/2018 08:43 AM
Surr: 1,2-Dichloroethane-d4	114		70-130	%REC	1	7/14/2018 08:43 AM
Surr: 4-Bromofluorobenzene	99.3		70-130	%REC	1	7/14/2018 08:43 AM
Surr: Dibromofluoromethane	85.0		70-130	%REC	1	7/14/2018 08:43 AM
Surr: Toluene-d8	102		70-130	%REC	1	7/14/2018 08:43 AM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 7/18/18 11:45	Analyst: ED
Chloride	30		10	mg/Kg-dry	1	7/18/2018 02:30 PM
MOISTURE						
			SW3550C			Analyst: SBR
Moisture	2.8		0.050	% of sample	1	7/17/2018 11:14 AM

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

ALS Group, USA

Date: 31-Jul-18

Client: WPX Energy
Project: North Brushy 35-6 post excavation
Sample ID: S5 0'
Collection Date: 7/9/2018 10:35 AM

Work Order: 1807632
Lab ID: 1807632-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 7/13/18 10:38	Analyst: RP
GRO (C6-C10)	ND		5.2	mg/Kg-dry	1	7/17/2018 06:11 AM
Surr: Toluene-d8	125	S	71-123	%REC	1	7/17/2018 06:11 AM
DIESEL RANGE ORGANICS BY GC-FID						
			SW8270		Prep: SW3546 7/17/18 12:43	Analyst: EB
DRO (C10-C28)	15		7.5	mg/Kg-dry	1	7/27/2018 11:51 PM
ORO (C28-C40)	13		7.5	mg/Kg-dry	1	7/27/2018 11:51 PM
Surr: 4-Terphenyl-d14	122		25-150	%REC	1	7/27/2018 11:51 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 7/13/18 10:38	Analyst: LSY
Benzene	ND		0.031	mg/Kg-dry	1	7/14/2018 09:06 AM
Ethylbenzene	ND		0.031	mg/Kg-dry	1	7/14/2018 09:06 AM
m,p-Xylene	ND		0.063	mg/Kg-dry	1	7/14/2018 09:06 AM
o-Xylene	ND		0.031	mg/Kg-dry	1	7/14/2018 09:06 AM
Toluene	ND		0.031	mg/Kg-dry	1	7/14/2018 09:06 AM
Xylenes, Total	ND		0.094	mg/Kg-dry	1	7/14/2018 09:06 AM
Surr: 1,2-Dichloroethane-d4	113		70-130	%REC	1	7/14/2018 09:06 AM
Surr: 4-Bromofluorobenzene	97.7		70-130	%REC	1	7/14/2018 09:06 AM
Surr: Dibromofluoromethane	85.4		70-130	%REC	1	7/14/2018 09:06 AM
Surr: Toluene-d8	103		70-130	%REC	1	7/14/2018 09:06 AM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 7/18/18 11:45	Analyst: ED
Chloride	69		10	mg/Kg-dry	1	7/18/2018 02:30 PM
MOISTURE						
			SW3550C			Analyst: SBR
Moisture	2.2		0.050	% of sample	1	7/17/2018 01:25 PM

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

ALS Group, USA

Date: 31-Jul-18

Client: WPX Energy
Project: North Brushy 35-6 post excavation
Sample ID: S6 0'
Collection Date: 7/9/2018 10:45 AM

Work Order: 1807632
Lab ID: 1807632-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 7/13/18 10:38	Analyst: RP
GRO (C6-C10)	ND		5.2	mg/Kg-dry	1	7/17/2018 06:37 AM
Surr: Toluene-d8	125	S	71-123	%REC	1	7/17/2018 06:37 AM
DIESEL RANGE ORGANICS BY GC-FID						
			SW8270		Prep: SW3546 7/17/18 12:43	Analyst: EB
DRO (C10-C28)	ND		7.4	mg/Kg-dry	1	7/27/2018 11:18 PM
ORO (C28-C40)	ND		7.4	mg/Kg-dry	1	7/27/2018 11:18 PM
Surr: 4-Terphenyl-d14	117		25-150	%REC	1	7/27/2018 11:18 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 7/13/18 10:38	Analyst: LSY
Benzene	ND		0.031	mg/Kg-dry	1	7/14/2018 09:28 AM
Ethylbenzene	ND		0.031	mg/Kg-dry	1	7/14/2018 09:28 AM
m,p-Xylene	ND		0.062	mg/Kg-dry	1	7/14/2018 09:28 AM
o-Xylene	ND		0.031	mg/Kg-dry	1	7/14/2018 09:28 AM
Toluene	ND		0.031	mg/Kg-dry	1	7/14/2018 09:28 AM
Xylenes, Total	ND		0.093	mg/Kg-dry	1	7/14/2018 09:28 AM
Surr: 1,2-Dichloroethane-d4	111		70-130	%REC	1	7/14/2018 09:28 AM
Surr: 4-Bromofluorobenzene	98.2		70-130	%REC	1	7/14/2018 09:28 AM
Surr: Dibromofluoromethane	84.6		70-130	%REC	1	7/14/2018 09:28 AM
Surr: Toluene-d8	102		70-130	%REC	1	7/14/2018 09:28 AM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 7/18/18 11:45	Analyst: ED
Chloride	ND		10	mg/Kg-dry	1	7/18/2018 02:30 PM
MOISTURE						
			SW3550C			Analyst: SBR
Moisture	1.8		0.050	% of sample	1	7/17/2018 01:25 PM

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

ALS Group, USA

Date: 31-Jul-18

Client: WPX Energy
Project: North Brushy 35-6 post excavation
Sample ID: S7 0'
Collection Date: 7/9/2018 10:50 AM

Work Order: 1807632
Lab ID: 1807632-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 7/13/18 10:38	Analyst: RP
GRO (C6-C10)	ND		5.3	mg/Kg-dry	1	7/17/2018 07:04 AM
Surr: Toluene-d8	120		71-123	%REC	1	7/17/2018 07:04 AM
DIESEL RANGE ORGANICS BY GC-FID						
			SW8270		Prep: SW3546 7/17/18 12:43	Analyst: EB
DRO (C10-C28)	ND		7.2	mg/Kg-dry	1	7/27/2018 10:45 PM
ORO (C28-C40)	ND		7.2	mg/Kg-dry	1	7/27/2018 10:45 PM
Surr: 4-Terphenyl-d14	110		25-150	%REC	1	7/27/2018 10:45 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 7/13/18 10:38	Analyst: LSY
Benzene	ND		0.032	mg/Kg-dry	1	7/14/2018 09:51 AM
Ethylbenzene	ND		0.032	mg/Kg-dry	1	7/14/2018 09:51 AM
m,p-Xylene	ND		0.063	mg/Kg-dry	1	7/14/2018 09:51 AM
o-Xylene	ND		0.032	mg/Kg-dry	1	7/14/2018 09:51 AM
Toluene	ND		0.032	mg/Kg-dry	1	7/14/2018 09:51 AM
Xylenes, Total	ND		0.095	mg/Kg-dry	1	7/14/2018 09:51 AM
Surr: 1,2-Dichloroethane-d4	114		70-130	%REC	1	7/14/2018 09:51 AM
Surr: 4-Bromofluorobenzene	97.0		70-130	%REC	1	7/14/2018 09:51 AM
Surr: Dibromofluoromethane	85.4		70-130	%REC	1	7/14/2018 09:51 AM
Surr: Toluene-d8	102		70-130	%REC	1	7/14/2018 09:51 AM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 7/18/18 11:45	Analyst: ED
Chloride	37		10	mg/Kg-dry	1	7/18/2018 02:30 PM
MOISTURE						
			SW3550C			Analyst: SBR
Moisture	2.7		0.050	% of sample	1	7/17/2018 01:25 PM

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

ALS Group, USA

Date: 31-Jul-18

Client: WPX Energy
Project: North Brushy 35-6 post excavation
Sample ID: S8 0'
Collection Date: 7/9/2018 10:55 AM

Work Order: 1807632
Lab ID: 1807632-06
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 7/13/18 10:38	Analyst: RP
GRO (C6-C10)	ND		5.2	mg/Kg-dry	1	7/17/2018 07:30 AM
Surr: Toluene-d8	118		71-123	%REC	1	7/17/2018 07:30 AM
DIESEL RANGE ORGANICS BY GC-FID						
			SW8270		Prep: SW3546 7/17/18 12:43	Analyst: EB
DRO (C10-C28)	ND		7.1	mg/Kg-dry	1	7/27/2018 10:11 PM
ORO (C28-C40)	ND		7.1	mg/Kg-dry	1	7/27/2018 10:11 PM
Surr: 4-Terphenyl-d14	111		25-150	%REC	1	7/27/2018 10:11 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 7/13/18 10:38	Analyst: LSY
Benzene	ND		0.031	mg/Kg-dry	1	7/14/2018 10:13 AM
Ethylbenzene	ND		0.031	mg/Kg-dry	1	7/14/2018 10:13 AM
m,p-Xylene	ND		0.063	mg/Kg-dry	1	7/14/2018 10:13 AM
o-Xylene	ND		0.031	mg/Kg-dry	1	7/14/2018 10:13 AM
Toluene	ND		0.031	mg/Kg-dry	1	7/14/2018 10:13 AM
Xylenes, Total	ND		0.094	mg/Kg-dry	1	7/14/2018 10:13 AM
Surr: 1,2-Dichloroethane-d4	114		70-130	%REC	1	7/14/2018 10:13 AM
Surr: 4-Bromofluorobenzene	96.5		70-130	%REC	1	7/14/2018 10:13 AM
Surr: Dibromofluoromethane	86.6		70-130	%REC	1	7/14/2018 10:13 AM
Surr: Toluene-d8	101		70-130	%REC	1	7/14/2018 10:13 AM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 7/18/18 11:45	Analyst: ED
Chloride	16		10	mg/Kg-dry	1	7/18/2018 02:30 PM
MOISTURE						
			SW3550C			Analyst: SBR
Moisture	2.2		0.050	% of sample	1	7/17/2018 01:25 PM

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

ALS Group, USA

Date: 31-Jul-18

Client: WPX Energy
Project: North Brushy 35-6 post excavation
Sample ID: S9 0'
Collection Date: 7/9/2018 11:00 AM

Work Order: 1807632
Lab ID: 1807632-07
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 7/13/18 10:38	Analyst: RP
GRO (C6-C10)	ND		5.2	mg/Kg-dry	1	7/17/2018 08:23 AM
Surr: Toluene-d8	118		71-123	%REC	1	7/17/2018 08:23 AM
DIESEL RANGE ORGANICS BY GC-FID						
			SW8270		Prep: SW3546 7/17/18 12:43	Analyst: EB
DRO (C10-C28)	38		7.4	mg/Kg-dry	1	7/27/2018 09:38 PM
ORO (C28-C40)	ND		7.4	mg/Kg-dry	1	7/27/2018 09:38 PM
Surr: 4-Terphenyl-d14	110		25-150	%REC	1	7/27/2018 09:38 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260C		Prep: SW5035 7/13/18 10:38	Analyst: LSY
Benzene	ND		0.031	mg/Kg-dry	1	7/14/2018 10:36 AM
Ethylbenzene	ND		0.031	mg/Kg-dry	1	7/14/2018 10:36 AM
m,p-Xylene	ND		0.063	mg/Kg-dry	1	7/14/2018 10:36 AM
o-Xylene	ND		0.031	mg/Kg-dry	1	7/14/2018 10:36 AM
Toluene	ND		0.031	mg/Kg-dry	1	7/14/2018 10:36 AM
Xylenes, Total	ND		0.094	mg/Kg-dry	1	7/14/2018 10:36 AM
Surr: 1,2-Dichloroethane-d4	114		70-130	%REC	1	7/14/2018 10:36 AM
Surr: 4-Bromofluorobenzene	97.0		70-130	%REC	1	7/14/2018 10:36 AM
Surr: Dibromofluoromethane	87.4		70-130	%REC	1	7/14/2018 10:36 AM
Surr: Toluene-d8	103		70-130	%REC	1	7/14/2018 10:36 AM
CHLORIDE						
			A4500-CL E-11		Prep: EXTRACT 7/18/18 11:45	Analyst: ED
Chloride	ND		10	mg/Kg-dry	1	7/18/2018 02:30 PM
MOISTURE						
			SW3550C			Analyst: SBR
Moisture	2.4		0.050	% of sample	1	7/17/2018 01:25 PM

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

Client: WPX Energy

Work Order: 1807632

Project: North Brushy 35-6 post excavation

QC BATCH REPORT

Batch ID: 121254

Instrument ID GC10

Method: SW8015D

MBLK		Sample ID: MBLK-121254-121254				Units: µg/Kg-dry		Analysis Date: 7/16/2018 11:13 PM		
Client ID:		Run ID: GC10_180716A				SeqNo: 5149984		Prep Date: 7/13/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	ND	5,000								
Surr: Toluene-d8	5801	0	5000	0	116	71-123		0		

LCS		Sample ID: LCS-121254-121254				Units: µg/Kg-dry		Analysis Date: 7/16/2018 10:20 PM		
Client ID:		Run ID: GC10_180716A				SeqNo: 5149983		Prep Date: 7/13/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	430200	5,000	500000	0	86	71-123		0		
Surr: Toluene-d8	5692	0	5000	0	114	71-123		0		

MS		Sample ID: 1807622-06A MS				Units: µg/Kg-dry		Analysis Date: 7/17/2018 09:15 AM		
Client ID:		Run ID: GC10_180716A				SeqNo: 5150007		Prep Date: 7/13/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	533700	5,500	552600	0	96.6	71-123		0		
Surr: Toluene-d8	6612	0	5526	0	120	71-123		0		

MSD		Sample ID: 1807622-06A MSD				Units: µg/Kg-dry		Analysis Date: 7/17/2018 09:41 AM		
Client ID:		Run ID: GC10_180716A				SeqNo: 5150009		Prep Date: 7/13/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	543900	5,500	552600	0	98.4	71-123	533700	1.89	30	
Surr: Toluene-d8	6009	0	5526	0	109	71-123	6612	9.55	30	

The following samples were analyzed in this batch:

1807632-01A	1807632-02A	1807632-03A
1807632-04A	1807632-05A	1807632-06A
1807632-07A		

Client: WPX Energy
 Work Order: 1807632
 Project: North Brushy 35-6 post excavation

QC BATCH REPORT

Batch ID: **121417** Instrument ID **SVMS9** Method: **SW8270**

MBLK		Sample ID: DBLKS1-121417-121417				Units: mg/Kg		Analysis Date: 7/27/2018 06:53 PM		
Client ID:		Run ID: SVMS9_180727A				SeqNo: 5175161		Prep Date: 7/17/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

ND

5.0

ORO (C28-C40)

ND

5.0

Surr: 4-Terphenyl-d14

3.333

0

3.33

0

100

30-150

0

LCS		Sample ID: DLCSS1-121417-121417				Units: mg/Kg		Analysis Date: 7/27/2018 07:26 PM		
Client ID:		Run ID: SVMS9_180727A				SeqNo: 5175162		Prep Date: 7/17/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

331.4

5.0

333

0

99.5

50-150

0

ORO (C28-C40)

283.5

5.0

333

0

85.1

50-150

0

Surr: 4-Terphenyl-d14

3.6

0

3.33

0

108

30-150

0

MS		Sample ID: 1807673-09C MS				Units: mg/Kg		Analysis Date: 7/27/2018 07:59 PM		
Client ID:		Run ID: SVMS9_180727A				SeqNo: 5175163		Prep Date: 7/17/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

318.5

5.0

332.5

13.22

91.8

50-150

0

ORO (C28-C40)

271.3

5.0

332.5

13.32

77.6

50-150

0

Surr: 4-Terphenyl-d14

3.329

0

3.325

0

100

30-150

0

MSD		Sample ID: 1807673-09C MSD				Units: mg/Kg		Analysis Date: 7/27/2018 08:32 PM		
Client ID:		Run ID: SVMS9_180727A				SeqNo: 5175164		Prep Date: 7/17/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)

338.7

5.0

332.1

13.22

98

50-150

318.5

6.15

30

ORO (C28-C40)

292.9

5.0

332.1

13.32

84.2

50-150

271.3

7.66

30

Surr: 4-Terphenyl-d14

3.557

0

3.321

0

107

30-150

3.329

6.64

30

The following samples were analyzed in this batch:

1807632-01A	1807632-02A	1807632-03A
1807632-04A	1807632-05A	1807632-06A
1807632-07A		

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

Client: WPX Energy
 Work Order: 1807632
 Project: North Brushy 35-6 post excavation

QC BATCH REPORT

Batch ID: **121253** Instrument ID **VMS8** Method: **SW8260C**

MBLK				Sample ID: MBLK-121253-121253			Units: µg/Kg-dry		Analysis Date: 7/13/2018 08:15 PM		
Client ID:			Run ID: VMS8_180713B			SeqNo: 5147645		Prep Date: 7/13/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	ND	30	0	0	0	0-0	0				
Ethylbenzene	ND	30	0	0	0	0-0	0				
m,p-Xylene	ND	60	0	0	0	0-0	0				
o-Xylene	ND	30	0	0	0	0-0	0				
Toluene	ND	30	0	0	0	0-0	0				
Xylenes, Total	ND	90	0	0	0	0-0	0				
Surr: 1,2-Dichloroethane-d4	1036	0	1000	0	104	70-130	0				
Surr: 4-Bromofluorobenzene	1020	0	1000	0	102	70-130	0				
Surr: Dibromofluoromethane	970	0	1000	0	97	70-130	0				
Surr: Toluene-d8	964	0	1000	0	96.4	70-130	0				

LCS					Sample ID: LCS-121253-121253		Units: µg/Kg-dry		Analysis Date: 7/13/2018 07:26 PM		
Client ID:			Run ID: VMS8_180713B			SeqNo: 5147644		Prep Date: 7/13/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	997	30	1000	0	99.7	75-125	0				
Ethylbenzene	955	30	1000	0	95.5	75-125	0				
m,p-Xylene	1934	60	2000	0	96.7	80-125	0				
o-Xylene	975.5	30	1000	0	97.6	75-125	0				
Toluene	978.5	30	1000	0	97.8	70-125	0				
Xylenes, Total	2909	90	3000	0	97	75-125	0				
Surr: 1,2-Dichloroethane-d4	1042	0	1000	0	104	70-130	0				
Surr: 4-Bromofluorobenzene	976.5	0	1000	0	97.6	70-130	0				
Surr: Dibromofluoromethane	1029	0	1000	0	103	70-130	0				
Surr: Toluene-d8	997	0	1000	0	99.7	70-130	0				

MS				Sample ID: 1807622-06A MS			Units: µg/Kg-dry		Analysis Date: 7/14/2018 01:39 AM		
Client ID:			Run ID: VMS8_180713B			SeqNo: 5147657		Prep Date: 7/13/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1046	33	1105	0	94.6	75-125	0				
Ethylbenzene	1065	33	1105	0	96.4	75-125	0				
m,p-Xylene	2160	66	2211	0	97.7	80-125	0				
o-Xylene	1089	33	1105	0	98.5	75-125	0				
Toluene	1069	33	1105	0	96.8	70-125	0				
Xylenes, Total	3248	99	3316	0	98	75-125	0				
Surr: 1,2-Dichloroethane-d4	1142	0	1105	0	103	70-130	0				
Surr: 4-Bromofluorobenzene	1152	0	1105	0	104	70-130	0				
Surr: Dibromofluoromethane	1070	0	1105	0	96.8	70-130	0				
Surr: Toluene-d8	1135	0	1105	0	103	70-130	0				

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

Client: WPX Energy
 Work Order: 1807632
 Project: North Brushy 35-6 post excavation

QC BATCH REPORT

Batch ID: **121253** Instrument ID **VMS8** Method: **SW8260C**

MSD				Sample ID: 1807622-06A MSD			Units: µg/Kg-dry		Analysis Date: 7/14/2018 01:55 AM		
Client ID:		Run ID: VMS8_180713B			SeqNo: 5147658		Prep Date: 7/13/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1068	33	1105	0	96.6	75-125	1046	2.09	30		
Ethylbenzene	1048	33	1105	0	94.8	75-125	1065	1.57	30		
m,p-Xylene	2132	66	2211	0	96.4	80-125	2160	1.31	30		
o-Xylene	1047	33	1105	0	94.8	75-125	1089	3.88	30		
Toluene	1068	33	1105	0	96.6	70-125	1069	0.155	30		
Xylenes, Total	3179	99	3316	0	95.9	75-125	3248	2.17	30		
Surr: 1,2-Dichloroethane-d4	1174	0	1105	0	106	70-130	1142	2.77	30		
Surr: 4-Bromofluorobenzene	1072	0	1105	0	97	70-130	1152	7.21	30		
Surr: Dibromofluoromethane	1099	0	1105	0	99.4	70-130	1070	2.7	30		
Surr: Toluene-d8	1087	0	1105	0	98.4	70-130	1135	4.33	30		

The following samples were analyzed in this batch:

1807632-01A	1807632-02A	1807632-03A
1807632-04A	1807632-05A	1807632-06A
1807632-07A		

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

Client: WPX Energy
 Work Order: 1807632
 Project: North Brushy 35-6 post excavation

QC BATCH REPORT

Batch ID: **121526** Instrument ID **GALLERY** Method: **A4500-CI E-11**

MBLK		Sample ID: MBLK-121526-121526				Units: mg/Kg		Analysis Date: 7/18/2018 02:30 PM		
Client ID:		Run ID: GALLERY_180718B		SeqNo: 5155239		Prep Date: 7/18/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride ND 10

MS		Sample ID: 1807632-05A MS				Units: mg/Kg		Analysis Date: 7/18/2018 02:30 PM		
Client ID: S7 0'		Run ID: GALLERY_180718B		SeqNo: 5155324		Prep Date: 7/18/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 548.5 10 499 36.45 103 75-125 0

MSD		Sample ID: 1807632-05A MSD				Units: mg/Kg		Analysis Date: 7/18/2018 02:30 PM		
Client ID: S7 0'		Run ID: GALLERY_180718B		SeqNo: 5155325		Prep Date: 7/18/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 551.5 10 499 36.45 103 75-125 548.5 0.544 25

LCS1		Sample ID: LCS1-121526-121526				Units: mg/Kg		Analysis Date: 7/18/2018 02:30 PM		
Client ID:		Run ID: GALLERY_180718B		SeqNo: 5155240		Prep Date: 7/18/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 99.04 10 100 0 99 80-120 0

LCS2		Sample ID: LCS2-121526-121526				Units: mg/Kg		Analysis Date: 7/18/2018 02:30 PM		
Client ID:		Run ID: GALLERY_180718B		SeqNo: 5155310		Prep Date: 7/18/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 511.4 10 500 0 102 80-120 0

The following samples were analyzed in this batch:

1807632-01A	1807632-02A	1807632-03A
1807632-04A	1807632-05A	1807632-06A
1807632-07A		

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

Client: WPX Energy
Work Order: 1807632
Project: North Brushy 35-6 post excavation

QC BATCH REPORT

Batch ID: **R240373** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R240373				Units: % of sample		Analysis Date: 7/17/2018 11:14 AM		
Client ID:		Run ID: MOIST_180717A				SeqNo: 5151868		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-R240373				Units: % of sample		Analysis Date: 7/17/2018 11:14 AM		
Client ID:		Run ID: MOIST_180717A				SeqNo: 5151867		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 99.99 0.050 100 0 100 99.5-100.5 0

DUP		Sample ID: 1807614-10A DUP				Units: % of sample		Analysis Date: 7/17/2018 11:14 AM		
Client ID:		Run ID: MOIST_180717A				SeqNo: 5151846		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 7.08 0.050 0 0 0 0-0 6.94 2 10

DUP		Sample ID: 1807628-03A DUP				Units: % of sample		Analysis Date: 7/17/2018 11:14 AM		
Client ID:		Run ID: MOIST_180717A				SeqNo: 5151857		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 2.56 0.050 0 0 0 0-0 2.55 0.391 10

The following samples were analyzed in this batch:

1807632-01A 1807632-02A

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

Client: WPX Energy
Work Order: 1807632
Project: North Brushy 35-6 post excavation

QC BATCH REPORT

Batch ID: **R240377** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R240377				Units: % of sample		Analysis Date: 7/17/2018 01:25 PM		
Client ID:		Run ID: MOIST_180717B		SeqNo: 5151953		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-R240377				Units: % of sample		Analysis Date: 7/17/2018 01:25 PM		
Client ID:		Run ID: MOIST_180717B		SeqNo: 5151951		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: 1807632-07A DUP				Units: % of sample		Analysis Date: 7/17/2018 01:25 PM		
Client ID: S9 0'		Run ID: MOIST_180717B		SeqNo: 5151915		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 2.26 0.050 0 0 0 0-0 2.36 4.33 10

The following samples were analyzed in this batch:

1807632-03A	1807632-04A	1807632-05A
1807632-06A	1807632-07A	

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



ALS Laboratory Group

Houston TX

Chain-of-Custody

Form 202r8

WORKORDER
#

1807632

PROJECT NAME		North Brushy 35-6 post excavation		SITE ID		North Brushy 35-6 post excavation		DATE		7/11/2018		PAGE		1 of 1	
PROJECT No.				EDD FORMAT				TURNAROUND		5 day		DISPOSAL		Lab or Return to Client	
COMPANY NAME		WPX Energy		BILL TO COMPANY		WPX Energy		GRO, DRO, ORO							
SEND REPORT TO		Blaney		INVOICE ATTN TO		Karolina Blaney		BTEx							
ADDRESS				ADDRESS		5315 Buena Vista Dr		Chlorides							
CITY / STATE / ZIP				CITY / STATE / ZIP		Carlsbad, NM 88220									
PHONE				PHONE		970 589 0743									
FAX				FAX											
E-MAIL		Karolina.blaney@wpxenergy.com; james.raley@wpxenergy.com		E-MAIL		Karolina.blaney@wpxenergy.com; James.Raley@wpxenergy.com									
Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC								
	S1 0'	S	7/9/2018	10:40	2	8	x	x	x	x					
	S2 0'	S	7/9/2018	10:30	2	8	x	x	x	x					
	S5 0'	S	7/9/2018	10:35	2	8	x	x	x	x					
	S6 0'	S	7/9/2018	10:45	2	8	x	x	x	x					
	S7 0'	S	7/9/2018	10:50	2	8	x	x	x	x					
	S8 0'	S	7/9/2018	10:55	2	8	x	x	x	x					
	S9 0'	S	7/9/2018	11:00	2	8	x	x	x	x					

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

3.8C
SRZ
C

SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY <i>Karolina Blaney</i>	Karolina Blaney	7/11/2018	15:00
RECEIVED BY <i>Nina France</i>	Nina France	7-12-18	1000
RELINQUISHED BY			
RECEIVED BY			
RELINQUISHED BY			
RECEIVED BY			

Sample Receipt Checklist

Client Name: **WPX - NM**

Date/Time Received: **12-Jul-18 10:00**

Work Order: **1807632**

Received by: **KRW**

Checklist completed by Keith Wurenga
eSignature

12-Jul-18
Date

Reviewed by: Chad Whelton
eSignature

13-Jul-18
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): 3.8/3.8 SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 7/12/2018 1:45:18 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: