



Crystal Weaver
Environmental Specialist
NMOCD District II

August 31, 2017

Re: Ginger Federal 1 – Case # 3635

Dear Ms. Weaver,

The purpose of this letter is to summarize remedial activities and sampling results that were completed in order close the incident that occurred on April 6, 2016 at the Ginger Federal 1 location.

Based on the information obtained from the NMOSE web site, the closest surface water feature is located 4467' east of the spill site and the hydrographic category of the water feature is "intermittent". Based on the OSE ground water data, the closest water well is located 705' northwest of the pad and depth to groundwater is more than 100'. There are no private domestic water sources within 1000' of the site. Therefore, the ranking for this site is 0. See attached OSE report for wells located within 2000 m from the pad site and surface water map.

During the final reclamation of this site, all tanks and plumbing were removed from the pad. One pothole was excavated (sampling point S1) to delineate vertical impacts of the spill. The tank farm area was excavated between 3' to 5' and the impacted soil was hauled off for disposal. Five confirmation samples were collected from the excavation (S3-S7) and analyzed for hydrocarbons and chlorides; one sample was collected from the bottom (S3) and four samples were collected from the walls (S4-S7). The results are summarized in Table 1. The raw analytical data and sample location map is included as an attachment.

As the attached lab reports indicate, all organic compounds are in compliance with the cleanup requirements for this site. The chloride concentrations are excavated to 1000 mg/kg and delineated to 250 mg/kg which indicate that groundwater was not impacted by this spill. The well located at this site has been plugged and abandoned and the site will be fully reclaimed upon this spill closure approval.

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

Sincerely,

A handwritten signature in blue ink that reads "Karolina Blaney".

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



New Mexico Office of the State Engineer

Wells with Well Log Information

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,
O=orphaned,
C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest)

(NAD83 UTM in meters)

(in feet)

POD Number	POD Sub-Code	basin	County	Source	q q q	6416 4	Sec	Tws	Rng	X	Y	Distance	Start Date	Finish Date	Log File Date	Depth Well	Depth Water	Driller	License Number
C 02165	C	ED	Shallow				24	26S	30E	610036	3544121*	705	05/02/1988	05/02/1988	05/05/1988	440	180	CORKY GLENN	421

Record Count: 1

UTMNAD83 Radius Search (in meters):

Easting (X): 610270.8

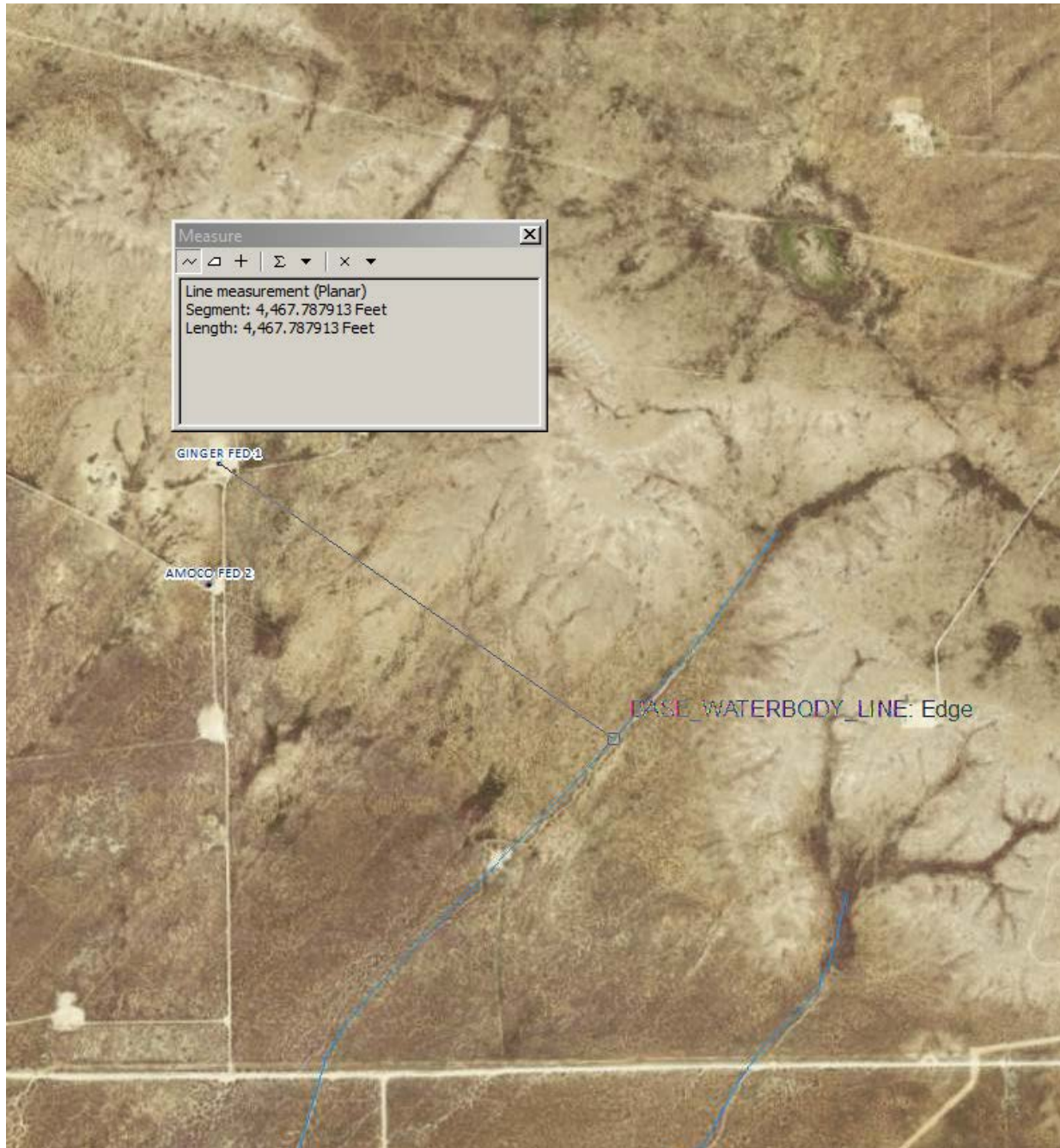
Northing (Y): 3543455.2

Radius: 2000

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

Distance to the closest surface water feature

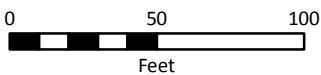




Ginger Fed 1 Permian Basin



Date: 8/31/2017
Map Scale (at 8.5" x 11"): 1:783
Projection: NAD 1927 UTM Zone 13N
Created By: Jeremy Andarakes
Facilities Engineering Dept - GIS
3500 One Williams Center
Tulsa, OK 74172



Map Symbology

- ★ Point of Interest
- ▭ Area of Interest

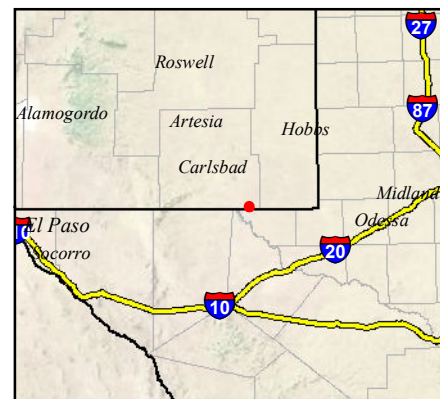


Table 1 - laboratory results

Location	Date	DRO (mg/kg)	GRO (mg/kg)	ORO (mg/kg)	Benzene (mg/kg)	Ethylbenzene (mg/kg)	Toluene (mg/kg)	Xylenes (mg/kg)	Chlorides (mg/kg)
Ginger Fed 1 S1 0'	6/1/2017	10000	170	4700	ND	ND	ND	1.6	420
Ginger Fed 1 S1 2'	6/1/2017	12000	2900	5200	0.4	21	50	77	70
Ginger Fed 1 S1 4'	6/1/2017	2900	1100	1300	0.076	4.7	4.1	18	24
Ginger Fed 1 S3 5' (CS)	8/21/2017	1000	8.3	840	ND	ND	ND	ND	650
Ginger Fed 1 S1 6'	6/1/2017	290	220	170	ND	0.79	0.64	3.4	48
Ginger Fed 1 S1 8'	6/1/2017	490	81	240	ND	0.1	ND	0.55	39
Ginger Fed 1 S4 2' wall	8/21/2017	110	ND	120	ND	ND	ND	ND	640
Ginger Fed 1 S5 2' wall	8/21/2017	ND	ND	9.1	ND	ND	ND	ND	690
Ginger Fed 1 S6 2' wall	8/21/2017	ND	ND	110	ND	ND	ND	ND	100
Ginger Fed 1 S7 2' wall	8/21/2017	84	ND	55	ND	ND	ND	ND	63



13-Jun-2017

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

Re: **Ginger Fed 1**

Work Order: **1706214**

Dear Karolina,

ALS Environmental received 5 samples on 03-Jun-2017 09:45 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 18.

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

Sincerely,

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

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 998501

Report of Laboratory Analysis

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

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Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: WPX Energy
Project: Ginger Fed 1
Work Order: 1706214

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>
1706214-01	Ginger Fed 1 S1 Surface	Soil		6/1/2017 13:00	6/3/2017 09:45	☐
1706214-02	Ginger Fed 1 S1 2'	Soil		6/1/2017 13:05	6/3/2017 09:45	☐
1706214-03	Ginger Fed 1 S1 4'	Soil		6/1/2017 13:10	6/3/2017 09:45	☐
1706214-04	Ginger Fed 1 S1 6'	Soil		6/1/2017 13:15	6/3/2017 09:45	☐
1706214-05	Ginger Fed 1 S1 8'	Soil		6/1/2017 13:20	6/3/2017 09:45	☐

Client: WPX Energy**Project:** Ginger Fed 1**Work Order:** 1706214**Case Narrative**

Batch 102804, Method GRO_8015_S, Samples 1706214-02A and -03A: GRO surrogate recoveries high due to matrix interference.

Batch R213370, Method MOISTURE, Sample 1706214-04A DUP: RPD is outside of test defined limits for moisture. Results should be considered estimated.

Client: WPX Energy
Project: Ginger Fed 1
WorkOrder: 1706214

QUALIFIERS, ACRONYMS, UNITS

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

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

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

ALS Group, USA

Date: 13-Jun-17

Client: WPX Energy

Project: Ginger Fed 1

Sample ID: Ginger Fed 1 S1 Surface

Collection Date: 6/1/2017 01:00 PM

Work Order: 1706214

Lab ID: 1706214-01

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 6/5/17 13:36	Analyst: IT
DRO (C10-C28)	10,000		140	mg/Kg-dry	25	6/6/2017 06:23 PM
ORO (C28-C40)	4,700		29	mg/Kg-dry	5	6/6/2017 01:23 PM
Surr: 4-Terphenyl-d14	82.6		53-140	%REC	5	6/6/2017 01:23 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 6/5/17 13:43	Analyst: IT
GRO (C6-C10)	170		32	mg/Kg-dry	10	6/6/2017 08:32 AM
Surr: Toluene-d8	112		50-150	%REC	10	6/6/2017 08:32 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 6/5/17 13:17	Analyst: WH
Benzene	ND		0.39	mg/Kg-dry	10	6/6/2017 02:54 AM
Ethylbenzene	ND		0.39	mg/Kg-dry	10	6/6/2017 02:54 AM
m,p-Xylene	0.88		0.78	mg/Kg-dry	10	6/6/2017 02:54 AM
o-Xylene	0.71		0.39	mg/Kg-dry	10	6/6/2017 02:54 AM
Toluene	ND		0.39	mg/Kg-dry	10	6/6/2017 02:54 AM
Xylenes, Total	1.6		1.2	mg/Kg-dry	10	6/6/2017 02:54 AM
Surr: 1,2-Dichloroethane-d4	97.7		70-130	%REC	10	6/6/2017 02:54 AM
Surr: 4-Bromofluorobenzene	99.4		70-130	%REC	10	6/6/2017 02:54 AM
Surr: Dibromofluoromethane	91.0		70-130	%REC	10	6/6/2017 02:54 AM
Surr: Toluene-d8	99.0		70-130	%REC	10	6/6/2017 02:54 AM
CHLORIDE						
			A4500-CL E-97		Prep: EXTRACT 6/7/17 12:45	Analyst: LW
Chloride	420		11	mg/Kg-dry	1	6/8/2017 10:00 AM
MOISTURE						
			SW3550C			Analyst: EDL
Moisture	13		0.050	% of sample	1	6/6/2017 03:02 PM

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

ALS Group, USA

Date: 13-Jun-17

Client: WPX Energy

Project: Ginger Fed 1

Sample ID: Ginger Fed 1 S1 2'

Collection Date: 6/1/2017 01:05 PM

Work Order: 1706214

Lab ID: 1706214-02

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 6/5/17 13:36	Analyst: IT
DRO (C10-C28)	12,000		140	mg/Kg-dry	25	6/6/2017 06:52 PM
ORO (C28-C40)	5,200		28	mg/Kg-dry	5	6/6/2017 01:53 PM
Surr: 4-Terphenyl-d14	92.6		53-140	%REC	5	6/6/2017 01:53 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 6/5/17 13:43	Analyst: IT
GRO (C6-C10)	2,900		3.1	mg/Kg-dry	1	6/6/2017 08:06 AM
Surr: Toluene-d8	585	S	50-150	%REC	1	6/6/2017 08:06 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 6/5/17 13:17	Analyst: WH
Benzene	0.40		0.037	mg/Kg-dry	1	6/6/2017 03:10 AM
Ethylbenzene	21		0.37	mg/Kg-dry	10	6/6/2017 02:05 PM
m,p-Xylene	50		0.75	mg/Kg-dry	10	6/6/2017 02:05 PM
o-Xylene	27		0.37	mg/Kg-dry	10	6/6/2017 02:05 PM
Toluene	26		0.37	mg/Kg-dry	10	6/6/2017 02:05 PM
Xylenes, Total	77		1.1	mg/Kg-dry	10	6/6/2017 02:05 PM
Surr: 1,2-Dichloroethane-d4	95.6		70-130	%REC	1	6/6/2017 03:10 AM
Surr: 1,2-Dichloroethane-d4	97.8		70-130	%REC	10	6/6/2017 02:05 PM
Surr: 4-Bromofluorobenzene	148	S	70-130	%REC	1	6/6/2017 03:10 AM
Surr: 4-Bromofluorobenzene	103		70-130	%REC	10	6/6/2017 02:05 PM
Surr: Dibromofluoromethane	88.8		70-130	%REC	1	6/6/2017 03:10 AM
Surr: Dibromofluoromethane	91.0		70-130	%REC	10	6/6/2017 02:05 PM
Surr: Toluene-d8	117		70-130	%REC	10	6/6/2017 02:05 PM
Surr: Toluene-d8	227	S	70-130	%REC	1	6/6/2017 03:10 AM
CHLORIDE						
			A4500-CL E-97		Prep: EXTRACT 6/7/17 12:45	Analyst: LW
Chloride	70		11	mg/Kg-dry	1	6/8/2017 10:00 AM
MOISTURE						
			SW3550C			Analyst: EDL
Moisture	11		0.050	% of sample	1	6/6/2017 03:02 PM

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

ALS Group, USA

Date: 13-Jun-17

Client: WPX Energy
Project: Ginger Fed 1
Sample ID: Ginger Fed 1 S1 4'
Collection Date: 6/1/2017 01:10 PM

Work Order: 1706214
Lab ID: 1706214-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 6/5/17 13:36	Analyst: IT
DRO (C10-C28)	2,900		27	mg/Kg-dry	5	6/6/2017 07:22 PM
ORO (C28-C40)	1,300		5.4	mg/Kg-dry	1	6/6/2017 02:23 PM
Surr: 4-Terphenyl-d14	106		53-140	%REC	1	6/6/2017 02:23 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 6/5/17 13:43	Analyst: IT
GRO (C6-C10)	1,100		3.0	mg/Kg-dry	1	6/6/2017 09:48 AM
Surr: Toluene-d8	286	S	50-150	%REC	1	6/6/2017 09:48 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 6/5/17 13:17	Analyst: WH
Benzene	0.076		0.036	mg/Kg-dry	1	6/6/2017 01:17 PM
Ethylbenzene	4.7		0.036	mg/Kg-dry	1	6/6/2017 01:17 PM
m,p-Xylene	8.0		0.071	mg/Kg-dry	1	6/6/2017 01:17 PM
o-Xylene	8.3		0.18	mg/Kg-dry	5	6/8/2017 01:58 AM
Toluene	4.1		0.036	mg/Kg-dry	1	6/6/2017 01:17 PM
Xylenes, Total	18		0.54	mg/Kg-dry	5	6/8/2017 01:58 AM
Surr: 1,2-Dichloroethane-d4	94.7		70-130	%REC	1	6/6/2017 01:17 PM
Surr: 1,2-Dichloroethane-d4	97.2		70-130	%REC	5	6/8/2017 01:58 AM
Surr: 4-Bromofluorobenzene	140	S	70-130	%REC	1	6/6/2017 01:17 PM
Surr: 4-Bromofluorobenzene	109		70-130	%REC	5	6/8/2017 01:58 AM
Surr: Dibromofluoromethane	93.8		70-130	%REC	1	6/6/2017 01:17 PM
Surr: Dibromofluoromethane	91.8		70-130	%REC	5	6/8/2017 01:58 AM
Surr: Toluene-d8	124		70-130	%REC	5	6/8/2017 01:58 AM
Surr: Toluene-d8	192	S	70-130	%REC	1	6/6/2017 01:17 PM
CHLORIDE						
			A4500-CL E-97		Prep: EXTRACT 6/7/17 13:30	Analyst: LW
Chloride	24		11	mg/Kg-dry	1	6/8/2017 12:15 PM
MOISTURE						
			SW3550C			Analyst: EDL
Moisture	8.7		0.050	% of sample	1	6/6/2017 03:02 PM

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

ALS Group, USA

Date: 13-Jun-17

Client: WPX Energy

Project: Ginger Fed 1

Sample ID: Ginger Fed 1 S1 6'

Collection Date: 6/1/2017 01:15 PM

Work Order: 1706214

Lab ID: 1706214-04

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 6/5/17 13:36	Analyst: IT
DRO (C10-C28)	290		5.5	mg/Kg-dry	1	6/6/2017 02:53 PM
ORO (C28-C40)	170		5.5	mg/Kg-dry	1	6/6/2017 02:53 PM
Surr: 4-Terphenyl-d14	62.6		53-140	%REC	1	6/6/2017 02:53 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 6/5/17 13:43	Analyst: IT
GRO (C6-C10)	220		3.1	mg/Kg-dry	1	6/6/2017 10:14 AM
Surr: Toluene-d8	140		50-150	%REC	1	6/6/2017 10:14 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 6/5/17 13:17	Analyst: WH
Benzene	ND		0.037	mg/Kg-dry	1	6/6/2017 01:33 PM
Ethylbenzene	0.79		0.037	mg/Kg-dry	1	6/6/2017 01:33 PM
m,p-Xylene	2.2		0.075	mg/Kg-dry	1	6/6/2017 01:33 PM
o-Xylene	1.2		0.037	mg/Kg-dry	1	6/6/2017 01:33 PM
Toluene	0.64		0.037	mg/Kg-dry	1	6/6/2017 01:33 PM
Xylenes, Total	3.4		0.11	mg/Kg-dry	1	6/6/2017 01:33 PM
Surr: 1,2-Dichloroethane-d4	96.2		70-130	%REC	1	6/6/2017 01:33 PM
Surr: 4-Bromofluorobenzene	103		70-130	%REC	1	6/6/2017 01:33 PM
Surr: Dibromofluoromethane	94.7		70-130	%REC	1	6/6/2017 01:33 PM
Surr: Toluene-d8	108		70-130	%REC	1	6/6/2017 01:33 PM
CHLORIDE						
			A4500-CL E-97		Prep: EXTRACT 6/7/17 13:30	Analyst: LW
Chloride	48		11	mg/Kg-dry	1	6/8/2017 12:15 PM
MOISTURE						
			SW3550C			Analyst: EDL
Moisture	11		0.050	% of sample	1	6/6/2017 03:02 PM

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

ALS Group, USA

Date: 13-Jun-17

Client: WPX Energy

Project: Ginger Fed 1

Sample ID: Ginger Fed 1 S1 8'

Collection Date: 6/1/2017 01:20 PM

Work Order: 1706214

Lab ID: 1706214-05

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 6/5/17 13:36	Analyst: IT
DRO (C10-C28)	490		5.5	mg/Kg-dry	1	6/6/2017 03:24 PM
ORO (C28-C40)	240		5.5	mg/Kg-dry	1	6/6/2017 03:24 PM
Surr: 4-Terphenyl-d14	77.6		53-140	%REC	1	6/6/2017 03:24 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 6/5/17 13:43	Analyst: IT
GRO (C6-C10)	81		3.0	mg/Kg-dry	1	6/6/2017 10:39 AM
Surr: Toluene-d8	117		50-150	%REC	1	6/6/2017 10:39 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 6/5/17 13:17	Analyst: WH
Benzene	ND		0.036	mg/Kg-dry	1	6/6/2017 01:49 PM
Ethylbenzene	0.10		0.036	mg/Kg-dry	1	6/6/2017 01:49 PM
m,p-Xylene	0.32		0.072	mg/Kg-dry	1	6/6/2017 01:49 PM
o-Xylene	0.23		0.036	mg/Kg-dry	1	6/6/2017 01:49 PM
Toluene	ND		0.036	mg/Kg-dry	1	6/6/2017 01:49 PM
Xylenes, Total	0.55		0.11	mg/Kg-dry	1	6/6/2017 01:49 PM
Surr: 1,2-Dichloroethane-d4	97.0		70-130	%REC	1	6/6/2017 01:49 PM
Surr: 4-Bromofluorobenzene	102		70-130	%REC	1	6/6/2017 01:49 PM
Surr: Dibromofluoromethane	88.9		70-130	%REC	1	6/6/2017 01:49 PM
Surr: Toluene-d8	100		70-130	%REC	1	6/6/2017 01:49 PM
CHLORIDE						
			A4500-CL E-97		Prep: EXTRACT 6/7/17 13:30	Analyst: LW
Chloride	39		11	mg/Kg-dry	1	6/8/2017 12:15 PM
MOISTURE						
			SW3550C			Analyst: EDL
Moisture	9.3		0.050	% of sample	1	6/6/2017 03:02 PM

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

Client: WPX Energy
 Work Order: 1706214
 Project: Ginger Fed 1

QC BATCH REPORT

Batch ID: 102780 Instrument ID GC8 Method: SW8015C

MBLK		Sample ID: DBLKS1-102780-102780				Units: mg/Kg		Analysis Date: 6/5/2017 03:59 PM		
Client ID:		Run ID: GC8_170605A				SeqNo: 4465067		Prep Date: 6/5/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	ND	5.0								
ORO (C28-C40)	ND	5.0								
<i>Surr: 4-Terphenyl-d14</i>	2.8	0	3.33	0	84.1	53-140	0			

LCS		Sample ID: DLCSS1-102780-102780				Units: mg/Kg		Analysis Date: 6/5/2017 04:28 PM		
Client ID:		Run ID: GC8_170605A				SeqNo: 4465068		Prep Date: 6/5/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	291	5.0	333	0	87.4	65-122	0			
ORO (C28-C40)	283.4	5.0	333	0	85.1	81-116	0			
<i>Surr: 4-Terphenyl-d14</i>	3.2	0	3.33	0	96.1	53-140	0			

MS		Sample ID: 1706131-03A MS				Units: mg/Kg		Analysis Date: 6/5/2017 05:58 PM		
Client ID:		Run ID: GC8_170605A				SeqNo: 4465070		Prep Date: 6/5/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	247.5	4.9	329.2	4.416	73.8	65-122	0			
ORO (C28-C40)	268.3	4.9	329.2	14.2	77.2	81-116	0			S
<i>Surr: 4-Terphenyl-d14</i>	2.521	0	3.292	0	76.6	53-140	0			

MSD		Sample ID: 1706131-03A MSD				Units: mg/Kg		Analysis Date: 6/5/2017 06:27 PM		
Client ID:		Run ID: GC8_170605A				SeqNo: 4465071		Prep Date: 6/5/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	251.1	4.9	328.6	4.416	75.1	65-122	247.5	1.43	30	
ORO (C28-C40)	268.3	4.9	328.6	14.2	77.3	81-116	268.3	0.0135	30	S
<i>Surr: 4-Terphenyl-d14</i>	2.434	0	3.286	0	74.1	53-140	2.521	3.52	30	

The following samples were analyzed in this batch:

1706214-01A	1706214-02A	1706214-03A
1706214-04A	1706214-05A	

Client: WPX Energy
 Work Order: 1706214
 Project: Ginger Fed 1

QC BATCH REPORT

Batch ID: **102804** Instrument ID **GC9** Method: **SW8015D**

MBLK		Sample ID: MBLK-102804-102804				Units: µg/Kg-dry		Analysis Date: 6/6/2017 12:02 PM		
Client ID:		Run ID: GC9_170605A				SeqNo: 4465226		Prep Date: 6/5/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	ND	2,500								
Surr: Toluene-d8	5034	0	5000	0	101	50-150	0			

LCS		Sample ID: LCS-102804-102804				Units: µg/Kg-dry		Analysis Date: 6/5/2017 11:12 PM		
Client ID:		Run ID: GC9_170605A				SeqNo: 4465205		Prep Date: 6/5/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	369300	2,500	500000	0	73.9	70-130	0			
Surr: Toluene-d8	5820	0	5000	0	116	50-150	0			

MS		Sample ID: 1706142-01A MS				Units: µg/Kg-dry		Analysis Date: 6/6/2017 03:00 AM		
Client ID:		Run ID: GC9_170605A				SeqNo: 4465211		Prep Date: 6/5/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	588100	2,800	565000	0	104	70-130	0			
Surr: Toluene-d8	6212	0	5650	0	110	50-150	0			

MSD		Sample ID: 1706142-01A MSD				Units: µg/Kg-dry		Analysis Date: 6/6/2017 03:26 AM		
Client ID:		Run ID: GC9_170605A				SeqNo: 4465212		Prep Date: 6/5/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	591600	2,800	565000	0	105	70-130	588100	0.587	30	
Surr: Toluene-d8	6530	0	5650	0	116	50-150	6212	4.99	30	

The following samples were analyzed in this batch:

1706214-01A	1706214-02A	1706214-03A
1706214-04A	1706214-05A	

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

Client: WPX Energy
 Work Order: 1706214
 Project: Ginger Fed 1

QC BATCH REPORT

Batch ID: 102803 Instrument ID VMS8 Method: SW8260B

MBLK Sample ID: MBLK-102803-102803				Units: µg/Kg-dry			Analysis Date: 6/5/2017 12:53 PM			
Client ID:		Run ID: VMS8_170605A		SeqNo: 4463701		Prep Date: 6/5/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	30								
Ethylbenzene	ND	30								
m,p-Xylene	ND	60								
o-Xylene	ND	30								
Toluene	ND	30								
Xylenes, Total	ND	90								
Surr: 1,2-Dichloroethane-d4	993.5	0	1000	0	99.4	70-130	0			
Surr: 4-Bromofluorobenzene	1033	0	1000	0	103	70-130	0			
Surr: Dibromofluoromethane	926	0	1000	0	92.6	70-130	0			
Surr: Toluene-d8	971	0	1000	0	97.1	70-130	0			

LCS Sample ID: LCS-102803-102803				Units: µg/Kg-dry			Analysis Date: 6/5/2017 12:04 PM			
Client ID:		Run ID: VMS8_170605A		SeqNo: 4463700		Prep Date: 6/5/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1108	30	1000	0	111	75-125	0			
Ethylbenzene	1094	30	1000	0	109	75-125	0			
m,p-Xylene	2180	60	2000	0	109	80-125	0			
o-Xylene	1068	30	1000	0	107	75-125	0			
Toluene	1106	30	1000	0	111	70-125	0			
Xylenes, Total	3249	90	3000	0	108	75-125	0			
Surr: 1,2-Dichloroethane-d4	981.5	0	1000	0	98.2	70-130	0			
Surr: 4-Bromofluorobenzene	1018	0	1000	0	102	70-130	0			
Surr: Dibromofluoromethane	991.5	0	1000	0	99.2	70-130	0			
Surr: Toluene-d8	994.5	0	1000	0	99.4	70-130	0			

MS Sample ID: 1706142-01A MS				Units: µg/Kg-dry			Analysis Date: 6/6/2017 06:42 PM			
Client ID:		Run ID: VMS8_170606A		SeqNo: 4467299		Prep Date: 6/5/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	957	34	1130	0	84.7	75-125	0			
Ethylbenzene	1007	34	1130	0	89.1	75-125	0			
m,p-Xylene	2025	68	2260	30.51	88.2	80-125	0			
o-Xylene	1006	34	1130	0	89	75-125	0			
Toluene	997.2	34	1130	0	88.2	70-125	0			
Xylenes, Total	3030	100	3390	31	88.5	75-125	0			
Surr: 1,2-Dichloroethane-d4	1082	0	1130	0	95.8	70-130	0			
Surr: 4-Bromofluorobenzene	1158	0	1130	0	102	70-130	0			
Surr: Dibromofluoromethane	1041	0	1130	0	92.2	70-130	0			
Surr: Toluene-d8	1103	0	1130	0	97.6	70-130	0			

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

Client: WPX Energy
 Work Order: 1706214
 Project: Ginger Fed 1

QC BATCH REPORT

Batch ID: 102803 Instrument ID VMS8 Method: SW8260B

MSD				Sample ID: 1706142-01A MSD			Units: µg/Kg-dry		Analysis Date: 6/6/2017 06:58 PM		
Client ID:			Run ID: VMS8_170606A			SeqNo: 4467300		Prep Date: 6/5/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1238	34	1130	0	110	75-125	957	25.6	30		
Ethylbenzene	1299	34	1130	0	115	75-125	1007	25.3	30		
m,p-Xylene	2616	68	2260	30.51	114	80-125	2025	25.5	30		
o-Xylene	1281	34	1130	0	113	75-125	1006	24.1	30		
Toluene	1285	34	1130	0	114	70-125	997.2	25.2	30		
Xylenes, Total	3897	100	3390	31	114	75-125	3030	25	30		
Surr: 1,2-Dichloroethane-d4	1047	0	1130	0	92.6	70-130	1082	3.34	30		
Surr: 4-Bromofluorobenzene	1160	0	1130	0	103	70-130	1158	0.195	30		
Surr: Dibromofluoromethane	1039	0	1130	0	92	70-130	1041	0.217	30		
Surr: Toluene-d8	1094	0	1130	0	96.8	70-130	1103	0.771	30		

The following samples were analyzed in this batch:

1706214-01A	1706214-02A	1706214-03A
1706214-04A	1706214-05A	

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

Client: WPX Energy
 Work Order: 1706214
 Project: Ginger Fed 1

QC BATCH REPORT

Batch ID: **102972** Instrument ID **GALLERY** Method: **A4500-CI E-97**

MBLK		Sample ID: MBLK-102972-102972				Units: mg/Kg		Analysis Date: 6/8/2017 10:00 AM		
Client ID:		Run ID: GALLERY_170608A		SeqNo: 4471163		Prep Date: 6/7/2017		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: 1706207-01A MS				Units: mg/Kg		Analysis Date: 6/8/2017 10:00 AM		
Client ID:		Run ID: GALLERY_170608A		SeqNo: 4471196		Prep Date: 6/7/2017		DF: 30		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 14090 300 495 13100 199 75-125 0 SO

MSD		Sample ID: 1706207-01A MSD				Units: mg/Kg		Analysis Date: 6/8/2017 10:00 AM		
Client ID:		Run ID: GALLERY_170608A		SeqNo: 4471197		Prep Date: 6/7/2017		DF: 30		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 11960 300 495 13100 -230 75-125 14090 16.3 25 SO

LCS1		Sample ID: LCS1-102972-102972				Units: mg/Kg		Analysis Date: 6/8/2017 10:00 AM		
Client ID:		Run ID: GALLERY_170608A		SeqNo: 4471173		Prep Date: 6/7/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 100.3 10 100 0 100 80-120 0

LCS2		Sample ID: LCS2-102972-102972				Units: mg/Kg		Analysis Date: 6/8/2017 10:00 AM		
Client ID:		Run ID: GALLERY_170608A		SeqNo: 4471174		Prep Date: 6/7/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 498.6 10 500 0 99.7 80-120 0

The following samples were analyzed in this batch:

1706214-01A 1706214-02A

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

Client: WPX Energy
 Work Order: 1706214
 Project: Ginger Fed 1

QC BATCH REPORT

Batch ID: **102973** Instrument ID **GALLERY** Method: **A4500-CI E-97**

MBLK		Sample ID: MBLK-102973-102973				Units: mg/Kg		Analysis Date: 6/8/2017 12:15 PM		
Client ID:		Run ID: GALLERY_170608B		SeqNo: 4471218		Prep Date: 6/7/2017		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: 1706214-03A MS				Units: mg/Kg		Analysis Date: 6/8/2017 12:15 PM		
Client ID: Ginger Fed 1 S1 4'		Run ID: GALLERY_170608B		SeqNo: 4471228		Prep Date: 6/7/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 508 10 499 22.33 97.3 75-125 0

MSD		Sample ID: 1706214-03A MSD				Units: mg/Kg		Analysis Date: 6/8/2017 12:15 PM		
Client ID: Ginger Fed 1 S1 4'		Run ID: GALLERY_170608B		SeqNo: 4471229		Prep Date: 6/7/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 513.2 10 500 22.33 98.2 75-125 508 1.02 25

LCS1		Sample ID: LCS1-102973-102973				Units: mg/Kg		Analysis Date: 6/8/2017 12:15 PM		
Client ID:		Run ID: GALLERY_170608B		SeqNo: 4471219		Prep Date: 6/7/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 99.76 10 100 0 99.8 80-120 0

LCS2		Sample ID: LCS2-102973-102973				Units: mg/Kg		Analysis Date: 6/8/2017 12:15 PM		
Client ID:		Run ID: GALLERY_170608B		SeqNo: 4471237		Prep Date: 6/7/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 494.5 10 500 0 98.9 80-120 0

The following samples were analyzed in this batch:

1706214-03A 1706214-04A 1706214-05A

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

Client: WPX Energy
 Work Order: 1706214
 Project: Ginger Fed 1

QC BATCH REPORT

Batch ID: **R213370** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R213370				Units: % of sample		Analysis Date: 6/6/2017 03:02 PM		
Client ID:		Run ID: MOIST_170606C				SeqNo: 4467019		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-R213370				Units: % of sample		Analysis Date: 6/6/2017 03:02 PM		
Client ID:		Run ID: MOIST_170606C				SeqNo: 4467018		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: 1706214-03A DUP				Units: % of sample		Analysis Date: 6/6/2017 03:02 PM		
Client ID: Ginger Fed 1 S1 4'		Run ID: MOIST_170606C				SeqNo: 4467003		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 8.61 0.050 0 0 0 0-0 8.69 0.925 5

DUP		Sample ID: 1706214-04A DUP				Units: % of sample		Analysis Date: 6/6/2017 03:02 PM		
Client ID: Ginger Fed 1 S1 6'		Run ID: MOIST_170606C				SeqNo: 4467005		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 10.07 0.050 0 0 0 0-0 10.99 8.74 5 R

The following samples were analyzed in this batch:

1706214-01A	1706214-02A	1706214-03A
1706214-04A	1706214-05A	

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



ALS Laboratory Group

HOLLAND, Michigan 49424

Chain-of-Custody

Form 202r8

WORKORDER

1706214

PAGE

1 of 1

DISPOSAL

By Lab or Return to Client

PROJECT NAME

Ginger Fed 1

SAMPLER

SITE ID

Ginger Fed 1

DATE

6/2/2017

TURNAROUND

5 days

PROJECT No.

EDD FORMAT

PURCHASE ORDER

COMPANY NAME

WPX Energy

BILL TO COMPANY

WPX Energy

SEND REPORT TO

Blaney

INVOICE ATTN TO

Karolina Blaney

ADDRESS

ADDRESS

5315 Buena Vista Dr

CITY / STATE / ZIP

CITY / STATE / ZIP

Carlsbad, NM 88220

PHONE

PHONE

970 589 0743

FAX

FAX

E-MAIL

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

E-MAIL

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

DRO + GFO + DRO

BTEX

Chloride

Lab ID

Field ID

Matrix

Sample Date

Sample Time

Bottles

Pres.

QC

1

Ginger Fed 1 S1 Surface

S

6/1/2017

13:00

2

8

x

x

x

x

2

Ginger Fed 1 S1 2'

S

6/1/2017

13:05

2

8

x

x

x

x

3

Ginger Fed 1 S1 4'

S

6/1/2017

13:10

2

8

x

x

x

x

4

Ginger Fed 1 S1 6'

S

6/1/2017

13:15

2

8

x

x

x

x

5

Ginger Fed 1 S1 8'

S

6/1/2017

13:20

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)

SAZ 41.5



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

PRINTED NAME

Karolina Blaney

DATE

6/2/2017

TIME

18:00

RECEIVED BY

Diane F. Shaw

PRINTED NAME

Diane F. Shaw

DATE

6/3/17

TIME

0945

RELINQUISHED BY

RECEIVED BY

RELINQUISHED BY

RECEIVED BY

Sample Receipt Checklist

Client Name: **WPX - NM**

Date/Time Received: **03-Jun-17 09:45**

Work Order: **1706214**

Received by: **DS**

Checklist completed by Diane Shaw
eSignature

05-Jun-17
Date

Reviewed by: Chad Whelton
eSignature

05-Jun-17
Date

Matrices: **soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Sample(s) received on ice?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	<u>4.0 C/4.0 C</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>6/5/2017 10:14:20 AM</u>		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☒
Water - pH acceptable upon receipt?	Yes ☒	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☒	N/A ☐
pH adjusted by:	<u>-</u>		

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



23-Aug-2017

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

Re: **Ginger Federal 1**

Work Order: **17081348**

Dear Karolina,

ALS Environmental received 5 samples on 22-Aug-2017 09:30 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 17.

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

Sincerely,

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

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 998501

Report of Laboratory Analysis

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

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

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: WPX Energy
Project: Ginger Federal 1
Work Order: 17081348

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>
17081348-01	Ginger Federal 1 S3 5' CS	Soil		8/21/2017 11:20	8/22/2017 09:30	☐
17081348-02	Ginger Federal 1 S4 2' Wall	Soil		8/21/2017 11:25	8/22/2017 09:30	☐
17081348-03	Ginger Federal 1 S5 2' Wall	Soil		8/21/2017 11:30	8/22/2017 09:30	☐
17081348-04	Ginger Federal 1 S6 2' Wall	Soil		8/21/2017 11:35	8/22/2017 09:30	☐
17081348-05	Ginger Federal 1 S7 2' Wall	Soil		8/21/2017 11:40	8/22/2017 09:30	☐

Client: WPX Energy
Project: Ginger Federal 1
WorkOrder: 17081348

QUALIFIERS, ACRONYMS, UNITS

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

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

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

ALS Group, USA

Date: 23-Aug-17

Client: WPX Energy
Project: Ginger Federal 1
Sample ID: Ginger Federal 1 S3 5' CS
Collection Date: 8/21/2017 11:20 AM

Work Order: 17081348
Lab ID: 17081348-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 8/22/17 16:15	Analyst: KB
DRO (C10-C28)	1,000		55	mg/Kg-dry	10	8/23/2017 03:57 AM
ORO (C28-C40)	840		55	mg/Kg-dry	10	8/23/2017 03:57 AM
Surr: 4-Terphenyl-d14	85.1		34-130	%REC	10	8/23/2017 03:57 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 8/22/17 11:54	Analyst: KB
GRO (C6-C10)	8.3		6.4	mg/Kg-dry	1	8/22/2017 09:15 PM
Surr: Toluene-d8	96.1		71-123	%REC	1	8/22/2017 09:15 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 8/22/17 11:52	Analyst: AK
Benzene	ND		0.038	mg/Kg-dry	1	8/22/2017 05:35 PM
Ethylbenzene	ND		0.038	mg/Kg-dry	1	8/22/2017 05:35 PM
m,p-Xylene	ND		0.076	mg/Kg-dry	1	8/22/2017 05:35 PM
o-Xylene	ND		0.038	mg/Kg-dry	1	8/22/2017 05:35 PM
Toluene	ND		0.038	mg/Kg-dry	1	8/22/2017 05:35 PM
Xylenes, Total	ND		0.11	mg/Kg-dry	1	8/22/2017 05:35 PM
Surr: 1,2-Dichloroethane-d4	86.2		70-130	%REC	1	8/22/2017 05:35 PM
Surr: 4-Bromofluorobenzene	95.6		70-130	%REC	1	8/22/2017 05:35 PM
Surr: Dibromofluoromethane	95.0		70-130	%REC	1	8/22/2017 05:35 PM
Surr: Toluene-d8	93.8		70-130	%REC	1	8/22/2017 05:35 PM
CHLORIDE						
			A4500-CL E-97		Prep: EXTRACT 8/23/17 10:00	Analyst: ED
Chloride	650		11	mg/Kg-dry	1	8/23/2017 02:00 PM
MOISTURE						
			SW3550C			Analyst: RZM
Moisture	12		0.050	% of sample	1	8/22/2017 04:50 PM

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

ALS Group, USA

Date: 23-Aug-17

Client: WPX Energy
Project: Ginger Federal 1
Sample ID: Ginger Federal 1 S4 2' Wall
Collection Date: 8/21/2017 11:25 AM

Work Order: 17081348
Lab ID: 17081348-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 8/22/17 16:15	Analyst: KB
DRO (C10-C28)	110		5.9	mg/Kg-dry	1	8/23/2017 04:55 AM
ORO (C28-C40)	120		5.9	mg/Kg-dry	1	8/23/2017 04:55 AM
Surr: 4-Terphenyl-d14	88.1		34-130	%REC	1	8/23/2017 04:55 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 8/22/17 11:54	Analyst: KB
GRO (C6-C10)	ND		6.9	mg/Kg-dry	1	8/22/2017 09:45 PM
Surr: Toluene-d8	95.0		71-123	%REC	1	8/22/2017 09:45 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 8/22/17 11:52	Analyst: AK
Benzene	ND		0.041	mg/Kg-dry	1	8/22/2017 06:01 PM
Ethylbenzene	ND		0.041	mg/Kg-dry	1	8/22/2017 06:01 PM
m,p-Xylene	ND		0.083	mg/Kg-dry	1	8/22/2017 06:01 PM
o-Xylene	ND		0.041	mg/Kg-dry	1	8/22/2017 06:01 PM
Toluene	ND		0.041	mg/Kg-dry	1	8/22/2017 06:01 PM
Xylenes, Total	ND		0.12	mg/Kg-dry	1	8/22/2017 06:01 PM
Surr: 1,2-Dichloroethane-d4	87.2		70-130	%REC	1	8/22/2017 06:01 PM
Surr: 4-Bromofluorobenzene	101		70-130	%REC	1	8/22/2017 06:01 PM
Surr: Dibromofluoromethane	94.7		70-130	%REC	1	8/22/2017 06:01 PM
Surr: Toluene-d8	98.0		70-130	%REC	1	8/22/2017 06:01 PM
CHLORIDE						
			A4500-CL E-97		Prep: EXTRACT 8/23/17 10:00	Analyst: ED
Chloride	640		12	mg/Kg-dry	1	8/23/2017 02:00 PM
MOISTURE						
			SW3550C			Analyst: RZM
Moisture	16		0.050	% of sample	1	8/22/2017 04:50 PM

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

ALS Group, USA

Date: 23-Aug-17

Client: WPX Energy
Project: Ginger Federal 1
Sample ID: Ginger Federal 1 S5 2' Wall
Collection Date: 8/21/2017 11:30 AM

Work Order: 17081348
Lab ID: 17081348-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 8/22/17 16:15	Analyst: KB
DRO (C10-C28)	ND		5.5	mg/Kg-dry	1	8/23/2017 05:24 AM
ORO (C28-C40)	9.1		5.5	mg/Kg-dry	1	8/23/2017 05:24 AM
Surr: 4-Terphenyl-d14	71.6		34-130	%REC	1	8/23/2017 05:24 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 8/22/17 11:54	Analyst: KB
GRO (C6-C10)	ND		6.0	mg/Kg-dry	1	8/22/2017 10:15 PM
Surr: Toluene-d8	95.6		71-123	%REC	1	8/22/2017 10:15 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 8/22/17 11:52	Analyst: AK
Benzene	ND		0.036	mg/Kg-dry	1	8/22/2017 06:27 PM
Ethylbenzene	ND		0.036	mg/Kg-dry	1	8/22/2017 06:27 PM
m,p-Xylene	ND		0.072	mg/Kg-dry	1	8/22/2017 06:27 PM
o-Xylene	ND		0.036	mg/Kg-dry	1	8/22/2017 06:27 PM
Toluene	ND		0.036	mg/Kg-dry	1	8/22/2017 06:27 PM
Xylenes, Total	ND		0.11	mg/Kg-dry	1	8/22/2017 06:27 PM
Surr: 1,2-Dichloroethane-d4	86.6		70-130	%REC	1	8/22/2017 06:27 PM
Surr: 4-Bromofluorobenzene	98.4		70-130	%REC	1	8/22/2017 06:27 PM
Surr: Dibromofluoromethane	90.8		70-130	%REC	1	8/22/2017 06:27 PM
Surr: Toluene-d8	93.7		70-130	%REC	1	8/22/2017 06:27 PM
CHLORIDE						
			A4500-CL E-97		Prep: EXTRACT 8/23/17 10:00	Analyst: ED
Chloride	690		11	mg/Kg-dry	1	8/23/2017 02:00 PM
MOISTURE						
			SW3550C			Analyst: RZM
Moisture	9.4		0.050	% of sample	1	8/22/2017 04:50 PM

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

ALS Group, USA

Date: 23-Aug-17

Client: WPX Energy
Project: Ginger Federal 1
Sample ID: Ginger Federal 1 S6 2' Wall
Collection Date: 8/21/2017 11:35 AM

Work Order: 17081348
Lab ID: 17081348-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 8/22/17 16:15	Analyst: KB
DRO (C10-C28)	ND		60	mg/Kg-dry	10	8/23/2017 05:53 AM
ORO (C28-C40)	110		60	mg/Kg-dry	10	8/23/2017 05:53 AM
Surr: 4-Terphenyl-d14	70.1		34-130	%REC	10	8/23/2017 05:53 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 8/22/17 11:54	Analyst: KB
GRO (C6-C10)	ND		7.0	mg/Kg-dry	1	8/22/2017 11:14 PM
Surr: Toluene-d8	95.5		71-123	%REC	1	8/22/2017 11:14 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 8/22/17 11:52	Analyst: AK
Benzene	ND		0.042	mg/Kg-dry	1	8/22/2017 06:54 PM
Ethylbenzene	ND		0.042	mg/Kg-dry	1	8/22/2017 06:54 PM
m,p-Xylene	ND		0.085	mg/Kg-dry	1	8/22/2017 06:54 PM
o-Xylene	ND		0.042	mg/Kg-dry	1	8/22/2017 06:54 PM
Toluene	ND		0.042	mg/Kg-dry	1	8/22/2017 06:54 PM
Xylenes, Total	ND		0.13	mg/Kg-dry	1	8/22/2017 06:54 PM
Surr: 1,2-Dichloroethane-d4	87.2		70-130	%REC	1	8/22/2017 06:54 PM
Surr: 4-Bromofluorobenzene	97.3		70-130	%REC	1	8/22/2017 06:54 PM
Surr: Dibromofluoromethane	93.2		70-130	%REC	1	8/22/2017 06:54 PM
Surr: Toluene-d8	96.8		70-130	%REC	1	8/22/2017 06:54 PM
CHLORIDE						
			A4500-CL E-97		Prep: EXTRACT 8/23/17 10:00	Analyst: ED
Chloride	100		12	mg/Kg-dry	1	8/23/2017 02:00 PM
MOISTURE						
			SW3550C			Analyst: RZM
Moisture	17		0.050	% of sample	1	8/22/2017 04:50 PM

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

ALS Group, USA

Date: 23-Aug-17

Client: WPX Energy
Project: Ginger Federal 1
Sample ID: Ginger Federal 1 S7 2' Wall
Collection Date: 8/21/2017 11:40 AM

Work Order: 17081348
Lab ID: 17081348-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 8/22/17 16:15	Analyst: KB
DRO (C10-C28)	84		5.3	mg/Kg-dry	1	8/23/2017 06:22 AM
ORO (C28-C40)	55		5.3	mg/Kg-dry	1	8/23/2017 06:22 AM
Surr: 4-Terphenyl-d14	90.1		34-130	%REC	1	8/23/2017 06:22 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 8/22/17 11:54	Analyst: KB
GRO (C6-C10)	ND		5.9	mg/Kg-dry	1	8/22/2017 11:44 PM
Surr: Toluene-d8	96.0		71-123	%REC	1	8/22/2017 11:44 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 8/22/17 11:52	Analyst: AK
Benzene	ND		0.036	mg/Kg-dry	1	8/22/2017 07:20 PM
Ethylbenzene	ND		0.036	mg/Kg-dry	1	8/22/2017 07:20 PM
m,p-Xylene	ND		0.071	mg/Kg-dry	1	8/22/2017 07:20 PM
o-Xylene	ND		0.036	mg/Kg-dry	1	8/22/2017 07:20 PM
Toluene	ND		0.036	mg/Kg-dry	1	8/22/2017 07:20 PM
Xylenes, Total	ND		0.11	mg/Kg-dry	1	8/22/2017 07:20 PM
Surr: 1,2-Dichloroethane-d4	86.3		70-130	%REC	1	8/22/2017 07:20 PM
Surr: 4-Bromofluorobenzene	101		70-130	%REC	1	8/22/2017 07:20 PM
Surr: Dibromofluoromethane	93.9		70-130	%REC	1	8/22/2017 07:20 PM
Surr: Toluene-d8	95.0		70-130	%REC	1	8/22/2017 07:20 PM
CHLORIDE						
			A4500-CL E-97		Prep: EXTRACT 8/23/17 10:00	Analyst: ED
Chloride	63		11	mg/Kg-dry	1	8/23/2017 02:00 PM
MOISTURE						
			SW3550C			Analyst: RZM
Moisture	8.6		0.050	% of sample	1	8/22/2017 04:50 PM

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

Client: WPX Energy
Work Order: 17081348
Project: Ginger Federal 1

QC BATCH REPORT

Batch ID: **106229** Instrument ID **GC8** Method: **SW8015C**

MBLK		Sample ID: DBLKS1-106229-106229				Units: mg/Kg		Analysis Date: 8/22/2017 06:17 PM		
Client ID:		Run ID: GC8_170822B				SeqNo: 4597629		Prep Date: 8/22/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	ND	5.0								
ORO (C28-C40)	ND	5.0								
Surr: 4-Terphenyl-d14	3.033	0	3.33	0	91.1	34-130	0			

LCS		Sample ID: DLCSS1-106229-106229				Units: mg/Kg		Analysis Date: 8/22/2017 06:46 PM		
Client ID:		Run ID: GC8_170822B				SeqNo: 4597630		Prep Date: 8/22/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	317.2	5.0	333	0	95.3	65-122	0			
ORO (C28-C40)	356.8	5.0	333	0	107	81-116	0			
Surr: 4-Terphenyl-d14	3.167	0	3.33	0	95.1	34-130	0			

MS		Sample ID: 17081325-07B MS				Units: mg/Kg		Analysis Date: 8/22/2017 07:15 PM		
Client ID:		Run ID: GC8_170822B				SeqNo: 4597631		Prep Date: 8/22/2017		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	367.3	50	330.6	93.76	82.7	65-122	0			
ORO (C28-C40)	516.4	50	330.6	328.4	56.9	81-116	0			S
Surr: 4-Terphenyl-d14	2.647	0	3.306	0	80.1	34-130	0			

MSD		Sample ID: 17081325-07B MSD				Units: mg/Kg		Analysis Date: 8/22/2017 07:44 PM		
Client ID:		Run ID: GC8_170822B				SeqNo: 4597632		Prep Date: 8/22/2017		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	460.5	49	328.7	93.76	112	65-122	367.3	22.5	30	
ORO (C28-C40)	611.3	49	328.7	328.4	86.1	81-116	516.4	16.8	30	
Surr: 4-Terphenyl-d14	2.468	0	3.287	0	75.1	34-130	2.647	7.03	30	

The following samples were analyzed in this batch:

17081348-01A	17081348-02A	17081348-03A
17081348-04A	17081348-05A	

Client: WPX Energy
 Work Order: 17081348
 Project: Ginger Federal 1

QC BATCH REPORT

Batch ID: **106261** Instrument ID **GC9** Method: **SW8015D**

MBLK		Sample ID: MBLK-106261-106261				Units: µg/Kg-dry		Analysis Date: 8/22/2017 06:17 PM		
Client ID:		Run ID: GC9_170822B				SeqNo: 4597654		Prep Date: 8/22/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	ND	5,000								
Surr: Toluene-d8	4854	0	5000	0	97.1	71-123	0			

LCS		Sample ID: LCS-106261-106261				Units: µg/Kg-dry		Analysis Date: 8/22/2017 05:17 PM		
Client ID:		Run ID: GC9_170822B				SeqNo: 4597653		Prep Date: 8/22/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	609600	5,000	500000	0	122	71-123	0			
Surr: Toluene-d8	5164	0	5000	0	103	71-123	0			

MS		Sample ID: 17081346-01A MS				Units: µg/Kg-dry		Analysis Date: 8/22/2017 06:46 PM		
Client ID:		Run ID: GC9_170822B				SeqNo: 4597655		Prep Date: 8/22/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	1468000	12,000	1224000	17550	119	71-123	0			
Surr: Toluene-d8	13100	0	12240	0	107	71-123	0			

MSD		Sample ID: 17081346-01A MSD				Units: µg/Kg-dry		Analysis Date: 8/22/2017 07:16 PM		
Client ID:		Run ID: GC9_170822B				SeqNo: 4597656		Prep Date: 8/22/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	1443000	12,000	1224000	17550	116	71-123	1468000	1.77	30	
Surr: Toluene-d8	12640	0	12240	0	103	71-123	13100	3.58	30	

The following samples were analyzed in this batch:

17081348-01A	17081348-02A	17081348-03A
17081348-04A	17081348-05A	

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

Client: WPX Energy
 Work Order: 17081348
 Project: Ginger Federal 1

QC BATCH REPORT

Batch ID: **106260** Instrument ID **VMS5** Method: **SW8260B**

MBLK Sample ID: MBLK-106260-106260				Units: µg/Kg-dry			Analysis Date: 8/22/2017 02:07 PM			
Client ID:		Run ID: VMS5_170822A		SeqNo: 4598338		Prep Date: 8/22/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	30								
Ethylbenzene	ND	30								
m,p-Xylene	ND	60								
o-Xylene	ND	30								
Toluene	ND	30								
Xylenes, Total	ND	90								
Surr: 1,2-Dichloroethane-d4	949	0	1000	0	94.9	70-130	0			
Surr: 4-Bromofluorobenzene	1018	0	1000	0	102	70-130	0			
Surr: Dibromofluoromethane	965	0	1000	0	96.5	70-130	0			
Surr: Toluene-d8	967.5	0	1000	0	96.8	70-130	0			

MBLK Sample ID: MBLK-106260-106260				Units: µg/Kg-dry			Analysis Date: 8/23/2017 01:50 AM			
Client ID:		Run ID: VMS5_170822B		SeqNo: 4599231		Prep Date: 8/22/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	30								
Ethylbenzene	ND	30								
m,p-Xylene	ND	60								
o-Xylene	ND	30								
Toluene	ND	30								
Xylenes, Total	ND	90								
Surr: 1,2-Dichloroethane-d4	865	0	1000	0	86.5	70-130	0			
Surr: 4-Bromofluorobenzene	986.5	0	1000	0	98.6	70-130	0			
Surr: Dibromofluoromethane	934	0	1000	0	93.4	70-130	0			
Surr: Toluene-d8	977.5	0	1000	0	97.8	70-130	0			

LCS Sample ID: LCS-106260-106260				Units: µg/Kg-dry			Analysis Date: 8/22/2017 12:23 PM			
Client ID:		Run ID: VMS5_170822A		SeqNo: 4598336		Prep Date: 8/22/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	977.5	30	1000	0	97.8	75-125	0			
Ethylbenzene	896	30	1000	0	89.6	75-125	0			
m,p-Xylene	1808	60	2000	0	90.4	80-125	0			
o-Xylene	908.5	30	1000	0	90.8	75-125	0			
Toluene	908.5	30	1000	0	90.8	70-125	0			
Xylenes, Total	2716	90	3000	0	90.5	75-125	0			
Surr: 1,2-Dichloroethane-d4	923.5	0	1000	0	92.4	70-130	0			
Surr: 4-Bromofluorobenzene	1004	0	1000	0	100	70-130	0			
Surr: Dibromofluoromethane	954.5	0	1000	0	95.4	70-130	0			
Surr: Toluene-d8	957	0	1000	0	95.7	70-130	0			

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

Client: WPX Energy
 Work Order: 17081348
 Project: Ginger Federal 1

QC BATCH REPORT

Batch ID: 106260 Instrument ID VMS5 Method: SW8260B

LCS					Sample ID: LCS-106260-106260			Units: µg/Kg-dry		Analysis Date: 8/23/2017 12:32 PM		
Client ID:			Run ID: VMS5_170822B			SeqNo: 4599154		Prep Date: 8/22/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
Benzene	967.5	30	1000	0	96.8	75-125	0					
Ethylbenzene	871.5	30	1000	0	87.2	75-125	0					
m,p-Xylene	1748	60	2000	0	87.4	80-125	0					
o-Xylene	877.5	30	1000	0	87.8	75-125	0					
Toluene	888	30	1000	0	88.8	70-125	0					
Xylenes, Total	2626	90	3000	0	87.5	75-125	0					
Surr: 1,2-Dichloroethane-d4	893.5	0	1000	0	89.4	70-130	0					
Surr: 4-Bromofluorobenzene	982.5	0	1000	0	98.2	70-130	0					
Surr: Dibromofluoromethane	949	0	1000	0	94.9	70-130	0					
Surr: Toluene-d8	964	0	1000	0	96.4	70-130	0					

MS				Sample ID: 17081157-03A MS				Units: µg/Kg-dry		Analysis Date: 8/23/2017 10:03 AM	
Client ID:		Run ID: VMS5_170822B			SeqNo: 4599148		Prep Date: 8/22/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	978.5	30	1000	0	97.8	75-125	0				
Ethylbenzene	871	30	1000	0	87.1	75-125	0				
m,p-Xylene	1750	60	2000	0	87.5	80-125	0				
o-Xylene	876	30	1000	0	87.6	75-125	0				
Toluene	881	30	1000	0	88.1	70-125	0				
Xylenes, Total	2626	90	3000	0	87.5	75-125	0				
Surr: 1,2-Dichloroethane-d4	931.5	0	1000	0	93.2	70-130	0				
Surr: 4-Bromofluorobenzene	992	0	1000	0	99.2	70-130	0				
Surr: Dibromofluoromethane	976.5	0	1000	0	97.6	70-130	0				
Surr: Toluene-d8	953	0	1000	0	95.3	70-130	0				

MS					Sample ID: 17081157-03A MS			Units: µg/Kg-dry		Analysis Date: 8/23/2017 10:03 AM	
Client ID:			Run ID: VMS5_170822B			SeqNo: 4599234		Prep Date: 8/22/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	978.5	30	1000	0	97.8	75-125	0				
Ethylbenzene	871	30	1000	0	87.1	75-125	0				
m,p-Xylene	1750	60	2000	0	87.5	80-125	0				
o-Xylene	876	30	1000	0	87.6	75-125	0				
Toluene	881	30	1000	0	88.1	70-125	0				
Xylenes, Total	2626	90	3000	0	87.5	75-125	0				
Surr: 1,2-Dichloroethane-d4	931.5	0	1000	0	93.2	70-130	0				
Surr: 4-Bromofluorobenzene	992	0	1000	0	99.2	70-130	0				
Surr: Dibromofluoromethane	976.5	0	1000	0	97.6	70-130	0				
Surr: Toluene-d8	953	0	1000	0	95.3	70-130	0				

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

Client: WPX Energy
 Work Order: 17081348
 Project: Ginger Federal 1

QC BATCH REPORT

Batch ID: 106260 Instrument ID VMS5 Method: SW8260B

MSD					Sample ID: 17081157-03A MSD			Units: µg/Kg-dry		Analysis Date: 8/23/2017 10:29 AM	
Client ID:			Run ID: VMS5_170822B			SeqNo: 4599152		Prep Date: 8/22/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	964.5	30	1000	0	96.4	75-125	978.5	1.44	30		
Ethylbenzene	851	30	1000	0	85.1	75-125	871	2.32	30		
m,p-Xylene	1689	60	2000	0	84.4	80-125	1750	3.55	30		
o-Xylene	861	30	1000	0	86.1	75-125	876	1.73	30		
Toluene	858.5	30	1000	0	85.8	70-125	881	2.59	30		
Xylenes, Total	2550	90	3000	0	85	75-125	2626	2.94	30		
Surr: 1,2-Dichloroethane-d4	922	0	1000	0	92.2	70-130	931.5	1.03	30		
Surr: 4-Bromofluorobenzene	1004	0	1000	0	100	70-130	992	1.25	30		
Surr: Dibromofluoromethane	946	0	1000	0	94.6	70-130	976.5	3.17	30		
Surr: Toluene-d8	938.5	0	1000	0	93.8	70-130	953	1.53	30		

MSD					Sample ID: 17081157-03A MSD		Units: µg/Kg-dry		Analysis Date: 8/23/2017 10:29 AM	
Client ID:			Run ID: VMS5_170822B			SeqNo: 4599235		Prep Date: 8/22/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	964.5	30	1000	0	96.4	75-125	978.5	1.44	30	
Ethylbenzene	851	30	1000	0	85.1	75-125	871	2.32	30	
m,p-Xylene	1689	60	2000	0	84.4	80-125	1750	3.55	30	
o-Xylene	861	30	1000	0	86.1	75-125	876	1.73	30	
Toluene	858.5	30	1000	0	85.8	70-125	881	2.59	30	
Xylenes, Total	2550	90	3000	0	85	75-125	2626	2.94	30	
Surr: 1,2-Dichloroethane-d4	922	0	1000	0	92.2	70-130	931.5	1.03	30	
Surr: 4-Bromofluorobenzene	1004	0	1000	0	100	70-130	992	1.25	30	
Surr: Dibromofluoromethane	946	0	1000	0	94.6	70-130	976.5	3.17	30	
Surr: Toluene-d8	938.5	0	1000	0	93.8	70-130	953	1.53	30	

The following samples were analyzed in this batch:

17081348-01A	17081348-02A	17081348-03A
17081348-04A	17081348-05A	

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

Client: WPX Energy
Work Order: 17081348
Project: Ginger Federal 1

QC BATCH REPORT

Batch ID: **106346** Instrument ID **GALLERY** Method: **A4500-CI E-97**

MBLK		Sample ID: MBLK-106346-106346				Units: mg/Kg		Analysis Date: 8/23/2017 02:00 PM		
Client ID:		Run ID: GALLERY_170823A		SeqNo: 4599631		Prep Date: 8/23/2017		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: 17081348-03A MS				Units: mg/Kg		Analysis Date: 8/23/2017 02:00 PM		
Client ID: Ginger Federal 1 S5 2' Wall		Run ID: GALLERY_170823A		SeqNo: 4599635		Prep Date: 8/23/2017		DF: 4		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 1522 40 994 624.4 90.3 75-125 0

MSD		Sample ID: 17081348-03A MSD				Units: mg/Kg		Analysis Date: 8/23/2017 02:00 PM		
Client ID: Ginger Federal 1 S5 2' Wall		Run ID: GALLERY_170823A		SeqNo: 4599636		Prep Date: 8/23/2017		DF: 4		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 1518 40 994 624.4 89.9 75-125 1522 0.229 25

LCS1		Sample ID: LCS1-106346-106346				Units: mg/Kg		Analysis Date: 8/23/2017 02:00 PM		
Client ID:		Run ID: GALLERY_170823A		SeqNo: 4599639		Prep Date: 8/23/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 89.04 10 100 0 89 80-120 0

LCS2		Sample ID: LCS2-106346-106346				Units: mg/Kg		Analysis Date: 8/23/2017 02:00 PM		
Client ID:		Run ID: GALLERY_170823A		SeqNo: 4599640		Prep Date: 8/23/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chloride 428.4 10 500 0 85.7 80-120 0

The following samples were analyzed in this batch:

17081348-01A	17081348-02A	17081348-03A
17081348-04A	17081348-05A	

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

Client: WPX Energy
Work Order: 17081348
Project: Ginger Federal 1

QC BATCH REPORT

Batch ID: **R218455** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R218455				Units: % of sample		Analysis Date: 8/22/2017 04:50 PM		
Client ID:		Run ID: MOIST_170822E				SeqNo: 4599590		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-R218455				Units: % of sample		Analysis Date: 8/22/2017 04:50 PM		
Client ID:		Run ID: MOIST_170822E				SeqNo: 4599589		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: 17081346-01A DUP				Units: % of sample		Analysis Date: 8/22/2017 04:50 PM		
Client ID:		Run ID: MOIST_170822E				SeqNo: 4599582		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 40.23 0.050 0 0 0 0-0 42.07 4.47 5

DUP		Sample ID: 17081348-04A DUP				Units: % of sample		Analysis Date: 8/22/2017 04:50 PM		
Client ID: Ginger Federal 1 S6 2' Wall		Run ID: MOIST_170822E				SeqNo: 4599587		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 17.34 0.050 0 0 0 0-0 17.02 1.86 5

The following samples were analyzed in this batch:

17081348-01A	17081348-02A	17081348-03A
17081348-04A	17081348-05A	

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



☒ ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49686
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

☐ ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Customer Information			Project Information				Parameter/Method Request for Analysis												
Purchase Order		Project Name	McGregor Way		A	Leaded Gas Scan (EDB&EDC) (1) 40 ml Methanol													
Work Order		Project Number	17-129		B	PNAs (1) 8 oz jar													
Company Name	Otwell Mawby, P. C.	Bill To Company	Otwell Mawby, P. C.		C	Lead													
Report Attn.	Mark Collison	Invoice Attn.	Mark Collison		D														
Address	309 E Front St. Suite 200	Address	309 E Front St. Suite 200		E														
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Traverse City, MI 49684		F														
Phone	231-946-5200	Phone	231-946-5200		G														
Fax	231-946-5216	Fax	231-946-5216		H														
e-Mail Address	markcollison@otwellmawby.com		markcollison@otwellmawby.com		I														
					J														
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	SB-1 201'	06-21-17	10:15	Soil		2	X	X	X										
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
Sampler(s): Please Print & Sign		Shipment Method:		Required Turnaround Time: (Check Box)								Results Due Date:							
Philip Loew Bluth flow		hand delivered		☐ 10 Wk Days ☒ 5 Wk Days ☐ 3 Wk Days ☐ 2 Wk Days ☐ 24 Hour				☐ Other											
Relinquished by:		Date:	Time:	Received by:		Date:	Time:	Notes:											
Bluth flow		06-21-17		James Bym		6/21/17	10:51 AM	OTWELL-MISC											
Relinquished by:		Date:	Time:	Received by (Laboratory):		Date:	Time:	Color: _____ Odor: _____											
James Bym		6/21/17	4:55 PM	[Signature]		6/22/17	0930	ALS Cooler ID: _____ Cooler Temp: _____											
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):				QC Package: (Check Box Below)											
DFS		6/22/17	1515					☒ Level II: Standard QC ☐ Level III: Raw Data											
								☐ TRRP LRC ☐ TRRP Level IV											
								☐ Level IV: SW846 Methods/CLP like											
								☐ Other: _____											
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C																	Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.		

Sample Receipt Checklist

Client Name: **WPX - NM**

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

Work Order: **17081348**

Received by: **KRW**

Checklist completed by Keith Wurenga
eSignature

22-Aug-17
Date

Reviewed by: Chad Whelton
eSignature

22-Aug-17
Date

Matrices: **Soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Sample(s) received on ice?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	<u>3.4/3.4 C</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>8/22/2017 11:08:37 AM</u>		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☒
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☒
pH adjusted?	Yes ☐	No ☐	N/A ☒
pH adjusted by:	<u>-</u>		

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction: