

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

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

Form C-141
Revised August 8, 2011

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 WPX Energy Production, LLC	Contact Deborah Watson
Address PO Box 640	Telephone No. 505-333-1880
Facility Name Hurricane Federal #001	Facility Type well site

Surface Owner Federal	Mineral Owner Federal	API No. 30-045-27408
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	24	23N	09W	400	North	900	West	San Juan

Latitude N36.21854 Longitude W107.74618

NATURE OF RELEASE

Type of Release produced water and crude oil	Volume of Release 2 bbl	Volume Recovered 1 bbl
Source of Release fluids associated with plug installation activities	Date and Hour of Occurrence 5/16/17 13:00	Date and Hour of Discovery 5/16/17 16:15
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Cory Smith (NMOCD) Whitney Thomas (BLM-FFO)	
Within 24 hrs of discovery		
By Whom? Deborah Watson	Date and Hour 5/16/17 17:06 and 17:10 followed by email.	
Was a Watercourse Reached? Drainage off pad into a small, dry wash-not a blue line <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	



If a Watercourse was Impacted, Describe Fully.* Release impacted approximately 53 ft of the small, dry wash (not a blue line).

Describe Cause of Problem and Remedial Action Taken.*
While setting a plug in the well, fluids migrated off location.

Describe Area Affected and Cleanup Action Taken.*

- A spec truck was called to the location to collect fluids.
- WPX contacted agencies to receive approval to take immediate actions to begin cleanup activities on and off site.
- Cleanup activities included washing of impacted vegetation and removal of impacted soils from the site and off site locations (hand digging).
- Confirmation sampling occurred on May 30, 2017 and August 2, 2017 following additional cleanup. Vanessa Fields with NMOCD was present during the sampling event on May 30, 2017. Both NMOCD and BLM-FFO were notified of the sampling events.
- Three five-point composite sample were collected from within impacted area. The samples were laboratory analyzed for BTEX, TPH (GRO/DRO/MRO), and chlorides.
- Final confirmation sampling results were reported below NMOCD Recommended Remediation Action Levels, no further action is required. (Report which includes the laboratory analytical report is enclosed.)

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: 	OIL CONSERVATION DIVISION	
Printed Name: Deborah Watson	Approved by Environmental Specialist: 	
Title: Environmental Specialist	Approval Date: 10/27/17	Expiration Date:
E-mail Address: deborah.watson@wpxenergy.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 10/10/2017	Phone: 505-333-1880	

* Attach Additional Sheets If Necessary

NVF1715137805

34



Hurricane Federal #001 Release Report
Unit Letter D, Section 24, Township 23N, Range 9W
San Juan County, NM

October 10, 2017

★ **Hurricane Federal #001 Release Report**
May 2017

1.0 Introduction

On May 16, 2017, while setting a plug in the Hurricane Federal #001, two barrels of fluid (produced water and crude oil) came out of the wellhead on to the pad. Approximately one barrel of the fluid migrated off pad into a drainage which connected with a dry wash. A narrow stream of fluid migrated approximately 165 feet from the pad boundary. The Hurricane Federal #001 is located in Section 24, Township 23N, Range 9W, San Juan County, New Mexico. Cleanup at the location consisted of recovery of released fluids, washing of impacted vegetation, and removal and disposal of impacted soil.

A topographic map of the location is included as Figure 1 and an aerial map is included as Figure 2.

2.0 Release Summary

Well Location: Hurricane Federal #001

API #: 30-045-27408

Location Description: Unit Letter D, Section 24, Township 23N, Range 9W

Wellhead Latitude/Longitude: N36.21854, W107.74618

Release Latitude/Longitude: N36.21854, W107.74618

Release Discovery: May 16, 2017

Land Jurisdiction: Federal

Agency Notification: Bureau of Land Management, Farmington Field Office (BLM-FFO) and New Mexico Oil Conservation Division (NMOCD)

Agency Notification Date(s): May 16, 2017

Source of Release: Wellhead (plug installation activities)

Release Contents: Produced water and crude oil

Volume Released: approximately 2 barrels

Volume Recovered: approximately 1 barrel

NMOCD Ranking: 20

3.0 NMOCD Ranking

In accordance with *NMOCD Guidelines for Remediation of Leaks, Spills, and Releases* (August 1993), this location was assigned a ranking score of 20. Recommended Remediation Action Levels (RRAL) for impacted soils at the location are as follows: 10 mg/kg benzene, 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX), and 100 mg/kg total petroleum hydrocarbons (TPH) as gasoline range organics (GRO) and diesel range organics (DRO).

- *Groundwater:* Depth to groundwater at the location is estimated at 200 feet below ground surface (bgs) based on the July 2017 ground bed drilling log for the W Lybrook Unit #716H Well Pad which reported depth to groundwater at 160 feet bgs. The W Lybrook Unit #716H Well Pad is located 2,600 feet northeast and 40 feet lower in elevation from the Hurricane Federal #001.
- *Water Wells:* A review was completed of the New Mexico Office of the State Engineer Online New Mexico Water Rights Reporting System and no water wells were identified within a 1,000 feet radius of the location.
- *Surface Water:* An unnamed wash is located approximately 113 feet east-northeast of the release source.

**Hurricane Federal #001 Release Report
May 2017**

4.0 Field Activities

A spec truck was called to the location upon discovery and an estimated 1 barrel of fluid was recovered. On May 16, 2017, a crew was called to the location to hand excavate impacted soil off site and wash impacted vegetation. Cleanup continued May 17, 2017. Additional soil was removed from the pad and drainage on July 19, 2017. Approximately 55 cubic yards of soil was removed from the pad and approximately 5 cubic yards of soil was removed off pad. Impacted soils were transported to Envirotech Landfarm for disposal.

5.0 Soil Sampling

On May 30, 2017, three soil confirmation samples were collected (SC-1 through SC-3) from within the remediated area (Pad, Drainage, and Wash). Vanessa Fields, NMOCD, was present during the sampling event on May 30, 2017. Two additional samples were collected from the pad and drainage on August 2, 2017. Vanessa Fields, NMOCD was in route to the location when she was called back to the office. BLM was notified of both events, but was not in attendance. Soil samples composited for laboratory analysis were placed into laboratory supplied glassware, labeled, and shipped on ice to Hall Environmental Analysis Laboratory. Each sample was analyzed for the following:

- BTEX per U.S. Environmental Protection Agency (USEPA) Method 8021B,
- TPH (GRO/DRO/MRO) per USEPA Method 8015M/D, and
- Chlorides per USEPA Method 300.0.

6.0 Analytical Results

Final laboratory analytical results for soil confirmation samples (SC-1R, SC-2R, and SC-3) reported benzene and BTEX concentrations below NMOCD RRAL of 10 mg/kg and 50 mg/kg, respectively. All soil confirmation samples reported TPH concentrations below the NMOCD RRAL of 100 mg/kg. Final chloride concentrations were reported at less than 30 mg/kg (Pad), 88 mg/kg (Drainage), and 380 mg/kg (Wash).

Sample locations and summary of analytical results are included as Figure 3. The analytical laboratory report is attached.

7.0 Conclusions

On May 16, 2017, fluids migrated off pad during well plug installation activities at the Hurricane Federal #001, located in Section 24, Township 23N, Range 9W, San Juan County, New Mexico. Cleanup consisted of recovery of 1 bbl of released fluids and removal of impacted soils and washing of vegetation impacted by the release. Confirmation samples were collected from the location on May 30 and August 2, 2017. Laboratory analytical results for final confirmation samples SC-1R, SC-2R, and SC-3 reported benzene, total BTEX, and TPH (GRO/DRO) concentrations below the applicable NMOCD RRAL.

On August 3, 2017, following confirmation sample collection and receipt of pad results, WPX leveled and repaired the well pad. No further work is recommended.

For additional information or questions regarding location conditions, please contact me at 505-333-1880.

Hurricane Federal #001 Release Report
May 2017

Sincerely,

A handwritten signature in cursive script that reads "Deborah Watson".

Deborah Watson
Environmental Specialist

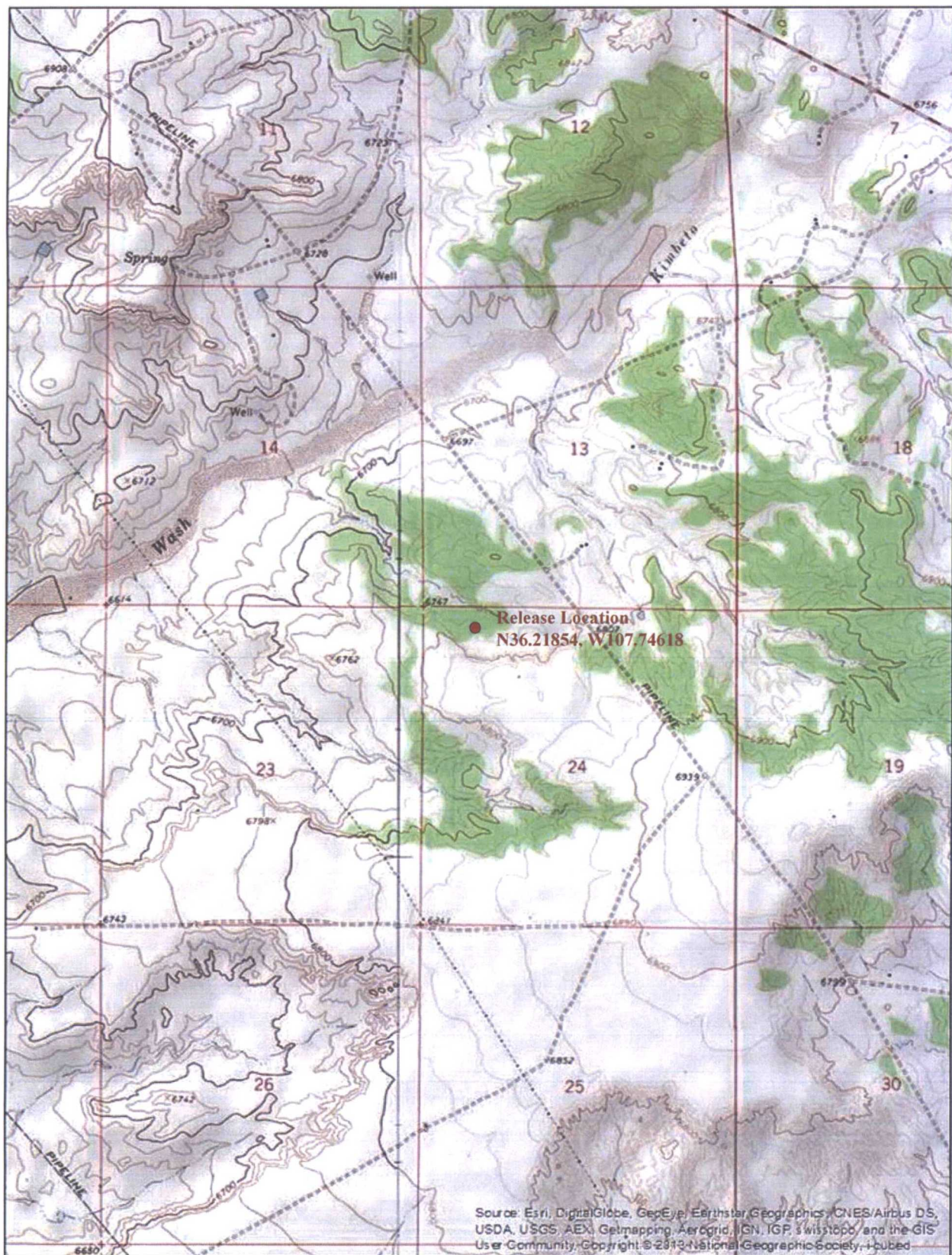
Attachments

Figure 1. Topographic Map

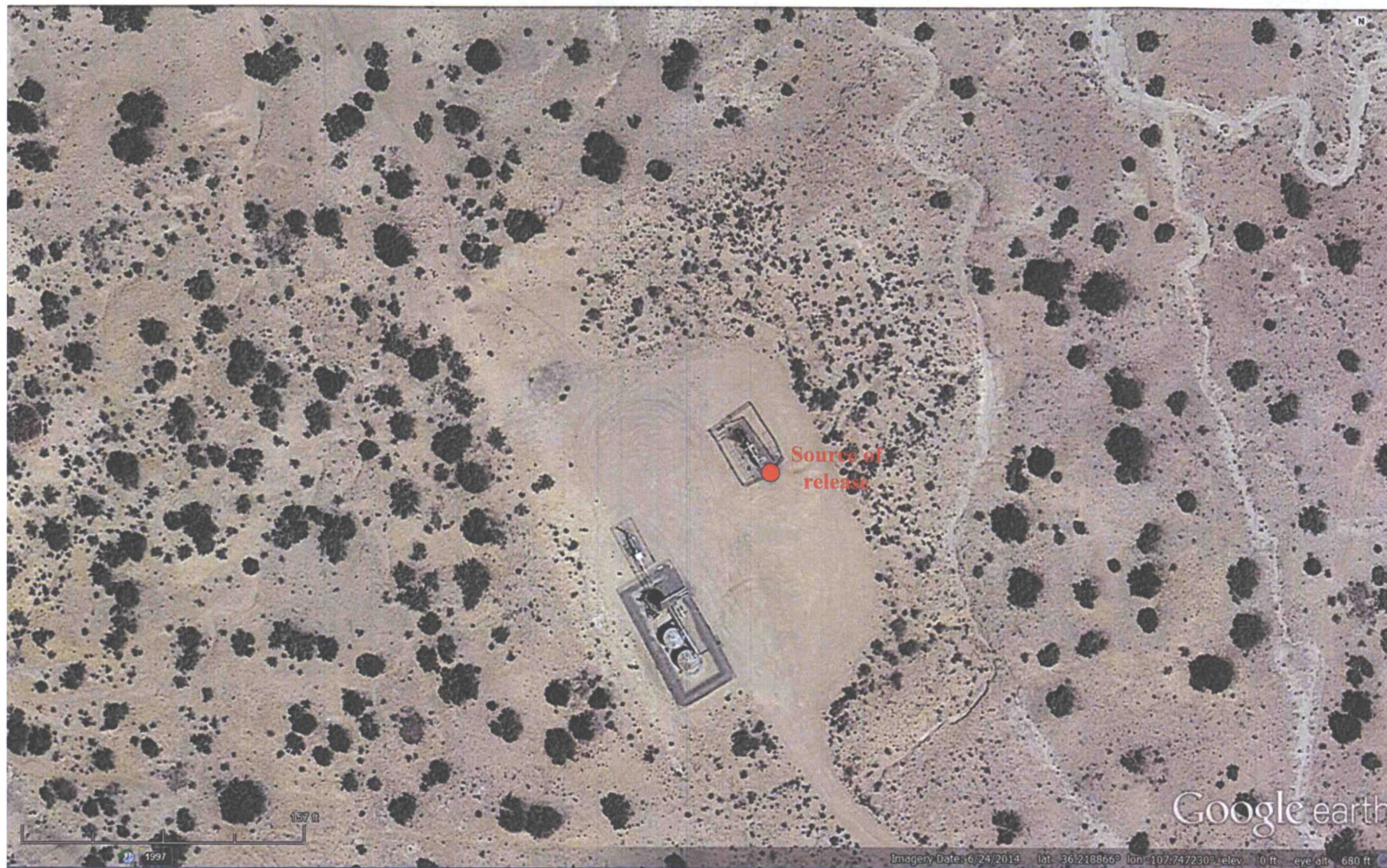
Figure 2. Aerial Map

Figure 3. Soil Sample Location Map

Hall Analytical Laboratory Reports (Order #1706016, #1708193, #1708349)



Hurricane Federal #001
Figure 1. Topographic Map
 Section 24, Township 23N, Range 9W
 N36.21854, W107.74618
 San Juan County, NM
 Scale 1:24,000



Hurricane Federal #001

Figure 2. Aerial Map

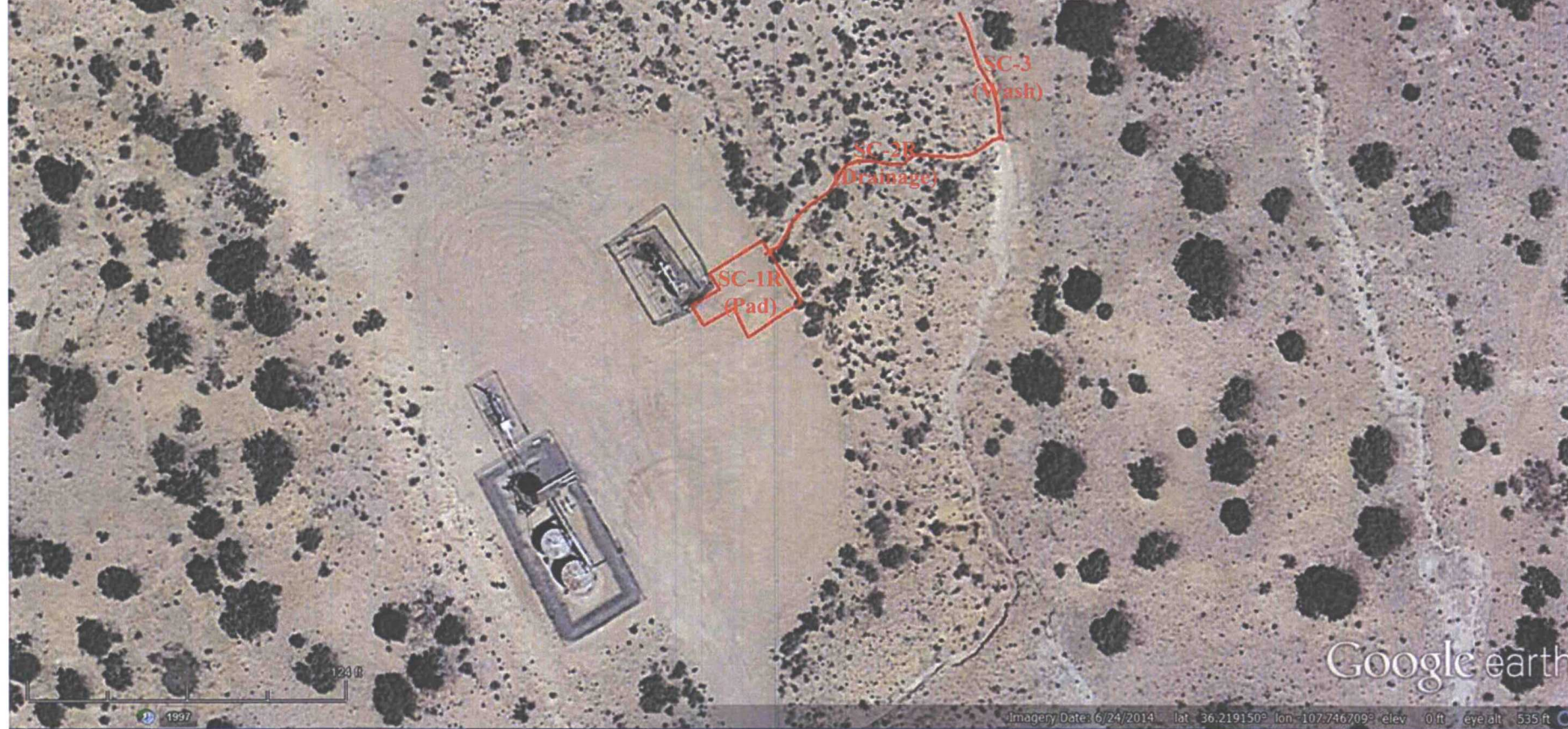
Section 24, Township 23N, Range 9W

N36.21854, W107.74618

San Juan County, NM

Final Soil Sampling Results Summary

Sample Name	Date	Location	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH as DRO (mg/kg)	TPH as GRO (mg/kg)	TPH as MRO (mg/kg)	Total TPH (GRO+DRO) (mg/kg)	Chloride (mg/kg)
SC-1R	2-Aug-17	Pad	<0.017	<0.156	<9.6	<3.5	<48	<13.1	<30
SC-2R	2-Aug-17	Drainage	<0.025	<0.224	<9.4	<5.0	<47	<14.4	88
SC-3	30-May-17	Wash	<0.025	<0.221	40	<4.9	48	40	380



Hurricane Federal #001

Figure 3. Aerial Site Map

Section 24, Township 23N, Range 9W

N36.21854, W107.74618

San Juan County, NM



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 08, 2017

Debbie Watson
WPX Energy
721 S Main Ave
Aztec, NM 87410
TEL: (505) 333-1880
FAX

RE: Hurricane Federal #001

OrderNo.: 1706016

Dear Debbie Watson:

Hall Environmental Analysis Laboratory received 3 sample(s) on 6/1/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 1706016

Date Reported: 6/8/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy

Client Sample ID: SC-1 (on pad)

Project: Hurricane Federal #001

Collection Date: 5/30/2017 1:50:00 PM

Lab ID: 1706016-001

Matrix: SOIL

Received Date: 6/1/2017 7:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	160	30		mg/Kg	20	6/2/2017 1:10:16 PM	32082
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	1600	99		mg/Kg	10	6/2/2017 2:20:29 PM	32064
Motor Oil Range Organics (MRO)	1300	500		mg/Kg	10	6/2/2017 2:20:29 PM	32064
Surr: DNOP	0	70-130	S	%Rec	10	6/2/2017 2:20:29 PM	32064
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/2/2017 1:57:53 PM	32063
Surr: BFB	96.1	54-150		%Rec	1	6/2/2017 1:57:53 PM	32063
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	6/2/2017 1:57:53 PM	32063
Toluene	ND	0.049		mg/Kg	1	6/2/2017 1:57:53 PM	32063
Ethylbenzene	ND	0.049		mg/Kg	1	6/2/2017 1:57:53 PM	32063
Xylenes, Total	ND	0.098		mg/Kg	1	6/2/2017 1:57:53 PM	32063
Surr: 4-Bromofluorobenzene	116	66.6-132		%Rec	1	6/2/2017 1:57:53 PM	32063

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical ReportLab Order **1706016**Date Reported: **6/8/2017****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** WPX Energy**Client Sample ID:** SC-2 (drainage)**Project:** Hurricane Federal #001**Collection Date:** 5/30/2017 1:55:00 PM**Lab ID:** 1706016-002**Matrix:** SOIL**Received Date:** 6/1/2017 7:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	2500	150		mg/Kg	100	6/5/2017 5:05:45 PM	32082
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	56	9.9		mg/Kg	1	6/2/2017 2:42:42 PM	32064
Motor Oil Range Organics (MRO)	120	50		mg/Kg	1	6/2/2017 2:42:42 PM	32064
Surr: DNOP	102	70-130		%Rec	1	6/2/2017 2:42:42 PM	32064
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/2/2017 4:44:59 PM	32063
Surr: BFB	96.7	54-150		%Rec	1	6/2/2017 4:44:59 PM	32063
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	6/2/2017 4:44:59 PM	32063
Toluene	ND	0.050		mg/Kg	1	6/2/2017 4:44:59 PM	32063
Ethylbenzene	ND	0.050		mg/Kg	1	6/2/2017 4:44:59 PM	32063
Xylenes, Total	ND	0.10		mg/Kg	1	6/2/2017 4:44:59 PM	32063
Surr: 4-Bromofluorobenzene	116	66.6-132		%Rec	1	6/2/2017 4:44:59 PM	32063

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.**Analytical Report**

Lab Order 1706016

Date Reported: 6/8/2017

CLIENT: WPX Energy**Client Sample ID:** SC-3 (wash)**Project:** Hurricane Federal #001**Collection Date:** 5/30/2017 2:00:00 PM**Lab ID:** 1706016-003**Matrix:** SOIL**Received Date:** 6/1/2017 7:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	380	30		mg/Kg	20	6/2/2017 1:35:05 PM	32082
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	40	9.3		mg/Kg	1	6/2/2017 3:04:51 PM	32064
Motor Oil Range Organics (MRO)	48	46		mg/Kg	1	6/2/2017 3:04:51 PM	32064
Surr: DNOP	84.0	70-130		%Rec	1	6/2/2017 3:04:51 PM	32064
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/2/2017 5:08:51 PM	32063
Surr: BFB	102	54-150		%Rec	1	6/2/2017 5:08:51 PM	32063
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	6/2/2017 5:08:51 PM	32063
Toluene	ND	0.049		mg/Kg	1	6/2/2017 5:08:51 PM	32063
Ethylbenzene	ND	0.049		mg/Kg	1	6/2/2017 5:08:51 PM	32063
Xylenes, Total	ND	0.098		mg/Kg	1	6/2/2017 5:08:51 PM	32063
Surr: 4-Bromofluorobenzene	124	66.6-132		%Rec	1	6/2/2017 5:08:51 PM	32063

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706016

08-Jun-17

Client: WPX Energy
Project: Hurricane Federal #001

Sample ID	MB-32082	SampType:	MBLK		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS	Batch ID:	32082		RunNo:	43225				
Prep Date:	6/2/2017	Analysis Date:	6/2/2017		SeqNo:	1361223	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-32082	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	32082	RunNo:	43225					
Prep Date:	6/2/2017	Analysis Date:	6/2/2017	SeqNo:	1361224	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.8	90	110			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706016

08-Jun-17

Client: WPX Energy
Project: Hurricane Federal #001

Sample ID	LCS-32064	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	32064	RunNo:	43209					
Prep Date:	6/1/2017	Analysis Date:	6/2/2017	SeqNo:	1360326	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	87.3	73.2	114			
Surr: DNOP	4.7		5.000		94.5	70	130			

Sample ID	MB-32064	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	32064	RunNo:	43209					
Prep Date:	6/1/2017	Analysis Date:	6/2/2017	SeqNo:	1360330	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.5		10.00		95.1	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706016

08-Jun-17

Client: WPX Energy
Project: Hurricane Federal #001

Sample ID	MB-32063	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	32063	RunNo:	43219					
Prep Date:	6/1/2017	Analysis Date:	6/2/2017	SeqNo:	1360983	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		100	54	150			

Sample ID	LCS-32063	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	32063	RunNo:	43219					
Prep Date:	6/1/2017	Analysis Date:	6/2/2017	SeqNo:	1360984	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	76.4	125			
Surr: BFB	1000		1000		103	54	150			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706016

08-Jun-17

Client: WPX Energy

Project: Hurricane Federal #001

Sample ID	MB-32063	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles						
Client ID:	PBS	Batch ID: 32063		RunNo: 43219						
Prep Date:	6/1/2017	Analysis Date: 6/2/2017		SeqNo: 1361003		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.2		1.000		124	66.6	132			

Sample ID	LCS-32063	SampType: LCS			TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID: 32063			RunNo: 43219					
Prep Date:	6/1/2017	Analysis Date: 6/2/2017			SeqNo: 1361004		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	102	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	3.1	0.10	3.000	0	104	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		119	66.6	132			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: WPX ENERGY

Work Order Number: 1706016

RcptNo: 1

Received By: Anne Thorne

6/1/2017 7:20:00 AM

Anne Thorne

Completed By: Anne Thorne

6/1/2017 9:44:10 AM

Anne Thorne

Reviewed By: ENH

06/01/17

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.7	Good	Yes			



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

August 04, 2017

Debbie Watson
WPX Energy
721 S Main Ave
Aztec, NM 87410
TEL: (505) 333-1880
FAX

RE: Hurricane Federal #001

OrderNo.: 1708193

Dear Debbie Watson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/3/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.**Analytical Report**

Lab Order 1708193

Date Reported: 8/4/2017

CLIENT: WPX Energy**Client Sample ID:** Pad (SC-1R)**Project:** Hurricane Federal #001**Collection Date:** 8/2/2017 1:55:00 PM**Lab ID:** 1708193-001**Matrix:** SOIL**Received Date:** 8/3/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	8/3/2017 11:19:45 AM	33153
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/3/2017 11:49:30 AM	33151
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/3/2017 11:49:30 AM	33151
Surr: DNOP	95.8	70-130		%Rec	1	8/3/2017 11:49:30 AM	33151
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	8/3/2017 10:12:34 AM	G44704
Surr: BFB	90.6	54-150		%Rec	1	8/3/2017 10:12:34 AM	G44704
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.017		mg/Kg	1	8/3/2017 10:12:34 AM	B44704
Toluene	ND	0.035		mg/Kg	1	8/3/2017 10:12:34 AM	B44704
Ethylbenzene	ND	0.035		mg/Kg	1	8/3/2017 10:12:34 AM	B44704
Xylenes, Total	ND	0.069		mg/Kg	1	8/3/2017 10:12:34 AM	B44704
Surr: 4-Bromofluorobenzene	111	66.6-132		%Rec	1	8/3/2017 10:12:34 AM	B44704

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1708193

04-Aug-17

Client: WPX Energy

Project: Hurricane Federal #001

Sample ID	MB-33153	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	33153	RunNo:	44718					
Prep Date:	8/3/2017	Analysis Date:	8/3/2017	SeqNo:	1414230	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-33153	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	33153	RunNo:	44718					
Prep Date:	8/3/2017	Analysis Date:	8/3/2017	SeqNo:	1414231	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.7	90	110			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1708193

04-Aug-17

Client: WPX Energy

Project: Hurricane Federal #001

Sample ID	LCS-33151		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 33151		RunNo: 44701					
Prep Date:	8/3/2017		Analysis Date: 8/3/2017		SeqNo: 1413701		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.3	73.2	114			
Surr: DNOP	4.6		5.000		92.0	70	130			

Sample ID	MB-33151		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 33151		RunNo: 44701					
Prep Date:	8/3/2017		Analysis Date: 8/3/2017		SeqNo: 1413702		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.4		10.00		94.3	70	130			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1708193

04-Aug-17

Client: WPX Energy

Project: Hurricane Federal #001

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	G44704	RunNo:	44704					
Prep Date:		Analysis Date:	8/3/2017	SeqNo:	1414005	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		88.3	54	150			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	G44704	RunNo:	44704					
Prep Date:		Analysis Date:	8/3/2017	SeqNo:	1414006	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	76.4	125			
Surr: BFB	990		1000		99.2	54	150			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1708193

04-Aug-17

Client: WPX Energy
Project: Hurricane Federal #001

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	B44704	RunNo:	44704					
Prep Date:		Analysis Date:	8/3/2017	SeqNo:	1414011	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		108	66.6	132			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	B44704	RunNo:	44704					
Prep Date:		Analysis Date:	8/3/2017	SeqNo:	1414012	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	1.000	0	98.8	80	120			
Toluene	0.99	0.050	1.000	0	99.1	80	120			
Ethylbenzene	0.99	0.050	1.000	0	98.9	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		116	66.6	132			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: WPX ENERGY

Work Order Number: 1708193

RcptNo: 1

Received By: Anne Thorne 8/3/2017 7:10:00 AM

Completed By: Anne Thorne 8/3/2017 7:49:00 AM

Reviewed By: JC 8-3-17 0800

Anne Thorne

Anne Thorne

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:	_____	Date:	_____
By Whom:	_____	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

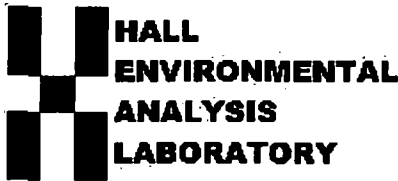
17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Yes			

Chain-of-Custody Record				Turn-Around Time:		HALL ENVIRONMENTAL ANALYSIS LABORATORY www.hallenvironmental.com 4901 Hawkins NE - Albuquerque, NM 87109 Tel. 505-345-3975 Fax 505-345-4107																																			
Client: <u>HXP Energy</u>				<input type="checkbox"/> Standard <input checked="" type="checkbox"/> Rush <u>same day</u>		Analysis Request <table border="1" style="width: 100%; border-collapse: collapse; font-size: 0.8em;"> <tr> <td>BTEX + MEET + THES (8021)</td> <td>BTEX + MTBE + TPH (Gas only)</td> <td>TPH 8015B (GRO / PRO / MRO)</td> <td>TPH (Method 418.1)</td> <td>EDB (Method 504.1)</td> <td>PAH's (8310 or 8270 SIMS)</td> <td>RCRA 8 Metals</td> <td>Anions (F, Cl, NO₃, NO₂, PO₄, SO₄)</td> <td>8081 Pesticides / 8082 PCB's</td> <td>8260B (VOA)</td> <td>8270 (Semi-VOA)</td> <td>Air Bubbles (Y or N)</td> </tr> <tr> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>												BTEX + MEET + THES (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / PRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)	X		X					X				
BTEX + MEET + THES (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / PRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)													RCRA 8 Metals	Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)																		
X		X																	X																						
Mailing Address: <u>721 S Main</u> <u>Artec NM 87410</u>				Project Name: <u>Hurricane Federal #001</u>																																					
Phone #: <u>505 333 1880</u>				Project #:																																					
email or Fax#:				Project Manager:																																					
QA/QC Package: <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)				Sampler: <u>D Watson</u>																																					
Accreditation <input type="checkbox"/> NELAP <input type="checkbox"/> Other _____				On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																																					
<input type="checkbox"/> EDD (Type) _____				Sample Temperature: <u>77</u>																																					
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.																																			
8/2/17	1355	soil	Pad	1-402		1708193																																			
Date:	Time:	Relinquished by:		Received by:	Date	Time	Remarks:																																		
8/2/17	1733	Deborah Watson		<i>[Signature]</i>	8/2/17	1733																																			
Date:	Time:	Relinquished by:		Received by:	Date	Time																																			
8/2/17	1804	<i>[Signature]</i>		<i>[Signature]</i>	8/13/17	1710																																			

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

August 14, 2017

Debbie Watson
WPX Energy
721 S Main Ave
Aztec, NM 87410
TEL: (505) 333-1880
FAX

RE: Hurricane Federal 001

OrderNo.: 1708349

Dear Debbie Watson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/3/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.**Analytical Report**

Lab Order 1708349

Date Reported: 8/14/2017

CLIENT: WPX Energy**Client Sample ID:** Drainage (SC-2R)**Project:** Hurricane Federal 001**Collection Date:** 8/2/2017 1:45:00 PM**Lab ID:** 1708349-001**Matrix:** SOIL**Received Date:** 8/3/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	88	30		mg/Kg	20	8/8/2017 11:29:27 AM	33236
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/9/2017 12:19:12 PM	33246
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/9/2017 12:19:12 PM	33246
Surr: DNOP	110	70-130		%Rec	1	8/9/2017 12:19:12 PM	33246
EPA METHOD 8015D: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/8/2017 1:31:11 PM	33223
Surr: BFB	92.4	54-150		%Rec	1	8/8/2017 1:31:11 PM	33223
EPA METHOD 8021B: VOLATILES							Analyst: RAA
Benzene	ND	0.025		mg/Kg	1	8/8/2017 1:31:11 PM	33223
Toluene	ND	0.050		mg/Kg	1	8/8/2017 1:31:11 PM	33223
Ethylbenzene	ND	0.050		mg/Kg	1	8/8/2017 1:31:11 PM	33223
Xylenes, Total	ND	0.099		mg/Kg	1	8/8/2017 1:31:11 PM	33223
Surr: 4-Bromofluorobenzene	116	66.6-132		%Rec	1	8/8/2017 1:31:11 PM	33223

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1708349

14-Aug-17

Client: WPX Energy

Project: Hurricane Federal 001

Sample ID	MB-33236	SampType:	MBLK	TestCode:	EPA Method 300.0: Anlons						
Client ID:	PBS	Batch ID:	33236	RunNo:	44783						
Prep Date:	8/8/2017	Analysis Date:	8/8/2017	SeqNo:	1418297	Units:	mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	ND	1.5									

Sample ID	LCS-33236	SampType:	LCS	TestCode:	EPA Method 300.0: Anlons						
Client ID:	LCSS	Batch ID:	33236	RunNo:	44783						
Prep Date:	8/8/2017	Analysis Date:	8/8/2017	SeqNo:	1418298	Units:	mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	14	1.5	15.00	0	92.8	90	110				

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1708349

14-Aug-17

Client: WPX Energy
Project: Hurricane Federal 001

Sample ID	1708349-001AMS	SampType:	MS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	Drainage	Batch ID:	33246	RunNo:	44835					
Prep Date:	8/8/2017	Analysis Date:	8/9/2017	SeqNo:	1417564	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.8	49.07	0	91.6	55.8	122			
Surr: DNOP	4.4		4.907		89.7	70	130			

Sample ID	1708349-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	Drainage	Batch ID:	33246	RunNo:	44835					
Prep Date:	8/8/2017	Analysis Date:	8/9/2017	SeqNo:	1417565	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	49.90	0	95.9	55.8	122	6.31	20	
Surr: DNOP	4.5		4.990		90.4	70	130	0	0	

Sample ID	LCS-33246	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	33246	RunNo:	44835					
Prep Date:	8/8/2017	Analysis Date:	8/9/2017	SeqNo:	1417568	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	91.4	73.2	114			
Surr: DNOP	4.3		5.000		85.5	70	130			

Sample ID	MB-33246	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	33246	RunNo:	44835					
Prep Date:	8/8/2017	Analysis Date:	8/9/2017	SeqNo:	1417569	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.8		10.00		87.6	70	130			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1708349

14-Aug-17

Client: WPX Energy
Project: Hurricane Federal 001

Sample ID	1708349-001AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	Drainage	Batch ID:	33223	RunNo:	44785					
Prep Date:	8/7/2017	Analysis Date:	8/8/2017	SeqNo:	1416870	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.7	23.45	0	114	77.8	128			
Surr: BFB	990		938.1		105	54	150			

Sample ID	1708349-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	Drainage	Batch ID:	33223	RunNo:	44785					
Prep Date:	8/7/2017	Analysis Date:	8/8/2017	SeqNo:	1416871	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.7	23.34	0	116	77.8	128	1.03	20	
Surr: BFB	990		933.7		106	54	150	0	0	

Sample ID	LCS-33223	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID: 33223			RunNo: 44785					
Prep Date:	8/7/2017	Analysis Date: 8/8/2017			SeqNo: 1416902		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	102	76.4	125			
Surr: BFB	1000		1000		101	54	150			

Sample ID	MB-33223	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	33223	RunNo:	44785					
Prep Date:	8/7/2017	Analysis Date:	8/8/2017	SeqNo:	1416904	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	940		1000		93.7	54	150			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
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| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1708349

14-Aug-17

Client: WPX Energy
Project: Hurricane Federal 001

Sample ID	LCS-33223		SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	LCSS		Batch ID:	33223		RunNo:	44785			
Prep Date:	8/7/2017		Analysis Date:	8/8/2017		SeqNo:	1416942		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	98.2	80	120			
Toluene	0.98	0.050	1.000	0	97.6	80	120			
Ethylbenzene	0.96	0.050	1.000	0	96.4	80	120			
Xylenes, Total	3.0	0.10	3.000	0	98.6	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		118	66.6	132			

Sample ID	MB-33223		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	PBS		Batch ID:	33223		RunNo:	44785			
Prep Date:	8/7/2017		Analysis Date:	8/8/2017		SeqNo:	1416944		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.2		1.000		116	66.6	132			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
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| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: WPX ENERGY

Work Order Number: 1708349

RcptNo: 1

Received By: Anne Thorne

8/3/2017 7:10:00 AM

Completed By: Ashley Gallegos

8/4/2017 5:46:14 PM

Reviewed By: ENM/ag

08/04/17

Anne Thorne
AG

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:	_____	Date:	_____
By Whom:	_____	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Yes			

Client: WPX Energy

Mailing Address: 721 S. Main
Aztec, NM 87410

Phone #: 505 333 1880

email or Fax#:

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other: _____

☐ EDD (Type) _____

☒ Standard ☐ Rush

Project Name:

Hurricane Federal #001

Project #:

Project Manager:

D. Watson

Sampler: D Watson

On Ice: ☒ Yes ☐ No

Sample Temperature: 71

[illegible]

Container: Type and #	Preservative Type
--------------------------	----------------------

349 7/8
HEAL No. 50
708348

[illegible]

Date:	Time:	Relinquished by:
8/2/17	1723	Deborah Water
Date:	Time:	Relinquished by:
8/2/17	1804	Robert White

Received by:	Date	Time
<i>Chitambar</i>	8/2/17	1753
Received by:	Date	Time
<i>Chitambar</i>	08/02/17	0710

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly noted on the analytical report.