State of New Mexico **Energy Minerals and Natural Resources**

Oil Conservation Division 1220 South St. Francis Dr.

Form C-141 Revised August 8, 2011 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

1220 S. St. Fran	cis Dr., Santa	a Fe, NM 87505	5	Sa	nta F	e, NM 875	05					
			Rele	ease Notific	atio	n and Co	orrective A	ction				
						OPERA	ГOR		🗌 Initia	al Report	\boxtimes	Final Report
Name of Co	ompany W	PX Energy	Productio	on, LLC		Contact De	borah Watson					
Address PO						-	No. 505-333-188	80				
Facility Nar	ne Hurrica	ane Federal #	#001			Facility Typ	e well site					
Surface Ow	ner Federa	ıl		Mineral C	wner I	Federal			API No.	. 30-045-2	7408	
				LOCA	TIO	N OF REI	LEASE					
Unit Letter	Section	Township	Range	Feet from the	North	/South Line	Feet from the	East/W	/est Line		Count	у
D	24	23N	09W	400		North	900	W	lest		San Jua	an
				Latitude N3	6.2185	4 Longitude	e W107.74618					
				NAT	URE	OF REL	EASE					
Type of Relea	ase produc	ed water and	crude oil		CILL		Release 2 bbl		Volume R	ecovered 1	bbl	
				stallation activitie	S	Date and H	lour of Occurrenc	e		Hour of Disc		
						5/16/17 13			5/16/17 16	5:15		
Was Immedia						If YES, To Cory Smith	whom? n (NMOCD)					
		torrequired					homas (BLM-FFC	D)				
Within 24 hrs												
By Whom? D Was a Water							lour 5/16/17 17:06		10 followe	ed by email.		
		small, dry was	sh-not a bl	ue line		II 1E5, VC	olume Impacting t	ne water	course.	Oll no		
	F		Yes 🛛								NS. D	11
If a Watercou	irse was Im	pacted, Descri	ibe Fully.*	Release impacted	1 appro:	ximately 53 ft	of the small, dry	wash (no	ot a blue lin	ne). Or,		DIST
Describe Cau While setting		em and Remed ne well, fluids									112	W DIST 3
Describe Area	a Affected a	and Cleanup A	Action Tak	en.*								
	*			to collect fluids.								
				proval to take imm								
				impacted vegetat								
				lay 30, 2017 and 2017. Both NMC						elds with N	MOCD	was present
				were collected fro						ory analyze	d for H	STEX, TPH
		RO), and chlo				-		-				
• Fina (Re	al confirma	tion sampling	g results v aboratory	vere reported belo analytical report is	ow NM s enclos	OCD Recom	mended Remedia	tion Act	ion Levels	, no further	action	is required.
				is true and compl			knowledge and u	nderstand	d that pursu	lant to NMC	OCD ru	les and
regulations al	1 operators	are required to	o report an	d/or file certain re	elease n	otifications ar	nd perform correct	tive actic	ons for rele	ases which	may end	danger
				e of a C-141 repo investigate and re								
				tance of a C-141 r								
federal, state,					T			-r		- F		
	A.	nah Wat	To				OIL CONS	SERVA	ATION	DIVISIO	N	
Signature:	Nov I	mar von	n-					6	1	K	0	
						Approved by	Environmental Sp	acialist.	1 1	5	- 1	
Printed Name	: Deborah	Watson				Approved by	Environmental Sp	becland.	da			3
Title: Enviror	nmental Spe	cialist				Approval Dat	e: 10/27/17	7 E	xpiration I	Date:		
E-mail Addre	ss: deborah	.watson@wp	kenergy.co	om		Conditions of	Approval:					
										Attached		
Date: 10/10/2 Attach Addit		te If Necess		Phone: 505-333-1		alat	Nicion	50	50			
Anden Auun		15 11 14CCCSS	ui y			INAH	171513	18	05			24



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

2

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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.

¹ Hurricane Federal #001 Release Report May 2017

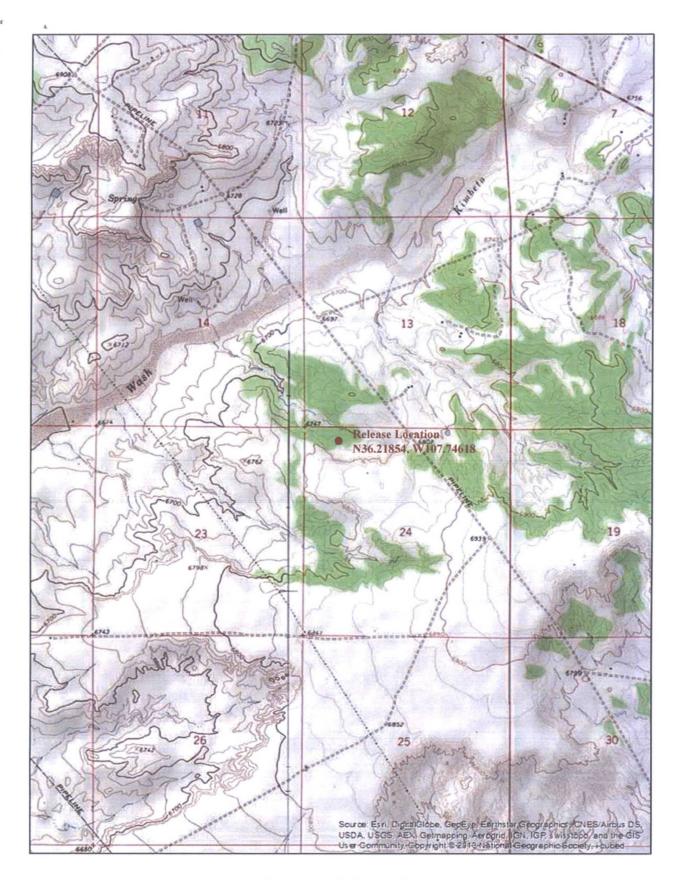
Sincerely,

Debrah Water

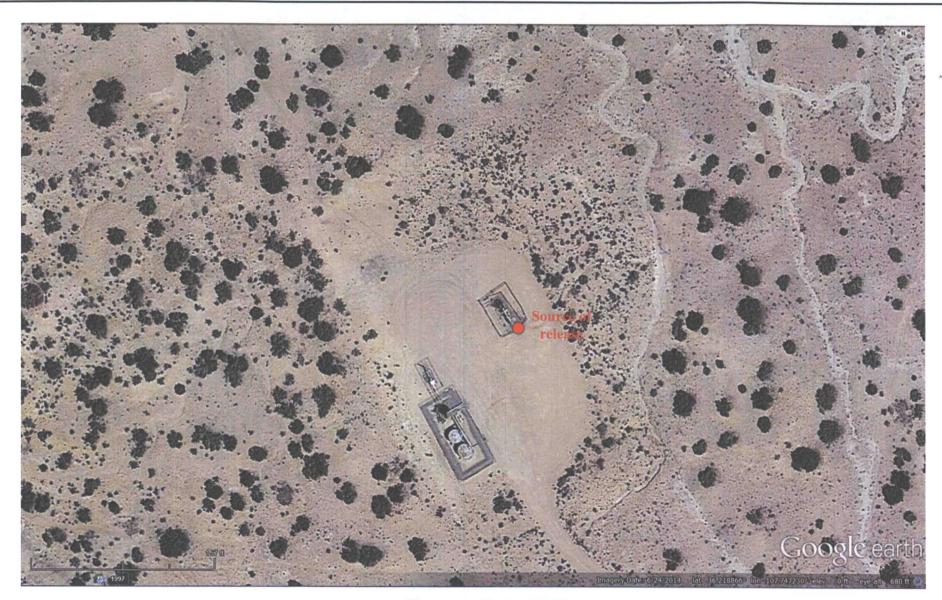
Deborah Watson Environmental Specialist

Attachments

Figure 1. Topographic Map Figure 2. Aerial Map Figure 3. Soil Sample Location Map Hall Analytical Laboratory Reports (Order #1706016, #1708193, #1708349)

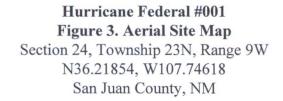


Hurricane Federal #001 Figure 1. Topograhic Map Section 24, Township 23N, Range 9W N36.21854, W107.74618 San Juan County, NM Scale 1:24,000



Hurricane Federal #001 Figure 2. Aerial Map Section 24, Township 23N, Range 9W N36.21854, W107.74618 San Juan County, NM

Final Soil Sa	ampling Resul	ts Summary		-	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		4 3		116	
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	and the second second
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	
	Ant.		+		1. C.	4.02			·	



HALL ENVIRÖNMENTÄL ANALYSIS LABORATORY

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 <u>www.hallenvironmental.com</u> 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,

andig

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Hall Environmental Analy	sis Labora	tory, Ir	ıc.			Date Reported: 6/8/2017	7
CLIENT: WPX Energy Project: Hurricane Federal #001 Lab ID: 1706016-001	Matrix:	SOIL			Date: 5 /3	2-1 (on pad) 30/2017 1:50:00 PM /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 RAN		S				Analyst	том
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 RA	NGE					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

Analytical Report Lab Order 1706016

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Qualifiers:	+	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 1 of 7
	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	Report
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Lab 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 POL Oual Units DF Date Analyzed

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: MRA
Chloride	2500	150	mg/Kg	100	6/5/2017 5:05:45 PM	32082
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANIC	s			Analys	t: 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 RA	NGE				Analys	: 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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of 7
	ND	Not Detected at the Reporting Limit	Р	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 Report
Lab Order 1706016
Date Reported: 6/8/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy Client Sample ID: SC-3 (wash) Hurricane Federal #001 Collection Date: 5/30/2017 2:00:00 PM Project: 1706016-003 Lab ID: Matrix: SOIL Received Date: 6/1/2017 7:20:00 AM Result **PQL** Qual Units **DF** Date Analyzed Analyses Batch EPA METHOD 300.0: ANIONS Analyst: MRA 380 20 6/2/2017 1:35:05 PM 32082 Chloride 30 mg/Kg 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

Qualifiers:	•	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 3 of 7
	ND	Not Detected at the Reporting Limit	Р	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

WO#:

1706016 08-Jun-17

Hall Environmental Analysis Laboratory, Inc.

Client:WPX EnergyProject: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	
Prep Date: 6/2/2017 Analyte		SeqNo: 1361224 SPK Ref Val %REC LowLimit	Units: mg/Kg HighLimit %RPD	RPDLimit Qual

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

Page 4 of 7

WO#: 1706016

08-Jun-17

Hall Environmental Analysis Laboratory, Inc.

Client:WPX EnergyProject:Hurricane Federal #001

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Sample ID LCS-32064	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: LCSS	Batch	n ID: 32	064	F	RunNo: 4	3209				
Prep Date: 6/1/2017	Analysis D	ate: 6/	2/2017	S	SeqNo: 1	360326	Units: mg/M	(g		
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			
Sum DNOD	47		E 000		04 5	70	130			
Surr: DNOP	4.7		5.000		94.5	10	150			
Sample ID MB-32064		ype: ME		Tes			8015M/D: Die	esel Rango	e Organics	<u></u>
	SampT	ype: ME 1 ID: 32	BLK			PA Method		esel Range	e Organics	<u></u>
Sample ID MB-32064	SampT	n ID: 32	BLK	F	tCode: El	PA Method 3209			e Organics	<u></u>
Sample ID MB-32064 Client ID: PBS	SampT Batch	n ID: 32	3LK 064 2/2017	F	tCode: El RunNo: 4	PA Method 3209	8015M/D: Di		• Organics	Qual
Sample ID MB-32064 Client ID: PBS Prep Date: 6/1/2017	SampT Batch Analysis D	n ID: 32 ate: 6 /	3LK 064 2/2017	F	tCode: El RunNo: 4 SeqNo: 1	PA Method 3209 360330	8015M/D: Die Units: mg/K	(g	-	Qual
Sample ID MB-32064 Client ID: PBS Prep Date: 6/1/2017 Analyte	SampT Batch Analysis D Result	n ID: 32 ate: 6/ PQL	3LK 064 2/2017	F	tCode: El RunNo: 4 SeqNo: 1	PA Method 3209 360330	8015M/D: Die Units: mg/K	(g	-	Qual

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1706016

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08-Jun-17

	Energy ane 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 val	e SPK Ref Val %REC LowLimit	HighLimit %RPD I	RPDLimit Qual
Gasoline Range Organics (GRO)	ND 5.0			
Surr: BFB	1000 100	0 100 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 valu	e SPK Ref Val %REC LowLimit	HighLimit %RPD I	RPDLimit Qual
Gasoline Range Organics (GRO)	26 5.0 25.0	0 0 103 76.4	125	
Surr: BFB	1000 100	0 103 54	150	

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	Environme	ntal Ana	ılysis L	Laborato	ry, Inc.

WO#: 1706016

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08-Jun-17

Client: WPX Energy Project: Hurricane Federal #001

Sample ID MB-32063	Samp	Гуре: МЕ	BLK	Tes	tCode: E	EPA Method 8021B: Volatiles					
Client ID: PBS	Batc	h ID: 32	063	F	RunNo: 4	3219					
Prep Date: 6/1/2017	Analysis D	Date: 6/	2/2017	S	SeqNo: 1	361003	Units: mg/M	(g			
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	Samp1	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volat	tiles			
Client ID: LCSS	Batcl	n ID: 32	063	R	lunNo: 4	3219					
Client ID: LCSS Prep Date: 6/1/2017	Batcl Analysis D				kunNo: 4 GeqNo: 1		Units: mg/K	g			
			2/2017				Units: mg/K HighLimit	g %RPD	RPDLimit	Qual	
Prep Date: 6/1/2017	Analysis D)ate: 6/	2/2017	S	eqNo: 1	361004	•	-	RPDLimit	Qual	
Prep Date: 6/1/2017 Analyte	Analysis D Result	0ate: 6/ PQL	2/2017 SPK value	SPK Ref Val	eqNo: 1 %REC	361004 LowLimit	HighLimit	-	RPDLimit	Qual	
Prep Date: 6/1/2017 Analyte Benzene	Analysis D Result 1.0	Date: 6/. PQL 0.025	2/2017 SPK value 1.000	SPK Ref Val	eqNo: 1 %REC 102	361004 LowLimit 80	HighLimit 120	-	RPDLimit	Qual	
Prep Date: 6/1/2017 Analyte Benzene Toluene	Analysis D Result 1.0 1.0	Date: 6/. PQL 0.025 0.050	2/2017 SPK value 1.000 1.000	SPK Ref Val 0 0	eqNo: 1 %REC 102 102	361004 LowLimit 80 80	HighLimit 120 120	-	RPDLimit	Qual	

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

ANAL	RONMENTAL Y818 RATORY	Hall Environmenta All TEL: 505-345-397. Website: www.h	4901 F Suquerque, 5 FAX: 50.	awkins NE NM 87109 8-345-4107	Sample Log-In Check List					
Client Name:	WPX ENERGY	Work Order Number	r: 17060 1	6		RcptNo: 1				
Received By:	Anne Thome	6/1/2017 7:20:00 AM		a	m H-					
Completed By: Reviewed By:	Anne Thome ENH	6/1/2017 9:44:10 AM DG/D1/17		a	m I-	~				
Chain of Cus	tody									
1. Custody sea	als intact on sample bottle	s?	Yes [No 🗆	Not Present 🗹				
2. Is Chain of C	Custody complete?		Yes 🗄	2	No 🗌	Not Present 🔲				
3. How was the	e sample delivered?		<u>Courie</u>	[
<u>Log In</u>										
4. Was an atte	empt made to cool the sar	nples?	Yes		No 🗆	NA 🗆				
5. Were all san	nples received at a tempe	enature of >0° C to 6.0°C	Yes a	ı 1	No 🗆					
6. Sample(s) in	n proper container(s)?		Yes I	2	No 🗆					
7. Sufficient sa	mple volume for indicated	l test(s)?	Yes	2	No 🗆					
8. Are samples	(except VOA and ONG)	properly preserved?	Yes		No 🗆					
9. Was preserv	ative added to bottles?		Yes [י כ	No 🗹	na 🗆				
10. VOA vials ha	ave zero headspace?		Yes [] 1	No 🗌	No VOA Vials 🗹				
11. Were any sa	ample containers received	l broken?	Yes []	No 🗹					
12. Does paperv	vork match bottle labels?		Yes 5		No 🗖	# of preserved bottles checked for pH:				
(Note discre	pancies on chain of custo	dy)	_	_	_	•	12 unless noted)			
	correctly identified on Ch	•	Yes S	-		Adjusted?				
	at analyses were request		Yes	_	No 🗌 No 🔲	Checked by:				
	ling times able to be met customer for authorization		Yes			· · · · · · · · · · · · · · · · · · ·				
Special Hand	ling (if applicable)									
	otified of all discrepancies	s with this order?	Yes [J 1	No 🗆	NA 🗹				
Person	Notified:	Date		*****						
By Wh	om:	Via:	🗌 eMail	Phone	🗌 Fax	In Person				
Regard										
Client I 17. Additional re						. <u></u>				
18. <u>Cooler Info</u>										
Cooler No		Seal Intact Seal No	Seal Date	Signe	ed By					
1	1.7 Good	Yes								
Page 1 of		<u></u>	<u>- a</u> :	·		<u> </u>	• • · _			

		-of-CL nergy Pro	stody Record	Turn-Around	— Rush											ME DR/			
Mailing	Address		721 S Main	Humane	, Federal	400 I		www.hallenvironmental.com 4901 Hawkins NE - Albuquerque, NM 87109											
Phone		505-333	Aztec, NM 87410	Project#:							15-39	75	Fa		5-345	im 87 -4107			
email o	Fax#: Package:		watson@wpxenergy.com Level 4 (Full Validation)	Project Manager: D. Watson			o Juro						19315	requ					
C NEL	Accreditation: INELAP Other EDD (Type)			Sampler: D. Watson On Ide: XYes D No Sample Temperature: 217-1.0 = 1-7			6R0 [DR0] MRD	BTEX ould	chlimbie										(Y or N)
Date	Time	Matrix.	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	TPH BOIS	8021 BTE											Air Bubbles (Y or N)
5.30.17	1350	Snl	SC-1(mpad)	1-402	cold	-20(X	×	X										
5.30.17	1355	-sni	8c-2 (drainage)	1-402	cold	-202	x	×	x										
5.30.17	1400	Sout	<u>8C-3 (wash)</u>	1-402	cred	203	X	×	X			_		+					
																	+	╉	
													+	-	\square			╀	
					<u> </u>						\vdash	-+	+		+	╀╴┨	-+	╉	╉
Date:	Time: <u>1347</u> Time:	Relinguish	Water	Repeived by:	ute 7	Spate Time Si 17 1347 Date Time	Ren	hark	s:	L	LA			<u> </u>	_L	<u>1. </u> 1		<u>.</u> B	-1-4
5/31/17	1851	1 D	Alaet	Am	~ k	Ula lime													

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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: <u>www.hallenvironmental.com</u>

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 <u>www.hallenvironmental.com</u> 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Hall Environmental Analy			Lab Order 1708193 Date Reported: 8/4/201	7				
CLIENT: WPX Energy			Client Samp	le ID: Pa	d (SC-1R)			
Project: Hurricane Federal #001			Collection 1	Date: 8/2	/2017 1:55:00 PM			
Lab ID: 1708193-001	Matrix:	SOIL	Received 1	Date: 8/3/2017 7:10:00 AM				
Analyses	Result	PQL Qu	al 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 RAN	IGE ORGANIC	S			Analyst	том		
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 RA	NGE				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.

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

Value exceeds Maximum Contaminant Level.

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative 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 Page 1 of 5
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

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				
	ND 1.5				
Sample ID LCS-33153	SampType: LCS	TestCode: EPA Method	300.0: Anions		
Sample ID LCS-33153		TestCode: EPA Method RunNo: 44718	300.0: Anions	<u>-</u> .	
Sample ID LCS-33153 Client ID: LCSS	SampType: LCS		300.0: Anions Units: mg/Kg		
Sample ID LCS-33153 Client ID: LCSS	SampType: LCS Batch ID: 33153 Analysis Date: 8/3/2017	RunNo: 44718		RPDLimit	Qual

Qualifiers:

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

WO#: 1708193

04-Aug-17

Page 2 of 5

Hall Environmental Analysis Laboratory, Inc.

WO#: 1708193 04-Aug-17

	Energy ane Federal #	001								
Sample ID LCS-33151	SampT	ype: LC	:s	Tes	tCode: El	PA Method	8015M/D: Di	iesel Rang	e Organics	
Client ID: LCSS	Batch	ID: 33	151	F	RunNo: 4	4701				
Prep Date: 8/3/2017	Analysis D	ate: 8/	/3/2017	S	SeqNo: 1	413701	Units: mg/H	<g< td=""><td></td><td></td></g<>		
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	SampTy	ype: ME	BLK	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: PBS	Batch	ID: 33	151	F	RunNo: 4	4701				
Prep Date: 8/3/2017	Analysis Da	ate: 8/	3/2017	5	SeqNo: 1	413702	Units: mg/i	<g< td=""><td></td><td></td></g<>		

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.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative 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

Page 3 of 5

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1708193

Page 4 of 5

04-Aug-17

Client: WPX En Project: Hurrican	ergy e Federal #	400 1								
Sample ID RB	SampT	ype: Mi	BLK	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	θ	
Client ID: PBS	Batch	Batch ID: G44704 RunNo: 44704								
Prep Date:	Analysis D	ate: 8 /	/3/2017	S	SeqNo: 1	414005	Units: mg/k	(g		
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	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e	
Client ID: LCSS	Batch	n ID: G4	4704	F	RunNo: 4	4704				
Prep Date:	Analysis D	ate: 8/	3/2017	S	SeqNo: 1	414006	Units: mg/H	ζg		
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.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative 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

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QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#: 1708193

04-Aug-17

Client: Project:	WPX Energy Hurricane Fed	eral #001	1								
Sample ID RB	S	ampType	: MBI	LK	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: PBS		Batch ID:	B44	704	F	RunNo: 4	4704				
Prep Date:	Anal	ysis Date:	8/3	/2017	S	SeqNo: 1	414011	Units: mg/k	(g		
Analyte	Re	sult P	QL	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 C).10								
Surr: 4-Bromofluorol	penzene	1.1		1.000		108	66.6	132			
Sample ID 100N	G BTEX LCS S	ampType	LCS	\$	Tes	tCode: El	PA Method	8021B: Volat	tiles		
Client ID: LCSS	i	Batch ID:	B44	704	F	RunNo: 4	4704				
Prep Date:	Anal	ysis Date:	8/3/	/2017	s	SeqNo: 14	414012	Units: mg/K	g		
Analyte	Res	sult P	QL :	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0	.99 0.0	025	1.000	0	98.8	80	120			
Toluene	0	.99 0.0	050	1.000	0	99.1	80	120			
Ethylbenzene	0	.99 0.0	050	1.000	0	98.9	80	120			
vlenes, Total	:	3.0 0	.10	3.000	0	101	80	120			
Surr: 4-Bromofluorot	enzene	1.2		1.000		116	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
- PQL Practical Quanitative 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
- Page 5 of 5

ENVIRONMENTAL ANALYSIS LABORATORY TEL: 505-34	nmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 45-3975 FAX: S05-345-4107 www.hallenvironmental.com	Sarr	ple Log-In Check L	.ist
Client Name: WPX ENERGY Work Order N	lumber: 1708193		RcptNo: 1	
Received By: Anne Thome 8/3/2017 7:10:0 Completed By: Anne Thome 8/3/2017 7:49:0 Reviewed By: JC 9-3/17 JS	0 AM () 10 AM ()	Anne I-	 	
<u>Chain of Custody</u> 1. Custody seals intact on sample bottles? 2. Is Chain of Custody complete? 3. How was the sample delivered? Log In	Yes ☐ Yes ✔ <u>Courier</u>	No 🗌 No 🗍	Not Present ☑ Not Present □	
4. Was an attempt made to cool the samples?	Yes 🗹	No 🗀		
5. Were all samples received at a temperature of >0° C to 6.0°6. Sample(s) in proper container(s)?	C Yes 🗹 Yes 🗹	No 🗆 No 🗆		
7. Sufficient sample volume for indicated test(s)?8. Are samples (except VOA and ONG) properly preserved?9. Was preservative added to bottles?	Yes ☑ Yes ☑	No 🗌 No 🛄 No 🗹	na 🗆	
10.VOA vials have zero headspace? 11. Were any sample containers received broken?	Yes 🗌 Yes 🗍	No 🗌 No 🗹	No VOA Vials 🗹	
 12. Does paperwork match bottle labels? (Note discrepancies on chain of custody) 13. Are matrices correctly identified on Chain of Custody? 14. Is it clear what analyses were requested? 	Yes 🗹 Yes 🗹 Yes 🗹	No 🗌 No 🗍 No 🗌	bottles checked for pH: (<2 or >12 unless Adjusted?	s noted)
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🗹		Checked by:	
Special Handling (If applicable) 16. Was client notified of all discrepancies with this order?	Yes 🗌	No 🗌	NA 🗹	
	Date /la: eMail Phone	9 🗌 Fax		

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1		Yes			

Page 1 of I

Client: Image: Standard Image: S	
Andres NM 81410 Project #: Phone #: 50 2 333 1880 Fax 505-345 email or Fax#: Project Manager: QA/QC Package: Project 4 (Full Validation) Accreditation Sampler: NELAP Other Date Time Matrix Sample Request ID Matrix Sample Request ID	
Andres NM 81410 Project #: Phone #: 50 2 333 1880 Fax 505-345 email or Fax#: Project Manager: QA/QC Package: Project 4 (Full Validation) Accreditation Sampler: NELAP Other Date Time Matrix Sample Request ID Matrix Sample Request ID	
Andres NM 81410 Project #: Phone #: 50 2 333 1880 Fax 505-345 email or Fax#: Project Manager: QA/QC Package: Project 4 (Full Validation) Accreditation Sampler: NELAP Other Date Time Matrix Sample Request ID Matrix Sample Request ID	•
Phone #: 500 333 1880 Analysis Request email or Fax#: Project Manager: QA/QC Package: Date Time Accreditation Date Time Matrix Sample Request ID Matrix Sample Request ID Matrix Sample Request ID	
email or Fax#: Project Manager: QA/QC Package: Date Standard Level 4 (Full Validation) Accreditation Sample: NELAP Other Date Time Matrix Sample Request ID Pate Time Matrix Sample Request ID	the second s
Date Time Matrix Sample Request ID Type and # Type $HEAL NO$ HEA	
Date Time Matrix Sample Request ID Type and # Type $HEAL NO$ HEA	
Date Time Matrix Sample Request ID Type and # Type $HEAL NO$ HEA	
Date Time Matrix Sample Request ID Type and # Type $HEAL NO$ HEA	Î
Date Time Matrix Sample Request ID Type and # Type $HEAL NO$ HEA	(OA)
	8270 (Semi-VOA) Air Bubbles (Y or N)
8.2.17 1355 Sore Pad 1-402 201 X X X	
Date: Time: Relinquished by: 8/2/17 1737 Durch Watsm Received by: Date Time Remarks: 8/2/17 1733 Durch Watsm	
Date: Time: Relinquished by: \$/2/17 1804 hhalts Received by Date Time 08/63/17 02/0	

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

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 <u>www.hallenvironmental.com</u> 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,

andie

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Lab Order 1708349

Date Reported: 8/14/2017

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Hall Environmental Analysis Laboratory, Inc.

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CLIENT: WPX Energy			Client Samp	le ID: Dr	ainage (SC-2R)	
Project: Hurricane Federal 001			Collection	Date: 8/2	2/2017 1:45:00 PM	
Lab ID: 1708349-001	Matrix:	SOIL	Received 1	Date: 8/3	3/2017 7:10:00 AM	
Analyses	Result	PQL Qua	l Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: MRA
Chloride	88	30	mg/Kg	20	8/8/2017 11:29:27 AM	33236
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	s			Analys	t: 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 RA	NGE				Analys	t: 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					Analys	t: 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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Ε	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 1 of 5
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative 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.

Client: WPX Energy Project: Hurricane Federal 001

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Sample ID MB-33236	SampType: MBLK	TestCode: EPA Method	300.0: Anions		
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		_		
	ND 1.5 SampType: LCS	TestCode: EPA Method	300.0: Anions		
Chloride	· · · · · · · · · · · · · · · · · · ·	TestCode: EPA Method RunNo: 44783	300.0: Anions		
Chloride Sample ID LCS-33236	SampType: LCS		300.0: Anlons Units: mg/Kg		
Chloride Sample ID LCS-33236 Client ID: LCSS	SampType: LCS Batch ID: 33236	RunNo: 44783 SeqNo: 1418298		RPDLimit	Qual

Qualifiers:

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1708349 14-Aug-17

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WO#:

Hall	Environmental	Analy	sis L	aboratory,	Inc.

WO#: 1708349

14-Aug-17

Client: WPX Energy

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Project: Hurrica	ne Federal 001								
Sample ID 1708349-001AM	S SampType	e: MS	1	FestCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: Drainage	Batch ID	D: 33246		RunNo: 4	4835				
Prep Date: 8/8/2017	Analysis Date	e: 8/9/2017		SeqNo: 1	417564	Units: mg/l	(g		
Analyte	Result F	PQL SPK v	value SPK Ref V	al %REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.8 4	19.07 0	91.6	55.8	122			
Surr: DNOP	4.4	4	1.907	89.7	70	130			
Sample ID 1708349-001AMS	SD SampType	e: MSD	ſ	estCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: Drainage	Batch IC	D: 33246		RunNo: 4	4835				
Prep Date: 8/8/2017	Analysis Date	e: 8/9/2017		SeqNo: 1	417565	Units: mg/h	(g		
Analyte	Result F		value SPK Ref V	al %REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10 4	9.90 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	e: LCS	٦	estCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: LCSS	Batch ID): 33246		RunNo: 4	4835				
Prep Date: 8/8/2017	Analysis Date	e: 8/9/2017		SeqNo: 1	417568	Units: mg/h	(g		
Analyte	Result F	QL SPK	value SPK Ref V	al %REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10 5	0.00 0	91.4	73.2	114			
Surr: DNOP	4.3	5	5.000	85.5	70	130			
Surr: DNOP	4.3 SampType	<u></u>	5.000			130 8015M/D: Di	esel Range	e Organics	
	SampType	<u></u>	5.000		PA Method		esel Range	e Organics	-
Sample ID MB-33246	SampType	e: MBLK): 33246	5.000	estCode: E	PA Method 4835		-	e Organics	
Sample ID MB-33246 Client ID: PBS	SampType Batch ID Analysis Date	e: MBLK D: 33246 E: 8/9/2017 PQL SPK v	5.000	estCode: E RunNo: 4 SeqNo: 1	PA Method 4835	8015M/D: Di	-	• Organics	Qual
Sample ID MB-33246 Client ID: PBS Prep Date: 8/8/2017 Analyte Diesel Range Organics (DRO)	SampType Batch ID Analysis Date Result F ND	e: MBLK D: 33246 E: 8/9/2017 PQL SPK v 10	5.000 T	estCode: E RunNo: 4 SeqNo: 1	PA Method 4835 417569	8015M/D: Di Units: mg/F	G	-	Quai
Sample ID MB-33246 Client ID: PBS Prep Date: 8/8/2017 Analyte	SampType Batch ID Analysis Date Result F	e: MBLK D: 33246 e: 8/9/2017 PQL SPK v 10 50	5.000 T	estCode: E RunNo: 4 SeqNo: 1	PA Method 4835 417569	8015M/D: Di Units: mg/F	G	-	Quai

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QC SUMMARY REPORT

WO#: 1708349

14-Aug-17

Hall Environmental Analysis Laboratory, Inc.

Client:	WPX Energy
Project:	Hurricane Federal 001

Sample ID	1708349-001AMS	SampT	ype: MS	3	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	0	
Client ID:	Drainage	Batch	n ID: 33	223	F	RunNo: 4	4785				
Prep Date:	8/7/2017	Analysis D	ate: 8/	8/2017	8	SeqNo: 1	416870	Units: mg/h	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	27	4.7	23.45	0	114	77.8	128			
Sun: BFB		990		938.1		105	54	150			
Sample ID	1708349-001AMSE) SampT	ype: MS	SD	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	9	
Client ID:	Drainage	Batch	ID: 33	223	F	RunNo: 4	4785				
Prep Date:	8/7/2017	Analysis D	ate: 8/	8/2017	5	SeqNo: 1	416871	Units: mg/H	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e 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	SampT		•				-			
		Oampi	уре. со	5	les	tCode: El	PA Method	8015D: Gasc	oline Rang	0	
Client ID:		•	iD: 33			tCode: El RunNo: 4		8015D: Gasc	oline Rang	0	
Client ID: Prep Date:	LCSS	•	1D: 33	223	F		4785	8015D: Gasc Units: mg/K	C	e	
	LCSS	Batch	1D: 33	223 8/2017	F	RunNo: 4 GeqNo: 14	4785		C	e RPDLimit	Qual
Prep Date: Analyte	LCSS	Batch Analysis D	i ID: 33; ate: 8/	223 8/2017	F	RunNo: 4 GeqNo: 14	4785 416902	Units: mg/K	(g		Qual
Prep Date: Analyte	LCSS 8/7/2017	Batch Analysis D Result	i ID: 33; ate: 8/	223 8/2017 SPK value	F S SPK Ref Val	RunNo: 4 SeqNo: 1 %REC	4785 416902 LowLimit	Units: mg/K HighLimit	(g		Qual
Prep Date: Analyte Gasoline Range	LCSS 8/7/2017 e Organics (GRO)	Batch Analysis D Result 26 1000	i ID: 33; ate: 8/	223 8/2017 SPK value 25.00 1000	F S SPK Ref Val 0	RunNo: 4 SeqNo: 14 %REC 102 101	4785 416902 LowLimit 76.4 54	Units: mg/K HighLimit 125	Sg %RPD	RPDLimit	Qual
Prep Date: Analyte Gasoline Range Surr: BFB Sample ID	LCSS 8/7/2017 e Organics (GRO)	Batch Analysis D Result 26 1000 SampT	ate: 8 / PQL 5.0	223 8/2017 SPK value 25.00 1000	F S SPK Ref Val 0 Tes	RunNo: 4 SeqNo: 14 %REC 102 101	4785 416902 LowLimit 76.4 54 PA Method	Units: mg/K HighLimit 125 150	Sg %RPD	RPDLimit	Qual
Prep Date: Analyte Gasoline Range Surr: BFB Sample ID	LCSS 8/7/2017 e Organics (GRO) MB-33223 PBS	Batch Analysis D Result 26 1000 SampT	ate: 8/2 PQL 5.0 ype: ME	223 8/2017 SPK value 25.00 1000 BLK 223	F S SPK Ref Val 0 Tes F	RunNo: 4 GeqNo: 14 %REC 102 101 Code: El	4785 416902 LowLimit 76.4 54 PA Method 4785	Units: mg/K HighLimit 125 150	Kg %RPD	RPDLimit	Qual
Prep Date: Analyte Gasoline Rangu Surr: BFB Sample ID Client ID:	LCSS 8/7/2017 e Organics (GRO) MB-33223 PBS	Batch Analysis D Result 26 1000 SampT Batch	ate: 8/2 PQL 5.0 ype: ME	223 8/2017 25.00 1000 3LK 223 8/2017	F S SPK Ref Val 0 Tes F	RunNo: 4 SeqNo: 14 %REC 102 101 Code: El RunNo: 4 SeqNo: 14	4785 416902 LowLimit 76.4 54 24 24 74 Method 4785 416904	Units: mg/H HighLimit 125 150 8015D: Gasc	Kg %RPD	RPDLimit	Qual
Prep Date: Analyte Gasoline Range Surr: BFB Sample ID Client ID: Prep Date: Analyte	LCSS 8/7/2017 e Organics (GRO) MB-33223 PBS	Batch Analysis D Result 26 1000 SampT Batch Analysis D	PQL 5.0 ype: ME 1D: 332 ate: 8/4	223 8/2017 25.00 1000 3LK 223 8/2017	F SPK Ref Val 0 Tes F S	RunNo: 4 SeqNo: 14 %REC 102 101 Code: El RunNo: 4 SeqNo: 14	4785 416902 LowLimit 76.4 54 24 24 74 Method 4785 416904	Units: mg/K HighLimit 125 150 8015D: Gaso Units: mg/K	Sg %RPD Nine Rang	RPDLimit	

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Client:

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#: 1708349

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14-Aug-17

WPX Energy

Project: Hurricane Federal 001

Sample ID LCS-33223	Samp	Type: LC	S	Tes	tCode: El						
Client ID: LCSS	Batc	h ID: 33	223	F	RunNo: 4						
Prep Date: 8/7/2017	Analysis [Date: 8/	8/2017	SeqNo: 1416942			Units: mg/H	(g			
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	Sampl	SampType: MBLK TestCode: EPA Method 8021B: Volatiles									
Client ID: PBS	Batcl	h ID: 33	223	RunNo: 44785							
Prep Date: 8/7/2017	Analysis D)ate: 8/	8/2017	SeqNo: 1416944			Units: mg/K	(g			
	-				•			•			
Analyte	Result	PQL		SPK Ref Val	•	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Analyte Benzene	Result ND			SPK Ref Val	•		-	-	RPDLimit	Qual	
		PQL		SPK Ref Val	•		-	-	RPDLimit	Qual	
Benzene	ND	PQL 0.025		SPK Ref Val	•		-	-	RPDLimit	Qual	
Benzene Toluene	ND ND	PQL 0.025 0.050		SPK Ref Val	•		-	-	RPDLimit	Qual	

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HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental Albu TEL: 505-345-3975 Website: www.hal	4901 Hawkii querque, NM 8 FAX: 505-345	ns NE 87109 Sam -4107	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		Anne H-	_								
Completed By: Ashley Gallegos 8/	4/2017 5:46:14 PM		A									
Reviewed By: ENM/AQ	08/04/17											
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?		<u>Courier</u>										
Log In												
4. Was an attempt made to cool the samples?		Yes 🗹	No 🗆	NA 🗆								
5. Were all samples received at a temperature of	>0" 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 p	preserved?	Yes 🗹	No 🗖	_								
9. Was preservative added to bottles?		Yes 🗌	No 🗹	NA 🗆								
10.VOA vials have zero headspace?		Yes 🔲	No 🗖	No VOA Viats 🗹								
11. Were any sample containers received broken?		Yes 🗆	No 🗹	# of preserved	P400 -							
12. Does paperwork match bottle labels?		Yes 🗹	No 🗖	bottles checked for pH:								
(Note discrepancies on chain of custody)				(<2 or >12 unless no	otec							
13. Are matrices correctly identified on Chain of Cu	stody?	Yes 🗹	No 🗌	Adjusted?								
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	Checked by:	. -							
pecial Handling (if applicable)												
16. Was client notified of all discrepancies with this	order?	Yes 🗌	No 🗌	NA 🗹								
Person Notified:	Date			······································								
By Whom:	Via: [] eMall 📋	Phone 🗌 Fax	In Person								
Regarding:												
Client Instructions:												
17. Additional remarks:												
18. Cooler Information												
Cooler No Temp °C Condition Seal	Intact Seal No S	Seal Date	Signed By									
1 1.1 Good Yes												

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	hain	-of-Cu	istody Record	Tum-Around	Time:								_							••	
Client: WPX Energy		X Standard 🗆 Rush					Ľ.												,		
			Project Name:																		
Mailing	Address	721	S Main	Hurricane Federal #001				www.hallenvironmental.com 4901 Hawkins NE - Albuquerque, NM 87109													
-	· ·		C, NM 87410	Project #:	*		1			5-34				-	•		-410				
Phone	#: 565	333		1										sis	_						
email o				Project Mana	ger:			ίλ	ĝ					(*)							T
	Package:				-		TREES (8021)	(Gas only)	w w			ହ		o, sc	CB's						
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		🛛 Othe	NP	Sampler: D Watson				НЫ	X	Ē	Ξ	270		N.	808						Î
				On Ice: Sample Tem	Yes	D No		+ 	lЯ,	41	20	or 8	ş	ő	les /		QA V				ادًا الح
Date	Time	Mätrix	Sample Request ID		Preservative Type	749 %	BTEX + BEE	BTEX + MTBE	TPH 8015B (GRO, DRO, MED)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (ACINO3.NO2, PO4.SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
8.2.17	1345	soil	Drainage	1-402	cold	-001	X		X		\square			Х							\Box
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Date:	Time:	Relinquish	ed by:	Received by;	<u> </u>	Data Time	Rer	nark	s:							1	L				
8/2/1-1 Date:	1723	Debr	sh Water	Khti	<u>heis</u>	8/2/17 1753															
_{Dəfe:} 8 <u>/а)</u>	Time:		H Water - Wasto	Received by:	Ihan	Date Time 08/03/17 07/0															

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

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