



September 11, 2019

Deborah Watson
Environmental Specialist - Permian Basin
5315 Buena Vista Dr.
Carlsbad, NM 88220

8F5W3-190915-C-1410

Closure Report
East Pecos Federal 22 #005H
2RP-5519
API #: 30-015-42270
Eddy County, New Mexico
Mrs. Watson:

On behalf of WPX Energy Permian, LLC, HRL Compliance Solutions, Inc. (HRL) is pleased to submit the attached closure report summarizing the closure actions taken in regards to the East Pecos Federal 22 #005H release. The purpose of the report is to obtain approval from the New Mexico Oil Conservation Division (NMOCD) for the remediation and closure of the release that occurred on June 17, 2019. Table 1 below summarizes information regarding the release.

Table 1: Release Summary

Site Name	East Pecos Federal 22 #005H		
Location	Lat.	Long.	Unit Letter, Section, Township, Range
	32.02176°	-103.97352°	Unit Letter N, Section 22, Township 26S, Range 29E
District RP	2RP-5519		
Estimated Date of Release	6/17/2019 @ 7:50 AM		
Date Reported	6/17/ 2019 @ 3:28 PM		
Reported To	NMOCD		
Surface Owner	Private: Ross Ranch		
Cause of Release	Seal failure on transfer pump		
Released Material	Produced Water		
Volume Release	63 bbls		
Volume Recovered	60 bbls		
Net Release	3 bbls		
Depth To Groundwater	<50 feet below ground surface		
Nearest waterway	Pecos River: 1 mile west of release		



1.0 Initial Response & Notification

A 63 bbl produced water release occurred on June 17, 2019 at the East Pecos Federal 22 #005H Production Facility. Mike Bratcher of NMOCD was notified on the day of the release. The cause of the release was due to a seal failure on a transfer pump. 60 bbls from the release were contained within the lined secondary containment and recovered. 3 bbls were released onto the well pad surface surrounding the containment.

2.0 Site Assessment and Characterization

The site location is approximately 14.5 miles southwest of Malaga, New Mexico with an elevation of approximately 2,890 feet above sea level. The well site is located on Ross Ranch which is privately owned land. A site location map is provided on Figure 1. The nearest surface water, Pecos River, is located approximately 1 mile west of the release (Figure 2).

Depth-to-groundwater at the release site is estimated to be less than 50 feet below ground surface as determined by review of the United States Geological Survey (USGS) National Water Information System. A 1 mile radius search of the USGS National Water Information System revealed 3 water wells with an average depth to groundwater of 49 feet. Figure 2 presents a site location map of water wells relevant to the depth-to-groundwater determination.

Based on the assessments outlined above the following closure criteria was implemented to remediate the site.

Table 2: Closure Criteria

Closure Criteria		
Depth to Ground Water	Constituent	Limit
Less than 50 feet	Chloride	600 mg/kg
	TPH (GRO+DRO+MRO)	100 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg



3.0 Soil Remediation

Remedial activity at the East Pecos Federal 22 #005H consisted of the following actions:

- July 26, 2019 – Expert Environmental Services, LLC began remediation activity by excavating material from the impacted area.
- Expert Environmental Services, LLC excavated the impacted areas to a depth of 1 foot below ground surface. Photos of the excavation area are attached as Appendix D.
- An estimated 170 cubic yards of impacted soil was removed from the location and transported to R360 Red Bluff waste management facility located in Orla, Texas. Disposal was conducted by Expert Environmental Services, LLC and took place continuously throughout the excavation period.
- July 31, 2019- HRL personnel were present at the release site to collect field screens to verify that soil concentrations of the excavation footprint and sidewalls were below NMOCD closure criteria.
- August 19, 2019- Kelley Oilfield Services removed an additional 6 inches of material in areas that exceeded NMOCD closure criteria following the first confirmation sampling event. The areas requiring additional remediation to a total depth of 1.5 feet are the sample areas FP13, FP14, and FP15.

4.0 Soil Sampling and Analytical Results

Confirmation sampling took place on August 5, 2019 following NMOCD notification, attached as Appendix B. A confirmation sample plan was implemented where 5 point composite samples were collected such that they represented areas less than 200 square feet, in accordance with Subparagraph (c) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC. Confirmation sample locations are depicted on Figures 3A, 3B and 3C. A total of 33 confirmation samples were collected, including 31 excavation footprint samples and 2 sidewall samples. The TPH analytical results of samples FP13, FP14, and FP15 exceeded NMOCD closure criteria from the first sampling event. Following additional remediation the three confirmation samples areas were resampled on August 21, 2019. All confirmation samples were submitted to Hall Environmental Analysis Laboratory, a National Environmental Laboratory Accreditation Program (NELAP) laboratory, in accordance with NMOCD soil sampling procedures. The samples were analyzed



for chlorides by EPA Method 300.0, volatile organics (BTEX) by EPA Method 8021B, and DRO, GRO and MRO by EPA Method 8015D. A summary of the laboratory results are attached as Table A with the raw analytical reports included as Appendix C.

5.0 Liner Inspection and Verification

Following NMOCD notification attached as Appendix B, the liner was visually inspected for cracks, tears, cuts, and other signs of damage to verify that the liner remained intact and had the ability to contain the release, as required by Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC. HRL conducted the liner inspection on August 5, 2019 at approximately 8:30 AM..

The steel framed secondary containment at the East Pecos Federal 22 #005H Production Facility consists of a spray-in-liner. The liner that was investigated appeared to be in good condition and fully intact with no tears, cracks, or signs of damage. No structural deficiencies were identified throughout the containment foundation. The integrity of the containment was not compromised as a result of the release that occurred on June 17, 2019. All liner certification requirements outlined in Subsection A of 19.15.29.12 NMAC have been met. Photos of the liner and containment are included in Appendix D.

6.0 Summary

A release of 63 bbls of produced water occurred on June 17, 2019 at the East Pecos Federal 22 #005H production facility. The cause of the release was due to a seal failure on a transfer pump. 60 bbls of the release was contained within the secondary containment and recovered while 3 bbls impacted the well pad surface.

Soil remediation activities involved excavating the impacted areas to a depth of approximately 1 foot below ground surface on the well pad surface. An estimated 170 cubic yards of impacted soil was transported for disposal to R360 Red Bluff waste management facility.

A total of thirty-three (33) confirmation samples were collected on August 5, 2019 from within the excavation to verify cleanup at the location. Analytical results for all thirty-three samples were reported below the concentration limits outlined in Table 1 of Subsection E of NMAC 19.15.29.12. No further remedial action is recommended.

A liner inspection was conducted on August 5, 2019. The liner that was investigated appeared to be in good condition and fully intact with no tears, cracks, or signs of damage.



7.0 Scope and Limitations

The scope of HRL's services consists of the verification of remediation activity, collecting confirmation soil samples, conducting a liner inspection and preparation of this closure report. All work has been performed in accordance with 19.15.29 NMAC.

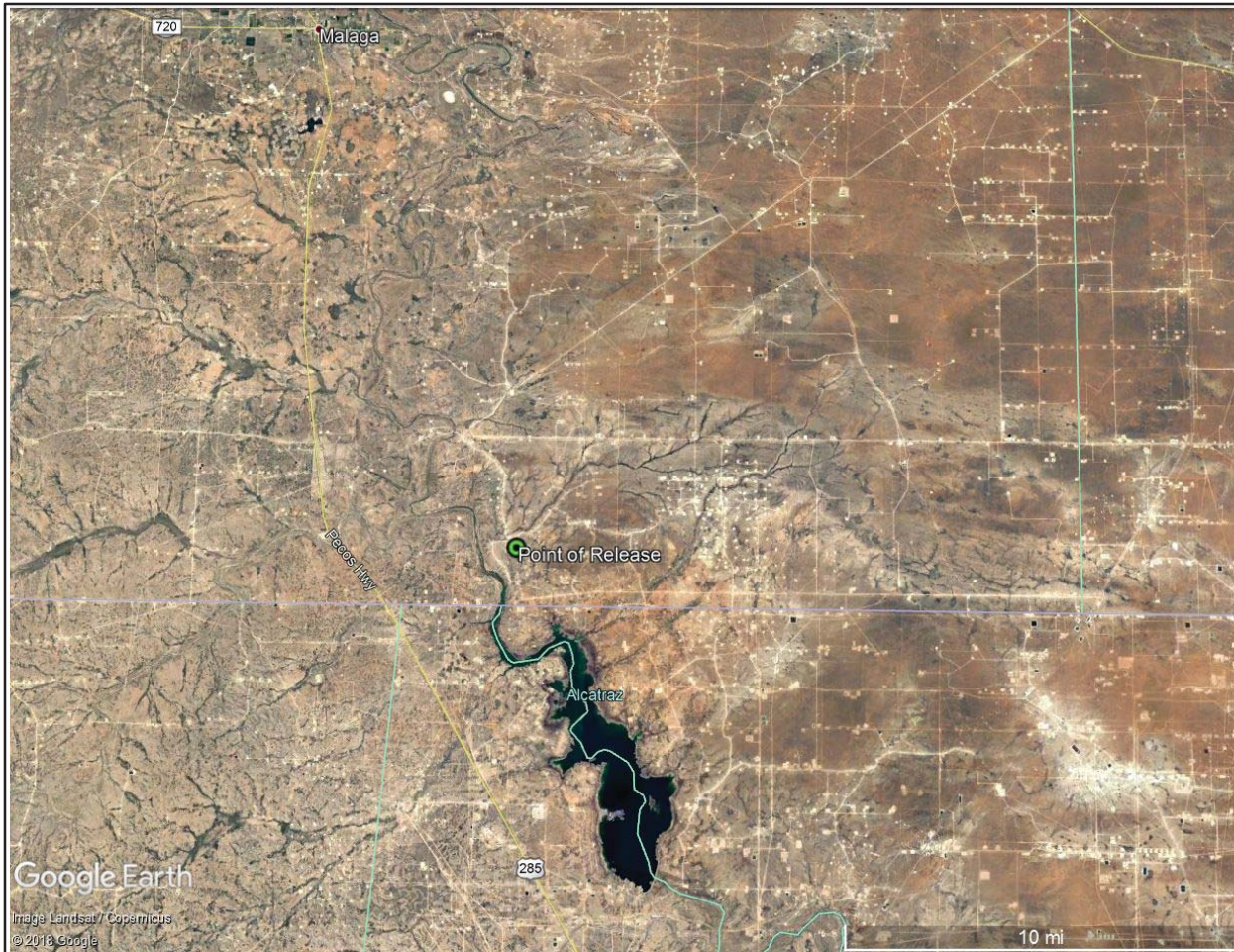
If there are any questions regarding this report, please contact Kevin Smith at 575-616-7398 Ext. 435.

Prepared by:
HRL Compliance Solutions, Inc.

Kevin Smith
Environmental Scientist – Permian

Attachments:

Figure 1: Site Location Map
Figure 2: Depth to Groundwater Map
Figure 3A: Confirmation Sample Location Map – Footprint
Figure 3B: Confirmation Sample Location Map – Footprint
Figure 3C: Confirmation Sample Location Map – Sidewalls
Table A: Analytical Results Summary
Appendix A: C-141 Release Notification
Appendix B: Confirmation Sampling Notification
Appendix C: Laboratory Analytical Reports
Appendix D: Site Photographs



WPXENERGY

Figure 1: Site Location Map

East Pecos Federal 22 #005H
332.021693812 -103.973468386
Section 22, Township 26 South, Range 29 East

Mapped Features



Point of Release

DISCLAIMER: This representation and the Geographic Information System (GIS) used to create it are designed as a source of reference and not intended to replace official records and/or legal surveys. H&L assumes no responsibility for any risks, dangers, or liabilities that may result from its use and makes no guarantees as to the quality or accuracy of the underlying data.



Author: K.Smith

Rev: 0

Date: 9/8/2019

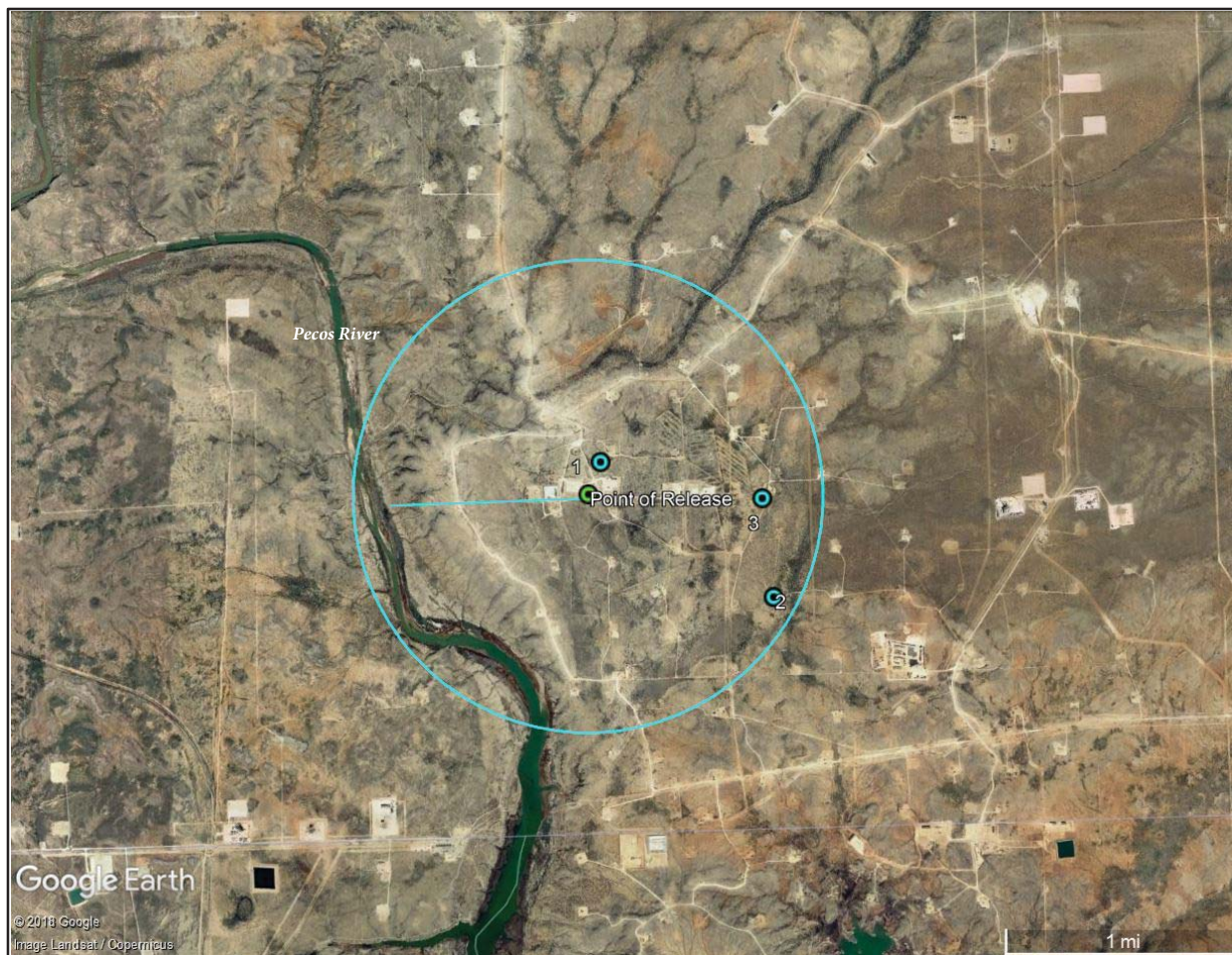


Figure 2: Depth To Groundwater Map

East Pecos Federal 22 #005H
 32.021693812 -103.973468386
 Section 22, Township 26 South, Range 29 East

Mapped Features



Point of Release



USGS Water Wells

1 Mile Radius From Release

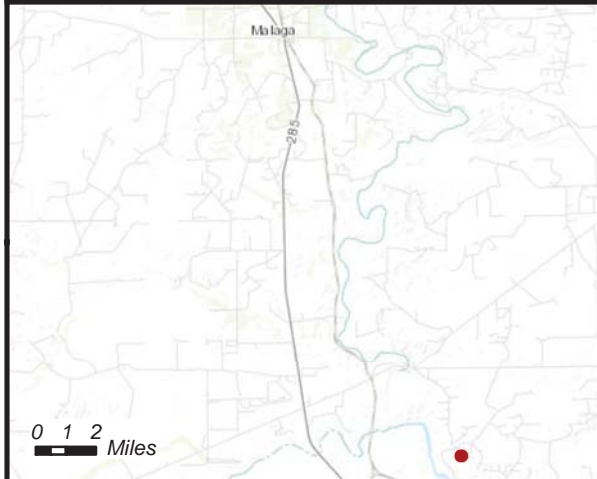
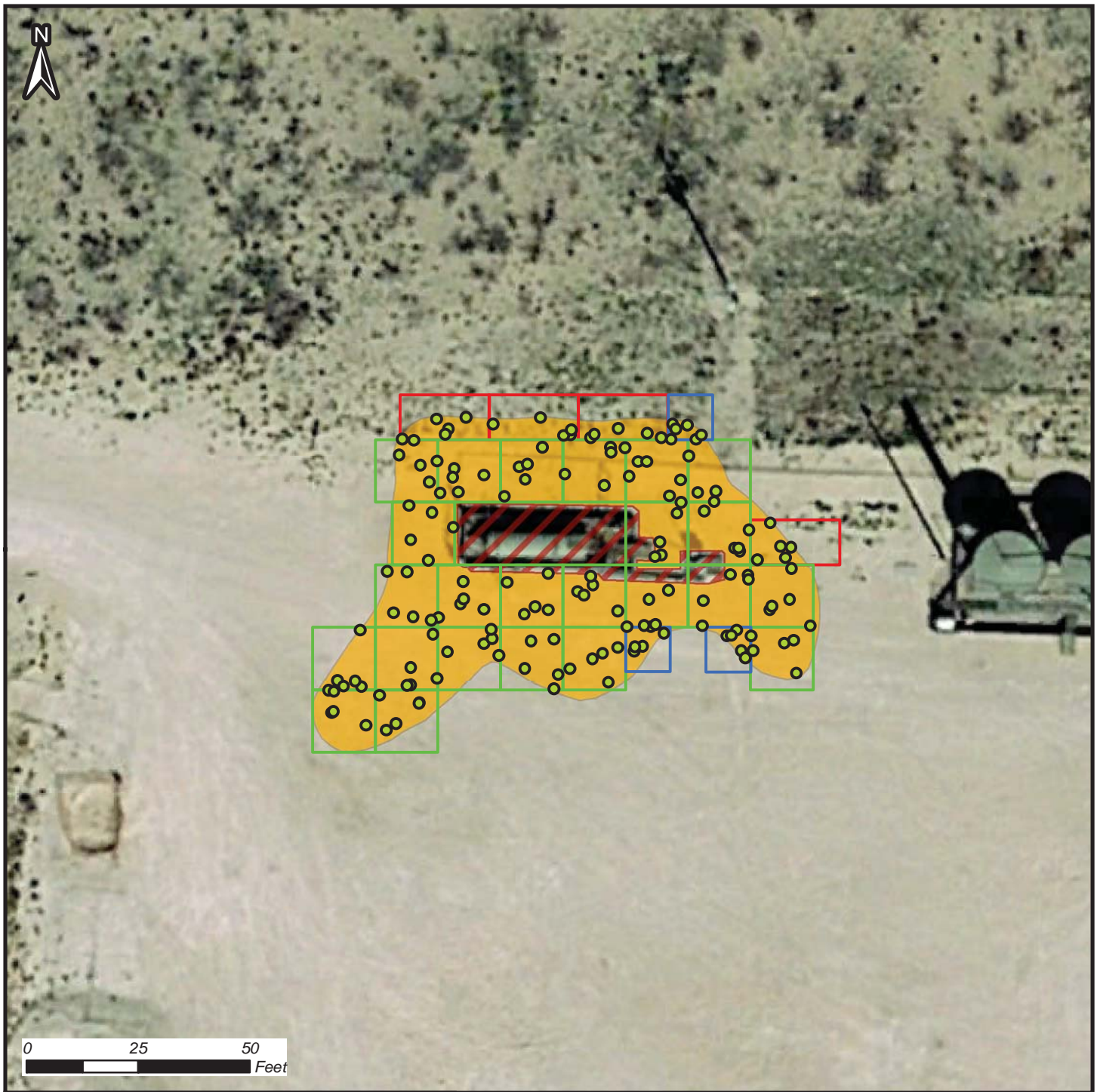
Distance to Pecos River

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Author: K. Smith

Date: 9/9/2019



Confirmation Sample Map

East Pecos Federal 22-5H
Excavation Footprint

32.021693812 -103.973468386
Section 22, Township 26 South, Range 29 East

Mapped Features

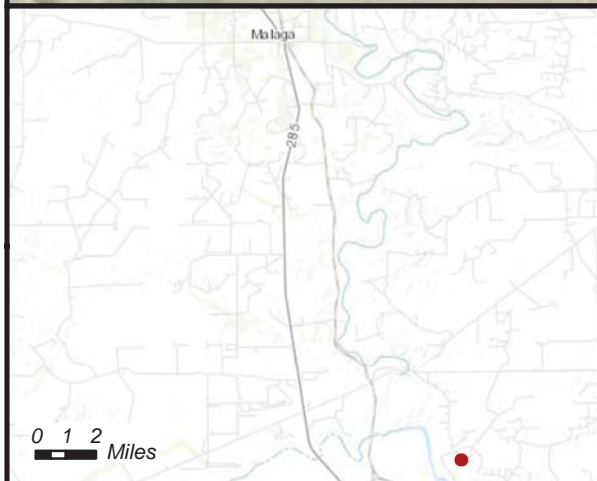
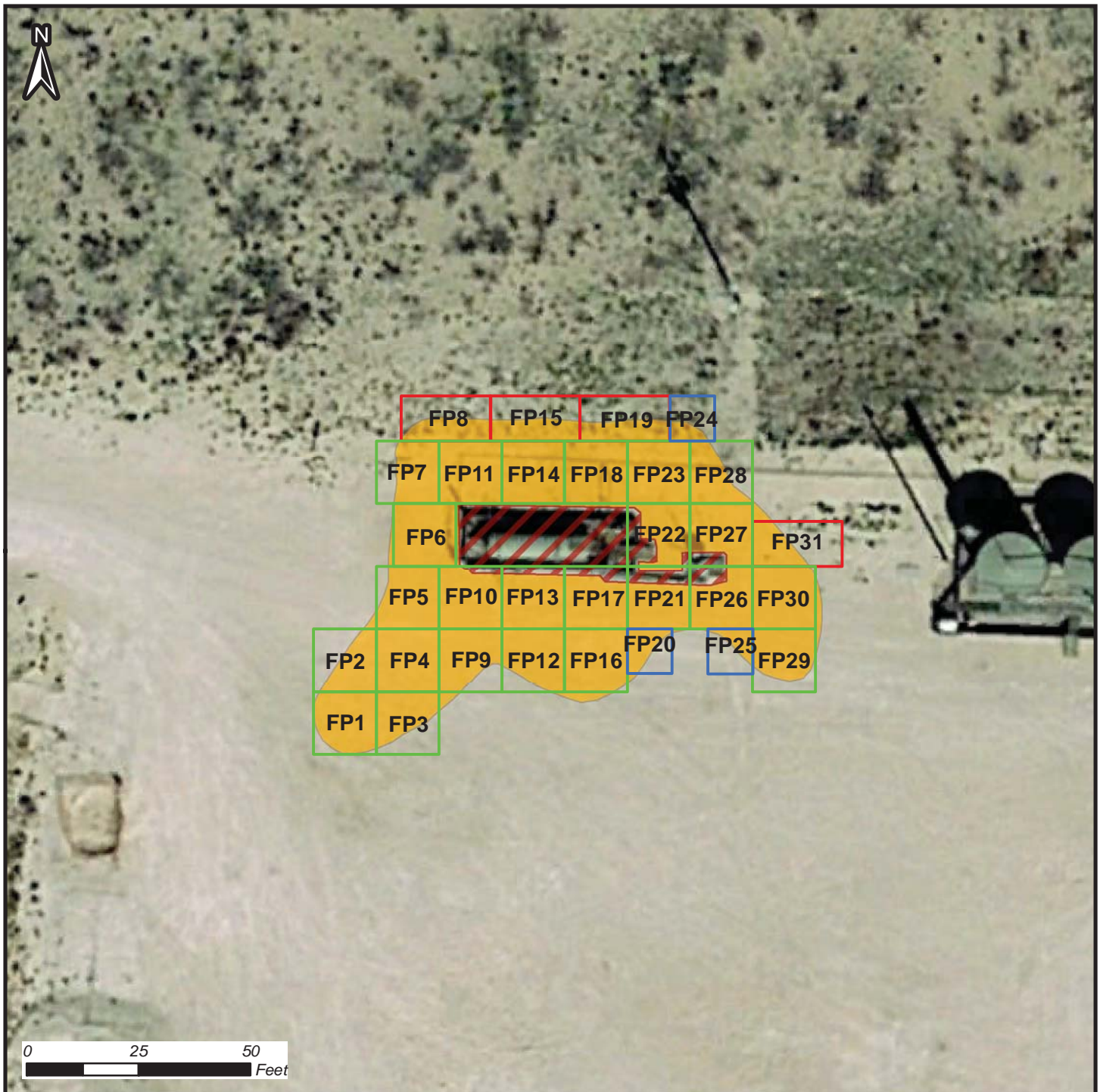
- Composite Sample Location
- 10' X 10' Grid
- 14' X 14' Grid
- 20' X 10' Grid
- ⬮ Containment Area
- ⬮ Excavation Area

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COMPLIANCE
SOLUTIONS

Author: A. Asay
Revision: 0
Date: 8/6/2019



Confirmation Sample Map

East Pecos Federal 22-5H
Excavation Footprint

32.021693812 -103.973468386
Section 22, Township 26 South, Range 29 East

Mapped Features

10' X 10' Grid

14' X 14' Grid

20' X 10' Grid

Containment Area

Excavation Area

DISCLAIMER: This representation and the Geographic Information System (GIS) used to create it are designed as a source of reference and not intended to replace official records and/or legal surveys. HRL assumes no responsibility for any risks, dangers, or liabilities that may result from its use and makes no guarantees as to the quality or accuracy of the underlying data.



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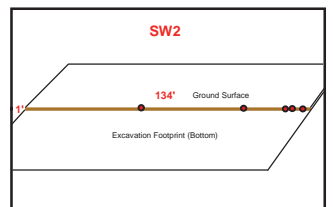
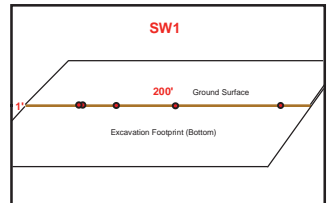
Author: A. Asay

Revision: 0

Date: 9/9/2019



Composite Sample Diagrams



Confirmation Sample Map

East Pecos Federal 22-5H Sidewalls
 32.021693812 -103.973468386
 Section 22, Township 26 South, Range 29 East

Mapped Features

- Sidewall Sample Location
- Containment Area
- Excavation Area

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Author: A. Rupp
 Reviewer: JP
 Date: 5/5/2019



Table A: Laboratory Results Summary

East Pecos Federal 22 #005H WPX Energy Permian, LLC			Analytical Results - Hall Environmental Analysis Laboratory						
Excavation Footprint			Reported in mg/kg						
NM OCD Table 1 Thresholds (GW			600	10	50	100			
Sample ID	Depth (ft)	Sampling Date	Chloride	Benzene	BTEX	GRO	DRO	MRO	Total TPH
FP1	1.0	8/5/2019	<60	<0.024	<0.22	<4.9	<9.3	<46	<60.2
FP2	1.0	8/5/2019	120	<0.024	<0.213	<4.7	<8.1	<41	<53.8
FP3	1.0	8/5/2019	110	<0.023	<0.207	<4.6	<9.5	<48	<62.1
FP4	1.0	8/5/2019	430	<0.024	<0.216	<4.8	<8.7	<43	<56.5
FP5	1.0	8/5/2019	510	<0.023	<0.21	<4.7	<9.9	<50	<64.6
FP6	1.0	8/5/2019	100	<0.025	<0.221	<4.9	<8.4	<42	<55.3
FP7	1.0	8/5/2019	90	<0.025	<0.225	<5.0	<9.1	<45	<59.1
FP8	1.0	8/5/2019	160	<0.024	<0.22	<4.9	<7.4	<37	<49.3
FP9	1.0	8/5/2019	550	<0.025	<0.222	<4.9	<9.0	<45	<58.9
FP10	1.0	8/5/2019	320	<0.024	<0.22	<4.9	<9.8	<49	<63.7
FP11	1.0	8/5/2019	160	<0.025	<0.22	<4.9	<9.3	<46	<60.2
FP12	1.0	8/5/2019	83	<0.025	<0.225	<5.0	<9.3	<47	<61.3
FP13	1.0	8/5/2019	<60	<0.025	<0.225	<5.0	100	79	<184
	1.5	8/21/2019				<4.7	<9.5	<48	<62.2
FP14	1.0	8/5/2019	200	<0.025	<0.225	<5.0	100	70	<174
	1.5	8/21/2019				<4.7	<9.6	<48	<62.3
FP15	1.0	8/5/2019	<60	<0.025	<0.224	<5.0	83	58	<146
	1.5	8/21/2019				<4.8	<10	<50	<64.8
FP16	1.0	8/5/2019	210	<0.025	<0.221	<4.9	54	<46	<104.9
FP17	1.0	8/5/2019	<60	<0.025	<0.021	<4.9	<7.6	<38	<50.5
FP18	1.0	8/5/2019	66	<0.025	<0.021	<4.9	<9.9	<50	<64.8
FP19	1.0	8/5/2019	140	<0.025	<0.224	<5.0	<9.5	<48	<62.5
FP20	1.0	8/5/2019	120	<0.025	<0.221	<4.9	19	<47	<70.9
FP21	1.0	8/5/2019	560	<0.025	<0.225	<5.0	<10	<50	<65
FP22	1.0	8/5/2019	110	<0.024	<0.22	<4.9	<9.6	<48	<62.5
FP23	1.0	8/5/2019	220	<0.025	<0.222	<4.9	<9.7	<48	<62.6
FP24	1.0	8/5/2019	180	<0.025	<0.221	<4.9	<9.5	<48	<62.4
FP25	1.0	8/5/2019	200	<0.025	<0.222	<4.9	<9.4	<47	<61.3
FP26	1.0	8/5/2019	160	<0.025	<0.225	<5.0	<10	<51	<66
FP27	1.0	8/5/2019	86	<0.024	<0.22	<4.9	<9.8	<49	<63.7
FP28	1.0	8/5/2019	130	<0.025	<0.221	<4.9	<9.3	<46	<60.2
FP29	1.0	8/5/2019	93	<0.025	<0.225	<5.0	<9.4	<47	<61.4
FP30	1.0	8/5/2019	170	<0.024	<0.22	<4.9	<8.8	<44	<57.7
FP31	1.0	8/5/2019	220	<0.024	<0.22	<4.9	<9.2	<46	<60.1
SW1	Composite	8/5/2019	480	<0.025	<0.222	<4.9	<9.2	<46	<60.1
SW2	Composite	8/5/2019	190	<0.024	<0.22	<4.9	<9.3	<46	<60.2



Appendix A: C-141 Release Notification

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 Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	2RP-5519
Facility ID	
Application ID	pAB1919041724

Release Notification

Responsible Party

Responsible Party: WPX Energy Permian, LLC	OGRID: 246289
Contact Name: Deborah Watson	Contact Telephone: 575-885-7561
Contact email: deborah.watson@wpxenergy.com	Incident # (assigned by OCD)
Contact mailing address: 5315 Buena Vista Drive, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.02176 Longitude -103.97352
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: East Pecos Federal 22 #005H	Site Type: Well Pad
Date of Discovery: June 17, 2019 @ 7:50 AM	API# (if applicable) 30-015-42270

Unit Letter	Section	Township	Range	County
N	22	26S	29E	Eddy

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (Name: Ross Ranch)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 63	Volume Recovered (bbls) 60
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release


Seal failure on transfer pump. Most of the fluid was released into lined secondary containment.

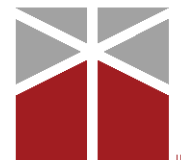
Incident ID	NAB1919042046
District RP	2RP-5519
Facility ID	
Application ID	pAB1919041724

Was this a major release as defined by 19.15.29.7(A) NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? Volume of release.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Reported to Mike Bratcher (NMOCD) on Monday, June 17 at 3:28 PM via phone call. Follow-up email sent to Mike Bratcher and Jim Griswold.	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.	
Printed Name: Deborah Watson Title: Environmental Specialist	
Signature: 	Date: 06/26/2019
email: deborah.watson@wpenergy.com	Telephone: 575-885-7561
<u>OCD Only</u>	
Received by: <u>Amalia Bustamante</u> Date: <u>7/9/2019</u>	



Appendix B: Confirmation Sampling Notification

From: [Watson, Debbie](#)
To: [Bratcher, Mike, EMNRD](#); [Venegas, Victoria, EMNRD](#); [Hamlet, Robert, EMNRD](#)
Cc: [Kevin Smith](#); [Watson, Debbie](#); [Lori O'Brien](#)
Subject: East Pecos Federal 22-5H (2RP-5519) Sampling Notification
Date: Thursday, August 01, 2019 8:08:08 AM

Due to unforeseen events, the environmental consulting company scheduled at the East Pecos Federal 22-5H yesterday (July 31) was unable to conduct the scheduled sampling event.

This email serves as notification of confirmation sampling and liner inspection at the East Pecos Federal 22-5H (2RP-5519). HRL Compliance will be on location on Monday, August 5 around 8:30 am to begin collecting confirmation samples and to conduct a liner inspection. If you have any questions, please contact me.

Thank you,

Debbie

Deborah Watson
HSE Specialist
5315 Buena Vista Drive | Carlsbad, NM 88220
office 575.885.7561 | cell 505.386.9693
deborah.watson@wpxenergy.com



If you have received this message in error, please reply to advise the sender of the error and then immediately delete this message. Thank you.

From: Kevin Smith
To: ["mike.bratcher@state.nm.us"](mailto:mike.bratcher@state.nm.us); ["Victoria.Venegas@state.nm.us"](mailto:Victoria.Venegas@state.nm.us); ["Robert.Hamlet@state.nm.us"](mailto:Robert.Hamlet@state.nm.us)
Cc: ["deborah.watson@wpenergy.com"](mailto:deborah.watson@wpenergy.com)
Subject: East Pecos Federal 22-5 (2RP-5519) Confirmation Sampling Notification - Resample
Date: Monday, August 19, 2019 10:56:00 AM
Attachments: [image002.png](#)
[image004.png](#)
[image006.png](#)

Good Morning,

This email serves as notification that WPX has scheduled confirmation sampling at the East Pecos 22-5 (2RP-5519) for Wednesday, August 21st around 1:00 PM.

Three samples (FP13, FP14, FP15) exceeded TPH closure standards following the recent sampling event. HRL Compliance will be location to collect the resamples.

Please contact me with any questions.

Thank you,

Kevin Smith | Environmental Scientist

HRL Compliance Solutions, Inc.

P.O. Box 1708 | Artesia, NM 88211-1708

main 575.616.7398 | mobile 936.689.0078

[Web](#) | [vCard](#) | [Map](#) | [f](#) | [in](#)



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Appendix C:

Laboratory Analytical Results



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

August 14, 2019

Lori O'Brien

WPX Energy

5315 Buena Vista Drive

Carlsbad, NM 88220

TEL: (505) 386-9693

FAX:

RE: East Pecos Federal 22 5H

OrderNo.: 1908326

Dear Lori O'Brien:

Hall Environmental Analysis Laboratory received 33 sample(s) on 8/7/2019 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 #NM0901

Sincerely,

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

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908326

Date Reported: 8/14/2019

CLIENT: WPX Energy

Client Sample ID: FP1

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 11:00:00 AM

Lab ID: 1908326-001

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	8/8/2019 10:03:34 PM	46673
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/9/2019 4:35:37 PM	46668
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/9/2019 4:35:37 PM	46668
Surr: DNOP	95.3	70-130		%Rec	1	8/9/2019 4:35:37 PM	46668
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/9/2019 1:48:16 AM	46639
Surr: BFB	97.2	77.4-118		%Rec	1	8/9/2019 1:48:16 AM	46639
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/9/2019 1:48:16 AM	46639
Toluene	ND	0.049		mg/Kg	1	8/9/2019 1:48:16 AM	46639
Ethylbenzene	ND	0.049		mg/Kg	1	8/9/2019 1:48:16 AM	46639
Xylenes, Total	ND	0.098		mg/Kg	1	8/9/2019 1:48:16 AM	46639
Surr: 4-Bromofluorobenzene	97.0	80-120		%Rec	1	8/9/2019 1:48:16 AM	46639

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1908326**

Date Reported: **8/14/2019**

CLIENT: WPX Energy

Client Sample ID: FP2

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 11:00:00 AM

Lab ID: 1908326-002

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	120	60		mg/Kg	20	8/8/2019 10:15:59 PM	46673
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	8.1		mg/Kg	1	8/9/2019 5:48:43 PM	46668
Motor Oil Range Organics (MRO)	ND	41		mg/Kg	1	8/9/2019 5:48:43 PM	46668
Surr: DNOP	90.0	70-130		%Rec	1	8/9/2019 5:48:43 PM	46668
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/9/2019 2:11:51 AM	46639
Surr: BFB	95.6	77.4-118		%Rec	1	8/9/2019 2:11:51 AM	46639
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/9/2019 2:11:51 AM	46639
Toluene	ND	0.047		mg/Kg	1	8/9/2019 2:11:51 AM	46639
Ethylbenzene	ND	0.047		mg/Kg	1	8/9/2019 2:11:51 AM	46639
Xylenes, Total	ND	0.095		mg/Kg	1	8/9/2019 2:11:51 AM	46639
Surr: 4-Bromofluorobenzene	95.7	80-120		%Rec	1	8/9/2019 2:11:51 AM	46639

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1908326**

Date Reported: **8/14/2019**

CLIENT: WPX Energy

Client Sample ID: FP3

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 11:00:00 AM

Lab ID: 1908326-003

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	110	60		mg/Kg	20	8/8/2019 10:28:24 PM	46673
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/9/2019 6:13:13 PM	46668
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/9/2019 6:13:13 PM	46668
Surr: DNOP	92.9	70-130		%Rec	1	8/9/2019 6:13:13 PM	46668
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/9/2019 2:35:29 AM	46639
Surr: BFB	94.0	77.4-118		%Rec	1	8/9/2019 2:35:29 AM	46639
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	8/9/2019 2:35:29 AM	46639
Toluene	ND	0.046		mg/Kg	1	8/9/2019 2:35:29 AM	46639
Ethylbenzene	ND	0.046		mg/Kg	1	8/9/2019 2:35:29 AM	46639
Xylenes, Total	ND	0.092		mg/Kg	1	8/9/2019 2:35:29 AM	46639
Surr: 4-Bromofluorobenzene	93.4	80-120		%Rec	1	8/9/2019 2:35:29 AM	46639

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908326

Date Reported: 8/14/2019

CLIENT: WPX Energy

Client Sample ID: FP4

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 11:00:00 AM

Lab ID: 1908326-004

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	430	60		mg/Kg	20	8/8/2019 11:05:37 PM	46673
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	8/9/2019 6:37:34 PM	46668
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	8/9/2019 6:37:34 PM	46668
Surr: DNOP	99.3	70-130		%Rec	1	8/9/2019 6:37:34 PM	46668
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/9/2019 2:59:06 AM	46639
Surr: BFB	96.0	77.4-118		%Rec	1	8/9/2019 2:59:06 AM	46639
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/9/2019 2:59:06 AM	46639
Toluene	ND	0.048		mg/Kg	1	8/9/2019 2:59:06 AM	46639
Ethylbenzene	ND	0.048		mg/Kg	1	8/9/2019 2:59:06 AM	46639
Xylenes, Total	ND	0.096		mg/Kg	1	8/9/2019 2:59:06 AM	46639
Surr: 4-Bromofluorobenzene	95.5	80-120		%Rec	1	8/9/2019 2:59:06 AM	46639

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1908326**

Date Reported: **8/14/2019**

CLIENT: WPX Energy

Client Sample ID: FP5

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 11:00:00 AM

Lab ID: 1908326-005

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	510	60		mg/Kg	20	8/8/2019 11:18:02 PM	46673
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/9/2019 7:01:51 PM	46668
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/9/2019 7:01:51 PM	46668
Surr: DNOP	104	70-130		%Rec	1	8/9/2019 7:01:51 PM	46668
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/9/2019 3:22:43 AM	46639
Surr: BFB	95.6	77.4-118		%Rec	1	8/9/2019 3:22:43 AM	46639
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	8/9/2019 3:22:43 AM	46639
Toluene	ND	0.047		mg/Kg	1	8/9/2019 3:22:43 AM	46639
Ethylbenzene	ND	0.047		mg/Kg	1	8/9/2019 3:22:43 AM	46639
Xylenes, Total	ND	0.093		mg/Kg	1	8/9/2019 3:22:43 AM	46639
Surr: 4-Bromofluorobenzene	95.6	80-120		%Rec	1	8/9/2019 3:22:43 AM	46639

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1908326**

Date Reported: **8/14/2019**

CLIENT: WPX Energy

Client Sample ID: FP6

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 11:00:00 AM

Lab ID: 1908326-006

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	100	60		mg/Kg	20	8/8/2019 11:30:26 PM	46673
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	8.4		mg/Kg	1	8/9/2019 7:26:05 PM	46668
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	8/9/2019 7:26:05 PM	46668
Surr: DNOP	66.4	70-130	S	%Rec	1	8/9/2019 7:26:05 PM	46668
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/9/2019 3:46:18 AM	46639
Surr: BFB	96.7	77.4-118		%Rec	1	8/9/2019 3:46:18 AM	46639
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/9/2019 3:46:18 AM	46639
Toluene	ND	0.049		mg/Kg	1	8/9/2019 3:46:18 AM	46639
Ethylbenzene	ND	0.049		mg/Kg	1	8/9/2019 3:46:18 AM	46639
Xylenes, Total	ND	0.098		mg/Kg	1	8/9/2019 3:46:18 AM	46639
Surr: 4-Bromofluorobenzene	97.1	80-120		%Rec	1	8/9/2019 3:46:18 AM	46639

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908326

Date Reported: 8/14/2019

CLIENT: WPX Energy

Client Sample ID: FP7

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 11:00:00 AM

Lab ID: 1908326-007

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	90	60		mg/Kg	20	8/9/2019 1:01:31 PM	46698
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	8/9/2019 7:50:28 PM	46668
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/9/2019 7:50:28 PM	46668
Surr: DNOP	126	70-130		%Rec	1	8/9/2019 7:50:28 PM	46668
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/9/2019 5:21:14 PM	46665
Surr: BFB	98.4	77.4-118		%Rec	1	8/9/2019 5:21:14 PM	46665
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/9/2019 5:21:14 PM	46665
Toluene	ND	0.050		mg/Kg	1	8/9/2019 5:21:14 PM	46665
Ethylbenzene	ND	0.050		mg/Kg	1	8/9/2019 5:21:14 PM	46665
Xylenes, Total	ND	0.10		mg/Kg	1	8/9/2019 5:21:14 PM	46665
Surr: 4-Bromofluorobenzene	97.3	80-120		%Rec	1	8/9/2019 5:21:14 PM	46665

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1908326**

Date Reported: **8/14/2019**

CLIENT: WPX Energy

Client Sample ID: FP8

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 11:00:00 AM

Lab ID: 1908326-008

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	160	60		mg/Kg	20	8/9/2019 1:38:44 PM	46698
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	7.4		mg/Kg	1	8/9/2019 8:14:58 PM	46668
Motor Oil Range Organics (MRO)	ND	37		mg/Kg	1	8/9/2019 8:14:58 PM	46668
Surr: DNOP	68.3	70-130	S	%Rec	1	8/9/2019 8:14:58 PM	46668
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/9/2019 6:32:11 PM	46665
Surr: BFB	98.2	77.4-118		%Rec	1	8/9/2019 6:32:11 PM	46665
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/9/2019 6:32:11 PM	46665
Toluene	ND	0.049		mg/Kg	1	8/9/2019 6:32:11 PM	46665
Ethylbenzene	ND	0.049		mg/Kg	1	8/9/2019 6:32:11 PM	46665
Xylenes, Total	ND	0.098		mg/Kg	1	8/9/2019 6:32:11 PM	46665
Surr: 4-Bromofluorobenzene	97.5	80-120		%Rec	1	8/9/2019 6:32:11 PM	46665

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908326

Date Reported: 8/14/2019

CLIENT: WPX Energy

Client Sample ID: FP9

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 11:00:00 AM

Lab ID: 1908326-009

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	550	60		mg/Kg	20	8/9/2019 1:51:09 PM	46698
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	8/9/2019 8:39:26 PM	46668
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/9/2019 8:39:26 PM	46668
Surr: DNOP	71.3	70-130		%Rec	1	8/9/2019 8:39:26 PM	46668
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/9/2019 7:43:04 PM	46665
Surr: BFB	93.9	77.4-118		%Rec	1	8/9/2019 7:43:04 PM	46665
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/9/2019 7:43:04 PM	46665
Toluene	ND	0.049		mg/Kg	1	8/9/2019 7:43:04 PM	46665
Ethylbenzene	ND	0.049		mg/Kg	1	8/9/2019 7:43:04 PM	46665
Xylenes, Total	ND	0.099		mg/Kg	1	8/9/2019 7:43:04 PM	46665
Surr: 4-Bromofluorobenzene	94.4	80-120		%Rec	1	8/9/2019 7:43:04 PM	46665

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1908326**

Date Reported: **8/14/2019**

CLIENT: WPX Energy

Client Sample ID: FP10

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 11:00:00 AM

Lab ID: 1908326-010

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	320	60		mg/Kg	20	8/9/2019 2:03:34 PM	46698
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/9/2019 9:03:52 PM	46668
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/9/2019 9:03:52 PM	46668
Surr: DNOP	61.2	70-130	S	%Rec	1	8/9/2019 9:03:52 PM	46668
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/9/2019 8:06:36 PM	46665
Surr: BFB	95.9	77.4-118		%Rec	1	8/9/2019 8:06:36 PM	46665
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/9/2019 8:06:36 PM	46665
Toluene	ND	0.049		mg/Kg	1	8/9/2019 8:06:36 PM	46665
Ethylbenzene	ND	0.049		mg/Kg	1	8/9/2019 8:06:36 PM	46665
Xylenes, Total	ND	0.098		mg/Kg	1	8/9/2019 8:06:36 PM	46665
Surr: 4-Bromofluorobenzene	95.9	80-120		%Rec	1	8/9/2019 8:06:36 PM	46665

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1908326**

Date Reported: **8/14/2019**

CLIENT: WPX Energy

Client Sample ID: FP11

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 11:00:00 AM

Lab ID: 1908326-011

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	160	60		mg/Kg	20	8/9/2019 2:15:58 PM	46698
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/9/2019 9:28:26 PM	46668
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/9/2019 9:28:26 PM	46668
Surr: DNOP	114	70-130		%Rec	1	8/9/2019 9:28:26 PM	46668
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/9/2019 8:30:18 PM	46665
Surr: BFB	95.1	77.4-118		%Rec	1	8/9/2019 8:30:18 PM	46665
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/9/2019 8:30:18 PM	46665
Toluene	ND	0.049		mg/Kg	1	8/9/2019 8:30:18 PM	46665
Ethylbenzene	ND	0.049		mg/Kg	1	8/9/2019 8:30:18 PM	46665
Xylenes, Total	ND	0.099		mg/Kg	1	8/9/2019 8:30:18 PM	46665
Surr: 4-Bromofluorobenzene	94.7	80-120		%Rec	1	8/9/2019 8:30:18 PM	46665

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908326

Date Reported: 8/14/2019

CLIENT: WPX Energy

Client Sample ID: FP12

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 11:00:00 AM

Lab ID: 1908326-012

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	83	60		mg/Kg	20	8/9/2019 2:28:22 PM	46698
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/9/2019 9:52:47 PM	46668
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/9/2019 9:52:47 PM	46668
Surr: DNOP	73.5	70-130		%Rec	1	8/9/2019 9:52:47 PM	46668
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/9/2019 8:54:01 PM	46665
Surr: BFB	95.1	77.4-118		%Rec	1	8/9/2019 8:54:01 PM	46665
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/9/2019 8:54:01 PM	46665
Toluene	ND	0.050		mg/Kg	1	8/9/2019 8:54:01 PM	46665
Ethylbenzene	ND	0.050		mg/Kg	1	8/9/2019 8:54:01 PM	46665
Xylenes, Total	ND	0.099		mg/Kg	1	8/9/2019 8:54:01 PM	46665
Surr: 4-Bromofluorobenzene	95.2	80-120		%Rec	1	8/9/2019 8:54:01 PM	46665

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908326

Date Reported: 8/14/2019

CLIENT: WPX Energy

Client Sample ID: FP13

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 12:00:00 PM

Lab ID: 1908326-013

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	8/9/2019 2:40:47 PM	46698
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	100	9.8		mg/Kg	1	8/9/2019 10:17:21 PM	46668
Motor Oil Range Organics (MRO)	79	49		mg/Kg	1	8/9/2019 10:17:21 PM	46668
Surr: DNOP	114	70-130		%Rec	1	8/9/2019 10:17:21 PM	46668
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/9/2019 9:17:49 PM	46665
Surr: BFB	102	77.4-118		%Rec	1	8/9/2019 9:17:49 PM	46665
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/9/2019 9:17:49 PM	46665
Toluene	ND	0.050		mg/Kg	1	8/9/2019 9:17:49 PM	46665
Ethylbenzene	ND	0.050		mg/Kg	1	8/9/2019 9:17:49 PM	46665
Xylenes, Total	ND	0.10		mg/Kg	1	8/9/2019 9:17:49 PM	46665
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	8/9/2019 9:17:49 PM	46665

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908326

Date Reported: 8/14/2019

CLIENT: WPX Energy

Client Sample ID: FP14

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 12:00:00 PM

Lab ID: 1908326-014

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	200	60		mg/Kg	20	8/9/2019 2:53:12 PM	46698
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	100	9.2		mg/Kg	1	8/9/2019 10:41:48 PM	46668
Motor Oil Range Organics (MRO)	70	46		mg/Kg	1	8/9/2019 10:41:48 PM	46668
Surr: DNOP	90.6	70-130		%Rec	1	8/9/2019 10:41:48 PM	46668
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/9/2019 9:41:31 PM	46665
Surr: BFB	91.1	77.4-118		%Rec	1	8/9/2019 9:41:31 PM	46665
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/9/2019 9:41:31 PM	46665
Toluene	ND	0.050		mg/Kg	1	8/9/2019 9:41:31 PM	46665
Ethylbenzene	ND	0.050		mg/Kg	1	8/9/2019 9:41:31 PM	46665
Xylenes, Total	ND	0.099		mg/Kg	1	8/9/2019 9:41:31 PM	46665
Surr: 4-Bromofluorobenzene	91.6	80-120		%Rec	1	8/9/2019 9:41:31 PM	46665

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1908326**

Date Reported: **8/14/2019**

CLIENT: WPX Energy

Client Sample ID: FP15

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 12:00:00 PM

Lab ID: 1908326-015

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	8/9/2019 3:30:25 PM	46698
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	83	9.8		mg/Kg	1	8/9/2019 11:06:19 PM	46668
Motor Oil Range Organics (MRO)	58	49		mg/Kg	1	8/9/2019 11:06:19 PM	46668
Surr: DNOP	108	70-130		%Rec	1	8/9/2019 11:06:19 PM	46668
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/9/2019 10:05:08 PM	46665
Surr: BFB	93.3	77.4-118		%Rec	1	8/9/2019 10:05:08 PM	46665
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/9/2019 10:05:08 PM	46665
Toluene	ND	0.050		mg/Kg	1	8/9/2019 10:05:08 PM	46665
Ethylbenzene	ND	0.050		mg/Kg	1	8/9/2019 10:05:08 PM	46665
Xylenes, Total	ND	0.099		mg/Kg	1	8/9/2019 10:05:08 PM	46665
Surr: 4-Bromofluorobenzene	94.0	80-120		%Rec	1	8/9/2019 10:05:08 PM	46665

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908326

Date Reported: 8/14/2019

CLIENT: WPX Energy

Client Sample ID: FP16

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 12:00:00 PM

Lab ID: 1908326-016

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	210	59		mg/Kg	20	8/9/2019 3:42:49 PM	46698
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	54	9.3		mg/Kg	1	8/9/2019 11:30:57 PM	46668
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/9/2019 11:30:57 PM	46668
Surr: DNOP	117	70-130		%Rec	1	8/9/2019 11:30:57 PM	46668
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/9/2019 10:28:44 PM	46665
Surr: BFB	94.4	77.4-118		%Rec	1	8/9/2019 10:28:44 PM	46665
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/9/2019 10:28:44 PM	46665
Toluene	ND	0.049		mg/Kg	1	8/9/2019 10:28:44 PM	46665
Ethylbenzene	ND	0.049		mg/Kg	1	8/9/2019 10:28:44 PM	46665
Xylenes, Total	ND	0.098		mg/Kg	1	8/9/2019 10:28:44 PM	46665
Surr: 4-Bromofluorobenzene	94.5	80-120		%Rec	1	8/9/2019 10:28:44 PM	46665

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908326

Date Reported: 8/14/2019

CLIENT: WPX Energy

Client Sample ID: FP17

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 12:00:00 PM

Lab ID: 1908326-017

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	8/9/2019 3:55:15 PM	46698
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	7.6		mg/Kg	1	8/9/2019 11:55:33 PM	46668
Motor Oil Range Organics (MRO)	ND	38		mg/Kg	1	8/9/2019 11:55:33 PM	46668
Surr: DNOP	48.8	70-130	S	%Rec	1	8/9/2019 11:55:33 PM	46668
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/9/2019 11:39:33 PM	46665
Surr: BFB	91.4	77.4-118		%Rec	1	8/9/2019 11:39:33 PM	46665
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/9/2019 11:39:33 PM	46665
Toluene	ND	0.049		mg/Kg	1	8/9/2019 11:39:33 PM	46665
Ethylbenzene	ND	0.049		mg/Kg	1	8/9/2019 11:39:33 PM	46665
Xylenes, Total	ND	0.098		mg/Kg	1	8/9/2019 11:39:33 PM	46665
Surr: 4-Bromofluorobenzene	90.9	80-120		%Rec	1	8/9/2019 11:39:33 PM	46665

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1908326**

Date Reported: **8/14/2019**

CLIENT: WPX Energy

Client Sample ID: FP18

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 12:00:00 PM

Lab ID: 1908326-018

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	66	60		mg/Kg	20	8/9/2019 4:07:39 PM	46698
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	26	9.9		mg/Kg	1	8/10/2019 12:20:00 AM	46668
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/10/2019 12:20:00 AM	46668
Surr: DNOP	63.5	70-130	S	%Rec	1	8/10/2019 12:20:00 AM	46668
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/10/2019 12:03:06 AM	46665
Surr: BFB	94.4	77.4-118		%Rec	1	8/10/2019 12:03:06 AM	46665
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/10/2019 12:03:06 AM	46665
Toluene	ND	0.049		mg/Kg	1	8/10/2019 12:03:06 AM	46665
Ethylbenzene	ND	0.049		mg/Kg	1	8/10/2019 12:03:06 AM	46665
Xylenes, Total	ND	0.098		mg/Kg	1	8/10/2019 12:03:06 AM	46665
Surr: 4-Bromofluorobenzene	94.5	80-120		%Rec	1	8/10/2019 12:03:06 AM	46665

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908326

Date Reported: 8/14/2019

CLIENT: WPX Energy

Client Sample ID: FP19

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 12:00:00 PM

Lab ID: 1908326-019

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	140	61		mg/Kg	20	8/9/2019 4:20:03 PM	46698
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	26	9.5		mg/Kg	1	8/9/2019 5:40:22 PM	46674
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/9/2019 5:40:22 PM	46674
Surr: DNOP	75.6	70-130		%Rec	1	8/9/2019 5:40:22 PM	46674
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/10/2019 12:26:48 AM	46665
Surr: BFB	92.3	77.4-118		%Rec	1	8/10/2019 12:26:48 AM	46665
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/10/2019 12:26:48 AM	46665
Toluene	ND	0.050		mg/Kg	1	8/10/2019 12:26:48 AM	46665
Ethylbenzene	ND	0.050		mg/Kg	1	8/10/2019 12:26:48 AM	46665
Xylenes, Total	ND	0.099		mg/Kg	1	8/10/2019 12:26:48 AM	46665
Surr: 4-Bromofluorobenzene	93.3	80-120		%Rec	1	8/10/2019 12:26:48 AM	46665

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1908326**

Date Reported: **8/14/2019**

CLIENT: WPX Energy

Client Sample ID: FP20

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 12:00:00 PM

Lab ID: 1908326-020

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	120	60		mg/Kg	20	8/9/2019 4:32:28 PM	46698
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	19	9.3		mg/Kg	1	8/9/2019 6:02:36 PM	46674
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/9/2019 6:02:36 PM	46674
Surr: DNOP	72.8	70-130		%Rec	1	8/9/2019 6:02:36 PM	46674
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/10/2019 12:50:22 AM	46665
Surr: BFB	93.3	77.4-118		%Rec	1	8/10/2019 12:50:22 AM	46665
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/10/2019 12:50:22 AM	46665
Toluene	ND	0.049		mg/Kg	1	8/10/2019 12:50:22 AM	46665
Ethylbenzene	ND	0.049		mg/Kg	1	8/10/2019 12:50:22 AM	46665
Xylenes, Total	ND	0.098		mg/Kg	1	8/10/2019 12:50:22 AM	46665
Surr: 4-Bromofluorobenzene	93.0	80-120		%Rec	1	8/10/2019 12:50:22 AM	46665

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908326

Date Reported: 8/14/2019

CLIENT: WPX Energy

Client Sample ID: FP21

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 12:00:00 PM

Lab ID: 1908326-021

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	560	60		mg/Kg	20	8/9/2019 4:44:53 PM	46698
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/9/2019 6:25:03 PM	46674
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/9/2019 6:25:03 PM	46674
Surr: DNOP	61.9	70-130	S	%Rec	1	8/9/2019 6:25:03 PM	46674
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/10/2019 1:13:54 AM	46665
Surr: BFB	94.9	77.4-118		%Rec	1	8/10/2019 1:13:54 AM	46665
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/10/2019 1:13:54 AM	46665
Toluene	ND	0.050		mg/Kg	1	8/10/2019 1:13:54 AM	46665
Ethylbenzene	ND	0.050		mg/Kg	1	8/10/2019 1:13:54 AM	46665
Xylenes, Total	ND	0.10		mg/Kg	1	8/10/2019 1:13:54 AM	46665
Surr: 4-Bromofluorobenzene	94.4	80-120		%Rec	1	8/10/2019 1:13:54 AM	46665

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908326

Date Reported: 8/14/2019

CLIENT: WPX Energy

Client Sample ID: FP22

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 12:00:00 PM

Lab ID: 1908326-022

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	110	60		mg/Kg	20	8/9/2019 10:07:28 PM	46711
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/9/2019 6:47:30 PM	46674
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/9/2019 6:47:30 PM	46674
Surr: DNOP	69.8	70-130	S	%Rec	1	8/9/2019 6:47:30 PM	46674
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/10/2019 1:37:38 AM	46665
Surr: BFB	94.2	77.4-118		%Rec	1	8/10/2019 1:37:38 AM	46665
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/10/2019 1:37:38 AM	46665
Toluene	ND	0.049		mg/Kg	1	8/10/2019 1:37:38 AM	46665
Ethylbenzene	ND	0.049		mg/Kg	1	8/10/2019 1:37:38 AM	46665
Xylenes, Total	ND	0.098		mg/Kg	1	8/10/2019 1:37:38 AM	46665
Surr: 4-Bromofluorobenzene	94.3	80-120		%Rec	1	8/10/2019 1:37:38 AM	46665

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908326

Date Reported: 8/14/2019

CLIENT: WPX Energy

Client Sample ID: FP23

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 12:00:00 PM

Lab ID: 1908326-023

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	220	60		mg/Kg	20	8/9/2019 10:19:52 PM	46711
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/9/2019 7:09:54 PM	46674
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/9/2019 7:09:54 PM	46674
Surr: DNOP	64.6	70-130	S	%Rec	1	8/9/2019 7:09:54 PM	46674
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/10/2019 2:01:27 AM	46665
Surr: BFB	101	77.4-118		%Rec	1	8/10/2019 2:01:27 AM	46665
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/10/2019 2:01:27 AM	46665
Toluene	ND	0.049		mg/Kg	1	8/10/2019 2:01:27 AM	46665
Ethylbenzene	ND	0.049		mg/Kg	1	8/10/2019 2:01:27 AM	46665
Xylenes, Total	ND	0.099		mg/Kg	1	8/10/2019 2:01:27 AM	46665
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	8/10/2019 2:01:27 AM	46665

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908326

Date Reported: 8/14/2019

CLIENT: WPX Energy

Client Sample ID: FP24

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 12:00:00 PM

Lab ID: 1908326-024

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	180	60		mg/Kg	20	8/9/2019 10:57:04 PM	46711
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/9/2019 7:32:14 PM	46674
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/9/2019 7:32:14 PM	46674
Surr: DNOP	77.0	70-130		%Rec	1	8/9/2019 7:32:14 PM	46674
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/10/2019 2:25:11 AM	46665
Surr: BFB	99.1	77.4-118		%Rec	1	8/10/2019 2:25:11 AM	46665
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/10/2019 2:25:11 AM	46665
Toluene	ND	0.049		mg/Kg	1	8/10/2019 2:25:11 AM	46665
Ethylbenzene	ND	0.049		mg/Kg	1	8/10/2019 2:25:11 AM	46665
Xylenes, Total	ND	0.098		mg/Kg	1	8/10/2019 2:25:11 AM	46665
Surr: 4-Bromofluorobenzene	99.1	80-120		%Rec	1	8/10/2019 2:25:11 AM	46665

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1908326

Date Reported: 8/14/2019

CLIENT: WPX Energy

Client Sample ID: FP25

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 12:30:00 PM

Lab ID: 1908326-025

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	200	60		mg/Kg	20	8/9/2019 11:09:28 PM	46711
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/9/2019 7:54:40 PM	46674
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/9/2019 7:54:40 PM	46674
Surr: DNOP	73.4	70-130		%Rec	1	8/9/2019 7:54:40 PM	46674
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/10/2019 2:48:54 AM	46665
Surr: BFB	97.7	77.4-118		%Rec	1	8/10/2019 2:48:54 AM	46665
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/10/2019 2:48:54 AM	46665
Toluene	ND	0.049		mg/Kg	1	8/10/2019 2:48:54 AM	46665
Ethylbenzene	ND	0.049		mg/Kg	1	8/10/2019 2:48:54 AM	46665
Xylenes, Total	ND	0.099		mg/Kg	1	8/10/2019 2:48:54 AM	46665
Surr: 4-Bromofluorobenzene	97.4	80-120		%Rec	1	8/10/2019 2:48:54 AM	46665

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 1908326

Date Reported: 8/14/2019

CLIENT: WPX Energy

Client Sample ID: FP26

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 12:30:00 PM

Lab ID: 1908326-026

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	160	61		mg/Kg	20	8/9/2019 7:51:02 PM	46714
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/9/2019 8:16:59 PM	46674
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	8/9/2019 8:16:59 PM	46674
Surr: DNOP	79.4	70-130		%Rec	1	8/9/2019 8:16:59 PM	46674
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/10/2019 3:12:34 AM	46665
Surr: BFB	100	77.4-118		%Rec	1	8/10/2019 3:12:34 AM	46665
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/10/2019 3:12:34 AM	46665
Toluene	ND	0.050		mg/Kg	1	8/10/2019 3:12:34 AM	46665
Ethylbenzene	ND	0.050		mg/Kg	1	8/10/2019 3:12:34 AM	46665
Xylenes, Total	ND	0.10		mg/Kg	1	8/10/2019 3:12:34 AM	46665
Surr: 4-Bromofluorobenzene	99.0	80-120		%Rec	1	8/10/2019 3:12:34 AM	46665

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908326

Date Reported: 8/14/2019

CLIENT: WPX Energy

Client Sample ID: FP27

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 12:30:00 PM

Lab ID: 1908326-027

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	86	60		mg/Kg	20	8/9/2019 8:03:26 PM	46714
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/9/2019 8:39:23 PM	46674
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/9/2019 8:39:23 PM	46674
Surr: DNOP	71.1	70-130		%Rec	1	8/9/2019 8:39:23 PM	46674
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/9/2019 9:41:09 PM	46670
Surr: BFB	104	77.4-118		%Rec	1	8/9/2019 9:41:09 PM	46670
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/9/2019 9:41:09 PM	46670
Toluene	ND	0.049		mg/Kg	1	8/9/2019 9:41:09 PM	46670
Ethylbenzene	ND	0.049		mg/Kg	1	8/9/2019 9:41:09 PM	46670
Xylenes, Total	ND	0.098		mg/Kg	1	8/9/2019 9:41:09 PM	46670
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	8/9/2019 9:41:09 PM	46670

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908326

Date Reported: 8/14/2019

CLIENT: WPX Energy

Client Sample ID: FP28

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 12:30:00 PM

Lab ID: 1908326-028

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	130	60		mg/Kg	20	8/9/2019 8:40:40 PM	46714
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/9/2019 9:01:38 PM	46674
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/9/2019 9:01:38 PM	46674
Surr: DNOP	67.9	70-130	S	%Rec	1	8/9/2019 9:01:38 PM	46674
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/9/2019 11:35:51 PM	46670
Surr: BFB	99.1	77.4-118		%Rec	1	8/9/2019 11:35:51 PM	46670
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/9/2019 11:35:51 PM	46670
Toluene	ND	0.049		mg/Kg	1	8/9/2019 11:35:51 PM	46670
Ethylbenzene	ND	0.049		mg/Kg	1	8/9/2019 11:35:51 PM	46670
Xylenes, Total	ND	0.098		mg/Kg	1	8/9/2019 11:35:51 PM	46670
Surr: 4-Bromofluorobenzene	94.3	80-120		%Rec	1	8/9/2019 11:35:51 PM	46670

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908326

Date Reported: 8/14/2019

CLIENT: WPX Energy

Client Sample ID: FP29

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 12:30:00 PM

Lab ID: 1908326-029

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	93	60		mg/Kg	20	8/9/2019 9:17:54 PM	46714
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/9/2019 9:24:04 PM	46674
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/9/2019 9:24:04 PM	46674
Surr: DNOP	74.2	70-130		%Rec	1	8/9/2019 9:24:04 PM	46674
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/10/2019 12:44:40 AM	46670
Surr: BFB	102	77.4-118		%Rec	1	8/10/2019 12:44:40 AM	46670
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/10/2019 12:44:40 AM	46670
Toluene	ND	0.050		mg/Kg	1	8/10/2019 12:44:40 AM	46670
Ethylbenzene	ND	0.050		mg/Kg	1	8/10/2019 12:44:40 AM	46670
Xylenes, Total	ND	0.10		mg/Kg	1	8/10/2019 12:44:40 AM	46670
Surr: 4-Bromofluorobenzene	99.4	80-120		%Rec	1	8/10/2019 12:44:40 AM	46670

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908326

Date Reported: 8/14/2019

CLIENT: WPX Energy

Client Sample ID: FP30

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 12:30:00 PM

Lab ID: 1908326-030

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	170	60		mg/Kg	20	8/9/2019 9:30:18 PM	46714
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	8/9/2019 9:46:18 PM	46674
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	8/9/2019 9:46:18 PM	46674
Surr: DNOP	77.3	70-130		%Rec	1	8/9/2019 9:46:18 PM	46674
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/10/2019 1:07:37 AM	46670
Surr: BFB	103	77.4-118		%Rec	1	8/10/2019 1:07:37 AM	46670
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/10/2019 1:07:37 AM	46670
Toluene	ND	0.049		mg/Kg	1	8/10/2019 1:07:37 AM	46670
Ethylbenzene	ND	0.049		mg/Kg	1	8/10/2019 1:07:37 AM	46670
Xylenes, Total	ND	0.098		mg/Kg	1	8/10/2019 1:07:37 AM	46670
Surr: 4-Bromofluorobenzene	97.9	80-120		%Rec	1	8/10/2019 1:07:37 AM	46670

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908326

Date Reported: 8/14/2019

CLIENT: WPX Energy

Client Sample ID: FP31

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 12:30:00 PM

Lab ID: 1908326-031

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	220	60		mg/Kg	20	8/9/2019 9:42:43 PM	46714
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	8/9/2019 10:08:42 PM	46674
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/9/2019 10:08:42 PM	46674
Surr: DNOP	76.4	70-130		%Rec	1	8/9/2019 10:08:42 PM	46674
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/10/2019 1:30:33 AM	46670
Surr: BFB	100	77.4-118		%Rec	1	8/10/2019 1:30:33 AM	46670
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/10/2019 1:30:33 AM	46670
Toluene	ND	0.049		mg/Kg	1	8/10/2019 1:30:33 AM	46670
Ethylbenzene	ND	0.049		mg/Kg	1	8/10/2019 1:30:33 AM	46670
Xylenes, Total	ND	0.098		mg/Kg	1	8/10/2019 1:30:33 AM	46670
Surr: 4-Bromofluorobenzene	95.5	80-120		%Rec	1	8/10/2019 1:30:33 AM	46670

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order **1908326**

Date Reported: **8/14/2019**

CLIENT: WPX Energy

Client Sample ID: SW1

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 12:30:00 PM

Lab ID: 1908326-032

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	480	60		mg/Kg	20	8/9/2019 9:55:08 PM	46714
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	8/9/2019 10:30:57 PM	46674
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/9/2019 10:30:57 PM	46674
Surr: DNOP	73.3	70-130		%Rec	1	8/9/2019 10:30:57 PM	46674
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/10/2019 1:53:29 AM	46670
Surr: BFB	107	77.4-118		%Rec	1	8/10/2019 1:53:29 AM	46670
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/10/2019 1:53:29 AM	46670
Toluene	ND	0.049		mg/Kg	1	8/10/2019 1:53:29 AM	46670
Ethylbenzene	ND	0.049		mg/Kg	1	8/10/2019 1:53:29 AM	46670
Xylenes, Total	ND	0.099		mg/Kg	1	8/10/2019 1:53:29 AM	46670
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	8/10/2019 1:53:29 AM	46670

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908326

Date Reported: 8/14/2019

CLIENT: WPX Energy

Client Sample ID: SW2

Project: East Pecos Federal 22 5H

Collection Date: 8/5/2019 12:30:00 PM

Lab ID: 1908326-033

Matrix: SOIL

Received Date: 8/7/2019 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	190	60		mg/Kg	20	8/9/2019 10:07:33 PM	46714
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/9/2019 10:53:18 PM	46674
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/9/2019 10:53:18 PM	46674
Surr: DNOP	76.6	70-130		%Rec	1	8/9/2019 10:53:18 PM	46674
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/10/2019 2:16:25 AM	46670
Surr: BFB	106	77.4-118		%Rec	1	8/10/2019 2:16:25 AM	46670
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/10/2019 2:16:25 AM	46670
Toluene	ND	0.049		mg/Kg	1	8/10/2019 2:16:25 AM	46670
Ethylbenzene	ND	0.049		mg/Kg	1	8/10/2019 2:16:25 AM	46670
Xylenes, Total	ND	0.098		mg/Kg	1	8/10/2019 2:16:25 AM	46670
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	8/10/2019 2:16:25 AM	46670

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908326

14-Aug-19

Client: WPX Energy
Project: East Pecos Federal 22 5H

Sample ID: MB-46673	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 46673	RunNo: 61996								
Prep Date: 8/8/2019	Analysis Date: 8/8/2019	SeqNo: 2103945 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-46673	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 46673	RunNo: 61996								
Prep Date: 8/8/2019	Analysis Date: 8/8/2019	SeqNo: 2103946 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.1	90	110			

Sample ID: MB-46714	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 46714	RunNo: 62054								
Prep Date: 8/9/2019	Analysis Date: 8/9/2019	SeqNo: 2105472 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-46714	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 46714	RunNo: 62054								
Prep Date: 8/9/2019	Analysis Date: 8/9/2019	SeqNo: 2105473 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	96.8	90	110			

Sample ID: MB-46698	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 46698	RunNo: 62026								
Prep Date: 8/9/2019	Analysis Date: 8/9/2019	SeqNo: 2105582 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-46698	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 46698	RunNo: 62026								
Prep Date: 8/9/2019	Analysis Date: 8/9/2019	SeqNo: 2105583 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.4	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 Limit

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908326

14-Aug-19

Client: WPX Energy

Project: East Pecos Federal 22 5H

Sample ID: MB-46711	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 46711	RunNo: 62026								
Prep Date: 8/9/2019	Analysis Date: 8/9/2019	SeqNo: 2105614	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-46711	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 46711	RunNo: 62026								
Prep Date: 8/9/2019	Analysis Date: 8/9/2019	SeqNo: 2105615	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.9	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 Limit

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908326

14-Aug-19

Client: WPX Energy

Project: East Pecos Federal 22 5H

Sample ID: LCS-46674	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 46674		RunNo: 61951							
Prep Date: 8/8/2019	Analysis Date: 8/9/2019		SeqNo: 2104530		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	92.9	63.9	124			
Surr: DNOP	4.1		5.000		81.2	70	130			

Sample ID: MB-46674	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 46674		RunNo: 61951							
Prep Date: 8/8/2019	Analysis Date: 8/9/2019		SeqNo: 2104531		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	9.1		10.00		91.0	70	130			

Sample ID: 1908326-001AMS	SampType: MS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: FP1	Batch ID: 46668		RunNo: 62017							
Prep Date: 8/8/2019	Analysis Date: 8/9/2019		SeqNo: 2105095		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.35	0	104	57	142			
Surr: DNOP	4.6		5.035		90.7	70	130			

Sample ID: 1908326-001AMSD	SampType: MSD		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: FP1	Batch ID: 46668		RunNo: 62017							
Prep Date: 8/8/2019	Analysis Date: 8/9/2019		SeqNo: 2105096		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.05	0	101	57	142	3.45	20	
Surr: DNOP	4.6		5.005		91.7	70	130	0	0	

Sample ID: LCS-46668	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 46668		RunNo: 62017							
Prep Date: 8/8/2019	Analysis Date: 8/9/2019		SeqNo: 2105114		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	107	63.9	124			
Surr: DNOP	4.9		5.000		97.6	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 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 Limit

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908326

14-Aug-19

Client: WPX Energy

Project: East Pecos Federal 22 5H

Sample ID: MB-46668	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 46668	RunNo: 62017								
Prep Date: 8/8/2019	Analysis Date: 8/9/2019	SeqNo: 2105115	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	10		10.00		103	70	130			

Sample ID: LCS-46715	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 46715	RunNo: 62060								
Prep Date: 8/11/2019	Analysis Date: 8/12/2019	SeqNo: 2105924	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	6.1		5.000		121	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 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 Limit

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908326

14-Aug-19

Client: WPX Energy

Project: East Pecos Federal 22 5H

Sample ID: MB-46639	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 46639			RunNo: 61991						
Prep Date: 8/7/2019	Analysis Date: 8/8/2019			SeqNo: 2103397		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	1100		1000		106	77.4	118			

Sample ID: LCS-46639	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 46639			RunNo: 61991						
Prep Date: 8/7/2019	Analysis Date: 8/8/2019			SeqNo: 2103398		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	100	80	120			
Surr: BFB	1200		1000		118	77.4	118			

Sample ID: MB-46670	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 46670			RunNo: 62031						
Prep Date: 8/8/2019	Analysis Date: 8/9/2019			SeqNo: 2104819		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		102	77.4	118			

Sample ID: LCS-46670	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 46670			RunNo: 62031						
Prep Date: 8/8/2019	Analysis Date: 8/9/2019			SeqNo: 2104820		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.3	80	120			
Surr: BFB	1100		1000		110	77.4	118			

Sample ID: 1908326-028AMS	SampType: MS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: FP28	Batch ID: 46670			RunNo: 62031						
Prep Date: 8/8/2019	Analysis Date: 8/9/2019			SeqNo: 2104823		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	24.78	0	101	69.1	142			
Surr: BFB	1200		991.1		119	77.4	118			S

Sample ID: 1908326-028AMSD	SampType: MSD			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: FP28	Batch ID: 46670			RunNo: 62031						
Prep Date: 8/8/2019	Analysis Date: 8/10/2019			SeqNo: 2104824		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	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
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 Limit

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908326

14-Aug-19

Client: WPX Energy

Project: East Pecos Federal 22 5H

Sample ID: 1908326-028AMSD		SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range						
Client ID: FP28		Batch ID: 46670		RunNo: 62031						
Prep Date: 8/8/2019		Analysis Date: 8/10/2019		SeqNo: 2104824		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	24.95	0	107	69.1	142	5.82	20	
Surr: BFB	1200		998.0		122	77.4	118	0	0	S

Sample ID: MB-46665		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS		Batch ID: 46665		RunNo: 62030						
Prep Date: 8/8/2019		Analysis Date: 8/9/2019		SeqNo: 2104875			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	980		1000		98.4	77.4	118			

Sample ID: LCS-46665		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS		Batch ID: 46665			RunNo: 62030					
Prep Date: 8/8/2019		Analysis Date: 8/9/2019			SeqNo: 2104876		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.7	80	120			
Surr: BFB	1100		1000		110	77.4	118			

Sample ID: 1908326-008AMS		SampType: MS			TestCode: EPA Method 8015D: Gasoline Range					
Client ID: FP8		Batch ID: 46665			RunNo: 62030					
Prep Date: 8/8/2019		Analysis Date: 8/9/2019			SeqNo: 2104879		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	24.98	0	107	69.1	142			
Surr: BFB	1100		999.0		111	77.4	118			

Sample ID: 1908326-008AMSD		SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range						
Client ID: FP8		Batch ID: 46665		RunNo: 62030						
Prep Date: 8/8/2019		Analysis Date: 8/9/2019		SeqNo: 2104880		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.9	24.53	0	104	69.1	142	4.82	20	
Surr: BFB	1100		981.4		108	77.4	118	0	0	

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 Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908326

14-Aug-19

Client: WPX Energy

Project: East Pecos Federal 22 5H

Sample ID: MB-46639	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 46639	RunNo: 61991								
Prep Date: 8/7/2019	Analysis Date: 8/8/2019	SeqNo: 2103431			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		106	80	120			

Sample ID: LCS-46639	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 46639	RunNo: 61991								
Prep Date: 8/7/2019	Analysis Date: 8/8/2019	SeqNo: 2103432			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	95.9	80	120			
Toluene	1.0	0.050	1.000	0	100	80	120			
Ethylbenzene	1.0	0.050	1.000	0	100	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		100	80	120			

Sample ID: MB-46670	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 46670	RunNo: 62031								
Prep Date: 8/8/2019	Analysis Date: 8/9/2019	SeqNo: 2104851			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	0.98		1.000		97.9	80	120			

Sample ID: LCS-46670	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 46670	RunNo: 62031								
Prep Date: 8/8/2019	Analysis Date: 8/9/2019	SeqNo: 2104852			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	95.0	80	120			
Toluene	0.99	0.050	1.000	0	98.6	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.1	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

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 Limit

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908326

14-Aug-19

Client: WPX Energy

Project: East Pecos Federal 22 5H

Sample ID: 1908326-027AMS		SampType: MS		TestCode: EPA Method 8021B: Volatiles						
Client ID: FP27		Batch ID: 46670		RunNo: 62031						
Prep Date: 8/8/2019		Analysis Date: 8/9/2019		SeqNo: 2104854			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	0.9814	0	98.9	63.9	127			
Toluene	1.0	0.049	0.9814	0	105	69.9	131			
Ethylbenzene	1.1	0.049	0.9814	0	108	71	132			
Xylenes, Total	3.2	0.098	2.944	0	108	71.8	131			
Surr: 4-Bromofluorobenzene	1.0		0.9814		102	80	120			

Sample ID: 1908326-027AMSD		SampType: MSD		TestCode: EPA Method 8021B: Volatiles						
Client ID: FP27		Batch ID: 46670		RunNo: 62031						
Prep Date: 8/8/2019		Analysis Date: 8/9/2019		SeqNo: 2104855		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	0.9843	0	103	63.9	127	4.48	20	
Toluene	1.1	0.049	0.9843	0	109	69.9	131	4.03	20	
Ethylbenzene	1.1	0.049	0.9843	0	111	71	132	3.20	20	
Xylenes, Total	3.3	0.098	2.953	0	112	71.8	131	3.71	20	
Surr: 4-Bromofluorobenzene	1.0		0.9843		106	80	120	0	0	

Sample ID: MB-46665		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS		Batch ID: 46665		RunNo: 62030						
Prep Date: 8/8/2019		Analysis Date: 8/9/2019		SeqNo: 2104909			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	0.97		1.000		97.2	80	120			

Sample ID: LCS-46665		SampType: LCS		TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS		Batch ID: 46665			RunNo: 62030					
Prep Date: 8/8/2019		Analysis Date: 8/9/2019			SeqNo: 2104910		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	95.1	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	102	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		100	80	120			

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 Limit

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908326

14-Aug-19

Client: WPX Energy

Project: East Pecos Federal 22 5H

Sample ID: 1908326-007AMS		SampType: MS		TestCode: EPA Method 8021B: Volatiles						
Client ID: FP7		Batch ID: 46665		RunNo: 62030						
Prep Date: 8/8/2019		Analysis Date: 8/9/2019		SeqNo: 2104912			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	0.9990	0.01178	92.0	63.9	127			
Toluene	1.0	0.050	0.9990	0.009581	98.9	69.9	131			
Ethylbenzene	1.0	0.050	0.9990	0	102	71	132			
Xylenes, Total	3.0	0.10	2.997	0.01776	101	71.8	131			
Surr: 4-Bromofluorobenzene	1.0		0.9990		99.9	80	120			

Sample ID: 1908326-007AMSD		SampType: MSD		TestCode: EPA Method 8021B: Volatiles						
Client ID: FP7		Batch ID: 46665		RunNo: 62030						
Prep Date: 8/8/2019		Analysis Date: 8/9/2019		SeqNo: 2104913		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	0.9980	0.01178	94.9	63.9	127	2.99	20	
Toluene	1.0	0.050	0.9980	0.009581	101	69.9	131	2.43	20	
Ethylbenzene	1.1	0.050	0.9980	0	106	71	132	4.27	20	
Xylenes, Total	3.2	0.10	2.994	0.01776	105	71.8	131	3.90	20	
Surr: 4-Bromofluorobenzene	0.98		0.9980		98.3	80	120	0	0	

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 Limit

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Sample Log-In Check List

Client Name: **WPX ENERGY CARLSB**

Work Order Number: **1908326**

RcptNo: 1

Received By: **Daniel M.**

8/7/2019 9:10:00 AM

Completed By: **Erin Melendrez**

8/7/2019 11:27:37 AM

Reviewed By: **ENM**

8/7/19

UAG

Chain of Custody

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

Log In

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

Yb 8/7/19

Special Handling (if applicable)

15. 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: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.4	Good	Yes			

Chain-of-Custody Record

Client: WPX (Carrsbad)

Mailing Address: On file

Phone #:
 email or Fax#:
 QA/QC Package:
 ☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance ☐ NELAC ☐ Other
 ☐ EDD (Type)

Project Manager: Lori O'Brien


Sampler: Kevin Smith
 On Ice: ☒ Yes ☐ No
 # of Coolers: 1

Cooler Temp (including CF): 5.4-0.0-5.4 (°C)

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
8/5/05	11:00	Soil	FP1	4oz (1)	ICE	1908326
			FP2			-001
			FP3			-002
			FP4			-003
			FP5			-004
			FP6			-005
			FP7			-006
			FP8			-007
			FP9			-008
			FP10			-009
			FP11			-010
			FP12			-011
						-012

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
8/5/05	11:00	Kevin Smith	[Signature]		8/6/05	10:05
8/6/05	11:00	[Signature]	[Signature]	On cover	8/7/05	9:10

Remarks: Report to: Deborah Watson
Kevin Smith
Lori O'Brien



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request									
TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	CF, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	
<input checked="" type="checkbox"/> BTEX / MTBE / TMB's (8021)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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.

Chain-of-Custody Record

Client: WDX (Carlsbad)

Mailing Address: ON FILE

Phone #: _____

email or Fax#: _____

QA/QC Package:

☐ Standard ☒ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance ☐ NELAC ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time: 5 day TAT

☒ Standard ☐ Rush

Project Name: East Pecos Federal 22-5H

Project #: _____

Project Manager: Lori O'Brien

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

of Coolers: 1

Cooler Temp (including CF): _____ (°C)

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
8-5-20	12:00	Soil	FP13	402(1)	ICE	1908326
			FP14			-013
			FP15			-014
			FP16			-015
			FP17			-016
			FP18			-017
			FP19			-018
			FP20			-019
			FP21			-020
			FP22			-021
			FP23			-022
			FP24			-023
						-024

Date: 8-6-19 Time: 10:05

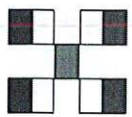
Date: 8-6-19 Time: 1900

Relinquished by: Kevin Smith

Relinquished by: M.D.H.

Received by: [Signature] Date: 8/6/19 Time: 1005

Received by: [Signature] Date: 8/7/19 Time: 0910



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

TPH:8015D(GRO / DRO / MRO)	<input checked="" type="checkbox"/>	8081 Pesticides/8082 PCBs	<input checked="" type="checkbox"/>	EDB (Method 504.1)	<input checked="" type="checkbox"/>	PAHs by 8310 or 8270SIMS	<input checked="" type="checkbox"/>	RCRA 8 Metals	<input checked="" type="checkbox"/>	C,F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄	<input checked="" type="checkbox"/>	8260 (VOA)	<input checked="" type="checkbox"/>	8270 (Semi-VOA)	<input checked="" type="checkbox"/>	Total Coliform (Present/Absent)	<input checked="" type="checkbox"/>
BTEX / MTBE / TMBs (8021)	<input checked="" type="checkbox"/>																

Remarks: Report to: Deborah Watson

Kevin Smith

Lori O'Brien

Chain-of-Custody Record

Client: WPT (Carlsbad)

Mailing Address: own FILE

Phone #: _____

email or Fax#: _____

QA/QC Package: ☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance ☐ NELAC ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time: 5 day TAT

☒ Standard ☐ Rush

Project Name: East Pecos Federal 22-5H

Project #: _____

Project Manager: Lori O'Brien

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

of Coolers: 1

Cooler Temp (including CP):		HEAL No.	
Container Type and #	Preservative Type		
402(1)	ICE	-025	-026
		-027	-028
		-029	-030
		-031	-032
		-033	

Relinquished by: Kevin Smith Date: 8-14-06 Time: 10:00

Relinquished by: M.R.H. Date: 8-14-06 Time: 10:00

Received by: [Signature] Date: 8/6/91005 Time: 8:14 040

Received by: [Signature] Date: 8-7-14 Time: 040

Analysis Request

TPH:8015D(GRO / DRO / MRO)	<input checked="" type="checkbox"/>	BTEX / MTBE / TMB's (8021)	<input checked="" type="checkbox"/>
8081 Pesticides/8082 PCB's		EDB (Method 504.1)	
PAHs by 8310 or 8270SIMS		RCRA 8 Metals	
Cl, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄	<input checked="" type="checkbox"/>	8260 (VOA)	
8270 (Semi-VOA)		Total Coliform (Present/Absent)	

Remarks: Report to: Deborah Watson
Kevin Smith
Lori O'Brien



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

September 03, 2019

Deborah Watson

WPX Energy
5315 Buena Vista Drive
Carlsbad, NM 88220
TEL: (505) 386-9693
FAX:

RE: East Pecos Federal 22 5H

OrderNo.: 1908D71

Dear Deborah Watson:

Hall Environmental Analysis Laboratory received 3 sample(s) on 8/22/2019 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 #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman".

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908D71
Date Reported: 9/3/2019

CLIENT: WPX Energy

Client Sample ID: FP13

Project: East Pecos Federal 22 5H

Collection Date: 8/21/2019

Lab ID: 1908D71-001

Matrix: SOIL

Received Date: 8/22/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/27/2019 10:31:32 AM	47038
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/27/2019 10:31:32 AM	47038
Surr: DNOP	89.5	70-130		%Rec	1	8/27/2019 10:31:32 AM	47038
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/25/2019 1:06:07 PM	47024
Surr: BFB	92.4	77.4-118		%Rec	1	8/25/2019 1:06:07 PM	47024

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

Page 1 of 7

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908D71
Date Reported: 9/3/2019

CLIENT: WPX Energy

Client Sample ID: FP14

Project: East Pecos Federal 22 5H

Collection Date: 8/21/2019

Lab ID: 1908D71-002

Matrix: SOIL

Received Date: 8/22/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/28/2019 4:43:35 PM	47073
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/28/2019 4:43:35 PM	47073
Surr: DNOP	82.1	70-130		%Rec	1	8/28/2019 4:43:35 PM	47073
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/28/2019 12:48:10 AM	47061
Surr: BFB	94.6	77.4-118		%Rec	1	8/28/2019 12:48:10 AM	47061

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908D71
Date Reported: 9/3/2019

CLIENT: WPX Energy

Client Sample ID: FP15

Project: East Pecos Federal 22 5H

Collection Date: 8/21/2019

Lab ID: 1908D71-003

Matrix: SOIL

Received Date: 8/22/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/28/2019 5:50:37 PM	47073
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/28/2019 5:50:37 PM	47073
Surr: DNOP	78.3	70-130		%Rec	1	8/28/2019 5:50:37 PM	47073
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/28/2019 1:59:02 AM	47061
Surr: BFB	93.7	77.4-118		%Rec	1	8/28/2019 1:59:02 AM	47061

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 Limit
	S	% Recovery outside of range due to dilution or matrix		

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D71

03-Sep-19

Client: WPX Energy

Project: East Pecos Federal 22 5H

Sample ID: LCS-47038	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 47038		RunNo: 62445							
Prep Date: 8/26/2019	Analysis Date: 8/27/2019		SeqNo: 2123537		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	105	63.9	124			
Surr: DNOP	4.8		5.000		96.8	70	130			

Sample ID: MB-47038	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 47038		RunNo: 62445							
Prep Date: 8/26/2019	Analysis Date: 8/27/2019		SeqNo: 2123538		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	11		10.00		108	70	130			

Sample ID: 1908D71-002AMS	SampType: MS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: FP14	Batch ID: 47073		RunNo: 62465							
Prep Date: 8/27/2019	Analysis Date: 8/28/2019		SeqNo: 2125429		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	9.3	46.38	0	112	57	142			
Surr: DNOP	4.2		4.638		90.1	70	130			

Sample ID: 1908D71-002AMSD	SampType: MSD		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: FP14	Batch ID: 47073		RunNo: 62465							
Prep Date: 8/27/2019	Analysis Date: 8/28/2019		SeqNo: 2125430		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	49.75	0	103	57	142	1.10	20	
Surr: DNOP	3.7		4.975		74.6	70	130	0	0	

Sample ID: LCS-47073	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 47073		RunNo: 62465							
Prep Date: 8/27/2019	Analysis Date: 8/28/2019		SeqNo: 2125468		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	107	63.9	124			
Surr: DNOP	4.2		5.000		85.0	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 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 Limit

Page 4 of 7

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D71

03-Sep-19

Client: WPX Energy

Project: East Pecos Federal 22 5H

Sample ID: MB-47073	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 47073		RunNo: 62465							
Prep Date: 8/27/2019	Analysis Date: 8/28/2019		SeqNo: 2125470		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	9.0		10.00		89.7	70	130			

Sample ID: LCS-47122	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 47122		RunNo: 62465							
Prep Date: 8/28/2019	Analysis Date: 8/29/2019		SeqNo: 2127327		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.8		5.000		96.1	70	130			

Sample ID: MB-47122	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 47122		RunNo: 62465							
Prep Date: 8/28/2019	Analysis Date: 8/29/2019		SeqNo: 2127328		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		101	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 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 Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D71

03-Sep-19

Client: WPX Energy

Project: East Pecos Federal 22 5H

Sample ID: MB-47024	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 47024			RunNo: 62394						
Prep Date: 8/23/2019	Analysis Date: 8/24/2019			SeqNo: 2120907		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	930		1000		93.3	77.4	118			

Sample ID: LCS-47024	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 47024			RunNo: 62394						
Prep Date: 8/23/2019	Analysis Date: 8/24/2019			SeqNo: 2120908		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	88.1	80	120			
Surr: BFB	1100		1000		106	77.4	118			

Sample ID: MB-47061	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 47061			RunNo: 62443						
Prep Date: 8/26/2019	Analysis Date: 8/27/2019			SeqNo: 2123888		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	980		1000		98.0	77.4	118			

Sample ID: LCS-47061	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 47061			RunNo: 62443						
Prep Date: 8/26/2019	Analysis Date: 8/27/2019			SeqNo: 2123889		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.5	80	120			
Surr: BFB	1100		1000		110	77.4	118			

Sample ID: 1908D71-002AMS	SampType: MS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: FP14	Batch ID: 47061			RunNo: 62443						
Prep Date: 8/26/2019	Analysis Date: 8/28/2019			SeqNo: 2123891		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	24.98	0	93.0	69.1	142			
Surr: BFB	1000		999.0		105	77.4	118			

Sample ID: 1908D71-002AMSD	SampType: MSD			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: FP14	Batch ID: 47061			RunNo: 62443						
Prep Date: 8/26/2019	Analysis Date: 8/28/2019			SeqNo: 2123892		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	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
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 Limit

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D71

03-Sep-19

Client: WPX Energy

Project: East Pecos Federal 22 5H

Sample ID: 1908D71-002AMSD		SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range						
Client ID: FP14		Batch ID: 47061		RunNo: 62443						
Prep Date: 8/26/2019		Analysis Date: 8/28/2019		SeqNo: 2123892		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.6	23.15	0	99.4	69.1	142	0.898	20	
Surr: BFB	1100		925.9		114	77.4	118	0	0	

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 Limit

Page 7 of 7

Sample Log-In Check List

Client Name: **WPX ENERGY CARLSB**

Work Order Number: **1908D71**

RcptNo: 1

Received By: *Daniel M*

8/22/2019 8:45:00 AM

Completed By: **Leah Baca**

8/22/2019 6:41:54 PM

Reviewed By: *LB*

8/23/19

Leah Baca

Chain of Custody

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

Log In

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

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted? ☐

Checked by: *DAD 8/23/19*

Special Handling (if applicable)

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

Person Notified: *Kevin Smith* Date: *8/23/19*
By Whom: *Andy Freeman* Via: ☐ eMail ☒ Phone ☐ Fax ☐ In Person
Regarding: *Samples F13-F15 Match labels on 1908D71*
Client Instructions: *Label projects according to sand color*

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.2	Good	Yes			

Chain-of-Custody Record

Client: WPX Energy (Carlsbad)

Mailing Address: ON FILE

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard

☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Project Manager:

Lori O'Brien

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

of Coolers: 1

Cooler Temp (including CP): 22-00-22 (°C)

Container Type and #

Preservative Type

HEAL No.

402 (1) ICE

1

19087

8/24/19

FP13

-001

8/24/19

FP14

-002

8/24/19

FP15

-003

Date:

Relinquished by:

Kevin Smith

Received by:

Via:

Date

Remarks:

8/24/19 1530

Date

Via:

Received by:

Kevin Smith

Relinquished by:

Date:

8/24/19 1900

Date

Via:

Received by:

Kevin Smith

Relinquished by:

Date:

8/24/19 0845

Date

Via:

Received by:

Kevin Smith

Relinquished by:

Date:

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Appendix D: Site Photos



Excavation Area

August 05, 2019





Excavation Area

August 05, 2019





Excavation Area

August 05, 2019





Excavation Area

August 05, 2019





Excavation Area

August 05, 2019





Excavation Area

August 05, 2019





Excavation Area

August 05, 2019





Liner Inspection

August 05, 2019





Liner Inspection

August 05, 2019





Liner Inspection

August 05, 2019





Liner Inspection

August 05, 2019





Liner Inspection

August 05, 2019





Liner Inspection

August 05, 2019





Liner Inspection

August 05, 2019

