

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	
Facility ID	
Application ID	

Release Notification **WGXIT-190908-C-1410**

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: 2RP-5510
Contact mailing address: 5315 Buena Vista Drive, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.02090 Longitude -103.97463
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: East Pecos Federal 22 #009H	Site Type: Well Pad
Date Release Discovered: June 9, 2019 @ 10:30 AM	API# (if applicable) 30-015-43349

Unit Letter	Section	Township	Range	County
M	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) 7	Volume Recovered (bbls) 0
	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

Failed fitting along disposal line released 7 bbl produced water onto pad surface.

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: Each of the following items must be included in the closure report.

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Deborah Watson

Title: HSE Specialist

Signature:



Date: September 8, 2019

email: deborah.watson@wpenergy.com

Telephone: 575-885-7561

OCD Only

Received by: _____

Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____

Title: _____



September 8, 2019

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

WGXIT-190908-C-1410

Closure Report
East Pecos Federal 22 #009H
2RP-5510
API #: 30-015-43349
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 #009H produced water 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 9, 2019. Table 1 below summarizes information regarding the release.

Table 1: Release Summary

Site Name	East Pecos Federal 22 #009H		
Location	Lat.	Long.	Unit Letter, Section, Township, Range
	32.02092°	103.97464°	Unit Letter M, Section 22, Township 26S, Range 29E
District RP	2RP-5510		
Estimated Date of Release	6/9/2019		
Date Reported	Not a major release		
Surface Owner	Private: Ross Ranch		
Cause of Release	Failed fitting along disposal line		
Released Material	Produced Water		
Volume Release	7 bbls		
Volume Recovered	0 bbls		
Net Release	7 bbls		
Depth To Groundwater	<50 feet below ground surface		
Nearest waterway	Pecos River: 0.8 miles west of release		



1.0 Initial Response & Notification

A 7 bbl produced water release occurred on June 9, 2019 at the East Pecos Federal 22 #009H Production Facility. The cause of the release was due to a failed fitting along a produced water disposal line. An estimated 7 bbls of produced water impacted the well pad surface east of the secondary containment. MNOCD was not immediately notified as the release was not a major release. No free-standing liquids were present.

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 0.8 miles 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 #009H consisted of the following actions:

- August 7, 2019 - Kelley Oilfield Services began remediation activity by excavating material from the impacted area.
- HRL personnel were onsite to collect field screens, using an electrical conductivity (EC) meter and a photoionization detector (PID) unit.
- The EC meter was utilized to approximate soil chloride concentrations. A PID unit was used to approximate soil concentrations of volatile organic compounds or VOC's such as benzene and lighter end hydrocarbon chains.
- A total of twenty-two (22) soil field screens were collected throughout the excavation footprint from depths ranging from 6 inches to 1.5 feet below ground surface. The field screen data results were utilized to guide the excavation to soil concentrations below the limits outlined in the NMOCD closure criteria.
- Kelley Oilfield Services excavated the impacted areas to a depth of 1.5 feet below ground surface.
- An estimated 290 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 Kelley Oilfield Services and took place continuously throughout the excavation period.

4.0 Soil Sampling and Analytical Results

Confirmation sampling took place on August 21, 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. A total of 20 confirmation samples were collected, including 18 excavation footprint samples and 2 sidewall samples. The 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 Summary

A release of 7 bbls of produced water occurred on June 9, 2019 at the East Pecos Federal 22 #009H production facility. The cause of the release was due to a failed fitting along a produced water disposal line. Soil remediation activities involved excavating the impacted areas to a depth of approximately 1.5 feet below ground surface on the well pad surface. An estimated 290 cubic yards of impacted soil was transported for disposal to R360 Red Bluff waste management facility.

A total of twenty (20) confirmation samples were collected from within the excavation to verify cleanup at the location. Analytical results for all twenty 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.

6.0 Scope and Limitations

The scope of HRL's services consists of conducting site delineation, guiding remediation activity, collecting confirmation soil samples, 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 – Sidewalls

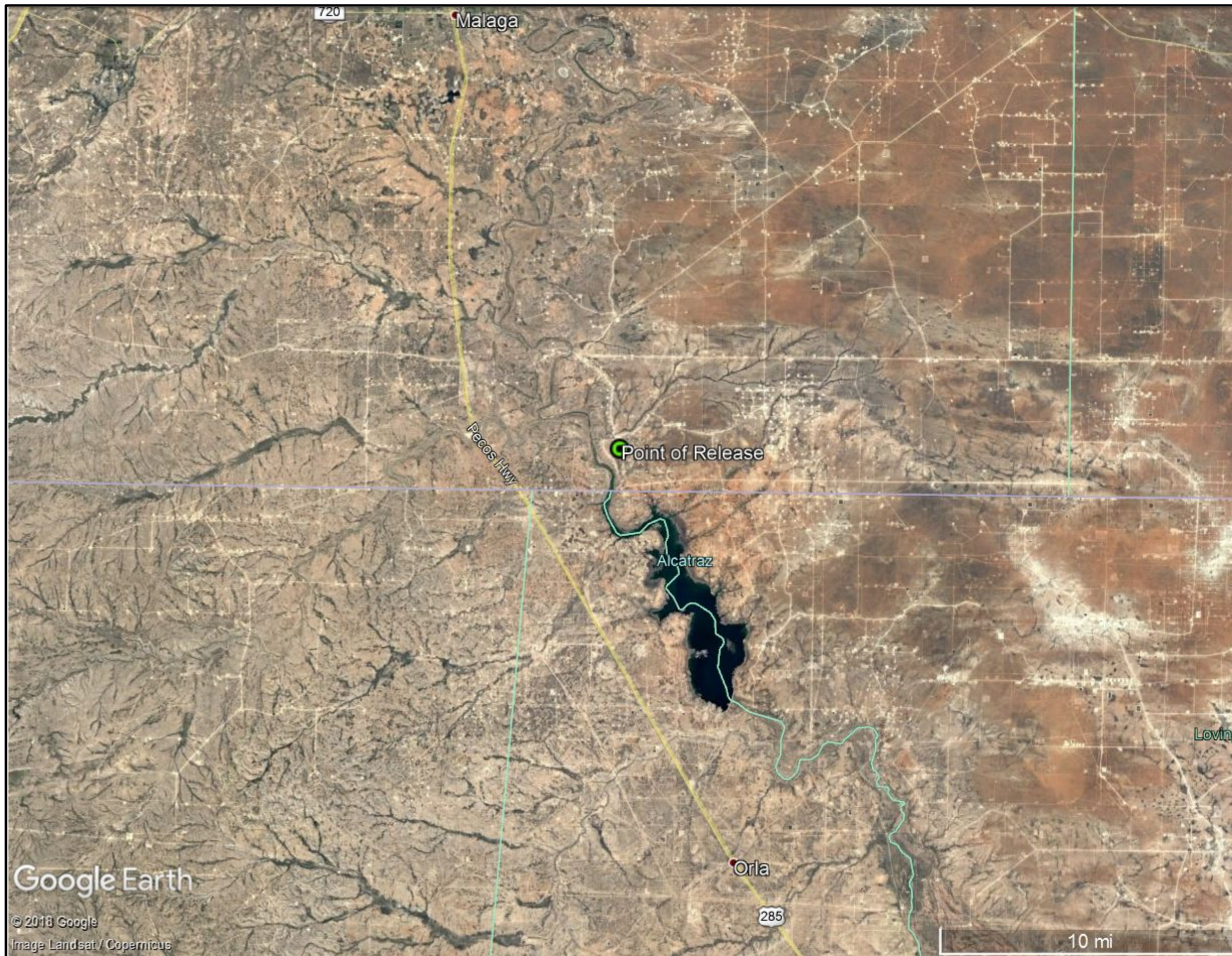
Table A: Analytical Results Summary

Appendix A: C-141 Release Notification

Appendix B: Confirmation Sampling Notification

Appendix C: Laboratory Analytical Reports

Appendix D: Site Photographs



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Figure 1: Site Location Map

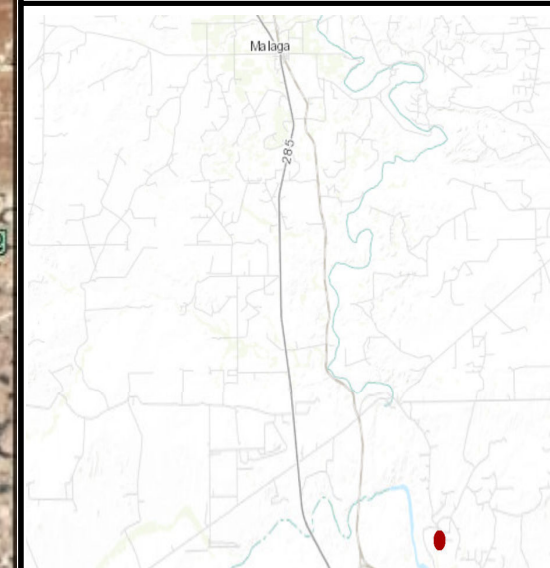
East Pecos Federal 22 #009H
32.02092° -103.97464°
Section 22, Township 26 South, Range 29 East

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. 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: K.Smith

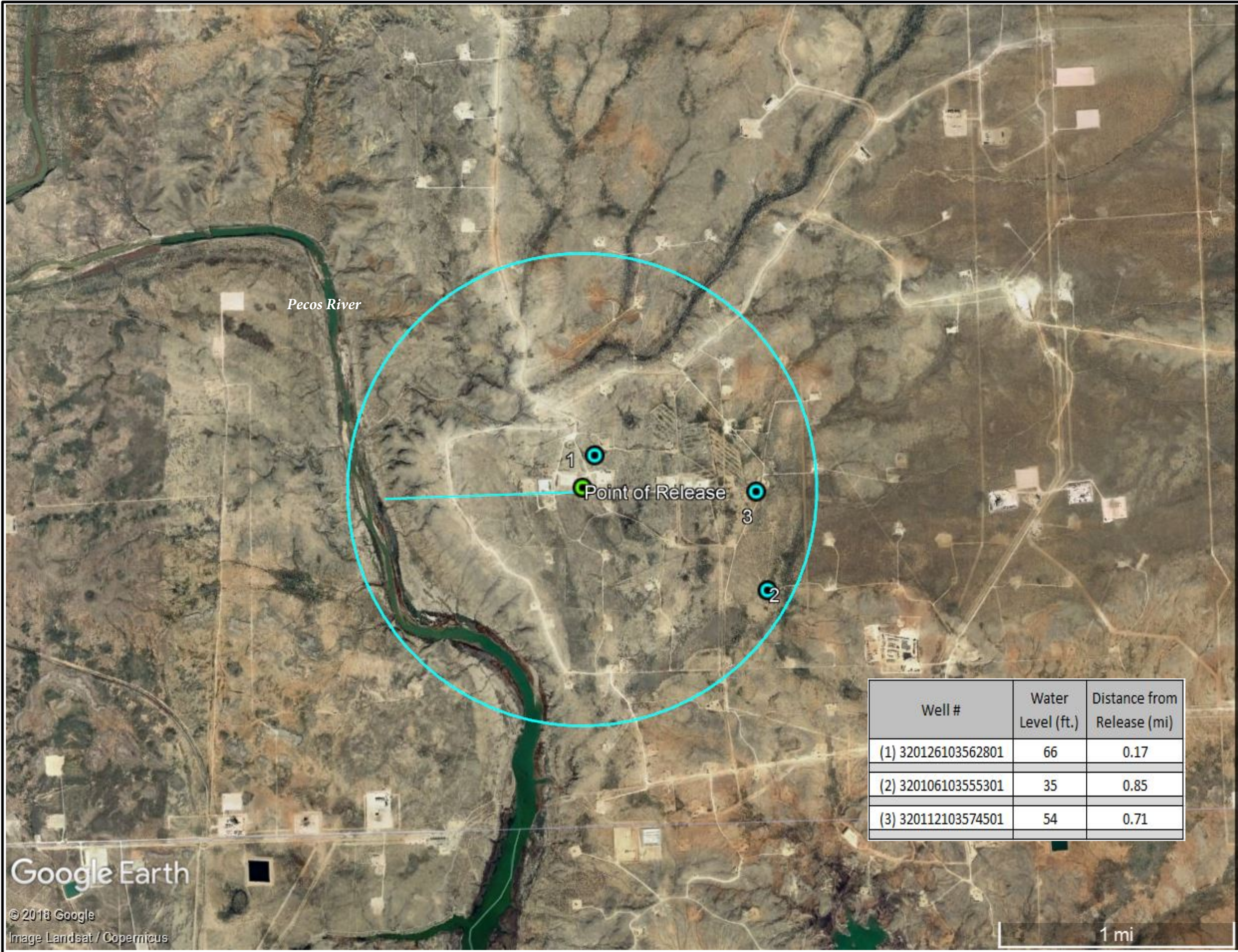
Rev: 0

Date: 9/8/2019

Google Earth

© 2018 Google
Image Landsat / Copernicus

10 mi



WPXENERGY

Figure 2: Depth To Groundwater Map

East Pecos Federal 22 #009H
32.02092°,-103.97464°
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

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.



Well #	Water Level (ft.)	Distance from Release (mi)
(1) 320126103562801	66	0.17
(2) 320106103555301	35	0.85
(3) 320112103574501	54	0.71

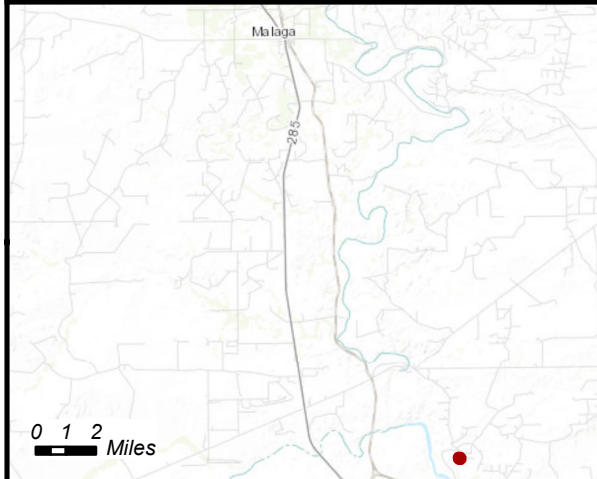
Google Earth

© 2018 Google
Image Landsat / Copernicus



Author: K. Smith

Date: 9/8/2019



Confirmation Sample Map

East Pecos Federal 22-9H
Excavation Footprint

32.020795414 -103.974461801
Section 22, Township 26 South, Range 29 East

Mapped Features

• Composite Sample Location

14' X 14' Grid

28.5' X 7' Grid

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.

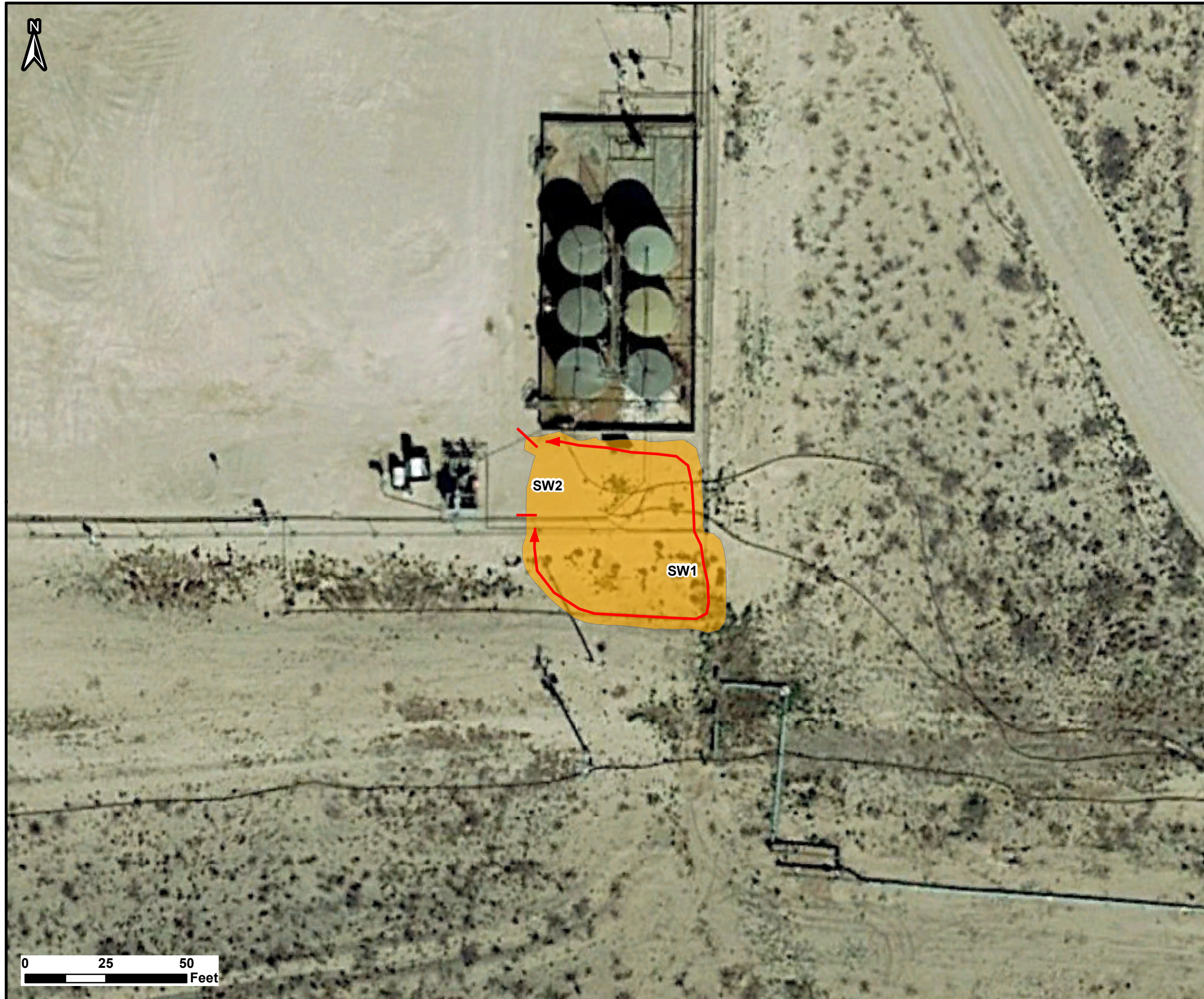


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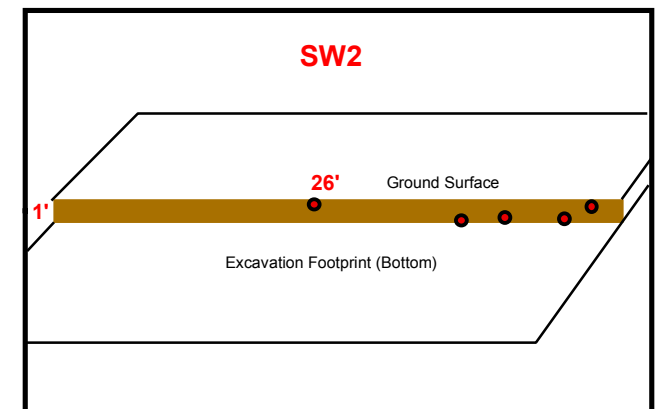
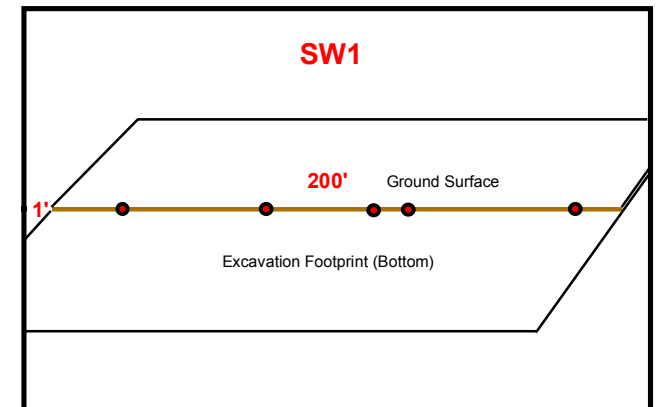
Author: A. Asay

Revision: 0

Date: 8/19/2019



Composite Sample Diagrams





Confirmation Sample Map

East Pecos Federal 22-5H Sidewalls

32.020795414 -103.974461801
Section 22, Township 26 South, Range 29 East

Mapped Features

-  Sidewall Sample Location
-  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.

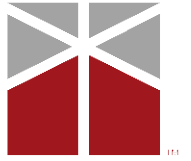


Author: A. Asay
Revision: 0
Date: 8/22/2019



Table A: Laboratory Results Summary

East Pecos Federal 22 #009H WPX Energy Permian, LLC			Analytical Results - Hall Environmental Analysis Laboratory						
Excavation Footprint									Reported in mg/kg
NM OCD Table 1 Thresholds (GW <50')			600	10	50	100			
Sample ID	Depth (ft)	Sampling Date	Chloride	Benzene	BTEX	GRO	DRO	MRO	Total TPH
FP1	1.5	8/21/2019	350	<0.025	<0.225	<5.0	<9.5	<48	<62.5
FP2	1.5	8/21/2019	240	<0.024	<0.217	<4.8	<9.1	<46	<59.9
FP3	1.5	8/21/2019	150	<0.025	<0.225	<5.0	<9.6	<48	<62.6
FP4	1.5	8/21/2019	240	<0.024	<0.213	<4.7	<9.5	<48	<62.2
FP5	1.5	8/21/2019	93	<0.025	<0.225	<5.0	<8.6	<43	<56.6
FP6	1.5	8/21/2019	130	<0.024	<0.219	<4.9	<10	<50	<64.9
FP7	1.5	8/21/2019	120	<0.025	<0.222	<4.9	<9.6	<48	<62.5
FP8	1.5	8/21/2019	140	<0.024	<0.22	<4.9	<9.5	<47	<61.4
FP9	1.5	8/21/2019	110	<0.024	<0.216	<4.8	<8.6	<43	<56.4
FP10	1.5	8/21/2019	88	<0.024	<0.212	<4.7	<9.3	<46	<60
FP11	1.5	8/21/2019	120	<0.023	<0.207	<4.6	<9.5	<48	<62.1
FP12	1.5	8/21/2019	140	<0.023	<0.211	<4.7	<9.4	<47	<61.1
FP13	1.5	8/21/2019	130	<0.024	<0.216	<4.8	<9.1	<45	<58.9
FP14	1.5	8/21/2019	130	<0.025	<0.225	<5.0	<9.5	<49	63.5
FP15	1.5	8/21/2019	150	<0.024	<0.216	<4.8	<10	<50	<54.8
FP16	1.5	8/21/2019	140	<0.023	<0.207	<4.6	<9.0	<45	<58.6
FP17	1.5	8/21/2019	60	<0.025	<0.222	<4.9	<9.8	<49	<63.7
FP18	1.5	8/21/2019	120.0	<0.024	<0.22	<4.9	<9.6	<48	<62.5
SW1	Composite	8/21/2019	<60	<0.025	<0.222	<4.9	<9.0	<45	<58.9
SW2	Composite	8/21/2019	97	<0.025	<0.222	<4.9	<9.4	<47	<60.3



Appendix A: C-141 Release Notification

NAB1918640375
2RP-5510

pAB1918634670

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) NAB1918640375
Contact mailing address: 5315 Buena Vista Drive, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.02090 Longitude -103.97463
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: East Pecos Federal 22 #009H	Site Type: Well Pad
Date Release Discovered: June 9, 2019 @ 10:30 AM	API# (if applicable) 30-015-43349

Unit Letter	Section	Township	Range	County
M	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) 7	Volume Recovered (bbls) 0
	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

Failed fitting along disposal line released 7 bbl produced water onto pad surface.

Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Not a major release.	

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: 06/21/2019
email: deborah.watson@wpenergy.com	Telephone: 575-885-7561
<u>OCD Only</u>	
Received by: <u>Amalia Bustamante</u> Date: <u>7/5/2019</u>	



Appendix B: Confirmation Sampling Notification

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); Lori O'Brien
Subject: East Pecos Federal 22-9H Sampling Notification (2RP-5506, 2RP-5510, 2RP-5511)
Date: Monday, August 19, 2019 10:03:00 AM
Attachments: [image007.png](#)
[image008.png](#)
[image009.png](#)

Good Morning,

This email serves as notification of confirmation sampling and liner inspection at the East Pecos Federal 22-9H for the spills that occurred on June 9 and June 10 (2RP-5506, 2RP-5510, 2RP-5511).

HRL Compliance Solutions will be on location Wednesday, August 21st, around 10 AM to begin collecting confirmation samples and to conduct a liner inspection.

If you have any questions, please contact me.

Thank you,

Kevin Smith | Environmental Scientist

HRL Compliance Solutions, Inc.

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

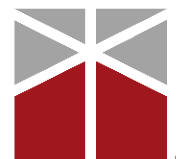
main 575.616.7398 | mobile 936.689.0078

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

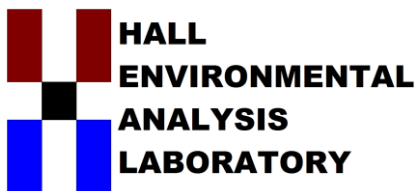


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Appendix C: Laboratory Analytical Results



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

September 03, 2019

Lori O'Brien

WPX Energy

5315 Buena Vista Drive

Carlsbad, NM 88220

TEL: (505) 386-9693

FAX:

RE: East Pecos Federal 22 9H

OrderNo.: 1908D70

Dear Lori O'Brien:

Hall Environmental Analysis Laboratory received 20 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", is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1908D70**
Date Reported: 9/3/2019

CLIENT: WPX Energy

Client Sample ID: FP1

Project: East Pecos Federal 22 9H

Collection Date: 8/21/2019

Lab ID: 1908D70-001

Matrix: SOIL

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

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	350	59		mg/Kg	20	8/28/2019 3:23:04 PM	47130
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/27/2019 5:43:40 PM	47039
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/27/2019 5:43:40 PM	47039
Surr: DNOP	94.7	70-130		%Rec	1	8/27/2019 5:43:40 PM	47039
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/24/2019 2:13:03 PM	47027
Surr: BFB	96.9	77.4-118		%Rec	1	8/24/2019 2:13:03 PM	47027
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/24/2019 2:13:03 PM	47027
Toluene	ND	0.050		mg/Kg	1	8/24/2019 2:13:03 PM	47027
Ethylbenzene	ND	0.050		mg/Kg	1	8/24/2019 2:13:03 PM	47027
Xylenes, Total	ND	0.10		mg/Kg	1	8/24/2019 2:13:03 PM	47027
Surr: 4-Bromofluorobenzene	89.4	80-120		%Rec	1	8/24/2019 2:13:03 PM	47027

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 1908D70
Date Reported: 9/3/2019

CLIENT: WPX Energy **Client Sample ID:** FP2
Project: East Pecos Federal 22 9H **Collection Date:** 8/21/2019
Lab ID: 1908D70-002 **Matrix:** SOIL **Received Date:** 8/22/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	240	60		mg/Kg	20	8/28/2019 4:00:17 PM	47130
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	8/27/2019 6:56:57 PM	47039
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/27/2019 6:56:57 PM	47039
Surr: DNOP	89.9	70-130		%Rec	1	8/27/2019 6:56:57 PM	47039
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/24/2019 3:21:47 PM	47027
Surr: BFB	97.5	77.4-118		%Rec	1	8/24/2019 3:21:47 PM	47027
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/24/2019 3:21:47 PM	47027
Toluene	ND	0.048		mg/Kg	1	8/24/2019 3:21:47 PM	47027
Ethylbenzene	ND	0.048		mg/Kg	1	8/24/2019 3:21:47 PM	47027
Xylenes, Total	ND	0.097		mg/Kg	1	8/24/2019 3:21:47 PM	47027
Surr: 4-Bromofluorobenzene	91.5	80-120		%Rec	1	8/24/2019 3:21:47 PM	47027

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 1908D70
Date Reported: 9/3/2019

CLIENT: WPX Energy **Client Sample ID:** FP3
Project: East Pecos Federal 22 9H **Collection Date:** 8/21/2019
Lab ID: 1908D70-003 **Matrix:** SOIL **Received Date:** 8/22/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	150	60		mg/Kg	20	8/28/2019 4:12:41 PM	47130
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/27/2019 7:21:25 PM	47039
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/27/2019 7:21:25 PM	47039
Surr: DNOP	95.7	70-130		%Rec	1	8/27/2019 7:21:25 PM	47039
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/24/2019 3:44:45 PM	47027
Surr: BFB	95.9	77.4-118		%Rec	1	8/24/2019 3:44:45 PM	47027
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/24/2019 3:44:45 PM	47027
Toluene	ND	0.050		mg/Kg	1	8/24/2019 3:44:45 PM	47027
Ethylbenzene	ND	0.050		mg/Kg	1	8/24/2019 3:44:45 PM	47027
Xylenes, Total	ND	0.10		mg/Kg	1	8/24/2019 3:44:45 PM	47027
Surr: 4-Bromofluorobenzene	89.1	80-120		%Rec	1	8/24/2019 3:44:45 PM	47027

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 **1908D70**Date Reported: **9/3/2019****CLIENT:** WPX Energy**Client Sample ID:** FP4**Project:** East Pecos Federal 22 9H**Collection Date:** 8/21/2019**Lab ID:** 1908D70-004**Matrix:** SOIL**Received Date:** 8/22/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	240	60		mg/Kg	20	8/28/2019 4:25:07 PM	47130
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/27/2019 7:45:39 PM	47039
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/27/2019 7:45:39 PM	47039
Surr: DNOP	90.3	70-130		%Rec	1	8/27/2019 7:45:39 PM	47039
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/24/2019 4:07:41 PM	47027
Surr: BFB	95.0	77.4-118		%Rec	1	8/24/2019 4:07:41 PM	47027
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/24/2019 4:07:41 PM	47027
Toluene	ND	0.047		mg/Kg	1	8/24/2019 4:07:41 PM	47027
Ethylbenzene	ND	0.047		mg/Kg	1	8/24/2019 4:07:41 PM	47027
Xylenes, Total	ND	0.095		mg/Kg	1	8/24/2019 4:07:41 PM	47027
Surr: 4-Bromofluorobenzene	87.3	80-120		%Rec	1	8/24/2019 4:07:41 PM	47027

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 **1908D70**
Date Reported: 9/3/2019

CLIENT: WPX Energy

Client Sample ID: FP5

Project: East Pecos Federal 22 9H

Collection Date: 8/21/2019

Lab ID: 1908D70-005

Matrix: SOIL

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

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	93	60		mg/Kg	20	8/28/2019 4:37:32 PM	47130
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	8.6		mg/Kg	1	8/27/2019 8:10:06 PM	47039
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	8/27/2019 8:10:06 PM	47039
Surr: DNOP	82.6	70-130		%Rec	1	8/27/2019 8:10:06 PM	47039
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/24/2019 4:30:39 PM	47027
Surr: BFB	99.4	77.4-118		%Rec	1	8/24/2019 4:30:39 PM	47027
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/24/2019 4:30:39 PM	47027
Toluene	ND	0.050		mg/Kg	1	8/24/2019 4:30:39 PM	47027
Ethylbenzene	ND	0.050		mg/Kg	1	8/24/2019 4:30:39 PM	47027
Xylenes, Total	ND	0.10		mg/Kg	1	8/24/2019 4:30:39 PM	47027
Surr: 4-Bromofluorobenzene	91.4	80-120		%Rec	1	8/24/2019 4:30:39 PM	47027

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 1908D70
Date Reported: 9/3/2019

CLIENT: WPX Energy **Client Sample ID:** FP6
Project: East Pecos Federal 22 9H **Collection Date:** 8/21/2019
Lab ID: 1908D70-006 **Matrix:** SOIL **Received Date:** 8/22/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	130	60		mg/Kg	20	8/28/2019 5:14:45 PM	47130
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/27/2019 8:34:45 PM	47039
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/27/2019 8:34:45 PM	47039
Surr: DNOP	90.3	70-130		%Rec	1	8/27/2019 8:34:45 PM	47039
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/24/2019 4:53:36 PM	47027
Surr: BFB	96.8	77.4-118		%Rec	1	8/24/2019 4:53:36 PM	47027
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/24/2019 4:53:36 PM	47027
Toluene	ND	0.049		mg/Kg	1	8/24/2019 4:53:36 PM	47027
Ethylbenzene	ND	0.049		mg/Kg	1	8/24/2019 4:53:36 PM	47027
Xylenes, Total	ND	0.097		mg/Kg	1	8/24/2019 4:53:36 PM	47027
Surr: 4-Bromofluorobenzene	88.2	80-120		%Rec	1	8/24/2019 4:53:36 PM	47027

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 **1908D70**
Date Reported: 9/3/2019

CLIENT: WPX Energy **Client Sample ID:** FP7
Project: East Pecos Federal 22 9H **Collection Date:** 8/21/2019
Lab ID: 1908D70-007 **Matrix:** SOIL **Received Date:** 8/22/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	120	59		mg/Kg	20	8/28/2019 5:27:10 PM	47130
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/27/2019 8:59:36 PM	47039
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/27/2019 8:59:36 PM	47039
Surr: DNOP	91.4	70-130		%Rec	1	8/27/2019 8:59:36 PM	47039
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/24/2019 5:16:35 PM	47027
Surr: BFB	97.4	77.4-118		%Rec	1	8/24/2019 5:16:35 PM	47027
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/24/2019 5:16:35 PM	47027
Toluene	ND	0.049		mg/Kg	1	8/24/2019 5:16:35 PM	47027
Ethylbenzene	ND	0.049		mg/Kg	1	8/24/2019 5:16:35 PM	47027
Xylenes, Total	ND	0.099		mg/Kg	1	8/24/2019 5:16:35 PM	47027
Surr: 4-Bromofluorobenzene	88.4	80-120		%Rec	1	8/24/2019 5:16:35 PM	47027

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 **1908D70**
Date Reported: 9/3/2019

CLIENT: WPX Energy **Client Sample ID:** FP8
Project: East Pecos Federal 22 9H **Collection Date:** 8/21/2019
Lab ID: 1908D70-008 **Matrix:** SOIL **Received Date:** 8/22/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	140	59		mg/Kg	20	8/28/2019 5:39:35 PM	47130
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/27/2019 9:24:27 PM	47039
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/27/2019 9:24:27 PM	47039
Surr: DNOP	89.2	70-130		%Rec	1	8/27/2019 9:24:27 PM	47039
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/24/2019 5:39:34 PM	47027
Surr: BFB	100	77.4-118		%Rec	1	8/24/2019 5:39:34 PM	47027
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/24/2019 5:39:34 PM	47027
Toluene	ND	0.049		mg/Kg	1	8/24/2019 5:39:34 PM	47027
Ethylbenzene	ND	0.049		mg/Kg	1	8/24/2019 5:39:34 PM	47027
Xylenes, Total	ND	0.098		mg/Kg	1	8/24/2019 5:39:34 PM	47027
Surr: 4-Bromofluorobenzene	90.9	80-120		%Rec	1	8/24/2019 5:39:34 PM	47027

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 **1908D70**
Date Reported: **9/3/2019**

CLIENT: WPX Energy **Client Sample ID:** FP9
Project: East Pecos Federal 22 9H **Collection Date:** 8/21/2019
Lab ID: 1908D70-009 **Matrix:** SOIL **Received Date:** 8/22/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	110	60		mg/Kg	20	8/28/2019 5:52:00 PM	47130
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	8.6		mg/Kg	1	8/27/2019 9:49:14 PM	47039
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	8/27/2019 9:49:14 PM	47039
Surr: DNOP	87.2	70-130		%Rec	1	8/27/2019 9:49:14 PM	47039
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/24/2019 6:02:30 PM	47027
Surr: BFB	95.8	77.4-118		%Rec	1	8/24/2019 6:02:30 PM	47027
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/24/2019 6:02:30 PM	47027
Toluene	ND	0.048		mg/Kg	1	8/24/2019 6:02:30 PM	47027
Ethylbenzene	ND	0.048		mg/Kg	1	8/24/2019 6:02:30 PM	47027
Xylenes, Total	ND	0.096		mg/Kg	1	8/24/2019 6:02:30 PM	47027
Surr: 4-Bromofluorobenzene	87.7	80-120		%Rec	1	8/24/2019 6:02:30 PM	47027

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 **1908D70**
Date Reported: **9/3/2019**

CLIENT: WPX Energy **Client Sample ID:** FP10
Project: East Pecos Federal 22 9H **Collection Date:** 8/21/2019
Lab ID: 1908D70-010 **Matrix:** SOIL **Received Date:** 8/22/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	88	60		mg/Kg	20	8/28/2019 6:04:24 PM	47130
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/27/2019 10:14:03 PM	47039
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/27/2019 10:14:03 PM	47039
Surr: DNOP	84.9	70-130		%Rec	1	8/27/2019 10:14:03 PM	47039
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/24/2019 6:25:25 PM	47027
Surr: BFB	98.9	77.4-118		%Rec	1	8/24/2019 6:25:25 PM	47027
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/24/2019 6:25:25 PM	47027
Toluene	ND	0.047		mg/Kg	1	8/24/2019 6:25:25 PM	47027
Ethylbenzene	ND	0.047		mg/Kg	1	8/24/2019 6:25:25 PM	47027
Xylenes, Total	ND	0.094		mg/Kg	1	8/24/2019 6:25:25 PM	47027
Surr: 4-Bromofluorobenzene	89.6	80-120		%Rec	1	8/24/2019 6:25:25 PM	47027

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 **1908D70**
Date Reported: **9/3/2019**

CLIENT: WPX Energy

Client Sample ID: FP11

Project: East Pecos Federal 22 9H

Collection Date: 8/21/2019

Lab ID: 1908D70-011

Matrix: SOIL

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

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	120	60		mg/Kg	20	8/28/2019 6:16:48 PM	47130
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/27/2019 10:38:49 PM	47039
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/27/2019 10:38:49 PM	47039
Surr: DNOP	79.0	70-130		%Rec	1	8/27/2019 10:38:49 PM	47039
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/25/2019 3:03:32 PM	47027
Surr: BFB	88.6	77.4-118		%Rec	1	8/25/2019 3:03:32 PM	47027
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	8/25/2019 3:03:32 PM	47027
Toluene	ND	0.046		mg/Kg	1	8/25/2019 3:03:32 PM	47027
Ethylbenzene	ND	0.046		mg/Kg	1	8/25/2019 3:03:32 PM	47027
Xylenes, Total	ND	0.092		mg/Kg	1	8/25/2019 3:03:32 PM	47027
Surr: 4-Bromofluorobenzene	89.0	80-120		%Rec	1	8/25/2019 3:03:32 PM	47027

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 **1908D70**
Date Reported: **9/3/2019**

CLIENT: WPX Energy

Client Sample ID: FP12

Project: East Pecos Federal 22 9H

Collection Date: 8/21/2019

Lab ID: 1908D70-012

Matrix: SOIL

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

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	140	60		mg/Kg	20	8/28/2019 6:29:12 PM	47130
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/27/2019 11:03:28 PM	47039
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/27/2019 11:03:28 PM	47039
Surr: DNOP	86.4	70-130		%Rec	1	8/27/2019 11:03:28 PM	47039
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/25/2019 3:27:00 PM	47027
Surr: BFB	92.5	77.4-118		%Rec	1	8/25/2019 3:27:00 PM	47027
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	8/25/2019 3:27:00 PM	47027
Toluene	ND	0.047		mg/Kg	1	8/25/2019 3:27:00 PM	47027
Ethylbenzene	ND	0.047		mg/Kg	1	8/25/2019 3:27:00 PM	47027
Xylenes, Total	ND	0.094		mg/Kg	1	8/25/2019 3:27:00 PM	47027
Surr: 4-Bromofluorobenzene	92.6	80-120		%Rec	1	8/25/2019 3:27:00 PM	47027

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 **1908D70**
Date Reported: 9/3/2019

CLIENT: WPX Energy **Client Sample ID:** FP13
Project: East Pecos Federal 22 9H **Collection Date:** 8/21/2019
Lab ID: 1908D70-013 **Matrix:** SOIL **Received Date:** 8/22/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	130	60		mg/Kg	20	8/28/2019 6:41:37 PM	47130
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	8/27/2019 11:28:10 PM	47039
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/27/2019 11:28:10 PM	47039
Surr: DNOP	83.3	70-130		%Rec	1	8/27/2019 11:28:10 PM	47039
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/25/2019 3:50:32 PM	47027
Surr: BFB	98.1	77.4-118		%Rec	1	8/25/2019 3:50:32 PM	47027
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/25/2019 3:50:32 PM	47027
Toluene	ND	0.048		mg/Kg	1	8/25/2019 3:50:32 PM	47027
Ethylbenzene	ND	0.048		mg/Kg	1	8/25/2019 3:50:32 PM	47027
Xylenes, Total	ND	0.096		mg/Kg	1	8/25/2019 3:50:32 PM	47027
Surr: 4-Bromofluorobenzene	98.3	80-120		%Rec	1	8/25/2019 3:50:32 PM	47027

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 **1908D70**Date Reported: **9/3/2019****CLIENT:** WPX Energy**Client Sample ID:** FP14**Project:** East Pecos Federal 22 9H**Collection Date:** 8/21/2019**Lab ID:** 1908D70-014**Matrix:** SOIL**Received Date:** 8/22/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	130	60		mg/Kg	20	8/29/2019 12:10:24 PM	47134
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/27/2019 11:53:00 PM	47039
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/27/2019 11:53:00 PM	47039
Surr: DNOP	82.6	70-130		%Rec	1	8/27/2019 11:53:00 PM	47039
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/25/2019 4:14:05 PM	47027
Surr: BFB	93.8	77.4-118		%Rec	1	8/25/2019 4:14:05 PM	47027
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/25/2019 4:14:05 PM	47027
Toluene	ND	0.050		mg/Kg	1	8/25/2019 4:14:05 PM	47027
Ethylbenzene	ND	0.050		mg/Kg	1	8/25/2019 4:14:05 PM	47027
Xylenes, Total	ND	0.10		mg/Kg	1	8/25/2019 4:14:05 PM	47027
Surr: 4-Bromofluorobenzene	93.5	80-120		%Rec	1	8/25/2019 4:14:05 PM	47027

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 1908D70
Date Reported: 9/3/2019

CLIENT: WPX Energy Client Sample ID: FP15
Project: East Pecos Federal 22 9H Collection Date: 8/21/2019
Lab ID: 1908D70-015 Matrix: SOIL Received Date: 8/22/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	150	60		mg/Kg	20	8/29/2019 12:22:48 PM	47134
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/28/2019 12:17:48 AM	47039
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/28/2019 12:17:48 AM	47039
Surr: DNOP	83.6	70-130		%Rec	1	8/28/2019 12:17:48 AM	47039
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/25/2019 4:37:34 PM	47027
Surr: BFB	90.8	77.4-118		%Rec	1	8/25/2019 4:37:34 PM	47027
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/25/2019 4:37:34 PM	47027
Toluene	ND	0.048		mg/Kg	1	8/25/2019 4:37:34 PM	47027
Ethylbenzene	ND	0.048		mg/Kg	1	8/25/2019 4:37:34 PM	47027
Xylenes, Total	ND	0.096		mg/Kg	1	8/25/2019 4:37:34 PM	47027
Surr: 4-Bromofluorobenzene	90.4	80-120		%Rec	1	8/25/2019 4:37:34 PM	47027

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 **1908D70**
Date Reported: 9/3/2019

CLIENT: WPX Energy **Client Sample ID:** FP16
Project: East Pecos Federal 22 9H **Collection Date:** 8/21/2019
Lab ID: 1908D70-016 **Matrix:** SOIL **Received Date:** 8/22/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	140	60		mg/Kg	20	8/29/2019 1:00:01 PM	47134
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	8/28/2019 12:42:34 AM	47039
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/28/2019 12:42:34 AM	47039
Surr: DNOP	91.6	70-130		%Rec	1	8/28/2019 12:42:34 AM	47039
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/25/2019 5:01:02 PM	47027
Surr: BFB	89.7	77.4-118		%Rec	1	8/25/2019 5:01:02 PM	47027
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	8/25/2019 5:01:02 PM	47027
Toluene	ND	0.046		mg/Kg	1	8/25/2019 5:01:02 PM	47027
Ethylbenzene	ND	0.046		mg/Kg	1	8/25/2019 5:01:02 PM	47027
Xylenes, Total	ND	0.092		mg/Kg	1	8/25/2019 5:01:02 PM	47027
Surr: 4-Bromofluorobenzene	89.6	80-120		%Rec	1	8/25/2019 5:01:02 PM	47027

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 1908D70
Date Reported: 9/3/2019

CLIENT: WPX Energy Client Sample ID: FP17
Project: East Pecos Federal 22 9H Collection Date: 8/21/2019
Lab ID: 1908D70-017 Matrix: SOIL Received Date: 8/22/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	120	60		mg/Kg	20	8/29/2019 1:12:25 PM	47134
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/28/2019 1:07:23 AM	47039
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/28/2019 1:07:23 AM	47039
Surr: DNOP	89.5	70-130		%Rec	1	8/28/2019 1:07:23 AM	47039
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/25/2019 5:24:34 PM	47027
Surr: BFB	91.0	77.4-118		%Rec	1	8/25/2019 5:24:34 PM	47027
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/25/2019 5:24:34 PM	47027
Toluene	ND	0.049		mg/Kg	1	8/25/2019 5:24:34 PM	47027
Ethylbenzene	ND	0.049		mg/Kg	1	8/25/2019 5:24:34 PM	47027
Xylenes, Total	ND	0.099		mg/Kg	1	8/25/2019 5:24:34 PM	47027
Surr: 4-Bromofluorobenzene	91.0	80-120		%Rec	1	8/25/2019 5:24:34 PM	47027

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 1908D70
Date Reported: 9/3/2019

CLIENT: WPX Energy **Client Sample ID:** FP18
Project: East Pecos Federal 22 9H **Collection Date:** 8/21/2019
Lab ID: 1908D70-018 **Matrix:** SOIL **Received Date:** 8/22/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	120	60		mg/Kg	20	8/29/2019 1:24:49 PM	47134
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/28/2019 1:32:07 AM	47039
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/28/2019 1:32:07 AM	47039
Surr: DNOP	88.2	70-130		%Rec	1	8/28/2019 1:32:07 AM	47039
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/25/2019 5:48:04 PM	47027
Surr: BFB	92.0	77.4-118		%Rec	1	8/25/2019 5:48:04 PM	47027
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/25/2019 5:48:04 PM	47027
Toluene	ND	0.049		mg/Kg	1	8/25/2019 5:48:04 PM	47027
Ethylbenzene	ND	0.049		mg/Kg	1	8/25/2019 5:48:04 PM	47027
Xylenes, Total	ND	0.098		mg/Kg	1	8/25/2019 5:48:04 PM	47027
Surr: 4-Bromofluorobenzene	92.0	80-120		%Rec	1	8/25/2019 5:48:04 PM	47027

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 **1908D70**
Date Reported: **9/3/2019**

CLIENT: WPX Energy **Client Sample ID:** SW1
Project: East Pecos Federal 22 9H **Collection Date:** 8/21/2019
Lab ID: 1908D70-019 **Matrix:** SOIL **Received Date:** 8/22/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	8/29/2019 1:37:14 PM	47134
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	8/28/2019 1:56:50 AM	47039
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/28/2019 1:56:50 AM	47039
Surr: DNOP	85.0	70-130		%Rec	1	8/28/2019 1:56:50 AM	47039
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/25/2019 6:11:35 PM	47027
Surr: BFB	101	77.4-118		%Rec	1	8/25/2019 6:11:35 PM	47027
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/25/2019 6:11:35 PM	47027
Toluene	ND	0.049		mg/Kg	1	8/25/2019 6:11:35 PM	47027
Ethylbenzene	ND	0.049		mg/Kg	1	8/25/2019 6:11:35 PM	47027
Xylenes, Total	ND	0.099		mg/Kg	1	8/25/2019 6:11:35 PM	47027
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	8/25/2019 6:11:35 PM	47027

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 1908D70
Date Reported: 9/3/2019

CLIENT: WPX Energy **Client Sample ID:** SW2
Project: East Pecos Federal 22 9H **Collection Date:** 8/21/2019
Lab ID: 1908D70-020 **Matrix:** SOIL **Received Date:** 8/22/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	97	59		mg/Kg	20	8/29/2019 1:49:38 PM	47134
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/28/2019 2:21:30 AM	47039
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/28/2019 2:21:30 AM	47039
Surr: DNOP	90.8	70-130		%Rec	1	8/28/2019 2:21:30 AM	47039
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/25/2019 6:35:09 PM	47027
Surr: BFB	93.1	77.4-118		%Rec	1	8/25/2019 6:35:09 PM	47027
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/25/2019 6:35:09 PM	47027
Toluene	ND	0.049		mg/Kg	1	8/25/2019 6:35:09 PM	47027
Ethylbenzene	ND	0.049		mg/Kg	1	8/25/2019 6:35:09 PM	47027
Xylenes, Total	ND	0.099		mg/Kg	1	8/25/2019 6:35:09 PM	47027
Surr: 4-Bromofluorobenzene	92.7	80-120		%Rec	1	8/25/2019 6:35:09 PM	47027

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#: 1908D70

03-Sep-19

Client: WPX Energy

Project: East Pecos Federal 22 9H

Sample ID: MB-47130	SampType: MBLK	TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 47130	RunNo: 62503
Prep Date: 8/28/2019	Analysis Date: 8/28/2019	SeqNo: 2126671 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	1.5

Sample ID: LCS-47130	SampType: LCS	TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 47130	RunNo: 62503
Prep Date: 8/28/2019	Analysis Date: 8/28/2019	SeqNo: 2126672 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	14	1.5 15.00 0 92.7 90 110

Sample ID: MB-47134	SampType: MBLK	TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 47134	RunNo: 62503
Prep Date: 8/28/2019	Analysis Date: 8/28/2019	SeqNo: 2126703 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	1.5

Sample ID: LCS-47134	SampType: LCS	TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 47134	RunNo: 62503
Prep Date: 8/28/2019	Analysis Date: 8/28/2019	SeqNo: 2126704 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	14	1.5 15.00 0 92.6 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D70

03-Sep-19

Client: WPX Energy

Project: East Pecos Federal 22 9H

Sample ID: MB-47039	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 47039	RunNo: 62439								
Prep Date: 8/26/2019	Analysis Date: 8/27/2019	SeqNo: 2125024 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	9.9		10.00		99.1	70	130			

Sample ID: LCS-47039	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 47039	RunNo: 62439								
Prep Date: 8/26/2019	Analysis Date: 8/27/2019	SeqNo: 2125025 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	89.4	63.9	124			
Surr: DNOP	4.6		5.000		91.8	70	130			

Sample ID: 1908D70-001AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: FP1	Batch ID: 47039	RunNo: 62439								
Prep Date: 8/26/2019	Analysis Date: 8/27/2019	SeqNo: 2125027 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	38	9.4	47.04	0	80.4	57	142			
Surr: DNOP	3.6		4.704		76.6	70	130			

Sample ID: 1908D70-001AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: FP1	Batch ID: 47039	RunNo: 62439								
Prep Date: 8/26/2019	Analysis Date: 8/27/2019	SeqNo: 2125028 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	39	9.5	47.48	0	82.8	57	142	3.91	20	
Surr: DNOP	3.9		4.748		81.2	70	130	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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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D70

03-Sep-19

Client: WPX Energy

Project: East Pecos Federal 22 9H

Sample ID: MB-47027	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range
Client ID: PBS	Batch ID: 47027	RunNo: 62395
Prep Date: 8/23/2019	Analysis Date: 8/24/2019	SeqNo: 2120854 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 99.6 77.4 118

Sample ID: LCS-47027	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range
Client ID: LCSS	Batch ID: 47027	RunNo: 62395
Prep Date: 8/23/2019	Analysis Date: 8/24/2019	SeqNo: 2120855 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 92.5 80 120
Surr: BFB	1200	1000 116 77.4 118

Sample ID: 1908D70-001AMS	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range
Client ID: FP1	Batch ID: 47027	RunNo: 62395
Prep Date: 8/23/2019	Analysis Date: 8/24/2019	SeqNo: 2120857 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	24	4.9 24.58 0 97.4 69.1 142
Surr: BFB	1100	983.3 111 77.4 118

Sample ID: 1908D70-001AMSD	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range
Client ID: FP1	Batch ID: 47027	RunNo: 62395
Prep Date: 8/23/2019	Analysis Date: 8/24/2019	SeqNo: 2120858 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	24	4.9 24.49 0 96.4 69.1 142 1.51 20
Surr: BFB	1100	979.4 114 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

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D70

03-Sep-19

Client: WPX Energy

Project: East Pecos Federal 22 9H

Sample ID: MB-47027	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 47027	RunNo: 62395								
Prep Date: 8/23/2019	Analysis Date: 8/24/2019	SeqNo: 2120870 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	0.90		1.000		90.3	80	120			

Sample ID: LCS-47027	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 47027	RunNo: 62395								
Prep Date: 8/23/2019	Analysis Date: 8/24/2019	SeqNo: 2120871 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	1.000	0	89.2	80	120			
Toluene	0.94	0.050	1.000	0	93.9	80	120			
Ethylbenzene	0.96	0.050	1.000	0	95.7	80	120			
Xylenes, Total	2.8	0.10	3.000	0	93.9	80	120			
Surr: 4-Bromofluorobenzene	0.96		1.000		96.4	80	120			

Sample ID: 1908D70-002AMS	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: FP2	Batch ID: 47027	RunNo: 62396								
Prep Date: 8/23/2019	Analysis Date: 8/25/2019	SeqNo: 2120992 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	0.9823	0	93.0	76	123			
Toluene	0.96	0.049	0.9823	0	97.5	80.3	127			
Ethylbenzene	0.97	0.049	0.9823	0	98.8	80.2	131			
Xylenes, Total	2.9	0.098	2.947	0	99.7	78	133			
Surr: 4-Bromofluorobenzene	0.93		0.9823		94.4	80	120			

Sample ID: 1908D70-002AMSD	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: FP2	Batch ID: 47027	RunNo: 62396								
Prep Date: 8/23/2019	Analysis Date: 8/25/2019	SeqNo: 2120993 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.024	0.9681	0	92.6	76	123	1.86	20	
Toluene	0.94	0.048	0.9681	0	97.0	80.3	127	2.02	20	
Ethylbenzene	0.95	0.048	0.9681	0	97.9	80.2	131	2.44	20	
Xylenes, Total	2.9	0.097	2.904	0	98.6	78	133	2.55	20	
Surr: 4-Bromofluorobenzene	0.90		0.9681		93.4	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
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Sample Log-In Check List

Client Name: **WPX ENERGY CARLSB**

Work Order Number: **1908D70**

RcptNo: 1

Received By: *Daniel M.*

8/22/2019 8:45:00 AM

Completed By: **Leah Baca**

8/22/2019 6:25:37 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?
(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: *DAD 8/23/19*

Special Handling (if applicable)

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

Person Notified:	<i>Kevin Smith</i>	Date:	<i>8/23/19</i>
By Whom:	<i>Andy Freeman</i>	Via:	<input type="checkbox"/> eMail <input checked="" type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<i>Samples 1908D70 FIB-FIS Match exactly the labels on 1908D71</i>		
Client Instructions:	<i>Match the projects with according to send color</i>		

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)

Date	Time	Matrix	Sample Name
8/21/19		Soil	FP1
			FP2
			FP3
			FP4
			FP5
			FP6
			FP7
			FP8
			FP9
			FP10
			FP11
			FP12

Date: 8/21/19 Time: 3:30 Relinquished by: [Signature]
 Date: 8/21/19 Time: 1900 Relinquished by: [Signature]

Turn-Around Time: 5 DAY TAT
☒ Standard ☐ Rush
 Project Name: East Pecos Federal 22-9H
 Project #:

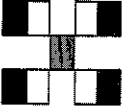
Project Manager: Lori O'Brien

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

Cooler Temp (including GF): 22-0.0-2.2 (°C)
 Container Type and # HEAL No.
 402(1) ICE 1908D70

Container Type and #	Preservative Type	HEAL No.
402(1)	ICE	-001
		-002
		-003
		-004
		-005
		-006
		-007
		-008
		-009
		-010
		-011
		-012

Received by: [Signature] Date: 8/21/19 Time: 1530
 Received by: [Signature] Date: 8/21/19 Time: 1530



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	
EDB (Method 504.1)	
PAHs by 8310 or 8270SIMS	
RCRA 8 Metals	
GF, 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

Chain-of-Custody Record

Client: WPX (Carlsbad)

Mailing Address: DN 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 22-4H

Project #: _____

Project Manager: Lori O'Brien

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

of Coolers: 1

Cooler Temp (including CE): 22-00 0.2 (°C)

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
8/21/14		Soil	FP13	H02 (1)	ICE	1908030
			FP14			-013
			FP15			-014
			FP16			-015
			FP17			-016
			FP18			-017
			SW1			-018
			SW2			-019
						-020

Date: 8/21/14 Time: 3:30

Date: 8/21/14 Time: 15:30

Date: 8/21/14 Time: 19:00

Date: 8/22/14 Time: 8:45

Analysis Request

TPH:8015D(GRO / DRO / MRO)	<input checked="" type="checkbox"/>
8081 Pesticides/8082 PCB's	<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"/>
☉ 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"/>

Remarks:



Appendix D: Site Photos



Excavation Area

August 21, 2019





Excavation Area

August 21, 2019





Excavation Area

August 21, 2019





Excavation Area

August 21, 2019





Excavation Area

August 21, 2019





Excavation Area

August 21, 2019

