

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

88SVM-190922-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-5544
Contact mailing address: 5315 Buena Vista Drive, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.09314 Longitude -103.95284
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: North Brushy Draw Federal 35 #001H	Site Type: Well Pad
Date of Discovery: June 23, 2019 @ 5:00 PM	API# (if applicable) 30-015-39753

Unit Letter	Section	Township	Range	County
B	35	25S	29E	Eddy

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private

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) 130	Volume Recovered (bbls) 40
	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

Equipment failure at 2-inch butterfly valve at the header.

Incident ID	
District RP	
Facility ID	
Application ID	

Closure**88SVM-190922-C-1410**

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 22, 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 22, 2019

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

88SVM-190922-C-1410

Closure Report

North Brushy Draw Federal 35 #001H
2RP-5544
API #: 30-015-39753
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 release that occurred at the edge of the North Brushy Draw Federal 35 #001H well pad. The purpose of the report is to obtain approval for the remediation and closure of the release that occurred on June 23, 2019. Table 1 below summarizes information regarding the release.

Table 1: Release Summary

Site Name	North Brushy Draw Federal 35 #001H		
	Lat.	Long.	Unit Letter, Section, Township, Range
Location	32.09314°	-103.95284°	Unit Letter B, Section 35, Township 25S, Range 29E
District RP	2RP-5544		
Date Release Discovered	6/23/2019 at 5:00 PM		
Date Reported	6/24/2019 at 11:45 AM		
Reported To	NMOCD and BLM via phone call and email		
Surface Owner	Federal		
Cause of Release	Equipment failure at 2-inch butterfly valve at the header		
Released Material	Produced Water		
Volume Release	130 bbls of Produced Water		
Volume Recovered	40 bbls of Produced Water		
Net Release	90 bbls of Produced Water		
Depth To Groundwater	>100 feet below ground surface		
Nearest waterway	Pecos River, 3.5 miles west of release		



1.0 Initial Response & Notification

A release of 130 bbls of produced water occurred on June 23, 2019 at the North Brushy Draw Federal 35 #001H well pad. BLM and NMOCD were notified on June 24, 2019 by Deborah Watson via phone call and email. The release occurred on the well pad and migrated into the adjacent field and across the adjacent well pad (North Brushy Draw Federal 35 #006H). The cause of the release was due to equipment failure of a 2-inch butterfly valve at the header. HRL personnel were present at the release site on June 24, 2019 to verify that the release had been stabilized. A vacuum truck recovered 40 bbls of produced water. All free-standing liquids were removed from the release location.

2.0 Site Assessment and Characterization

The location of the release is approximately 11.25 miles Southeast of Malaga, New Mexico with an elevation of approximately 3,025 feet above sea level. A site location map is provided on Figure 1. The nearest surface water, Pecos River, is located approximately 3.5 miles west of the release (Figure 2).

Depth-to-groundwater at the release site is estimated to be greater than 100 feet below ground surface as determined by review of the United States Geological Survey (USGS) National Water Information System. A 3 mile radius search of the USGS National Water Information System revealed 3 water wells with an average depth to groundwater of 130 feet. Figure 2 contains a site location map of water wells relevant to the depth-to-groundwater determination.

An assessment of wetlands and springs was conducted using a USGS topographical 7.5-minute map of Tucker Draw, New Mexico. No wetlands were identified within 300 feet of the release location. There are no springs within 1000 feet of this location. Figure 3 contains the topographic map used for assessment.

The release location is not within an area identified as an unstable karst geology area. An area map generated with data from the USGS displaying geologic units and structural features is shown in Figure 4.

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

Table 2: Closure Criteria

Depth to Ground Water	Constituent	Limit
Greater 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 North Brushy Draw Federal 35 #001H consisted of the following actions:

- June 24, 2019- HRL personnel were present at the release location, to assess the impacted areas and conduct initial site delineation. GPS data was collected for the impacted area and the resulting spill map is depicted in Figure 5.
- July 30, 2019- Kelley Oilfield Services began remediation activity by excavating material from the impacted field and well pad surface. Before any soils were removed from the adjacent field, WPX received approval from BLM.
- HRL personnel were at the release site to collect field screens, using an electrical conductivity (EC) meter, a photoionization detector (PID) unit and Petroflag unit. The field screen data results were utilized to guide the excavation to soil concentrations below the limits outlined in the NMOCD closure criteria.
- Excavation of the impacted areas on the well pads was completed to a total depth of two feet below ground surface. A total volume of approximately 2,400 cubic yards of contaminated soil was removed from the well pad excavation area.
- Excavation of the impacted soil in the field was completed to a total depth of 2 feet below ground surface. A total volume of approximately 1,200 cubic yards of contaminated soil was removed from the pasture. Photos of the excavation areas are attached as Appendix D.
- An estimated 3,600 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 process.
- The well pad area was backfilled with approximately 2,400 yards of clean caliche.
- The pasture area was backfilled with approximately 1,200 yards of clean topsoil. The pasture field was subsequently reseeded with BLM #2 seed mix.

4.0 Soil Sampling and Analytical Results

Confirmation sampling was divided into two phases with the eastern section of the excavation (SP1-SP65) collected on August 12, 2019 following NMOCD notification, attached as Appendix B.

Confirmation samples for the western excavation section (SP66-SP125), were collected on August 23, 2019. 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 6A, 6B, 6C and 6D. A total of 140 confirmation samples were collected, including 125 excavation footprint samples and 15 sidewall samples.



Three samples: SP99, SP117 and SW10, exceeded the 600 ppm chloride limit from the second sampling event and were resampled on September 18, 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 Summary

A release of 130 bbls of produced water occurred on June 23, 2019 at the edge of the North Brushy Draw Federal 35 #001H well pad. The cause of the release was due to equipment failure of a 2-inch butterfly valve at the header. BLM and NMOCD were both notified on June 24, 2019. The release occurred on the well pad surface and migrated to the adjacent field and well pad (North Brushy Draw Federal #006H).

Soil remediation activities involved excavating the impacted areas on the well pads and field to an excavation depth of 2 feet below ground surface. An estimated 3,600 cubic yards of impacted soil was transported for disposal to R360 Red Bluff waste management facility located in Orla, Texas. The excavation of the well pad was backfilled with approximately 2,400 cubic yards of clean caliche. The excavation area of the pasture field was backfilled with approximately 1,200 cubic yards of clean topsoil and subsequently reseeded with BLM seed mix #2.

A total of 140 confirmation samples were collected from within the excavation footprint and sidewalls to verify cleanup at the location. Analytical results for all 140 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, verification of release stabilization, regulatory liaison, 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.



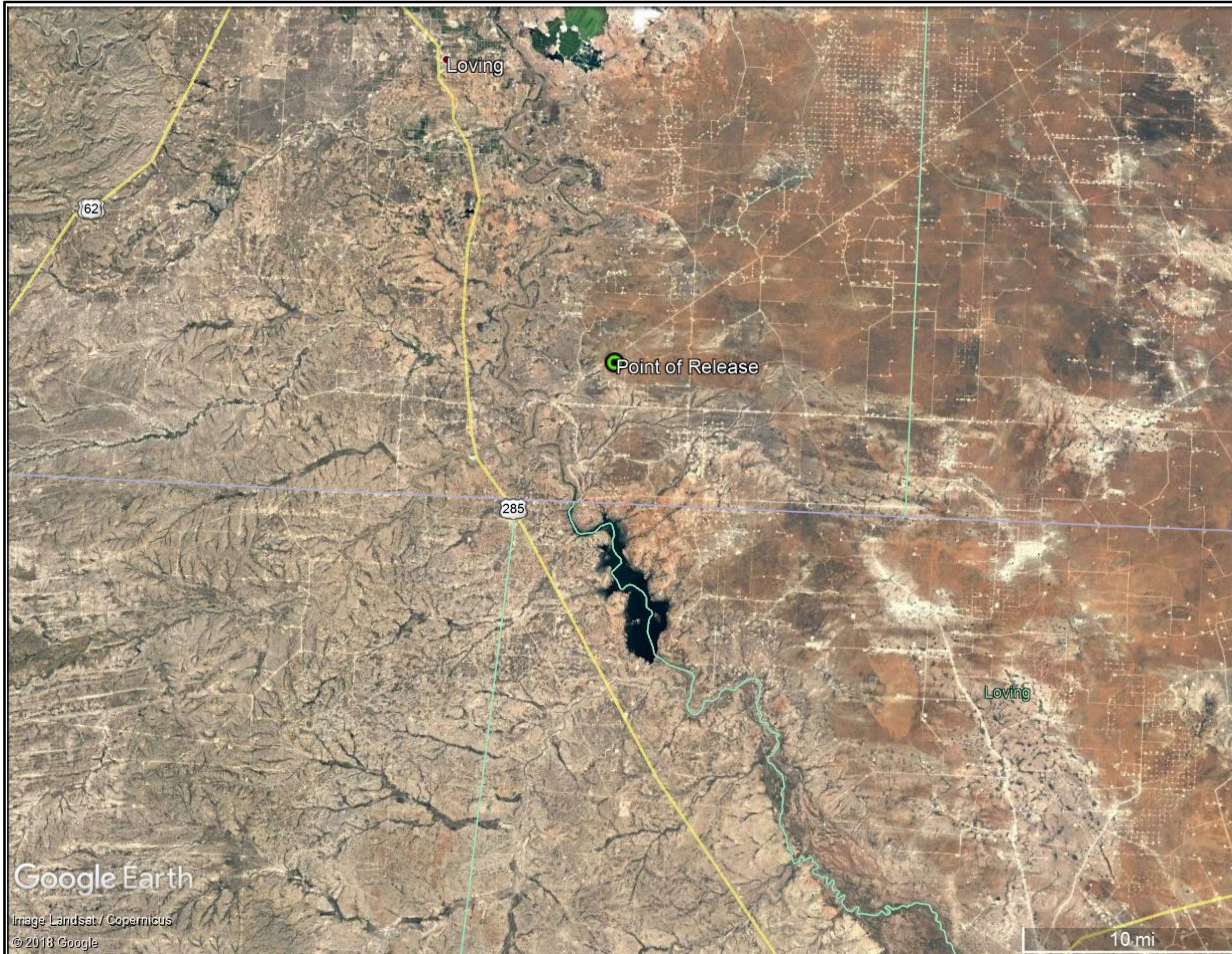
If there are any questions regarding this report, please contact Kevin Smith at 575-616-7398 Ext. 435.

Prepared by:
HRL Compliance Solutions, Inc.

Kevin Smith
Environmental Scientist – Permian

Attachments:

Figure 1: Site Location Map
Figure 2: Depth to Groundwater Map
Figure 3: Site Topographic Assessment
Figure 4: Karst Assessment Map
Figure 5: Spill Area Map
Figure 6A: Confirmation Sample Location Map – Footprint
Figure 6B: Confirmation Sample Location Map – Footprint
Figure 6C: Confirmation Sample Location Map – Eastern Sidewalls
Figure 6D: Confirmation Sample Location Map – Western 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



Google Earth

Image Landsat / Copernicus
© 2018 Google



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Figure 1: Site Location Map

North Brushy Draw Federal 35 #001H

32.09314°, -103.95284°
Section 35, Township 25 South, Range 29 East

Mapped Features



North Brushy Federal
35 #001H

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Author: K. Smith

Date: 9/22/2019

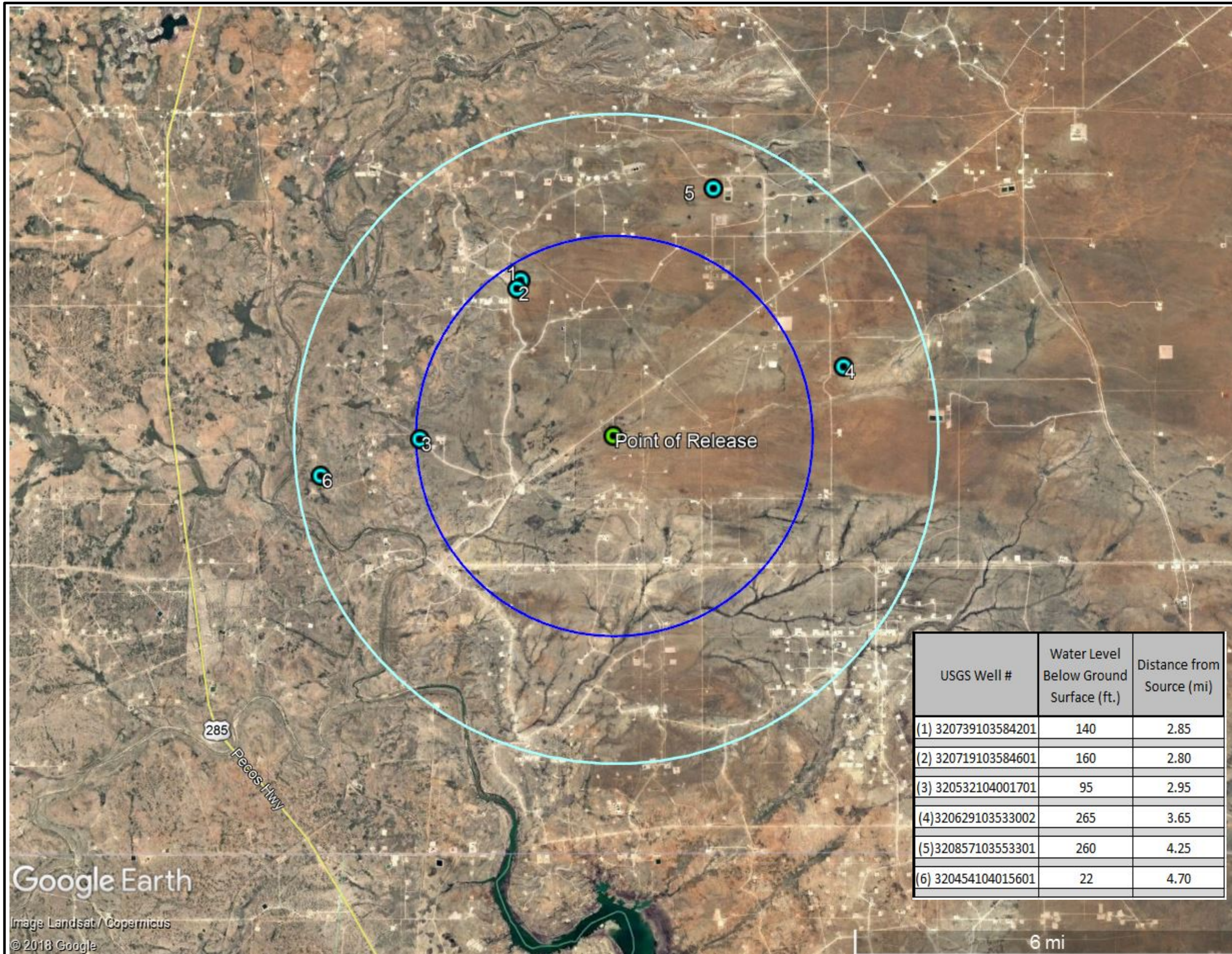


Figure 2: Depth to Groundwater
North Brushy Draw Federal 35 #001H
32.09314°,-103.95284°
Section 35, Township 25 South, Range 29 East

Mapped Features



North Brushy Federal 35 #001H Well Site



USGS Water Wells



3 Mile Radius From Release



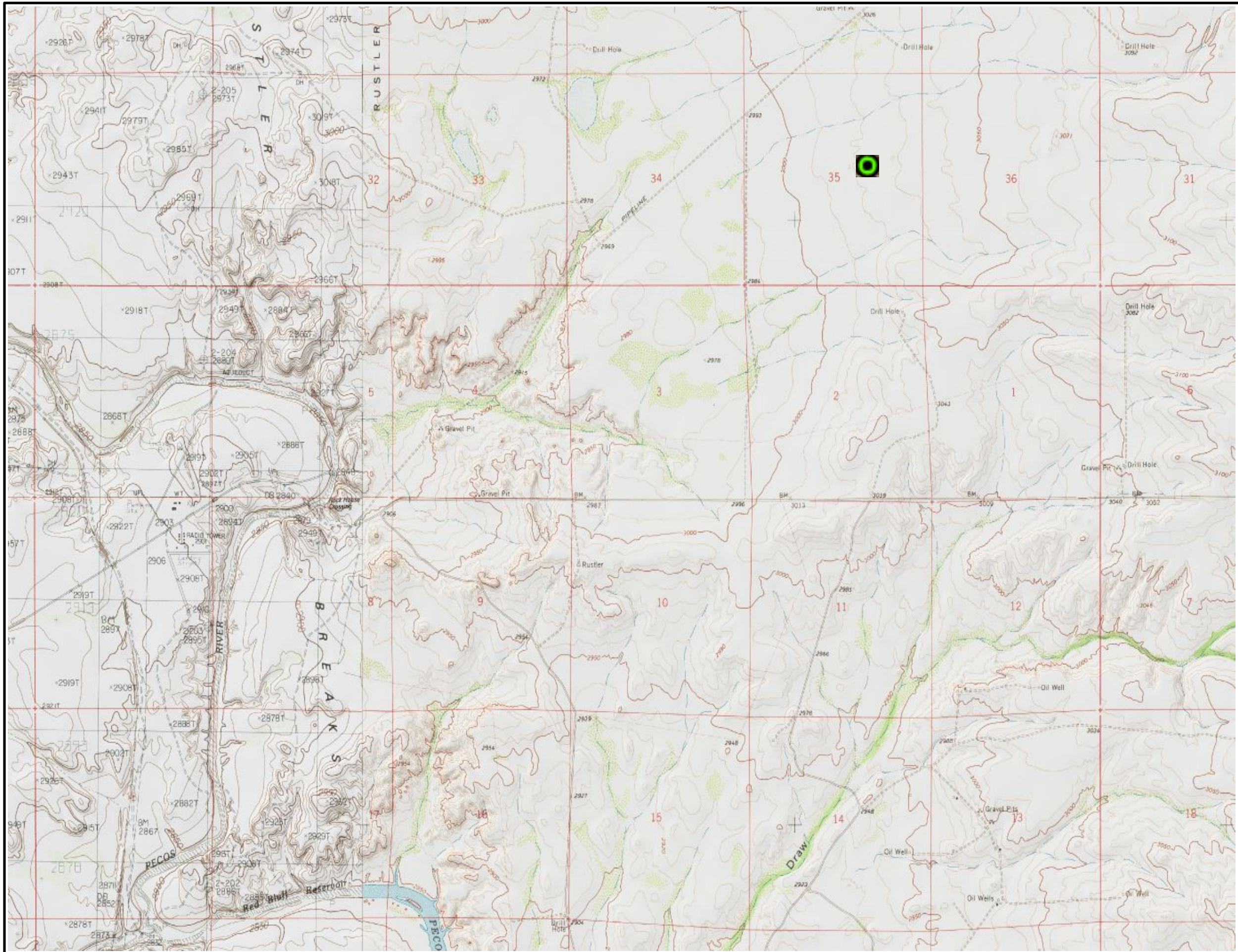
5 Mile Radius From Release

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USGS Well #	Water Level Below Ground Surface (ft.)	Distance from Source (mi)
(1) 320739103584201	140	2.85
(2) 320719103584601	160	2.80
(3) 320532104001701	95	2.95
(4) 320629103533002	265	3.65
(5) 320857103553301	260	4.25
(6) 320454104015601	22	4.70



Author: K. Smith
Rev: 0
Date: 9/22/2019



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Figure 3: Topographic
Assessment Map

North Brushy Draw Federal 35 #001H
32.09314°,-103.95284°
Section 35, Township 25 South, Range 29 East

Mapped Features



North Brushy Draw
Federal 35 #001H Well Site

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Author: K. Smith

Rev: 0

Date: 9/22/2019









Figure 4:
Karst Geology Map

North Brushy Draw Federal 35 #001H
32.09314°,-103.95284°
Section 35, Township 25 South, Range 29 East West

Mapped Features





North Brushy Draw Federal 35 #001H Well Site



Karst Geology

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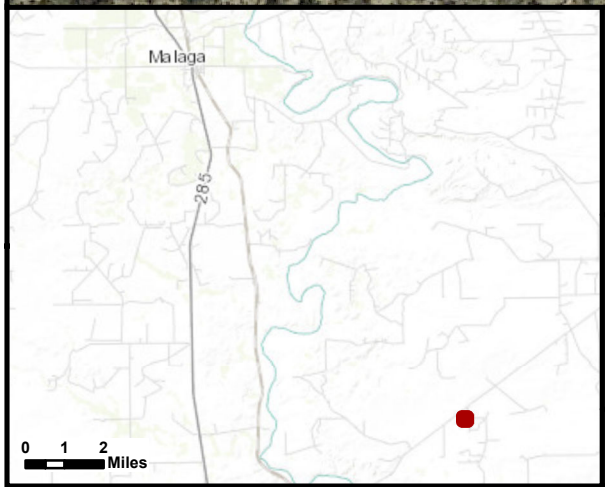
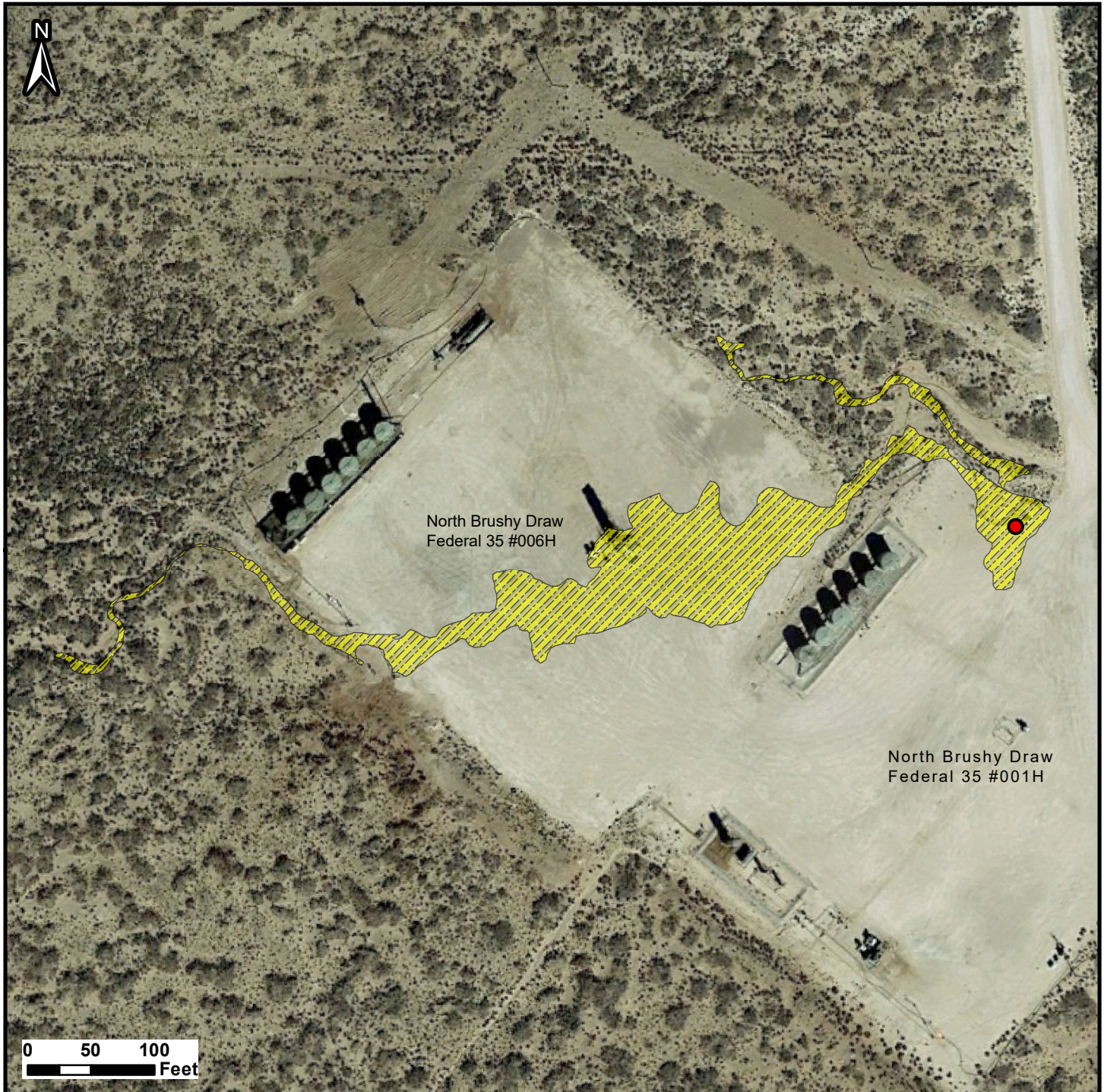




Author: K. Smith

Rev: 0

Date: 9/22/2019



Spill Location Map

North Brushy Draw 35-1H

32.093143206 -103.952834807
Section 35, Township 25 South, Range 29 East

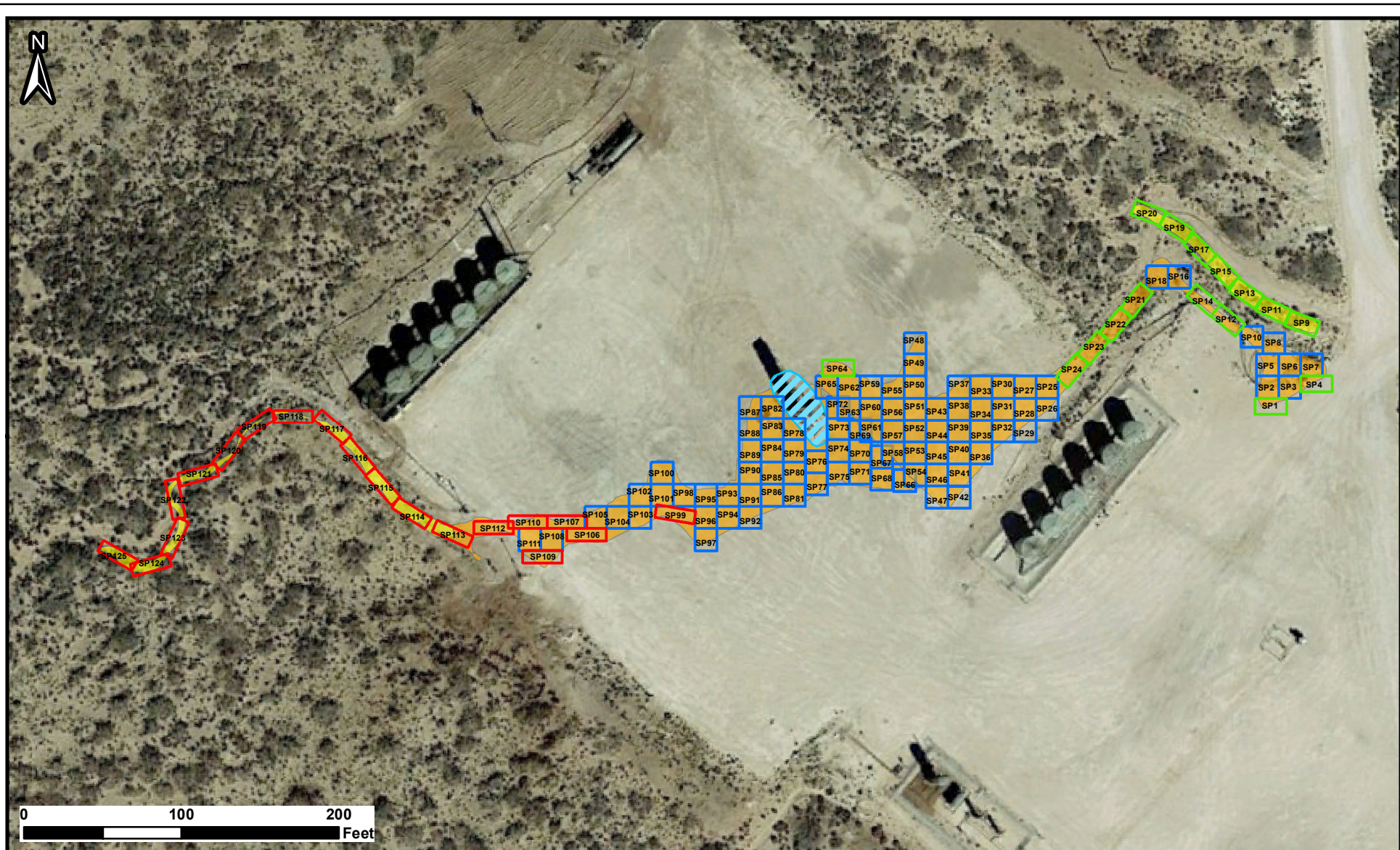
Mapped Features

- Point of Release
- Impacted Area

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Author: A. Asay
Revision: 0
Date: 6/26/2019



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Confirmation Sample Map

**North Brushy Draw 35-1H
Excavation Footprint**

32.093143206 -103.952834807
Section 35, Township 25 South, Range 29 East

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Author: A. Asay

Revision: 0

Date: 9/20/2019



**HRL
COMPLIANCE
SOLUTIONS**

Legend

10' X 20' Grid

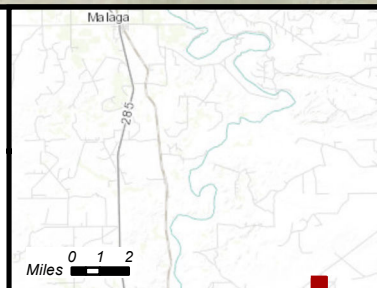
14' X 14' Grid

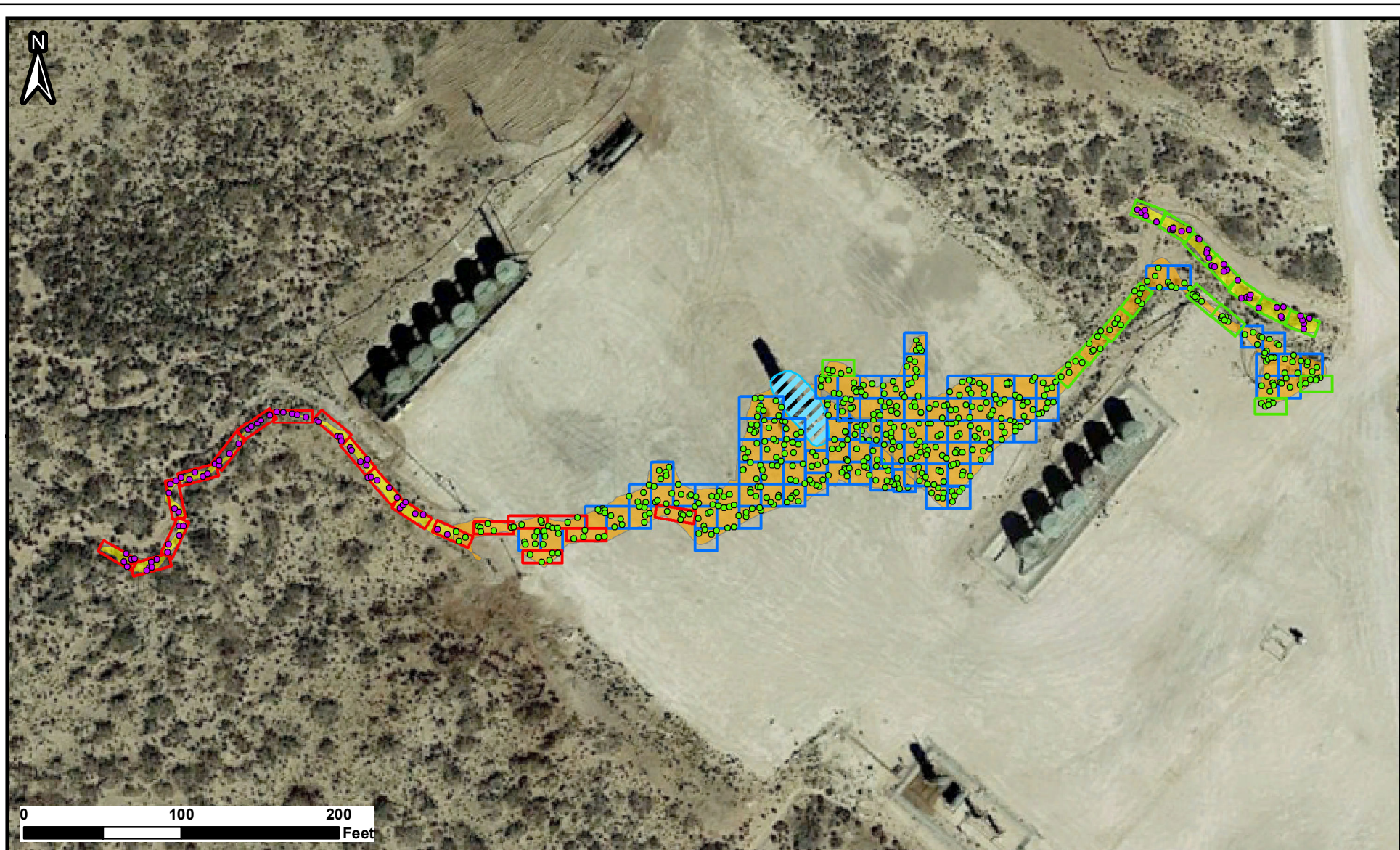
25' X 8' Grid

On-Pad Excavation Area

Off-Pad Excavation Area

Wellhead Buffer Area





WPXENERGY

Confirmation Sample Map

**North Brushy Draw 35-1H
Excavation Footprint**

32.093143206 -103.952834807
Section 35, Township 25 South, Range 29 East

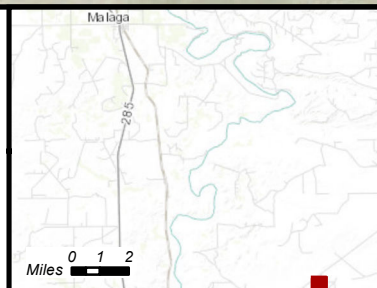
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Author: A. Asay
Revision: 0
Date: 9/20/2019



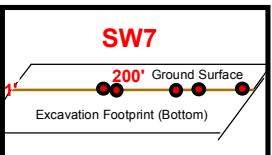
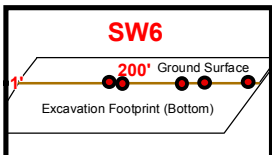
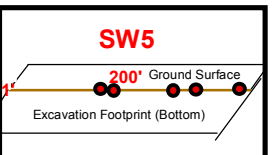
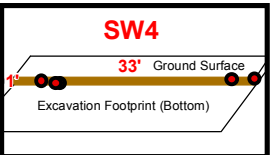
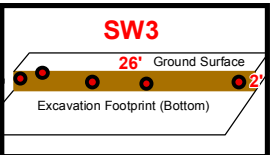
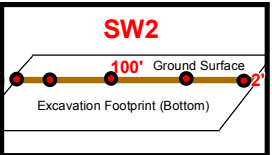
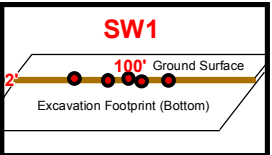
Legend

- On-Pad Excavation Composite Sample Location
- Off-Pad Excavation Composite Sample Location
- 10' X 20' Grid
- 14' X 14' Grid
- 25' X 8' Grid
- On-Pad Excavation Area
- Off-Pad Excavation Area
- Wellhead Buffer Area





Composite Sample Diagrams



Confirmation Sample Map
WPXENERGY North Brusy Draw 35-1H Sidewalls
 32.093143206 -103.952834807
 Section 35, Township 25 South, Range 29 East

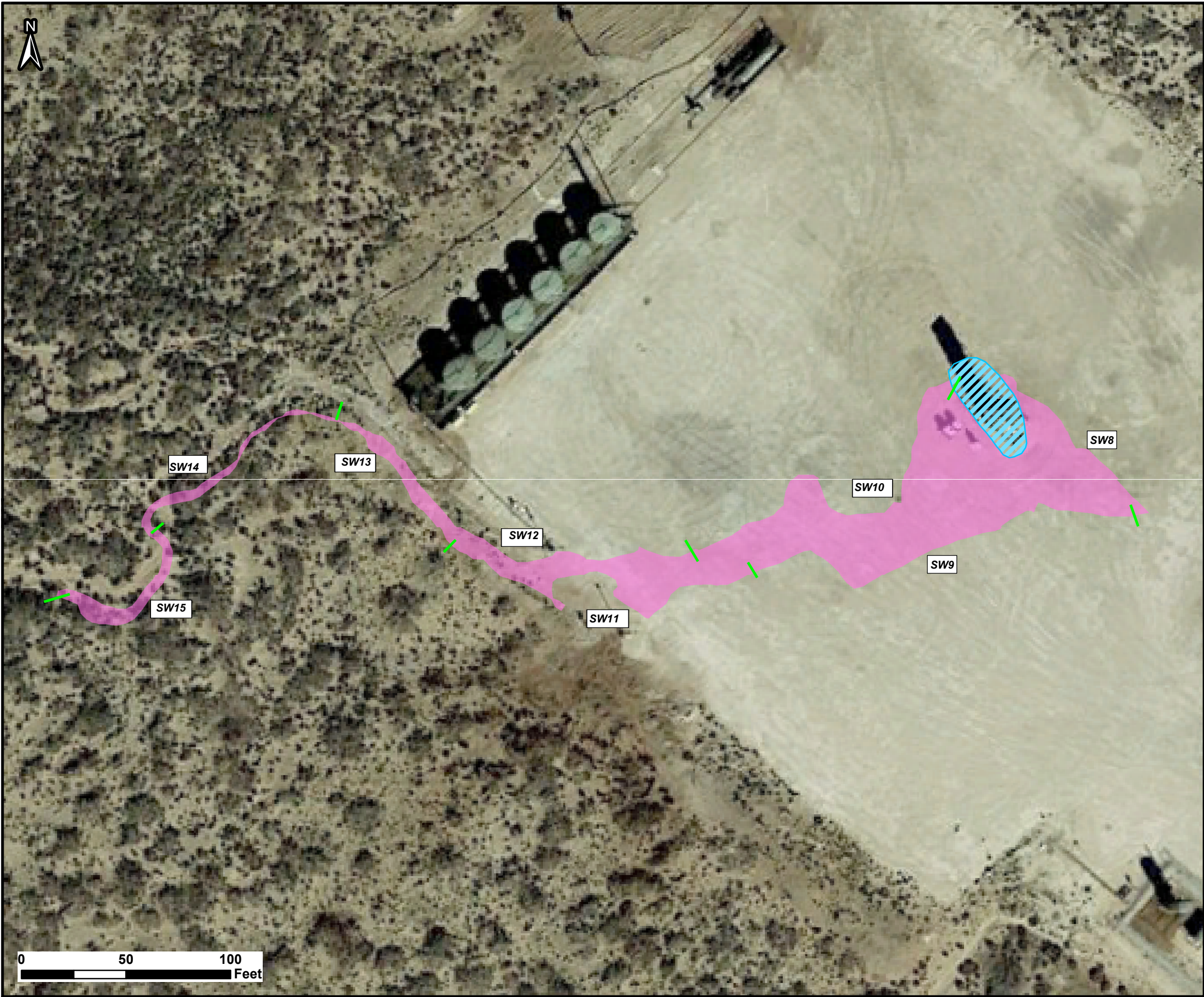
Mapped Features

- Sidewall Sample Location
- On-Pad Excavation Area
- Off-Pad Excavation Area

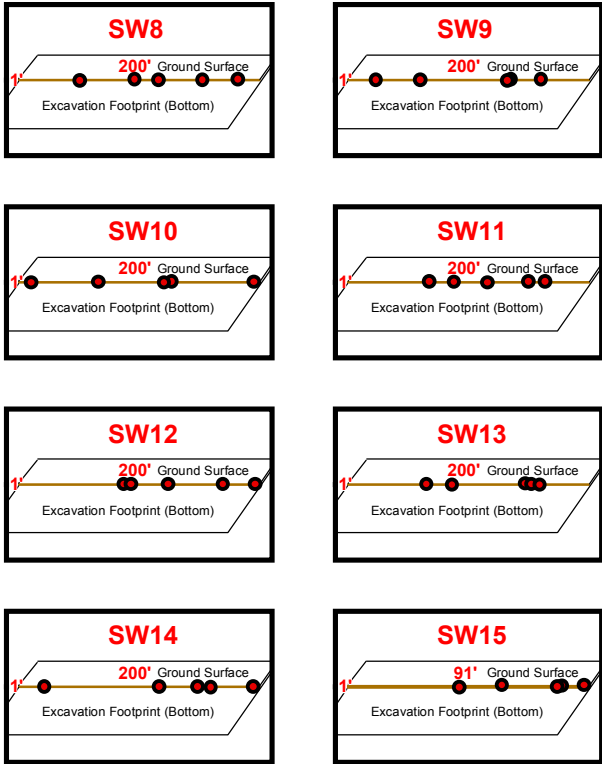
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Author: A. Asay
 Revision: 0
 Date: 9/20/2019



Composite Sample Diagrams



Confirmation Sample Map

North Brusy Draw 35-1H Sidewalls
32.093143206 -103.952834807
Section 35, Township 25 South, Range 29 East

Mapped Features

- Sidewall Sample Location
- Western Excavation Area
- Wellhead Buffer Area

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Author: A. Asay
Revision: 0
Date: 9/20/2019



Table A: Laboratory Results Summary

North Brushy Federal #35-1			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
SP1	2	8/12/2109	540	< 0.024	<0.219	<4.9	<9.4	<47	<61.3
SP2	2	8/12/2109	83	<0.024	<0.216	<4.8	<8.6	< 43	< 56.4
SP3	2	8/12/2109	310	<0.024	<0.219	<4.9	<9.8	<49	< 63.7
SP4	2	8/12/2109	240	<0.024	<0.219	<4.9	<9.4	<47	<61.3
SP5	2	8/12/2109	330	<0.025	<0.225	<5	<9.4	<47	<61.4
SP6	2	8/12/2109	280	<0.025	<0.221	<4.9	<9	<45	<58.9
SP7	2	8/12/2109	300	< 0.0250	<0.225	<5	<9.5	<47	<61.5
SP8	2	8/12/2109	210	<0.024	<0.22	<4.9	<8.8	<44	<57.7
SP9	2	8/12/2109	280	<0.025	<0.225	<5	<9	<45	<59
SP10	2	8/12/2109	130	< 0.0250	<0.221	<4.9	<8.7	<43	<56.6
SP11	2	8/12/2109	230	<0.025	<0.221	<4.9	<8.7	<43	<56.6
SP12	2	8/12/2109	360	<0.025	<0.221	<4.9	<9.5	<48	<62.4
SP13	2	8/12/2109	240	< 0.0250	<0.225	<5	<9.6	<48	<62.6
SP14	2	8/12/2109	210	< 0.0250	<0.224	<5	<9.2	<46	<60.2
SP15	2	8/12/2109	210	< 0.0250	<0.224	<5	<9.5	<47	<60.5
SP16	2	8/12/2109	270	<0.024	<0.22	<4.9	<9.5	<48	<62.4
SP17	2	8/12/2109	250	<0.025	<0.225	<5	<8.4	<42	<55.4
SP18	2	8/12/2109	320	<0.025	<0.224	<4.9	<8.4	<42	<55.3
SP19	2	8/12/2109	250	<0.025	<0.224	<5	<9.5	<48	<62.5
SP20	2	8/12/2109	400	<0.024	<0.217	<4.8	<9.8	<49	<63.6
SP21	2	8/12/2109	71	<0.023	<0.207	<4.6	<10	<50	<64.6
SP22	2	8/12/2109	230	< 0.024	<0.216	<4.8	<9	<45	<58.8
SP23	2	8/12/2109	260	<0.024	<0.219	<4.9	<8.9	<45	<58.8

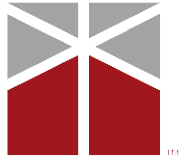
North Brushy Federal #35-1 Excavation Footprint			Analytical Results - Hall Environmental Analysis Laboratory						
NM OCD Table 1 Thresholds			600	10	50	100			
Sample ID	Depth (ft)	Sampling Date	Chloride	Benzene	BTEX	GRO	DRO	MRO	Total TPH
SP24	2	8/12/2109	220	<0.025	<0.223	<4.9	<8.9	<44	<57.8
SP25	2	8/12/2109	260	<0.023	<0.211	<4.7	<8.7	<44	<57.4
SP26	2	8/12/2109	400	< 0.0250	<0.224	<5	<8.7	<43	<56.7
SP27	2	8/12/2109	220	<0.024	<0..22	<4.9	<9.7	<48	<62.6
SP28	2	8/12/2109	220	< 0.023	<0.207	<4.6	<8.9	<45	<58.5
SP29	2	8/12/2109	210	<0.023	<0.21	<4.7	<9.7	<49	<63.4
SP30	2	8/12/2109	260	< 0.023	<0.207	<4.6	<9.1	<45	<58.7
SP31	2	8/12/2109	280	<0.024	<0.212	<4.7	<9.7	<48	<62.4
SP32	2	8/12/2109	270	<0.023	<0.207	<4.6	<9.9	<49	<63.5
SP33	2	8/12/2109	310	<0.024	<0.216	<4.8	<10	<50	<64.8
SP34	2	8/12/2109	220	<0.024	<0.217	<4.8	<9.3	<47	<61.1
SP35	2	8/12/2109	250	<0.025	<0.225	<5	<10	<50	<65
SP36	2	8/12/2109	270	<0.024	<0.216	<4.8	<10	<50	<64.8
SP37	2	8/12/2109	250	<0.024	<0.216	<4.8	<9.3	<47	<61.1
SP38	2	8/12/2109	270	<0.023	<0.207	<4.6	<9.8	<49	<63.4
SP39	2	8/12/2109	260	<0.025	<0.222	<4.9	<9.5	<47	<61.4
SP40	2	8/12/2109	190	<0.025	<0.225	<5	<10	<50	<65
SP41	2	8/12/2109	200	<0.025	<0.224	<5	<9.7	<48	<62.7
SP42	2	8/12/2109	150	<0.024	<0.22	<4.9	<9	<45	<58.9
SP43	2	8/12/2109	200	<0.025	<0.22	<4.9	<9.4	<47	<61.3
SP44	2	8/12/2109	190	<0.024	<0.219	<4.9	<9.8	<49	<63.7
SP45	2	8/12/2109	160	<0.024	<0.219	<4.9	<10	<50	<64.9
SP46	2	8/12/2109	220	<0.025	<0.222	<4.9	<9.6	<48	<62.5
SP47	2	8/12/2109	100	<0.025	<0.225	<5	<10	< 50.0	<65
SP48	2	8/12/2109	140	< 0.0250	<0.225	<5	<9.7	<48	<62.7

North Brushy Federal #35-1			Analytical Results - Hall Environmental Analysis Laboratory						
Excavation Footprint									Reported in mg/kg
NM OCD Table 1 Thresholds			600	10	50	100			
Sample ID	Depth (ft)	Sampling Date	Chloride	Benzene	BTEX	GRO	DRO	MRO	Total TPH
SP49	2	8/12/2109	92	<0.025	<0.224	<5	<9.7	<48	<62.7
SP50	2	8/12/2109	330	< 0.0250	<0.221	<4.9	<9.8	<49	<63.7
SP51	2	8/12/2109	140	<0.025	<0.222	<4.9	<9	<45	<58.9
SP52	2	8/12/2109	160	<0.025	<0.224	<5	<9.5	<48	<62.5
SP53	2	8/12/2109	190.0	<0.025	<0.222	<4.9	<8.4	<42	<55.3
SP54	2	8/12/2109	160	<0.025	<0.224	<5	<9.7	<49	<63.7
SP55	2	8/12/2109	310	< 0.0250	<0.225	<5	<9.3	<47	<61.3
SP56	2	8/12/2109	62	<0.023	<0.21	<4.7	<9.5	<47	<61.2
SP57	2	8/12/2109	200	<0.024	<0.216	<4.8	<9.9	<50	<64.7
SP58	2	8/12/2109	92	<0.025	<0.224	<5	<9.6	<48	<62.6
SP59	2	8/12/2109	66	<0.024	<0.217	<4.8	<8.9	<44	<57.7
SP60	2	8/12/2109	170	<0.024	<0.212	<4.7	<8.6	<43	<56.3
SP61	2	8/12/2109	240	<0.024	<0.213	<4.7	<10	<50	<64.7
SP62	2	8/12/2109	240	<0.023	<0.211	<4.7	<9.8	<49	<63.5
SP63	2	8/12/2109	160	<0.024	<0.216	<4.8	<9.3	<46	<60.1
SP64	2	8/12/2109	260	<0.023	<0.21	<4.7	<8.9	<45	<58.6
SP65	2	8/12/2109	310	< 0.0250	<0.24	<5	<9.9	<49	<63.9
SP66	2	8/23/2019	230	<0.024	<0.217	<4.8	<9.7	<49	<63.5
SP67	2	8/23/2019	<60	<0.024	<0.216	<4.8	<9.4	<47	<61.2
SP68	2	8/23/2019	310	<0.024	<0.216	<4.8	<9.8	<49	<63.6
SP69	2	8/23/2019	93	<0.025	<0.221	<4.9	<9.5	<48	<62.4
SP70	2	8/23/2019	<60	<0.024	<0.212	<4.7	<9.7	<48	<62.4
SP71	2	8/23/2019	210	<0.025	<0.224	<5	<9.3	<47	<61.3

North Brushy Federal #35-1			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
SP72	2	8/23/2019	<60	<0.023	<0.211	<4.7	<9.3	<47	<61
SP73	2	8/23/2019	64	<0.024	<0.216	<4.8	<9.9	<50	<64.7
SP74	2	8/23/2019	<60	<0.024	<0.22	<4.9	<9.9	<49	<63.8
SP75	2	8/23/2019	110	<0.024	<0.22	<4.9	<9.5	<47	<61.4
SP76	2	8/23/2019	76	<0.025	<0.222	<4.9	<9.9	<49	<63.8
SP77	2	8/23/2019	110	<0.023	<0.21	<4.7	<9.9	<49	<63.6
SP78	2	8/23/2019	490	<0.024	<0.21	<4.7	<10	<50	<64.7
SP79	2	8/23/2019	370	<0.023	<0.207	<4.6	<9.8	<49	<63.4
SP80	2	8/23/2019	530	<0.025	<0.221	<4.9	<10	<50	<64.9
SP81	2	8/23/2019	210	<0.025	<0.224	<5	<9.8	<49	<63.8
SP82	2	8/23/2019	360	<0.024	<0.22	<4.9	<9.3	<46	60.2
SP83	2	8/23/2019	120	<0.025	<0.222	<4.9	<10	<50	<64.9
SP84	2	8/23/2019	140	<0.025	<0.221	<4.9	<9.4	<47	<61.3
SP85	2	8/23/2019	<60	<0.025	<0.221	<4.9	<9.4	<47	<61.3
SP86	2	8/23/2019	530	<0.025	<0.025	<5	<9.8	<49	<63.8
SP87	2	8/23/2019	200	<0.024	<0.22	<4.9	<10	<50	<64.9
SP88	2	8/23/2019	<60	<0.025	<0.225	<5	<9.3	<47	<61.3
SP89	2	8/23/2019	70	<0.025	<0.225	<5	<9.6	<48	<62.6
SP90	2	8/23/2019	170	<0.025	<0.225	<5	<9.1	<45	<59.1
SP91	1	8/23/2019	120	<0.025	<0.225	<5	<9.9	<49	<63.9
SP92	1	8/23/2019	190	<0.025	<0.222	<4.9	<9.6	<48	<62.5
SP93	2	8/23/2019	200	<0.025	<0.224	<5	<9	<45	<59
SP94	2	8/23/2019	230	<0.025	<0.222	<4.9	<9.5	<48	<62.4
SP95	2	8/23/2019	190	<0.025	<0.225	<5	<9.6	<48	<52.6
SP96	2	8/23/2019	520	<0.025	<0.222	<4.9	<10	<50	<64.9
SP97	2	8/23/2019	220	<0.025	<0.222	<4.9	<9.9	<50	<64.8
SP98	2	8/23/2019	430	<0.025	<0.225	<5	<9.4	<47	<61.4

North Brushy Federal #35-1			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
SP99	2	8/23/2019	930	<0.025	<0.222	<4.9	<9.9	<50	<64.8
	2	9/18/2019	200						
SP100	2	8/23/2019	210	<0.025	<0.221	<4.9	<9.5	<47	<61.4
SP101	2	8/23/2019	230	<0.025	<0.221	<4.9	<9.6	<48	<62.5
SP102	2	8/23/2019	140	<0.025	<0.225	<5	<9.4	<47	<61.4
SP103	2	8/23/2019	290	<0.025	<0.224	<5	<9.6	<48	<62.6
SP104	2	8/23/2019	170	<0.025	<0.222	<4.9	<9.1	<45	<59
SP105	2	8/23/2019	200	<0.025	<0.225	<5	<9.5	<48	<62.5
SP106	2	8/23/2019	480	<0.025	<0.222	<4.9	<9.2	<46	<60.1
SP107	2	8/23/2019	320	<0.025	<0.222	<4.9	<8.2	<41	<54.1
SP108	2	8/23/2019	240	<0.025	<0.224	<5	<9.5	<47	<61.5
SP109	2	8/23/2019	<60	<0.025	<0.221	<4.9	<7.8	<39	<41.7
SP110	2	8/23/2019	<60	<0.025	<0.221	<4.9	<10	<50	<64.9
SP111	2	8/23/2019	<60	<0.025	<0.225	<5	<9.6	<48	<62.6
SP112	2	8/23/2019	<60	<0.025	<0.221	<4.9	<9.6	<48	<62.5
SP113	2	8/23/2019	<60	<0.025	<0.221	<4.9	<9.8	<49	<63.7
SP114	2	8/23/2019	<60	<0.025	<0.225	<5	<9.4	<47	<63.4
SP115	2	8/23/2019	520	<0.025	<0.224	<5	<9.8	<49	<63.8
SP116	2	8/23/2019	<60	<0.025	<0.221	<4.9	<9	<45	<58.9
SP117	2	8/23/2019	880	<0.021	<0.185	<4.1	<9	<45	<58.1
	2	9/18/2019	200						
SP118	2	8/23/2019	560	<0.025	<0.221	<4.9	<9.2	<46	<60.1
SP119	2	8/23/2019	190	<0.025	<0.221	<4.9	<9.6	<48	<62.5
SP120	2	8/23/2019	130	<0.025	<0.225	<5	<9.4	<47	<61.4
SP121	2	8/23/2019	200	<0.025	<0.221	<4.9	<9.3	<46	<60.2
SP122	2	8/23/2019	370	<0.025	<0.221	<4.9	<7.9	<40	<52.8
SP123	2	8/23/2019	240	<0.025	<0.221	<4.9	<10	<50	<64.9
SP124	2	8/23/2019	410	<0.025	<0.224	<5	<10	<50	<65
SP125	2	8/23/2019	230	<0.024	<0.216	<4.8	<9.2	<46	<60

North Brushy Federal #35-1			Analytical Results - Hall Environmental Analysis Laboratory						
Sidewalls			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
SW1	Composite	8/12/2019	210	<0.024	<0.216	<4.8	<9	<45	<58.8
SW2	Composite	8/12/2019	290	<0.025	<0.225	<5	<9.4	<47	<61.4
SW3	Composite	8/12/2019	180	<0.024	<0.215	<4.8	<9.3	<46	<60.1
SW4	Composite	8/12/2019	270	<0.025	<0.21	<4.9	<9.5	<47	<61.4
SW5	Composite	8/12/2019	220	<0.024	<0.213	<4.7	<9.1	<46	<59.8
SW6	Composite	8/12/2019	600	<0.024	<0.217	<4.8	<9.2	<46	<60
SW7	Composite	8/12/2019	230	<0.025	<0.223	<4.9	<9.7	<49	<63.6
SW8	Composite	8/23/2019	140	<0.024	<0.212	<4.7	<8	<40	<52.7
SW9	Composite	8/23/2019	290	<0.024	<0.212	<4.7	<9.5	<47	<61.2
SW10	Composite	8/23/2019	650	<0.024	<0.212	<4.7	<8.8	<44	<57.5
	Composite	9/18/2019	250						
SW11	Composite	8/23/2019	430	<0.024	<0.216	<4.8	<9.3	<46	<60.1
SW12	Composite	8/23/2019	360	<0.025	<0.225	<5	<9	<45	<59
SW13	Composite	8/23/2019	410	<0.025	<0.224	<5	<8.4	<42	55.4
SW14	Composite	8/23/2019	180	<0.025	<0.224	<5	<9.6	<48	<52.6
SW15	Composite	8/23/2019	350	<0.024	<0.22	<4.9	<9.4	<47	<61.3



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	NAB1921457241
District RP	2RP-5544
Facility ID	
Application ID	pAB1921456965

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) NAB1921457241
Contact mailing address: 5315 Buena Vista Drive, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.09314 Longitude -103.95284
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: North Brushy Draw Federal 35 #001H	Site Type: Well Pad
Date of Discovery: June 23, 2019 @ 5:00 PM	API# (if applicable) 30-015-39753

Unit Letter	Section	Township	Range	County
B	35	25S	29E	Eddy

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private

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) 130	Volume Recovered (bbls) 40
	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


Equipment failure at 2-inch butterfly valve at the header.

Incident ID	NAB1921457241
District RP	2RP-5544
Facility ID	
Application ID	pAB1921456965

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), Jim Amos (BLM-CFO), Jim Griswold (NMOCD) on Monday, June 24 at approximately 11:45 AM via phone call. Follow-up email was sent to the group.	

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: 07/05/2019
email: deborah.watson@wpenergy.com	Telephone: 575-885-7561
<u>OCD Only</u>	
Received by: <u>Amalia Bustamante</u> Date: <u>8/2/2019</u>	



Appendix B: Confirmation Sampling Notification

From: [Watson, Debbie](#)
To: [Bratcher, Mike, EMNRD](#); [Amos, James](#); [Hamlet, Robert, EMNRD](#); [Venegas, Victoria, EMNRD](#)
Cc: [Watson, Debbie](#); [Kevin Smith](#)
Subject: 2RP-5544 North Brushy Draw Federal 35 #001 confirmation sampling notification
Date: Thursday, August 08, 2019 11:36:41 AM

Good Morning,

This email serves as notification that WPX has scheduled confirmation sampling at the North Brushy Draw 35-1 for Monday, August 12. Sampling is scheduled to begin around noon. Cleanup at this site has been broken into phases-this first portion of sampling includes about 50% of impacted area.

Please contact me with any questions.

Thank you,

Debbie

Deborah Watson
Environmental 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); ["Amos.James"](mailto:Amos.James@state.nm.us); ["Billings.Bradford, EMNRD"](mailto:Billings.Bradford@state.nm.us)
Cc: ["deborah.watson@wpenergy.com"](mailto:deborah.watson@wpenergy.com); [Lori O'Brien](mailto:Lori.O'Brien@wpenergy.com)
Subject: North Brushy Draw Federal #35-1 Confirmation Sampling Notification (2RP-5544)
Date: Wednesday, August 21, 2019 8:03:00 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)

Good Morning,

This email serves as notification that WPX has scheduled confirmation sampling at the North Brushy Draw Federal #35-1 (2RP-5544) for Friday, August 23. HRL is scheduled to begin sampling around 9 AM. The sampling will take place throughout the Western section of the impacted area as remediation has been completed in two phases.

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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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); ["Amos.James"](mailto:Amos.James@state.nm.us); ["Billings.Bradford, EMNRD"](mailto:Billings.Bradford@state.nm.us)
Cc: ["deborah.watson@wpenergy.com"](mailto:deborah.watson@wpenergy.com); [Lori O'Brien](mailto:Lori.O'Brien@state.nm.us)
Subject: North Brushy Draw Federal #35-1 Confirmation Sampling Notification (2RP-5544) - Resamples SP99, SP117, SW10
Date: Monday, September 16, 2019 8:37:00 AM
Attachments: [image007.png](#)
[image008.png](#)
[image009.png](#)

Good Morning,

This email serves as confirmation sampling notification for the North Brushy Draw Federal #35-1 (2RP-5544). The samples SP99, SP117 and SW10 from the August 23 sampling event did not clear the 600ppm chloride closure standard. HRL is scheduled to begin sampling on Wednesday, September 18 around 9:00 AM.

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

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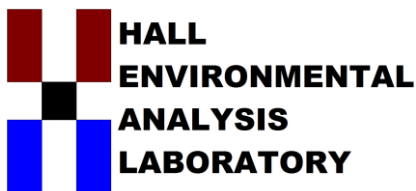


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Appendix C:

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 21, 2019

Deborah Watson

WPX Energy

5315 Buena Vista Drive

Carlsbad, NM 88220

TEL: (505) 386-9693

FAX:

RE: North Brushy Draw 35 1

OrderNo.: 1908856

Dear Deborah Watson:

Hall Environmental Analysis Laboratory received 72 sample(s) on 8/15/2019 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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP1

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 1:00:00 PM

Lab ID: 1908856-001

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	540	60		mg/Kg	20	8/16/2019 8:55:58 PM	46862
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/17/2019 9:55:11 PM	46852
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/17/2019 9:55:11 PM	46852
Surr: DNOP	89.2	70-130		%Rec	1	8/17/2019 9:55:11 PM	46852
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/16/2019 7:23:51 PM	46828
Surr: BFB	96.8	77.4-118		%Rec	1	8/16/2019 7:23:51 PM	46828
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/16/2019 7:23:51 PM	46828
Toluene	ND	0.049		mg/Kg	1	8/16/2019 7:23:51 PM	46828
Ethylbenzene	ND	0.049		mg/Kg	1	8/16/2019 7:23:51 PM	46828
Xylenes, Total	ND	0.097		mg/Kg	1	8/16/2019 7:23:51 PM	46828
Surr: 4-Bromofluorobenzene	89.4	80-120		%Rec	1	8/16/2019 7:23:51 PM	46828

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP2

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 1:00:00 PM

Lab ID: 1908856-002

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	83	60		mg/Kg	20	8/16/2019 9:33:12 PM	46862
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	8.6		mg/Kg	1	8/17/2019 10:19:48 PM	46852
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	8/17/2019 10:19:48 PM	46852
Surr: DNOP	90.8	70-130		%Rec	1	8/17/2019 10:19:48 PM	46852
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/16/2019 8:32:28 PM	46828
Surr: BFB	101	77.4-118		%Rec	1	8/16/2019 8:32:28 PM	46828
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/16/2019 8:32:28 PM	46828
Toluene	ND	0.048		mg/Kg	1	8/16/2019 8:32:28 PM	46828
Ethylbenzene	ND	0.048		mg/Kg	1	8/16/2019 8:32:28 PM	46828
Xylenes, Total	ND	0.097		mg/Kg	1	8/16/2019 8:32:28 PM	46828
Surr: 4-Bromofluorobenzene	95.6	80-120		%Rec	1	8/16/2019 8:32:28 PM	46828

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP3

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 1:00:00 PM

Lab ID: 1908856-003

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	310	60		mg/Kg	20	8/16/2019 10:10:25 PM	46862
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/17/2019 10:44:23 PM	46852
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/17/2019 10:44:23 PM	46852
Surr: DNOP	90.5	70-130		%Rec	1	8/17/2019 10:44:23 PM	46852
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/16/2019 8:55:20 PM	46828
Surr: BFB	101	77.4-118		%Rec	1	8/16/2019 8:55:20 PM	46828
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/16/2019 8:55:20 PM	46828
Toluene	ND	0.049		mg/Kg	1	8/16/2019 8:55:20 PM	46828
Ethylbenzene	ND	0.049		mg/Kg	1	8/16/2019 8:55:20 PM	46828
Xylenes, Total	ND	0.098		mg/Kg	1	8/16/2019 8:55:20 PM	46828
Surr: 4-Bromofluorobenzene	93.8	80-120		%Rec	1	8/16/2019 8:55:20 PM	46828

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 **1908856**Date Reported: **8/21/2019****CLIENT:** WPX Energy**Client Sample ID:** SP4**Project:** North Brushy Draw 35 1**Collection Date:** 8/12/2019 1:00:00 PM**Lab ID:** 1908856-004**Matrix:** SOIL**Received Date:** 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	240	60		mg/Kg	20	8/16/2019 10:22:49 PM	46862
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/17/2019 11:08:58 PM	46852
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/17/2019 11:08:58 PM	46852
Surr: DNOP	88.7	70-130		%Rec	1	8/17/2019 11:08:58 PM	46852
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/16/2019 9:18:10 PM	46828
Surr: BFB	99.2	77.4-118		%Rec	1	8/16/2019 9:18:10 PM	46828
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/16/2019 9:18:10 PM	46828
Toluene	ND	0.049		mg/Kg	1	8/16/2019 9:18:10 PM	46828
Ethylbenzene	ND	0.049		mg/Kg	1	8/16/2019 9:18:10 PM	46828
Xylenes, Total	ND	0.097		mg/Kg	1	8/16/2019 9:18:10 PM	46828
Surr: 4-Bromofluorobenzene	92.3	80-120		%Rec	1	8/16/2019 9:18:10 PM	46828

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP5

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 1:00:00 PM

Lab ID: 1908856-005

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	330	60		mg/Kg	20	8/16/2019 10:35:13 PM	46862
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/17/2019 11:33:33 PM	46852
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/17/2019 11:33:33 PM	46852
Surr: DNOP	92.2	70-130		%Rec	1	8/17/2019 11:33:33 PM	46852
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/16/2019 9:40:58 PM	46828
Surr: BFB	98.6	77.4-118		%Rec	1	8/16/2019 9:40:58 PM	46828
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/16/2019 9:40:58 PM	46828
Toluene	ND	0.050		mg/Kg	1	8/16/2019 9:40:58 PM	46828
Ethylbenzene	ND	0.050		mg/Kg	1	8/16/2019 9:40:58 PM	46828
Xylenes, Total	ND	0.10		mg/Kg	1	8/16/2019 9:40:58 PM	46828
Surr: 4-Bromofluorobenzene	91.0	80-120		%Rec	1	8/16/2019 9:40:58 PM	46828

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP6

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 1:00:00 PM

Lab ID: 1908856-006

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	280	60		mg/Kg	20	8/16/2019 10:47:37 PM	46862
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	8/17/2019 11:58:06 PM	46852
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/17/2019 11:58:06 PM	46852
Surr: DNOP	92.8	70-130		%Rec	1	8/17/2019 11:58:06 PM	46852
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/16/2019 10:03:55 PM	46828
Surr: BFB	103	77.4-118		%Rec	1	8/16/2019 10:03:55 PM	46828
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/16/2019 10:03:55 PM	46828
Toluene	ND	0.049		mg/Kg	1	8/16/2019 10:03:55 PM	46828
Ethylbenzene	ND	0.049		mg/Kg	1	8/16/2019 10:03:55 PM	46828
Xylenes, Total	ND	0.098		mg/Kg	1	8/16/2019 10:03:55 PM	46828
Surr: 4-Bromofluorobenzene	93.9	80-120		%Rec	1	8/16/2019 10:03:55 PM	46828

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP7

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 1:00:00 PM

Lab ID: 1908856-007

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	300	59		mg/Kg	20	8/16/2019 11:00:02 PM	46862
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/18/2019 12:22:30 AM	46852
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/18/2019 12:22:30 AM	46852
Surr: DNOP	87.4	70-130		%Rec	1	8/18/2019 12:22:30 AM	46852
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/16/2019 10:26:57 PM	46828
Surr: BFB	108	77.4-118		%Rec	1	8/16/2019 10:26:57 PM	46828
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/16/2019 10:26:57 PM	46828
Toluene	ND	0.050		mg/Kg	1	8/16/2019 10:26:57 PM	46828
Ethylbenzene	ND	0.050		mg/Kg	1	8/16/2019 10:26:57 PM	46828
Xylenes, Total	ND	0.10		mg/Kg	1	8/16/2019 10:26:57 PM	46828
Surr: 4-Bromofluorobenzene	98.9	80-120		%Rec	1	8/16/2019 10:26:57 PM	46828

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP8

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 1:00:00 PM

Lab ID: 1908856-008

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	210	60		mg/Kg	20	8/16/2019 11:12:26 PM	46862
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	8/18/2019 12:46:56 AM	46852
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	8/18/2019 12:46:56 AM	46852
Surr: DNOP	84.4	70-130		%Rec	1	8/18/2019 12:46:56 AM	46852
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/16/2019 11:59:29 PM	46828
Surr: BFB	102	77.4-118		%Rec	1	8/16/2019 11:59:29 PM	46828
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/16/2019 11:59:29 PM	46828
Toluene	ND	0.049		mg/Kg	1	8/16/2019 11:59:29 PM	46828
Ethylbenzene	ND	0.049		mg/Kg	1	8/16/2019 11:59:29 PM	46828
Xylenes, Total	ND	0.098		mg/Kg	1	8/16/2019 11:59:29 PM	46828
Surr: 4-Bromofluorobenzene	93.7	80-120		%Rec	1	8/16/2019 11:59:29 PM	46828

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP9

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 1:00:00 PM

Lab ID: 1908856-009

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	280	60		mg/Kg	20	8/16/2019 11:24:50 PM	46862
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	8/18/2019 1:11:30 AM	46852
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/18/2019 1:11:30 AM	46852
Surr: DNOP	67.0	70-130	S	%Rec	1	8/18/2019 1:11:30 AM	46852
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/17/2019 12:22:31 AM	46828
Surr: BFB	102	77.4-118		%Rec	1	8/17/2019 12:22:31 AM	46828
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 12:22:31 AM	46828
Toluene	ND	0.050		mg/Kg	1	8/17/2019 12:22:31 AM	46828
Ethylbenzene	ND	0.050		mg/Kg	1	8/17/2019 12:22:31 AM	46828
Xylenes, Total	ND	0.10		mg/Kg	1	8/17/2019 12:22:31 AM	46828
Surr: 4-Bromofluorobenzene	92.2	80-120		%Rec	1	8/17/2019 12:22:31 AM	46828

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP10

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 1:00:00 PM

Lab ID: 1908856-010

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	130	60		mg/Kg	20	8/16/2019 11:37:15 PM	46862
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	8/18/2019 1:36:03 AM	46852
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	8/18/2019 1:36:03 AM	46852
Surr: DNOP	79.6	70-130		%Rec	1	8/18/2019 1:36:03 AM	46852
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/17/2019 12:45:38 AM	46828
Surr: BFB	96.7	77.4-118		%Rec	1	8/17/2019 12:45:38 AM	46828
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 12:45:38 AM	46828
Toluene	ND	0.049		mg/Kg	1	8/17/2019 12:45:38 AM	46828
Ethylbenzene	ND	0.049		mg/Kg	1	8/17/2019 12:45:38 AM	46828
Xylenes, Total	ND	0.098		mg/Kg	1	8/17/2019 12:45:38 AM	46828
Surr: 4-Bromofluorobenzene	88.2	80-120		%Rec	1	8/17/2019 12:45:38 AM	46828

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP11

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 1:00:00 PM

Lab ID: 1908856-011

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	230	60		mg/Kg	20	8/16/2019 11:49:40 PM	46862
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	8/18/2019 12:37:51 AM	46853
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	8/18/2019 12:37:51 AM	46853
Surr: DNOP	85.1	70-130		%Rec	1	8/18/2019 12:37:51 AM	46853
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/17/2019 1:08:40 AM	46828
Surr: BFB	100	77.4-118		%Rec	1	8/17/2019 1:08:40 AM	46828
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 1:08:40 AM	46828
Toluene	ND	0.049		mg/Kg	1	8/17/2019 1:08:40 AM	46828
Ethylbenzene	ND	0.049		mg/Kg	1	8/17/2019 1:08:40 AM	46828
Xylenes, Total	ND	0.098		mg/Kg	1	8/17/2019 1:08:40 AM	46828
Surr: 4-Bromofluorobenzene	91.3	80-120		%Rec	1	8/17/2019 1:08:40 AM	46828

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP12

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 1:00:00 PM

Lab ID: 1908856-012

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	360	60		mg/Kg	20	8/16/2019 9:10:54 PM	46866
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/18/2019 1:44:43 AM	46853
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/18/2019 1:44:43 AM	46853
Surr: DNOP	55.9	70-130	S	%Rec	1	8/18/2019 1:44:43 AM	46853
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/17/2019 1:31:45 AM	46828
Surr: BFB	99.7	77.4-118		%Rec	1	8/17/2019 1:31:45 AM	46828
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 1:31:45 AM	46828
Toluene	ND	0.049		mg/Kg	1	8/17/2019 1:31:45 AM	46828
Ethylbenzene	ND	0.049		mg/Kg	1	8/17/2019 1:31:45 AM	46828
Xylenes, Total	ND	0.098		mg/Kg	1	8/17/2019 1:31:45 AM	46828
Surr: 4-Bromofluorobenzene	89.6	80-120		%Rec	1	8/17/2019 1:31:45 AM	46828

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP13

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 1:45:00 PM

Lab ID: 1908856-013

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	240	60		mg/Kg	20	8/16/2019 9:48:07 PM	46866
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/18/2019 2:07:09 AM	46853
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/18/2019 2:07:09 AM	46853
Surr: DNOP	56.7	70-130	S	%Rec	1	8/18/2019 2:07:09 AM	46853
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/17/2019 1:54:50 AM	46828
Surr: BFB	105	77.4-118		%Rec	1	8/17/2019 1:54:50 AM	46828
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 1:54:50 AM	46828
Toluene	ND	0.050		mg/Kg	1	8/17/2019 1:54:50 AM	46828
Ethylbenzene	ND	0.050		mg/Kg	1	8/17/2019 1:54:50 AM	46828
Xylenes, Total	ND	0.10		mg/Kg	1	8/17/2019 1:54:50 AM	46828
Surr: 4-Bromofluorobenzene	94.3	80-120		%Rec	1	8/17/2019 1:54:50 AM	46828

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP14

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 1:45:00 PM

Lab ID: 1908856-014

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	210	60		mg/Kg	20	8/16/2019 10:00:31 PM	46866
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	8/18/2019 2:29:22 AM	46853
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/18/2019 2:29:22 AM	46853
Surr: DNOP	48.9	70-130	S	%Rec	1	8/18/2019 2:29:22 AM	46853
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/17/2019 2:17:55 AM	46828
Surr: BFB	103	77.4-118		%Rec	1	8/17/2019 2:17:55 AM	46828
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 2:17:55 AM	46828
Toluene	ND	0.050		mg/Kg	1	8/17/2019 2:17:55 AM	46828
Ethylbenzene	ND	0.050		mg/Kg	1	8/17/2019 2:17:55 AM	46828
Xylenes, Total	ND	0.099		mg/Kg	1	8/17/2019 2:17:55 AM	46828
Surr: 4-Bromofluorobenzene	92.6	80-120		%Rec	1	8/17/2019 2:17:55 AM	46828

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP15

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 1:45:00 PM

Lab ID: 1908856-015

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	210	60		mg/Kg	20	8/16/2019 10:12:56 PM	46866
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/18/2019 2:51:42 AM	46853
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/18/2019 2:51:42 AM	46853
Surr: DNOP	41.0	70-130	S	%Rec	1	8/18/2019 2:51:42 AM	46853
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/17/2019 2:41:07 AM	46828
Surr: BFB	100	77.4-118		%Rec	1	8/17/2019 2:41:07 AM	46828
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 2:41:07 AM	46828
Toluene	ND	0.050		mg/Kg	1	8/17/2019 2:41:07 AM	46828
Ethylbenzene	ND	0.050		mg/Kg	1	8/17/2019 2:41:07 AM	46828
Xylenes, Total	ND	0.099		mg/Kg	1	8/17/2019 2:41:07 AM	46828
Surr: 4-Bromofluorobenzene	89.9	80-120		%Rec	1	8/17/2019 2:41:07 AM	46828

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP16

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 1:45:00 PM

Lab ID: 1908856-016

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	270	60		mg/Kg	20	8/16/2019 11:14:59 PM	46866
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/18/2019 3:14:03 AM	46853
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/18/2019 3:14:03 AM	46853
Surr: DNOP	39.4	70-130	S	%Rec	1	8/18/2019 3:14:03 AM	46853
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/17/2019 3:04:21 AM	46828
Surr: BFB	99.0	77.4-118		%Rec	1	8/17/2019 3:04:21 AM	46828
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/17/2019 3:04:21 AM	46828
Toluene	ND	0.049		mg/Kg	1	8/17/2019 3:04:21 AM	46828
Ethylbenzene	ND	0.049		mg/Kg	1	8/17/2019 3:04:21 AM	46828
Xylenes, Total	ND	0.098		mg/Kg	1	8/17/2019 3:04:21 AM	46828
Surr: 4-Bromofluorobenzene	88.6	80-120		%Rec	1	8/17/2019 3:04:21 AM	46828

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP17

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 1:45:00 PM

Lab ID: 1908856-017

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	250	60		mg/Kg	20	8/16/2019 11:27:23 PM	46866
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	8.4		mg/Kg	1	8/18/2019 3:36:27 AM	46853
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	8/18/2019 3:36:27 AM	46853
Surr: DNOP	44.0	70-130	S	%Rec	1	8/18/2019 3:36:27 AM	46853
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/17/2019 3:27:33 AM	46828
Surr: BFB	97.3	77.4-118		%Rec	1	8/17/2019 3:27:33 AM	46828
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 3:27:33 AM	46828
Toluene	ND	0.050		mg/Kg	1	8/17/2019 3:27:33 AM	46828
Ethylbenzene	ND	0.050		mg/Kg	1	8/17/2019 3:27:33 AM	46828
Xylenes, Total	ND	0.10		mg/Kg	1	8/17/2019 3:27:33 AM	46828
Surr: 4-Bromofluorobenzene	87.6	80-120		%Rec	1	8/17/2019 3:27:33 AM	46828

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP18

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 1:45:00 PM

Lab ID: 1908856-018

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	320	60		mg/Kg	20	8/16/2019 11:39:48 PM	46866
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	8.4		mg/Kg	1	8/18/2019 3:58:46 AM	46853
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	8/18/2019 3:58:46 AM	46853
Surr: DNOP	35.6	70-130	S	%Rec	1	8/18/2019 3:58:46 AM	46853
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/17/2019 4:37:17 AM	46828
Surr: BFB	103	77.4-118		%Rec	1	8/17/2019 4:37:17 AM	46828
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 4:37:17 AM	46828
Toluene	ND	0.049		mg/Kg	1	8/17/2019 4:37:17 AM	46828
Ethylbenzene	ND	0.049		mg/Kg	1	8/17/2019 4:37:17 AM	46828
Xylenes, Total	ND	0.099		mg/Kg	1	8/17/2019 4:37:17 AM	46828
Surr: 4-Bromofluorobenzene	93.3	80-120		%Rec	1	8/17/2019 4:37:17 AM	46828

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP19

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 1:45:00 PM

Lab ID: 1908856-019

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	250	59		mg/Kg	20	8/16/2019 11:52:13 PM	46866
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/18/2019 4:21:12 AM	46853
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/18/2019 4:21:12 AM	46853
Surr: DNOP	42.5	70-130	S	%Rec	1	8/18/2019 4:21:12 AM	46853
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/17/2019 5:00:31 AM	46828
Surr: BFB	99.7	77.4-118		%Rec	1	8/17/2019 5:00:31 AM	46828
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 5:00:31 AM	46828
Toluene	ND	0.050		mg/Kg	1	8/17/2019 5:00:31 AM	46828
Ethylbenzene	ND	0.050		mg/Kg	1	8/17/2019 5:00:31 AM	46828
Xylenes, Total	ND	0.099		mg/Kg	1	8/17/2019 5:00:31 AM	46828
Surr: 4-Bromofluorobenzene	90.1	80-120		%Rec	1	8/17/2019 5:00:31 AM	46828

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP20

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 1:45:00 PM

Lab ID: 1908856-020

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	400	60		mg/Kg	20	8/17/2019 12:04:38 AM	46866
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/18/2019 4:43:21 AM	46853
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/18/2019 4:43:21 AM	46853
Surr: DNOP	42.9	70-130	S	%Rec	1	8/18/2019 4:43:21 AM	46853
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/16/2019 10:42:38 PM	46835
Surr: BFB	95.0	77.4-118		%Rec	1	8/16/2019 10:42:38 PM	46835
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/16/2019 10:42:38 PM	46835
Toluene	ND	0.048		mg/Kg	1	8/16/2019 10:42:38 PM	46835
Ethylbenzene	ND	0.048		mg/Kg	1	8/16/2019 10:42:38 PM	46835
Xylenes, Total	ND	0.097		mg/Kg	1	8/16/2019 10:42:38 PM	46835
Surr: 4-Bromofluorobenzene	92.9	80-120		%Rec	1	8/16/2019 10:42:38 PM	46835

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP21

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 1:45:00 PM

Lab ID: 1908856-021

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	71	60		mg/Kg	20	8/17/2019 12:17:02 AM	46866
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/18/2019 5:05:43 AM	46853
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/18/2019 5:05:43 AM	46853
Surr: DNOP	43.9	70-130	S	%Rec	1	8/18/2019 5:05:43 AM	46853
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/16/2019 11:53:25 PM	46835
Surr: BFB	93.9	77.4-118		%Rec	1	8/16/2019 11:53:25 PM	46835
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	8/16/2019 11:53:25 PM	46835
Toluene	ND	0.046		mg/Kg	1	8/16/2019 11:53:25 PM	46835
Ethylbenzene	ND	0.046		mg/Kg	1	8/16/2019 11:53:25 PM	46835
Xylenes, Total	ND	0.092		mg/Kg	1	8/16/2019 11:53:25 PM	46835
Surr: 4-Bromofluorobenzene	92.0	80-120		%Rec	1	8/16/2019 11:53:25 PM	46835

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP22

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 1:45:00 PM

Lab ID: 1908856-022

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	230	60		mg/Kg	20	8/17/2019 12:29:27 AM	46866
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	8/18/2019 5:27:49 AM	46853
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/18/2019 5:27:49 AM	46853
Surr: DNOP	31.1	70-130	S	%Rec	1	8/18/2019 5:27:49 AM	46853
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/17/2019 1:04:33 AM	46835
Surr: BFB	93.9	77.4-118		%Rec	1	8/17/2019 1:04:33 AM	46835
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/17/2019 1:04:33 AM	46835
Toluene	ND	0.048		mg/Kg	1	8/17/2019 1:04:33 AM	46835
Ethylbenzene	ND	0.048		mg/Kg	1	8/17/2019 1:04:33 AM	46835
Xylenes, Total	ND	0.096		mg/Kg	1	8/17/2019 1:04:33 AM	46835
Surr: 4-Bromofluorobenzene	92.2	80-120		%Rec	1	8/17/2019 1:04:33 AM	46835

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP23

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 1:45:00 PM

Lab ID: 1908856-023

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	260	60		mg/Kg	20	8/17/2019 12:41:52 AM	46866
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	8/18/2019 5:50:11 AM	46853
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/18/2019 5:50:11 AM	46853
Surr: DNOP	25.9	70-130	S	%Rec	1	8/18/2019 5:50:11 AM	46853
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/17/2019 2:39:23 AM	46835
Surr: BFB	96.8	77.4-118		%Rec	1	8/17/2019 2:39:23 AM	46835
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/17/2019 2:39:23 AM	46835
Toluene	ND	0.049		mg/Kg	1	8/17/2019 2:39:23 AM	46835
Ethylbenzene	ND	0.049		mg/Kg	1	8/17/2019 2:39:23 AM	46835
Xylenes, Total	ND	0.097		mg/Kg	1	8/17/2019 2:39:23 AM	46835
Surr: 4-Bromofluorobenzene	94.9	80-120		%Rec	1	8/17/2019 2:39:23 AM	46835

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP24

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 1:45:00 PM

Lab ID: 1908856-024

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	220	60		mg/Kg	20	8/17/2019 1:19:07 AM	46866
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	8/18/2019 6:12:25 AM	46853
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	8/18/2019 6:12:25 AM	46853
Surr: DNOP	25.0	70-130	S	%Rec	1	8/18/2019 6:12:25 AM	46853
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/17/2019 3:03:19 AM	46835
Surr: BFB	95.2	77.4-118		%Rec	1	8/17/2019 3:03:19 AM	46835
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 3:03:19 AM	46835
Toluene	ND	0.049		mg/Kg	1	8/17/2019 3:03:19 AM	46835
Ethylbenzene	ND	0.049		mg/Kg	1	8/17/2019 3:03:19 AM	46835
Xylenes, Total	ND	0.099		mg/Kg	1	8/17/2019 3:03:19 AM	46835
Surr: 4-Bromofluorobenzene	92.6	80-120		%Rec	1	8/17/2019 3:03:19 AM	46835

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP25

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 2:20:00 PM

Lab ID: 1908856-025

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	260	60		mg/Kg	20	8/17/2019 1:31:31 AM	46866
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	8/18/2019 6:34:44 AM	46853
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	8/18/2019 6:34:44 AM	46853
Surr: DNOP	29.7	70-130	S	%Rec	1	8/18/2019 6:34:44 AM	46853
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/17/2019 3:27:16 AM	46835
Surr: BFB	99.2	77.4-118		%Rec	1	8/17/2019 3:27:16 AM	46835
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	8/17/2019 3:27:16 AM	46835
Toluene	ND	0.047		mg/Kg	1	8/17/2019 3:27:16 AM	46835
Ethylbenzene	ND	0.047		mg/Kg	1	8/17/2019 3:27:16 AM	46835
Xylenes, Total	ND	0.094		mg/Kg	1	8/17/2019 3:27:16 AM	46835
Surr: 4-Bromofluorobenzene	96.7	80-120		%Rec	1	8/17/2019 3:27:16 AM	46835

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP26

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 2:20:00 PM

Lab ID: 1908856-026

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	400	60		mg/Kg	20	8/17/2019 1:43:55 AM	46866
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	8/18/2019 6:56:58 AM	46853
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	8/18/2019 6:56:58 AM	46853
Surr: DNOP	27.0	70-130	S	%Rec	1	8/18/2019 6:56:58 AM	46853
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/17/2019 3:51:15 AM	46835
Surr: BFB	96.6	77.4-118		%Rec	1	8/17/2019 3:51:15 AM	46835
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 3:51:15 AM	46835
Toluene	ND	0.050		mg/Kg	1	8/17/2019 3:51:15 AM	46835
Ethylbenzene	ND	0.050		mg/Kg	1	8/17/2019 3:51:15 AM	46835
Xylenes, Total	ND	0.099		mg/Kg	1	8/17/2019 3:51:15 AM	46835
Surr: 4-Bromofluorobenzene	94.3	80-120		%Rec	1	8/17/2019 3:51:15 AM	46835

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP27

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 2:20:00 PM

Lab ID: 1908856-027

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	220	60		mg/Kg	20	8/17/2019 1:56:20 AM	46866
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/18/2019 7:19:12 AM	46853
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/18/2019 7:19:12 AM	46853
Surr: DNOP	26.9	70-130	S	%Rec	1	8/18/2019 7:19:12 AM	46853
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/17/2019 4:15:18 AM	46835
Surr: BFB	96.9	77.4-118		%Rec	1	8/17/2019 4:15:18 AM	46835
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/17/2019 4:15:18 AM	46835
Toluene	ND	0.049		mg/Kg	1	8/17/2019 4:15:18 AM	46835
Ethylbenzene	ND	0.049		mg/Kg	1	8/17/2019 4:15:18 AM	46835
Xylenes, Total	ND	0.098		mg/Kg	1	8/17/2019 4:15:18 AM	46835
Surr: 4-Bromofluorobenzene	94.6	80-120		%Rec	1	8/17/2019 4:15:18 AM	46835

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP28

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 2:20:00 PM

Lab ID: 1908856-028

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	220	60		mg/Kg	20	8/17/2019 2:08:44 AM	46866
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	8/18/2019 7:41:24 AM	46853
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/18/2019 7:41:24 AM	46853
Surr: DNOP	26.7	70-130	S	%Rec	1	8/18/2019 7:41:24 AM	46853
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/17/2019 4:39:17 AM	46835
Surr: BFB	94.6	77.4-118		%Rec	1	8/17/2019 4:39:17 AM	46835
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	8/17/2019 4:39:17 AM	46835
Toluene	ND	0.046		mg/Kg	1	8/17/2019 4:39:17 AM	46835
Ethylbenzene	ND	0.046		mg/Kg	1	8/17/2019 4:39:17 AM	46835
Xylenes, Total	ND	0.092		mg/Kg	1	8/17/2019 4:39:17 AM	46835
Surr: 4-Bromofluorobenzene	92.0	80-120		%Rec	1	8/17/2019 4:39:17 AM	46835

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP29

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 2:20:00 PM

Lab ID: 1908856-029

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	210	60		mg/Kg	20	8/17/2019 2:21:08 AM	46866
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/18/2019 8:03:45 AM	46853
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/18/2019 8:03:45 AM	46853
Surr: DNOP	24.6	70-130	S	%Rec	1	8/18/2019 8:03:45 AM	46853
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/17/2019 5:03:14 AM	46835
Surr: BFB	96.6	77.4-118		%Rec	1	8/17/2019 5:03:14 AM	46835
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	8/17/2019 5:03:14 AM	46835
Toluene	ND	0.047		mg/Kg	1	8/17/2019 5:03:14 AM	46835
Ethylbenzene	ND	0.047		mg/Kg	1	8/17/2019 5:03:14 AM	46835
Xylenes, Total	ND	0.093		mg/Kg	1	8/17/2019 5:03:14 AM	46835
Surr: 4-Bromofluorobenzene	94.3	80-120		%Rec	1	8/17/2019 5:03:14 AM	46835

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP30

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 2:20:00 PM

Lab ID: 1908856-030

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	260	60		mg/Kg	20	8/17/2019 2:33:33 AM	46866
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	8/18/2019 8:25:59 AM	46853
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/18/2019 8:25:59 AM	46853
Surr: DNOP	27.5	70-130	S	%Rec	1	8/18/2019 8:25:59 AM	46853
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/17/2019 9:46:21 AM	46835
Surr: BFB	90.1	77.4-118		%Rec	1	8/17/2019 9:46:21 AM	46835
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	8/17/2019 9:46:21 AM	46835
Toluene	ND	0.046		mg/Kg	1	8/17/2019 9:46:21 AM	46835
Ethylbenzene	ND	0.046		mg/Kg	1	8/17/2019 9:46:21 AM	46835
Xylenes, Total	ND	0.092		mg/Kg	1	8/17/2019 9:46:21 AM	46835
Surr: 4-Bromofluorobenzene	88.7	80-120		%Rec	1	8/17/2019 9:46:21 AM	46835

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP31

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 2:20:00 PM

Lab ID: 1908856-031

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	280	60		mg/Kg	20	8/17/2019 2:45:57 AM	46866
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/17/2019 11:39:09 AM	46854
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/17/2019 11:39:09 AM	46854
Surr: DNOP	89.0	70-130		%Rec	1	8/17/2019 11:39:09 AM	46854
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/17/2019 10:09:44 AM	46835
Surr: BFB	89.0	77.4-118		%Rec	1	8/17/2019 10:09:44 AM	46835
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/17/2019 10:09:44 AM	46835
Toluene	ND	0.047		mg/Kg	1	8/17/2019 10:09:44 AM	46835
Ethylbenzene	ND	0.047		mg/Kg	1	8/17/2019 10:09:44 AM	46835
Xylenes, Total	ND	0.094		mg/Kg	1	8/17/2019 10:09:44 AM	46835
Surr: 4-Bromofluorobenzene	87.9	80-120		%Rec	1	8/17/2019 10:09:44 AM	46835

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP32

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 2:20:00 PM

Lab ID: 1908856-032

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	270	60		mg/Kg	20	8/19/2019 11:51:27 PM	46894
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/17/2019 12:51:51 PM	46854
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/17/2019 12:51:51 PM	46854
Surr: DNOP	88.2	70-130		%Rec	1	8/17/2019 12:51:51 PM	46854
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/17/2019 10:33:14 AM	46835
Surr: BFB	92.0	77.4-118		%Rec	1	8/17/2019 10:33:14 AM	46835
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	8/17/2019 10:33:14 AM	46835
Toluene	ND	0.046		mg/Kg	1	8/17/2019 10:33:14 AM	46835
Ethylbenzene	ND	0.046		mg/Kg	1	8/17/2019 10:33:14 AM	46835
Xylenes, Total	ND	0.092		mg/Kg	1	8/17/2019 10:33:14 AM	46835
Surr: 4-Bromofluorobenzene	91.2	80-120		%Rec	1	8/17/2019 10:33:14 AM	46835

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 **1908856**Date Reported: **8/21/2019****CLIENT:** WPX Energy**Client Sample ID:** SP33**Project:** North Brushy Draw 35 1**Collection Date:** 8/12/2019 2:20:00 PM**Lab ID:** 1908856-033**Matrix:** SOIL**Received Date:** 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	310	60		mg/Kg	20	8/20/2019 12:28:41 AM	46894
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/17/2019 1:16:10 PM	46854
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/17/2019 1:16:10 PM	46854
Surr: DNOP	92.7	70-130		%Rec	1	8/17/2019 1:16:10 PM	46854
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/17/2019 10:56:39 AM	46835
Surr: BFB	92.2	77.4-118		%Rec	1	8/17/2019 10:56:39 AM	46835
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/17/2019 10:56:39 AM	46835
Toluene	ND	0.048		mg/Kg	1	8/17/2019 10:56:39 AM	46835
Ethylbenzene	ND	0.048		mg/Kg	1	8/17/2019 10:56:39 AM	46835
Xylenes, Total	ND	0.096		mg/Kg	1	8/17/2019 10:56:39 AM	46835
Surr: 4-Bromofluorobenzene	91.8	80-120		%Rec	1	8/17/2019 10:56:39 AM	46835

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP34

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 2:20:00 PM

Lab ID: 1908856-034

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	220	61		mg/Kg	20	8/20/2019 12:41:06 AM	46894
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/17/2019 1:40:30 PM	46854
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/17/2019 1:40:30 PM	46854
Surr: DNOP	79.0	70-130		%Rec	1	8/17/2019 1:40:30 PM	46854
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/17/2019 11:20:04 AM	46835
Surr: BFB	90.3	77.4-118		%Rec	1	8/17/2019 11:20:04 AM	46835
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/17/2019 11:20:04 AM	46835
Toluene	ND	0.048		mg/Kg	1	8/17/2019 11:20:04 AM	46835
Ethylbenzene	ND	0.048		mg/Kg	1	8/17/2019 11:20:04 AM	46835
Xylenes, Total	ND	0.097		mg/Kg	1	8/17/2019 11:20:04 AM	46835
Surr: 4-Bromofluorobenzene	90.7	80-120		%Rec	1	8/17/2019 11:20:04 AM	46835

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP35

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 2:20:00 PM

Lab ID: 1908856-035

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	250	60		mg/Kg	20	8/20/2019 12:53:31 AM	46894
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/17/2019 2:04:55 PM	46854
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/17/2019 2:04:55 PM	46854
Surr: DNOP	86.3	70-130		%Rec	1	8/17/2019 2:04:55 PM	46854
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/17/2019 11:43:33 AM	46835
Surr: BFB	93.3	77.4-118		%Rec	1	8/17/2019 11:43:33 AM	46835
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 11:43:33 AM	46835
Toluene	ND	0.050		mg/Kg	1	8/17/2019 11:43:33 AM	46835
Ethylbenzene	ND	0.050		mg/Kg	1	8/17/2019 11:43:33 AM	46835
Xylenes, Total	ND	0.10		mg/Kg	1	8/17/2019 11:43:33 AM	46835
Surr: 4-Bromofluorobenzene	92.4	80-120		%Rec	1	8/17/2019 11:43:33 AM	46835

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP36

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 2:20:00 PM

Lab ID: 1908856-036

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	270	60		mg/Kg	20	8/20/2019 1:05:55 AM	46894
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/17/2019 2:29:34 PM	46854
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/17/2019 2:29:34 PM	46854
Surr: DNOP	80.2	70-130		%Rec	1	8/17/2019 2:29:34 PM	46854
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/17/2019 12:06:57 PM	46835
Surr: BFB	93.1	77.4-118		%Rec	1	8/17/2019 12:06:57 PM	46835
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/17/2019 12:06:57 PM	46835
Toluene	ND	0.048		mg/Kg	1	8/17/2019 12:06:57 PM	46835
Ethylbenzene	ND	0.048		mg/Kg	1	8/17/2019 12:06:57 PM	46835
Xylenes, Total	ND	0.096		mg/Kg	1	8/17/2019 12:06:57 PM	46835
Surr: 4-Bromofluorobenzene	92.7	80-120		%Rec	1	8/17/2019 12:06:57 PM	46835

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP37

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 3:00:00 PM

Lab ID: 1908856-037

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	250	60		mg/Kg	20	8/20/2019 1:18:19 AM	46894
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/17/2019 2:54:41 PM	46854
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/17/2019 2:54:41 PM	46854
Surr: DNOP	83.8	70-130		%Rec	1	8/17/2019 2:54:41 PM	46854
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/17/2019 12:30:26 PM	46835
Surr: BFB	92.0	77.4-118		%Rec	1	8/17/2019 12:30:26 PM	46835
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/17/2019 12:30:26 PM	46835
Toluene	ND	0.048		mg/Kg	1	8/17/2019 12:30:26 PM	46835
Ethylbenzene	ND	0.048		mg/Kg	1	8/17/2019 12:30:26 PM	46835
Xylenes, Total	ND	0.096		mg/Kg	1	8/17/2019 12:30:26 PM	46835
Surr: 4-Bromofluorobenzene	91.7	80-120		%Rec	1	8/17/2019 12:30:26 PM	46835

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP38

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 3:00:00 PM

Lab ID: 1908856-038

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	270	60		mg/Kg	20	8/20/2019 1:30:43 AM	46894
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/17/2019 3:19:40 PM	46854
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/17/2019 3:19:40 PM	46854
Surr: DNOP	88.4	70-130		%Rec	1	8/17/2019 3:19:40 PM	46854
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/17/2019 12:53:57 PM	46835
Surr: BFB	95.1	77.4-118		%Rec	1	8/17/2019 12:53:57 PM	46835
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	8/17/2019 12:53:57 PM	46835
Toluene	ND	0.046		mg/Kg	1	8/17/2019 12:53:57 PM	46835
Ethylbenzene	ND	0.046		mg/Kg	1	8/17/2019 12:53:57 PM	46835
Xylenes, Total	ND	0.092		mg/Kg	1	8/17/2019 12:53:57 PM	46835
Surr: 4-Bromofluorobenzene	94.9	80-120		%Rec	1	8/17/2019 12:53:57 PM	46835

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP39

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 3:00:00 PM

Lab ID: 1908856-039

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	260	60		mg/Kg	20	8/20/2019 1:43:07 AM	46894
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/17/2019 3:44:31 PM	46854
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/17/2019 3:44:31 PM	46854
Surr: DNOP	89.3	70-130		%Rec	1	8/17/2019 3:44:31 PM	46854
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/17/2019 1:17:21 PM	46835
Surr: BFB	92.0	77.4-118		%Rec	1	8/17/2019 1:17:21 PM	46835
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 1:17:21 PM	46835
Toluene	ND	0.049		mg/Kg	1	8/17/2019 1:17:21 PM	46835
Ethylbenzene	ND	0.049		mg/Kg	1	8/17/2019 1:17:21 PM	46835
Xylenes, Total	ND	0.099		mg/Kg	1	8/17/2019 1:17:21 PM	46835
Surr: 4-Bromofluorobenzene	92.5	80-120		%Rec	1	8/17/2019 1:17:21 PM	46835

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP40

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 3:00:00 PM

Lab ID: 1908856-040

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	190	60		mg/Kg	20	8/20/2019 1:55:32 AM	46894
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/17/2019 4:09:23 PM	46854
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/17/2019 4:09:23 PM	46854
Surr: DNOP	87.4	70-130		%Rec	1	8/17/2019 4:09:23 PM	46854
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/17/2019 4:49:37 PM	46842
Surr: BFB	98.0	77.4-118		%Rec	1	8/17/2019 4:49:37 PM	46842
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 4:49:37 PM	46842
Toluene	ND	0.050		mg/Kg	1	8/17/2019 4:49:37 PM	46842
Ethylbenzene	ND	0.050		mg/Kg	1	8/17/2019 4:49:37 PM	46842
Xylenes, Total	ND	0.10		mg/Kg	1	8/17/2019 4:49:37 PM	46842
Surr: 4-Bromofluorobenzene	96.0	80-120		%Rec	1	8/17/2019 4:49:37 PM	46842

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP41

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 3:00:00 PM

Lab ID: 1908856-041

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	200	60		mg/Kg	20	8/20/2019 2:07:57 AM	46894
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/17/2019 4:34:14 PM	46854
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/17/2019 4:34:14 PM	46854
Surr: DNOP	92.1	70-130		%Rec	1	8/17/2019 4:34:14 PM	46854
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/17/2019 6:00:31 PM	46842
Surr: BFB	98.3	77.4-118		%Rec	1	8/17/2019 6:00:31 PM	46842
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 6:00:31 PM	46842
Toluene	ND	0.050		mg/Kg	1	8/17/2019 6:00:31 PM	46842
Ethylbenzene	ND	0.050		mg/Kg	1	8/17/2019 6:00:31 PM	46842
Xylenes, Total	ND	0.099		mg/Kg	1	8/17/2019 6:00:31 PM	46842
Surr: 4-Bromofluorobenzene	95.4	80-120		%Rec	1	8/17/2019 6:00:31 PM	46842

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP42

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 3:00:00 PM

Lab ID: 1908856-042

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	150	60		mg/Kg	20	8/20/2019 2:20:22 AM	46894
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	8/17/2019 4:59:01 PM	46854
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/17/2019 4:59:01 PM	46854
Surr: DNOP	91.2	70-130		%Rec	1	8/17/2019 4:59:01 PM	46854
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/17/2019 7:11:04 PM	46842
Surr: BFB	99.0	77.4-118		%Rec	1	8/17/2019 7:11:04 PM	46842
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/17/2019 7:11:04 PM	46842
Toluene	ND	0.049		mg/Kg	1	8/17/2019 7:11:04 PM	46842
Ethylbenzene	ND	0.049		mg/Kg	1	8/17/2019 7:11:04 PM	46842
Xylenes, Total	ND	0.097		mg/Kg	1	8/17/2019 7:11:04 PM	46842
Surr: 4-Bromofluorobenzene	96.9	80-120		%Rec	1	8/17/2019 7:11:04 PM	46842

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP43

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 3:00:00 PM

Lab ID: 1908856-043

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	200	60		mg/Kg	20	8/20/2019 2:57:37 AM	46894
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/17/2019 5:23:47 PM	46854
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/17/2019 5:23:47 PM	46854
Surr: DNOP	89.3	70-130		%Rec	1	8/17/2019 5:23:47 PM	46854
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/17/2019 7:34:36 PM	46842
Surr: BFB	94.4	77.4-118		%Rec	1	8/17/2019 7:34:36 PM	46842
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 7:34:36 PM	46842
Toluene	ND	0.049		mg/Kg	1	8/17/2019 7:34:36 PM	46842
Ethylbenzene	ND	0.049		mg/Kg	1	8/17/2019 7:34:36 PM	46842
Xylenes, Total	ND	0.099		mg/Kg	1	8/17/2019 7:34:36 PM	46842
Surr: 4-Bromofluorobenzene	91.7	80-120		%Rec	1	8/17/2019 7:34:36 PM	46842

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP44

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 3:00:00 PM

Lab ID: 1908856-044

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	190	60		mg/Kg	20	8/20/2019 11:01:16 AM	46916
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/17/2019 5:48:33 PM	46854
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/17/2019 5:48:33 PM	46854
Surr: DNOP	85.7	70-130		%Rec	1	8/17/2019 5:48:33 PM	46854
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/17/2019 7:58:04 PM	46842
Surr: BFB	91.5	77.4-118		%Rec	1	8/17/2019 7:58:04 PM	46842
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/17/2019 7:58:04 PM	46842
Toluene	ND	0.049		mg/Kg	1	8/17/2019 7:58:04 PM	46842
Ethylbenzene	ND	0.049		mg/Kg	1	8/17/2019 7:58:04 PM	46842
Xylenes, Total	ND	0.097		mg/Kg	1	8/17/2019 7:58:04 PM	46842
Surr: 4-Bromofluorobenzene	88.9	80-120		%Rec	1	8/17/2019 7:58:04 PM	46842

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP45

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 3:00:00 PM

Lab ID: 1908856-045

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	160	60		mg/Kg	20	8/20/2019 11:13:36 AM	46916
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/17/2019 6:13:18 PM	46854
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/17/2019 6:13:18 PM	46854
Surr: DNOP	90.7	70-130		%Rec	1	8/17/2019 6:13:18 PM	46854
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/17/2019 8:21:32 PM	46842
Surr: BFB	99.8	77.4-118		%Rec	1	8/17/2019 8:21:32 PM	46842
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/17/2019 8:21:32 PM	46842
Toluene	ND	0.049		mg/Kg	1	8/17/2019 8:21:32 PM	46842
Ethylbenzene	ND	0.049		mg/Kg	1	8/17/2019 8:21:32 PM	46842
Xylenes, Total	ND	0.097		mg/Kg	1	8/17/2019 8:21:32 PM	46842
Surr: 4-Bromofluorobenzene	97.6	80-120		%Rec	1	8/17/2019 8:21:32 PM	46842

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP46

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 3:00:00 PM

Lab ID: 1908856-046

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	220	60		mg/Kg	20	8/20/2019 11:25:56 AM	46916
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/17/2019 6:38:08 PM	46854
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/17/2019 6:38:08 PM	46854
Surr: DNOP	79.8	70-130		%Rec	1	8/17/2019 6:38:08 PM	46854
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/17/2019 9:32:13 PM	46842
Surr: BFB	94.7	77.4-118		%Rec	1	8/17/2019 9:32:13 PM	46842
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 9:32:13 PM	46842
Toluene	ND	0.049		mg/Kg	1	8/17/2019 9:32:13 PM	46842
Ethylbenzene	ND	0.049		mg/Kg	1	8/17/2019 9:32:13 PM	46842
Xylenes, Total	ND	0.099		mg/Kg	1	8/17/2019 9:32:13 PM	46842
Surr: 4-Bromofluorobenzene	92.3	80-120		%Rec	1	8/17/2019 9:32:13 PM	46842

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP47

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 3:00:00 PM

Lab ID: 1908856-047

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	100	60		mg/Kg	20	8/20/2019 11:38:17 AM	46916
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/17/2019 7:02:47 PM	46854
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/17/2019 7:02:47 PM	46854
Surr: DNOP	87.6	70-130		%Rec	1	8/17/2019 7:02:47 PM	46854
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/17/2019 9:55:42 PM	46842
Surr: BFB	92.1	77.4-118		%Rec	1	8/17/2019 9:55:42 PM	46842
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 9:55:42 PM	46842
Toluene	ND	0.050		mg/Kg	1	8/17/2019 9:55:42 PM	46842
Ethylbenzene	ND	0.050		mg/Kg	1	8/17/2019 9:55:42 PM	46842
Xylenes, Total	ND	0.10		mg/Kg	1	8/17/2019 9:55:42 PM	46842
Surr: 4-Bromofluorobenzene	90.8	80-120		%Rec	1	8/17/2019 9:55:42 PM	46842

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP48

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 3:00:00 PM

Lab ID: 1908856-048

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	140	60		mg/Kg	20	8/20/2019 11:50:37 AM	46916
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/17/2019 7:27:22 PM	46854
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/17/2019 7:27:22 PM	46854
Surr: DNOP	83.6	70-130		%Rec	1	8/17/2019 7:27:22 PM	46854
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/17/2019 10:19:11 PM	46842
Surr: BFB	93.8	77.4-118		%Rec	1	8/17/2019 10:19:11 PM	46842
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 10:19:11 PM	46842
Toluene	ND	0.050		mg/Kg	1	8/17/2019 10:19:11 PM	46842
Ethylbenzene	ND	0.050		mg/Kg	1	8/17/2019 10:19:11 PM	46842
Xylenes, Total	ND	0.099		mg/Kg	1	8/17/2019 10:19:11 PM	46842
Surr: 4-Bromofluorobenzene	92.4	80-120		%Rec	1	8/17/2019 10:19:11 PM	46842

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP49

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 4:00:00 PM

Lab ID: 1908856-049

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	92	60		mg/Kg	20	8/20/2019 12:02:57 PM	46916
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/17/2019 7:52:03 PM	46854
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/17/2019 7:52:03 PM	46854
Surr: DNOP	78.6	70-130		%Rec	1	8/17/2019 7:52:03 PM	46854
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/17/2019 10:42:44 PM	46842
Surr: BFB	93.2	77.4-118		%Rec	1	8/17/2019 10:42:44 PM	46842
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 10:42:44 PM	46842
Toluene	ND	0.050		mg/Kg	1	8/17/2019 10:42:44 PM	46842
Ethylbenzene	ND	0.050		mg/Kg	1	8/17/2019 10:42:44 PM	46842
Xylenes, Total	ND	0.099		mg/Kg	1	8/17/2019 10:42:44 PM	46842
Surr: 4-Bromofluorobenzene	91.4	80-120		%Rec	1	8/17/2019 10:42:44 PM	46842

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP50

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 4:00:00 PM

Lab ID: 1908856-050

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	330	60		mg/Kg	20	8/20/2019 12:15:18 PM	46916
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/17/2019 8:16:46 PM	46854
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/17/2019 8:16:46 PM	46854
Surr: DNOP	80.6	70-130		%Rec	1	8/17/2019 8:16:46 PM	46854
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/17/2019 11:06:15 PM	46842
Surr: BFB	92.0	77.4-118		%Rec	1	8/17/2019 11:06:15 PM	46842
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 11:06:15 PM	46842
Toluene	ND	0.049		mg/Kg	1	8/17/2019 11:06:15 PM	46842
Ethylbenzene	ND	0.049		mg/Kg	1	8/17/2019 11:06:15 PM	46842
Xylenes, Total	ND	0.098		mg/Kg	1	8/17/2019 11:06:15 PM	46842
Surr: 4-Bromofluorobenzene	89.9	80-120		%Rec	1	8/17/2019 11:06:15 PM	46842

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP51

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 4:00:00 PM

Lab ID: 1908856-051

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	140	60		mg/Kg	20	8/20/2019 12:52:19 PM	46916
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	8/18/2019 2:00:34 AM	46852
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/18/2019 2:00:34 AM	46852
Surr: DNOP	77.5	70-130		%Rec	1	8/18/2019 2:00:34 AM	46852
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/17/2019 11:29:50 PM	46842
Surr: BFB	91.9	77.4-118		%Rec	1	8/17/2019 11:29:50 PM	46842
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 11:29:50 PM	46842
Toluene	ND	0.049		mg/Kg	1	8/17/2019 11:29:50 PM	46842
Ethylbenzene	ND	0.049		mg/Kg	1	8/17/2019 11:29:50 PM	46842
Xylenes, Total	ND	0.099		mg/Kg	1	8/17/2019 11:29:50 PM	46842
Surr: 4-Bromofluorobenzene	89.9	80-120		%Rec	1	8/17/2019 11:29:50 PM	46842

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP52

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 4:00:00 PM

Lab ID: 1908856-052

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	160	60		mg/Kg	20	8/20/2019 1:29:21 PM	46916
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/18/2019 2:25:04 AM	46852
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/18/2019 2:25:04 AM	46852
Surr: DNOP	80.6	70-130		%Rec	1	8/18/2019 2:25:04 AM	46852
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/17/2019 11:53:46 PM	46842
Surr: BFB	95.6	77.4-118		%Rec	1	8/17/2019 11:53:46 PM	46842
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 11:53:46 PM	46842
Toluene	ND	0.050		mg/Kg	1	8/17/2019 11:53:46 PM	46842
Ethylbenzene	ND	0.050		mg/Kg	1	8/17/2019 11:53:46 PM	46842
Xylenes, Total	ND	0.099		mg/Kg	1	8/17/2019 11:53:46 PM	46842
Surr: 4-Bromofluorobenzene	93.4	80-120		%Rec	1	8/17/2019 11:53:46 PM	46842

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP53

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 4:00:00 PM

Lab ID: 1908856-053

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	190	60		mg/Kg	20	8/20/2019 1:41:42 PM	46916
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	8.4		mg/Kg	1	8/18/2019 2:49:34 AM	46852
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	8/18/2019 2:49:34 AM	46852
Surr: DNOP	81.7	70-130		%Rec	1	8/18/2019 2:49:34 AM	46852
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/18/2019 12:17:59 AM	46842
Surr: BFB	98.1	77.4-118		%Rec	1	8/18/2019 12:17:59 AM	46842
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/18/2019 12:17:59 AM	46842
Toluene	ND	0.049		mg/Kg	1	8/18/2019 12:17:59 AM	46842
Ethylbenzene	ND	0.049		mg/Kg	1	8/18/2019 12:17:59 AM	46842
Xylenes, Total	ND	0.099		mg/Kg	1	8/18/2019 12:17:59 AM	46842
Surr: 4-Bromofluorobenzene	95.3	80-120		%Rec	1	8/18/2019 12:17:59 AM	46842

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP54

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 4:00:00 PM

Lab ID: 1908856-054

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	160	60		mg/Kg	20	8/20/2019 1:54:03 PM	46916
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/18/2019 3:14:06 AM	46852
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/18/2019 3:14:06 AM	46852
Surr: DNOP	84.3	70-130		%Rec	1	8/18/2019 3:14:06 AM	46852
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/18/2019 12:42:16 AM	46842
Surr: BFB	104	77.4-118		%Rec	1	8/18/2019 12:42:16 AM	46842
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/18/2019 12:42:16 AM	46842
Toluene	ND	0.050		mg/Kg	1	8/18/2019 12:42:16 AM	46842
Ethylbenzene	ND	0.050		mg/Kg	1	8/18/2019 12:42:16 AM	46842
Xylenes, Total	ND	0.099		mg/Kg	1	8/18/2019 12:42:16 AM	46842
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	8/18/2019 12:42:16 AM	46842

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP55

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 4:00:00 PM

Lab ID: 1908856-055

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	310	60		mg/Kg	20	8/20/2019 2:06:23 PM	46916
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/18/2019 3:38:33 AM	46852
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/18/2019 3:38:33 AM	46852
Surr: DNOP	80.8	70-130		%Rec	1	8/18/2019 3:38:33 AM	46852
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/18/2019 1:06:30 AM	46842
Surr: BFB	103	77.4-118		%Rec	1	8/18/2019 1:06:30 AM	46842
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/18/2019 1:06:30 AM	46842
Toluene	ND	0.050		mg/Kg	1	8/18/2019 1:06:30 AM	46842
Ethylbenzene	ND	0.050		mg/Kg	1	8/18/2019 1:06:30 AM	46842
Xylenes, Total	ND	0.10		mg/Kg	1	8/18/2019 1:06:30 AM	46842
Surr: 4-Bromofluorobenzene	98.8	80-120		%Rec	1	8/18/2019 1:06:30 AM	46842

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP56

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 4:00:00 PM

Lab ID: 1908856-056

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	62	60		mg/Kg	20	8/20/2019 2:18:44 PM	46916
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/19/2019 8:00:39 PM	46869
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/19/2019 8:00:39 PM	46869
Surr: DNOP	92.2	70-130		%Rec	1	8/19/2019 8:00:39 PM	46869
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/17/2019 10:51:28 AM	46860
Surr: BFB	102	77.4-118		%Rec	1	8/17/2019 10:51:28 AM	46860
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	8/17/2019 10:51:28 AM	46860
Toluene	ND	0.047		mg/Kg	1	8/17/2019 10:51:28 AM	46860
Ethylbenzene	ND	0.047		mg/Kg	1	8/17/2019 10:51:28 AM	46860
Xylenes, Total	ND	0.093		mg/Kg	1	8/17/2019 10:51:28 AM	46860
Surr: 4-Bromofluorobenzene	95.0	80-120		%Rec	1	8/17/2019 10:51:28 AM	46860

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP57

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 4:00:00 PM

Lab ID: 1908856-057

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	200	60		mg/Kg	20	8/20/2019 2:31:04 PM	46916
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/19/2019 11:44:51 PM	46869
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/19/2019 11:44:51 PM	46869
Surr: DNOP	59.0	70-130	S	%Rec	1	8/19/2019 11:44:51 PM	46869
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/17/2019 12:00:01 PM	46860
Surr: BFB	98.5	77.4-118		%Rec	1	8/17/2019 12:00:01 PM	46860
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/17/2019 12:00:01 PM	46860
Toluene	ND	0.048		mg/Kg	1	8/17/2019 12:00:01 PM	46860
Ethylbenzene	ND	0.048		mg/Kg	1	8/17/2019 12:00:01 PM	46860
Xylenes, Total	ND	0.096		mg/Kg	1	8/17/2019 12:00:01 PM	46860
Surr: 4-Bromofluorobenzene	92.1	80-120		%Rec	1	8/17/2019 12:00:01 PM	46860

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP58

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 4:00:00 PM

Lab ID: 1908856-058

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	92	60		mg/Kg	20	8/20/2019 2:43:25 PM	46916
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/20/2019 12:07:12 AM	46869
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/20/2019 12:07:12 AM	46869
Surr: DNOP	61.8	70-130	S	%Rec	1	8/20/2019 12:07:12 AM	46869
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/17/2019 1:08:36 PM	46860
Surr: BFB	102	77.4-118		%Rec	1	8/17/2019 1:08:36 PM	46860
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 1:08:36 PM	46860
Toluene	ND	0.050		mg/Kg	1	8/17/2019 1:08:36 PM	46860
Ethylbenzene	ND	0.050		mg/Kg	1	8/17/2019 1:08:36 PM	46860
Xylenes, Total	ND	0.099		mg/Kg	1	8/17/2019 1:08:36 PM	46860
Surr: 4-Bromofluorobenzene	95.3	80-120		%Rec	1	8/17/2019 1:08:36 PM	46860

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP59

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 4:00:00 PM

Lab ID: 1908856-059

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	66	61		mg/Kg	20	8/20/2019 3:20:28 PM	46916
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	8/20/2019 12:29:36 AM	46869
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	8/20/2019 12:29:36 AM	46869
Surr: DNOP	63.7	70-130	S	%Rec	1	8/20/2019 12:29:36 AM	46869
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/17/2019 1:31:31 PM	46860
Surr: BFB	102	77.4-118		%Rec	1	8/17/2019 1:31:31 PM	46860
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/17/2019 1:31:31 PM	46860
Toluene	ND	0.048		mg/Kg	1	8/17/2019 1:31:31 PM	46860
Ethylbenzene	ND	0.048		mg/Kg	1	8/17/2019 1:31:31 PM	46860
Xylenes, Total	ND	0.097		mg/Kg	1	8/17/2019 1:31:31 PM	46860
Surr: 4-Bromofluorobenzene	94.9	80-120		%Rec	1	8/17/2019 1:31:31 PM	46860

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP60

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 4:00:00 PM

Lab ID: 1908856-060

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	170	60		mg/Kg	20	8/20/2019 3:32:49 PM	46916
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	8.6		mg/Kg	1	8/20/2019 12:52:03 AM	46869
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	8/20/2019 12:52:03 AM	46869
Surr: DNOP	69.2	70-130	S	%Rec	1	8/20/2019 12:52:03 AM	46869
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/17/2019 1:54:25 PM	46860
Surr: BFB	102	77.4-118		%Rec	1	8/17/2019 1:54:25 PM	46860
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/17/2019 1:54:25 PM	46860
Toluene	ND	0.047		mg/Kg	1	8/17/2019 1:54:25 PM	46860
Ethylbenzene	ND	0.047		mg/Kg	1	8/17/2019 1:54:25 PM	46860
Xylenes, Total	ND	0.094		mg/Kg	1	8/17/2019 1:54:25 PM	46860
Surr: 4-Bromofluorobenzene	93.4	80-120		%Rec	1	8/17/2019 1:54:25 PM	46860

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP61

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 4:00:00 PM

Lab ID: 1908856-061

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	240	60		mg/Kg	20	8/20/2019 3:45:09 PM	46916
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/20/2019 1:14:33 AM	46869
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/20/2019 1:14:33 AM	46869
Surr: DNOP	59.2	70-130	S	%Rec	1	8/20/2019 1:14:33 AM	46869
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/17/2019 2:17:18 PM	46860
Surr: BFB	103	77.4-118		%Rec	1	8/17/2019 2:17:18 PM	46860
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/17/2019 2:17:18 PM	46860
Toluene	ND	0.047		mg/Kg	1	8/17/2019 2:17:18 PM	46860
Ethylbenzene	ND	0.047		mg/Kg	1	8/17/2019 2:17:18 PM	46860
Xylenes, Total	ND	0.095		mg/Kg	1	8/17/2019 2:17:18 PM	46860
Surr: 4-Bromofluorobenzene	94.1	80-120		%Rec	1	8/17/2019 2:17:18 PM	46860

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP62

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 4:00:00 PM

Lab ID: 1908856-062

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	240	60		mg/Kg	20	8/20/2019 3:57:30 PM	46916
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/19/2019 6:53:20 PM	46869
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/19/2019 6:53:20 PM	46869
Surr: DNOP	87.6	70-130		%Rec	1	8/19/2019 6:53:20 PM	46869
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/17/2019 2:40:14 PM	46860
Surr: BFB	101	77.4-118		%Rec	1	8/17/2019 2:40:14 PM	46860
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	8/17/2019 2:40:14 PM	46860
Toluene	ND	0.047		mg/Kg	1	8/17/2019 2:40:14 PM	46860
Ethylbenzene	ND	0.047		mg/Kg	1	8/17/2019 2:40:14 PM	46860
Xylenes, Total	ND	0.094		mg/Kg	1	8/17/2019 2:40:14 PM	46860
Surr: 4-Bromofluorobenzene	91.7	80-120		%Rec	1	8/17/2019 2:40:14 PM	46860

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP63

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 4:00:00 PM

Lab ID: 1908856-063

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	160	60		mg/Kg	20	8/20/2019 4:09:51 PM	46916
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/19/2019 6:30:52 PM	46869
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/19/2019 6:30:52 PM	46869
Surr: DNOP	84.0	70-130		%Rec	1	8/19/2019 6:30:52 PM	46869
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/17/2019 3:03:15 PM	46860
Surr: BFB	99.8	77.4-118		%Rec	1	8/17/2019 3:03:15 PM	46860
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/17/2019 3:03:15 PM	46860
Toluene	ND	0.048		mg/Kg	1	8/17/2019 3:03:15 PM	46860
Ethylbenzene	ND	0.048		mg/Kg	1	8/17/2019 3:03:15 PM	46860
Xylenes, Total	ND	0.096		mg/Kg	1	8/17/2019 3:03:15 PM	46860
Surr: 4-Bromofluorobenzene	90.7	80-120		%Rec	1	8/17/2019 3:03:15 PM	46860

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP64

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 4:00:00 PM

Lab ID: 1908856-064

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	260	59		mg/Kg	20	8/20/2019 7:02:39 PM	46925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	8/19/2019 7:38:15 PM	46869
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/19/2019 7:38:15 PM	46869
Surr: DNOP	87.5	70-130		%Rec	1	8/19/2019 7:38:15 PM	46869
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/17/2019 3:26:15 PM	46860
Surr: BFB	100	77.4-118		%Rec	1	8/17/2019 3:26:15 PM	46860
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	8/17/2019 3:26:15 PM	46860
Toluene	ND	0.047		mg/Kg	1	8/17/2019 3:26:15 PM	46860
Ethylbenzene	ND	0.047		mg/Kg	1	8/17/2019 3:26:15 PM	46860
Xylenes, Total	ND	0.094		mg/Kg	1	8/17/2019 3:26:15 PM	46860
Surr: 4-Bromofluorobenzene	90.1	80-120		%Rec	1	8/17/2019 3:26:15 PM	46860

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SP65

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 4:00:00 PM

Lab ID: 1908856-065

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	310	60		mg/Kg	20	8/20/2019 7:15:00 PM	46925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/19/2019 11:22:23 PM	46869
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/19/2019 11:22:23 PM	46869
Surr: DNOP	70.8	70-130		%Rec	1	8/19/2019 11:22:23 PM	46869
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/17/2019 4:35:17 PM	46860
Surr: BFB	102	77.4-118		%Rec	1	8/17/2019 4:35:17 PM	46860
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 4:35:17 PM	46860
Toluene	ND	0.050		mg/Kg	1	8/17/2019 4:35:17 PM	46860
Ethylbenzene	ND	0.050		mg/Kg	1	8/17/2019 4:35:17 PM	46860
Xylenes, Total	ND	0.099		mg/Kg	1	8/17/2019 4:35:17 PM	46860
Surr: 4-Bromofluorobenzene	93.8	80-120		%Rec	1	8/17/2019 4:35:17 PM	46860

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SW1

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 4:00:00 PM

Lab ID: 1908856-066

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	210	60		mg/Kg	20	8/20/2019 8:16:45 PM	46925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	8/19/2019 8:23:03 PM	46869
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/19/2019 8:23:03 PM	46869
Surr: DNOP	60.5	70-130	S	%Rec	1	8/19/2019 8:23:03 PM	46869
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/17/2019 4:58:14 PM	46860
Surr: BFB	102	77.4-118		%Rec	1	8/17/2019 4:58:14 PM	46860
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/17/2019 4:58:14 PM	46860
Toluene	ND	0.048		mg/Kg	1	8/17/2019 4:58:14 PM	46860
Ethylbenzene	ND	0.048		mg/Kg	1	8/17/2019 4:58:14 PM	46860
Xylenes, Total	ND	0.096		mg/Kg	1	8/17/2019 4:58:14 PM	46860
Surr: 4-Bromofluorobenzene	91.7	80-120		%Rec	1	8/17/2019 4:58:14 PM	46860

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SW2

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 4:00:00 PM

Lab ID: 1908856-067

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	290	60		mg/Kg	20	8/20/2019 8:29:05 PM	46925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/19/2019 8:45:31 PM	46869
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/19/2019 8:45:31 PM	46869
Surr: DNOP	81.0	70-130		%Rec	1	8/19/2019 8:45:31 PM	46869
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/17/2019 5:21:14 PM	46860
Surr: BFB	102	77.4-118		%Rec	1	8/17/2019 5:21:14 PM	46860
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 5:21:14 PM	46860
Toluene	ND	0.050		mg/Kg	1	8/17/2019 5:21:14 PM	46860
Ethylbenzene	ND	0.050		mg/Kg	1	8/17/2019 5:21:14 PM	46860
Xylenes, Total	ND	0.10		mg/Kg	1	8/17/2019 5:21:14 PM	46860
Surr: 4-Bromofluorobenzene	91.9	80-120		%Rec	1	8/17/2019 5:21:14 PM	46860

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SW3

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 4:00:00 PM

Lab ID: 1908856-068

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	180	60		mg/Kg	20	8/20/2019 8:41:24 PM	46925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/19/2019 9:07:55 PM	46869
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/19/2019 9:07:55 PM	46869
Surr: DNOP	73.4	70-130		%Rec	1	8/19/2019 9:07:55 PM	46869
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/17/2019 5:44:15 PM	46860
Surr: BFB	101	77.4-118		%Rec	1	8/17/2019 5:44:15 PM	46860
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/17/2019 5:44:15 PM	46860
Toluene	ND	0.048		mg/Kg	1	8/17/2019 5:44:15 PM	46860
Ethylbenzene	ND	0.048		mg/Kg	1	8/17/2019 5:44:15 PM	46860
Xylenes, Total	ND	0.095		mg/Kg	1	8/17/2019 5:44:15 PM	46860
Surr: 4-Bromofluorobenzene	91.3	80-120		%Rec	1	8/17/2019 5:44:15 PM	46860

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SW4

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 4:00:00 PM

Lab ID: 1908856-069

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	270	60		mg/Kg	20	8/20/2019 8:53:45 PM	46925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/19/2019 9:30:24 PM	46869
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/19/2019 9:30:24 PM	46869
Surr: DNOP	80.3	70-130		%Rec	1	8/19/2019 9:30:24 PM	46869
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/17/2019 6:07:14 PM	46860
Surr: BFB	101	77.4-118		%Rec	1	8/17/2019 6:07:14 PM	46860
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 6:07:14 PM	46860
Toluene	ND	0.049		mg/Kg	1	8/17/2019 6:07:14 PM	46860
Ethylbenzene	ND	0.049		mg/Kg	1	8/17/2019 6:07:14 PM	46860
Xylenes, Total	ND	0.098		mg/Kg	1	8/17/2019 6:07:14 PM	46860
Surr: 4-Bromofluorobenzene	91.7	80-120		%Rec	1	8/17/2019 6:07:14 PM	46860

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 **1908856**Date Reported: **8/21/2019****CLIENT:** WPX Energy**Client Sample ID:** SW5**Project:** North Brushy Draw 35 1**Collection Date:** 8/12/2019 4:00:00 PM**Lab ID:** 1908856-070**Matrix:** SOIL**Received Date:** 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	220	60		mg/Kg	20	8/20/2019 9:06:06 PM	46925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	8/19/2019 9:52:39 PM	46869
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/19/2019 9:52:39 PM	46869
Surr: DNOP	86.2	70-130		%Rec	1	8/19/2019 9:52:39 PM	46869
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/17/2019 6:30:10 PM	46860
Surr: BFB	103	77.4-118		%Rec	1	8/17/2019 6:30:10 PM	46860
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/17/2019 6:30:10 PM	46860
Toluene	ND	0.047		mg/Kg	1	8/17/2019 6:30:10 PM	46860
Ethylbenzene	ND	0.047		mg/Kg	1	8/17/2019 6:30:10 PM	46860
Xylenes, Total	ND	0.095		mg/Kg	1	8/17/2019 6:30:10 PM	46860
Surr: 4-Bromofluorobenzene	93.7	80-120		%Rec	1	8/17/2019 6:30:10 PM	46860

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 **1908856**

Date Reported: **8/21/2019**

CLIENT: WPX Energy

Client Sample ID: SW6

Project: North Brushy Draw 35 1

Collection Date: 8/12/2019 4:00:00 PM

Lab ID: 1908856-071

Matrix: SOIL

Received Date: 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	600	60		mg/Kg	20	8/20/2019 9:18:27 PM	46925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	8/19/2019 10:15:08 PM	46869
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/19/2019 10:15:08 PM	46869
Surr: DNOP	71.9	70-130		%Rec	1	8/19/2019 10:15:08 PM	46869
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/17/2019 6:53:10 PM	46860
Surr: BFB	102	77.4-118		%Rec	1	8/17/2019 6:53:10 PM	46860
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/17/2019 6:53:10 PM	46860
Toluene	ND	0.048		mg/Kg	1	8/17/2019 6:53:10 PM	46860
Ethylbenzene	ND	0.048		mg/Kg	1	8/17/2019 6:53:10 PM	46860
Xylenes, Total	ND	0.097		mg/Kg	1	8/17/2019 6:53:10 PM	46860
Surr: 4-Bromofluorobenzene	93.3	80-120		%Rec	1	8/17/2019 6:53:10 PM	46860

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 **1908856**Date Reported: **8/21/2019****CLIENT:** WPX Energy**Client Sample ID:** SW7**Project:** North Brushy Draw 35 1**Collection Date:** 8/12/2019 4:00:00 PM**Lab ID:** 1908856-072**Matrix:** SOIL**Received Date:** 8/15/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	230	60		mg/Kg	20	8/20/2019 9:30:48 PM	46925
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/19/2019 10:37:29 PM	46869
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/19/2019 10:37:29 PM	46869
Surr: DNOP	73.2	70-130		%Rec	1	8/19/2019 10:37:29 PM	46869
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/17/2019 7:16:04 PM	46860
Surr: BFB	100	77.4-118		%Rec	1	8/17/2019 7:16:04 PM	46860
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/17/2019 7:16:04 PM	46860
Toluene	ND	0.049		mg/Kg	1	8/17/2019 7:16:04 PM	46860
Ethylbenzene	ND	0.049		mg/Kg	1	8/17/2019 7:16:04 PM	46860
Xylenes, Total	ND	0.099		mg/Kg	1	8/17/2019 7:16:04 PM	46860
Surr: 4-Bromofluorobenzene	91.2	80-120		%Rec	1	8/17/2019 7:16:04 PM	46860

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#: 1908856

21-Aug-19

Client: WPX Energy

Project: North Brushy Draw 35 1

Sample ID: MB-46862	SampType: mblk	TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 46862	RunNo: 62203
Prep Date: 8/16/2019	Analysis Date: 8/16/2019	SeqNo: 2113238 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	1.5

Sample ID: LCS-46862	SampType: lcs	TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 46862	RunNo: 62203
Prep Date: 8/16/2019	Analysis Date: 8/16/2019	SeqNo: 2113239 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	15	1.5 15.00 0 98.4 90 110

Sample ID: MB-46866	SampType: MBLK	TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 46866	RunNo: 62226
Prep Date: 8/16/2019	Analysis Date: 8/16/2019	SeqNo: 2113677 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	1.5

Sample ID: LCS-46866	SampType: LCS	TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 46866	RunNo: 62226
Prep Date: 8/16/2019	Analysis Date: 8/16/2019	SeqNo: 2113678 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	14	1.5 15.00 0 92.8 90 110

Sample ID: MB-46894	SampType: MBLK	TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 46894	RunNo: 62256
Prep Date: 8/19/2019	Analysis Date: 8/19/2019	SeqNo: 2114836 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	1.5

Sample ID: LCS-46894	SampType: LCS	TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 46894	RunNo: 62256
Prep Date: 8/19/2019	Analysis Date: 8/19/2019	SeqNo: 2114837 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	14	1.5 15.00 0 95.6 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

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908856

21-Aug-19

Client: WPX Energy

Project: North Brushy Draw 35 1

Sample ID: MB-46916	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 46916	RunNo: 62282								
Prep Date: 8/20/2019	Analysis Date: 8/20/2019	SeqNo: 2116073			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-46916	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 46916	RunNo: 62282								
Prep Date: 8/20/2019	Analysis Date: 8/20/2019	SeqNo: 2116074			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	99.1	90	110			

Sample ID: MB-46925	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 46925	RunNo: 62282								
Prep Date: 8/20/2019	Analysis Date: 8/20/2019	SeqNo: 2116108			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-46925	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 46925	RunNo: 62282								
Prep Date: 8/20/2019	Analysis Date: 8/20/2019	SeqNo: 2116109			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	96.9	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#: 1908856

21-Aug-19

Client: WPX Energy

Project: North Brushy Draw 35 1

Sample ID: MB-46851	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 46851		RunNo: 62213							
Prep Date: 8/16/2019	Analysis Date: 8/17/2019		SeqNo: 2112564		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.2		10.00		92.3	70	130			

Sample ID: MB-46852	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 46852		RunNo: 62213							
Prep Date: 8/16/2019	Analysis Date: 8/17/2019		SeqNo: 2112565		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.3		10.00		83.0	70	130			

Sample ID: LCS-46851	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 46851		RunNo: 62213							
Prep Date: 8/16/2019	Analysis Date: 8/17/2019		SeqNo: 2112567		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.9		5.000		77.7	70	130			

Sample ID: LCS-46852	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 46852		RunNo: 62213							
Prep Date: 8/16/2019	Analysis Date: 8/17/2019		SeqNo: 2112568		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.5	63.9	124			
Surr: DNOP	3.6		5.000		72.9	70	130			

Sample ID: MB-46853	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 46853		RunNo: 62212							
Prep Date: 8/16/2019	Analysis Date: 8/17/2019		SeqNo: 2112573		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.9		10.00		89.4	70	130			

Sample ID: MB-46854	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 46854		RunNo: 62212							
Prep Date: 8/16/2019	Analysis Date: 8/17/2019		SeqNo: 2112574		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#: 1908856

21-Aug-19

Client: WPX Energy

Project: North Brushy Draw 35 1

Sample ID: MB-46854	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 46854	RunNo: 62212								
Prep Date: 8/16/2019	Analysis Date: 8/17/2019	SeqNo: 2112574 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.4		10.00		84.4	70	130			

Sample ID: LCS-46853	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 46853	RunNo: 62212								
Prep Date: 8/16/2019	Analysis Date: 8/17/2019	SeqNo: 2112575 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.0	63.9	124			
Surr: DNOP	3.9		5.000		77.1	70	130			

Sample ID: LCS-46854	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 46854	RunNo: 62212								
Prep Date: 8/16/2019	Analysis Date: 8/17/2019	SeqNo: 2112576 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.6	63.9	124			
Surr: DNOP	3.9		5.000		78.1	70	130			

Sample ID: 1908856-031AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SP31	Batch ID: 46854	RunNo: 62211								
Prep Date: 8/16/2019	Analysis Date: 8/17/2019	SeqNo: 2112587 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	8.9	44.52	0	91.3	57	142			
Surr: DNOP	4.0		4.452		89.0	70	130			

Sample ID: 1908856-031AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SP31	Batch ID: 46854	RunNo: 62211								
Prep Date: 8/16/2019	Analysis Date: 8/17/2019	SeqNo: 2112588 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	36	8.7	43.29	0	83.9	57	142	11.3	20	
Surr: DNOP	3.4		4.329		79.2	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#: 1908856

21-Aug-19

Client: WPX Energy

Project: North Brushy Draw 35 1

Sample ID: 1908856-011AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: SP11	Batch ID: 46853	RunNo: 62212
Prep Date: 8/16/2019	Analysis Date: 8/18/2019	SeqNo: 2112789 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	42	9.2 46.21 0 91.6 57 142
Surr: DNOP	2.4	4.621 52.9 70 130 S

Sample ID: 1908856-011AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: SP11	Batch ID: 46853	RunNo: 62212
Prep Date: 8/16/2019	Analysis Date: 8/18/2019	SeqNo: 2112790 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	40	9.3 46.47 0 86.4 57 142 5.24 20
Surr: DNOP	2.0	4.647 43.0 70 130 0 0 S

Sample ID: LCS-46869	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 46869	RunNo: 62218
Prep Date: 8/18/2019	Analysis Date: 8/19/2019	SeqNo: 2113073 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	54	10 50.00 0 107 63.9 124
Surr: DNOP	4.8	5.000 96.6 70 130

Sample ID: MB-46869	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 46869	RunNo: 62218
Prep Date: 8/18/2019	Analysis Date: 8/19/2019	SeqNo: 2113074 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	10.00 100 70 130

Sample ID: 1908856-056AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: SP56	Batch ID: 46869	RunNo: 62249
Prep Date: 8/18/2019	Analysis Date: 8/20/2019	SeqNo: 2115974 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	54	9.9 49.31 0 110 57 142
Surr: DNOP	4.9	4.931 98.7 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#: 1908856

21-Aug-19

Client: WPX Energy

Project: North Brushy Draw 35 1

Sample ID: 1908856-056AMSD		SampType: MSD		TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: SP56		Batch ID: 46869		RunNo: 62249						
Prep Date: 8/18/2019		Analysis Date: 8/20/2019		SeqNo: 2115975		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	8.7	43.37	0	110	57	142	12.8	20	
Surr: DNOP	4.2		4.337		97.2	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#: 1908856

21-Aug-19

Client: WPX Energy

Project: North Brushy Draw 35 1

Sample ID: MB-46828	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 46828	RunNo: 62171								
Prep Date: 8/15/2019	Analysis Date: 8/16/2019	SeqNo: 2112322			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		104	77.4	118			

Sample ID: LCS-46828	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 46828	RunNo: 62171								
Prep Date: 8/15/2019	Analysis Date: 8/16/2019	SeqNo: 2112323			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	99.9	80	120			
Surr: BFB	1200		1000		118	77.4	118			S

Sample ID: 1908856-001AMS	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: SP1	Batch ID: 46828	RunNo: 62171								
Prep Date: 8/15/2019	Analysis Date: 8/16/2019	SeqNo: 2112326			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.9	24.63	0	103	69.1	142			
Surr: BFB	1200		985.2		119	77.4	118			S

Sample ID: 1908856-001AMSD	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: SP1	Batch ID: 46828	RunNo: 62171								
Prep Date: 8/15/2019	Analysis Date: 8/16/2019	SeqNo: 2112327			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.9	24.46	0	104	69.1	142	0.240	20	
Surr: BFB	1200		978.5		119	77.4	118	0	0	S

Sample ID: MB-46816	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 46816	RunNo: 62170								
Prep Date: 8/15/2019	Analysis Date: 8/16/2019	SeqNo: 2112385			Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	940		1000		94.1	77.4	118			

Sample ID: LCS-46816	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 46816	RunNo: 62170								
Prep Date: 8/15/2019	Analysis Date: 8/16/2019	SeqNo: 2112386			Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		104	77.4	118			

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#: 1908856

21-Aug-19

Client: WPX Energy

Project: North Brushy Draw 35 1

Sample ID: MB-46835	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 46835	RunNo: 62170								
Prep Date: 8/15/2019	Analysis Date: 8/17/2019	SeqNo: 2112409			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	940		1000		93.6	77.4	118			

Sample ID: LCS-46835	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 46835	RunNo: 62170								
Prep Date: 8/15/2019	Analysis Date: 8/16/2019	SeqNo: 2112410			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	95.0	80	120			
Surr: BFB	1100		1000		111	77.4	118			

Sample ID: 1908856-020AMS	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: SP20	Batch ID: 46835	RunNo: 62170								
Prep Date: 8/15/2019	Analysis Date: 8/16/2019	SeqNo: 2112412			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.8	23.92	0	91.3	69.1	142			
Surr: BFB	1000		956.9		106	77.4	118			

Sample ID: 1908856-020AMSD	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: SP20	Batch ID: 46835	RunNo: 62170								
Prep Date: 8/15/2019	Analysis Date: 8/16/2019	SeqNo: 2112413			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.7	23.56	0	94.9	69.1	142	2.39	20	
Surr: BFB	1000		942.5		107	77.4	118	0	0	

Sample ID: MB-46842	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 46842	RunNo: 62214								
Prep Date: 8/16/2019	Analysis Date: 8/17/2019	SeqNo: 2112603			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		92.8	77.4	118			

Sample ID: LCS-46842	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 46842	RunNo: 62214								
Prep Date: 8/16/2019	Analysis Date: 8/17/2019	SeqNo: 2112604			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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908856

21-Aug-19

Client: WPX Energy

Project: North Brushy Draw 35 1

Sample ID: LCS-46842	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 46842			RunNo: 62214						
Prep Date: 8/16/2019	Analysis Date: 8/17/2019			SeqNo: 2112604		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	89.7	80	120			
Surr: BFB	1000		1000		104	77.4	118			

Sample ID: 1908856-041AMS	SampType: MS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: SP41	Batch ID: 46842			RunNo: 62214						
Prep Date: 8/16/2019	Analysis Date: 8/17/2019			SeqNo: 2112607		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	24.85	0	99.5	69.1	142			
Surr: BFB	1100		994.0		108	77.4	118			

Sample ID: 1908856-041AMSD	SampType: MSD			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: SP41	Batch ID: 46842			RunNo: 62214						
Prep Date: 8/16/2019	Analysis Date: 8/17/2019			SeqNo: 2112608		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	24.85	0	97.3	69.1	142	2.24	20	
Surr: BFB	1100		994.0		107	77.4	118	0	0	

Sample ID: MB-46860	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 46860			RunNo: 62215						
Prep Date: 8/16/2019	Analysis Date: 8/17/2019			SeqNo: 2112668		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	990		1000		99.2	77.4	118			

Sample ID: LCS-46860	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 46860			RunNo: 62215						
Prep Date: 8/16/2019	Analysis Date: 8/17/2019			SeqNo: 2112669		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	97.6	80	120			
Surr: BFB	1200		1000		120	77.4	118			S

Sample ID: 1908856-056AMS	SampType: MS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: SP56	Batch ID: 46860			RunNo: 62215						
Prep Date: 8/16/2019	Analysis Date: 8/17/2019			SeqNo: 2112672		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#: 1908856

21-Aug-19

Client: WPX Energy

Project: North Brushy Draw 35 1

Sample ID: 1908856-056AMS		SampType: MS			TestCode: EPA Method 8015D: Gasoline Range					
Client ID: SP56		Batch ID: 46860			RunNo: 62215					
Prep Date: 8/16/2019		Analysis Date: 8/17/2019			SeqNo: 2112672		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.7	23.45	0	107	69.1	142			
Surr: BFB	1100		938.1		121	77.4	118			S

Sample ID: 1908856-056AMSD		SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range						
Client ID: SP56		Batch ID: 46860		RunNo: 62215						
Prep Date: 8/16/2019		Analysis Date: 8/17/2019		SeqNo: 2112673			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.8	23.97	0	106	69.1	142	0.828	20	
Surr: BFB	1100		958.8		119	77.4	118	0	0	S

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#: 1908856

21-Aug-19

Client: WPX Energy

Project: North Brushy Draw 35 1

Sample ID: MB-46828	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 46828	RunNo: 62171								
Prep Date: 8/15/2019	Analysis Date: 8/16/2019	SeqNo: 2112357 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	0.95		1.000		95.0	80	120			

Sample ID: LCS-46828	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 46828	RunNo: 62171								
Prep Date: 8/15/2019	Analysis Date: 8/16/2019	SeqNo: 2112358 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	96.1	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.1	0.050	1.000	0	105	80	120			
Xylenes, Total	3.1	0.10	3.000	0	105	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Sample ID: MB-46816	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 46816	RunNo: 62170								
Prep Date: 8/15/2019	Analysis Date: 8/16/2019	SeqNo: 2112429 Units: %Rec								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.94		1.000		93.5	80	120			

Sample ID: LCS-46816	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 46816	RunNo: 62170								
Prep Date: 8/15/2019	Analysis Date: 8/16/2019	SeqNo: 2112430 Units: %Rec								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.95		1.000		94.7	80	120			

Sample ID: MB-46835	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 46835	RunNo: 62170								
Prep Date: 8/15/2019	Analysis Date: 8/17/2019	SeqNo: 2112437 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								

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#: 1908856

21-Aug-19

Client: WPX Energy

Project: North Brushy Draw 35 1

Sample ID: MB-46835	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 46835	RunNo: 62170								
Prep Date: 8/15/2019	Analysis Date: 8/17/2019	SeqNo: 2112437	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.92		1.000		91.9	80	120			

Sample ID: LCS-46835	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 46835	RunNo: 62170								
Prep Date: 8/15/2019	Analysis Date: 8/16/2019	SeqNo: 2112438	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	1.000	0	93.0	80	120			
Toluene	1.0	0.050	1.000	0	100	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	3.0	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	0.95		1.000		95.2	80	120			

Sample ID: 1908856-021AMS	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: SP21	Batch ID: 46835	RunNo: 62170								
Prep Date: 8/15/2019	Analysis Date: 8/17/2019	SeqNo: 2112441	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.024	0.9560	0	96.9	63.9	127			
Toluene	1.0	0.048	0.9560	0.008772	105	69.9	131			
Ethylbenzene	1.0	0.048	0.9560	0	108	71	132			
Xylenes, Total	3.1	0.096	2.868	0	108	71.8	131			
Surr: 4-Bromofluorobenzene	0.90		0.9560		94.1	80	120			

Sample ID: 1908856-021AMSD	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: SP21	Batch ID: 46835	RunNo: 62170								
Prep Date: 8/15/2019	Analysis Date: 8/17/2019	SeqNo: 2112442	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	93.4	63.9	127	0.792	20	
Toluene	1.0	0.050	0.9990	0.008772	102	69.9	131	1.18	20	
Ethylbenzene	1.1	0.050	0.9990	0	107	71	132	3.17	20	
Xylenes, Total	3.2	0.10	2.997	0	106	71.8	131	2.26	20	
Surr: 4-Bromofluorobenzene	0.94		0.9990		94.4	80	120	0	0	

Sample ID: MB-46842	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 46842	RunNo: 62214								
Prep Date: 8/16/2019	Analysis Date: 8/17/2019	SeqNo: 2112641	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#: 1908856

21-Aug-19

Client: WPX Energy

Project: North Brushy Draw 35 1

Sample ID: MB-46842		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS		Batch ID: 46842		RunNo: 62214						
Prep Date: 8/16/2019		Analysis Date: 8/17/2019		SeqNo: 2112641		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	0.93		1.000		92.6	80	120			

Sample ID: LCS-46842		SampType: LCS		TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS		Batch ID: 46842		RunNo: 62214						
Prep Date: 8/16/2019		Analysis Date: 8/17/2019		SeqNo: 2112642			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	95.8	80	120			
Toluene	0.99	0.050	1.000	0	99.3	80	120			
Ethylbenzene	0.99	0.050	1.000	0	99.2	80	120			
Xylenes, Total	3.0	0.10	3.000	0	100	80	120			
Surr: 4-Bromofluorobenzene	0.95		1.000		95.2	80	120			

Sample ID: 1908856-040AMS		SampType: MS			TestCode: EPA Method 8021B: Volatiles					
Client ID: SP40		Batch ID: 46842			RunNo: 62214					
Prep Date: 8/16/2019		Analysis Date: 8/17/2019			SeqNo: 2112644		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	2.2	0.025	2.000	0	108	63.9	127			
Toluene	2.2	0.050	2.000	0	110	69.9	131			
Ethylbenzene	2.2	0.050	2.000	0	111	71	132			
Xylenes, Total	6.6	0.10	6.000	0	110	71.8	131			
Surr: 4-Bromofluorobenzene	0.97		1.000		96.5	80	120			

Sample ID: 1908856-040AMSD		SampType: MSD		TestCode: EPA Method 8021B: Volatiles							
Client ID: SP40		Batch ID: 46842		RunNo: 62214							
Prep Date: 8/16/2019		Analysis Date: 8/17/2019		SeqNo: 2112645		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	1.1	0.025	0.9881	0	109	63.9	127	66.7	20	R	
Toluene	1.1	0.049	0.9881	0	114	69.9	131	64.2	20	R	
Ethylbenzene	1.2	0.049	0.9881	0	117	71	132	63.4	20	R	
Xylenes, Total	3.5	0.099	2.964	0	118	71.8	131	61.3	20	R	
Surr: 4-Bromofluorobenzene	1.0		0.9881		104	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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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908856

21-Aug-19

Client: WPX Energy

Project: North Brushy Draw 35 1

Sample ID: MB-46860	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 46860	RunNo: 62215								
Prep Date: 8/16/2019	Analysis Date: 8/17/2019	SeqNo: 2112694	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	0.91		1.000		91.2	80	120			

Sample ID: LCS-46860	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 46860	RunNo: 62215								
Prep Date: 8/16/2019	Analysis Date: 8/17/2019	SeqNo: 2112695	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	100	80	120			
Toluene	1.0	0.050	1.000	0	103	80	120			
Ethylbenzene	1.0	0.050	1.000	0	105	80	120			
Xylenes, Total	3.1	0.10	3.000	0	105	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Sample ID: 1908856-057AMS	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: SP57	Batch ID: 46860	RunNo: 62215								
Prep Date: 8/16/2019	Analysis Date: 8/17/2019	SeqNo: 2112699	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.024	0.9443	0	114	63.9	127			
Toluene	1.1	0.047	0.9443	0	117	69.9	131			
Ethylbenzene	1.1	0.047	0.9443	0	120	71	132			
Xylenes, Total	3.4	0.094	2.833	0	119	71.8	131			
Surr: 4-Bromofluorobenzene	0.93		0.9443		98.8	80	120			

Sample ID: 1908856-057AMSD	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: SP57	Batch ID: 46860	RunNo: 62215								
Prep Date: 8/16/2019	Analysis Date: 8/17/2019	SeqNo: 2112700	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	0.9881	0	102	63.9	127	6.75	20	
Toluene	1.0	0.049	0.9881	0	105	69.9	131	6.42	20	
Ethylbenzene	1.1	0.049	0.9881	0	108	71	132	6.36	20	
Xylenes, Total	3.2	0.099	2.964	0	107	71.8	131	6.54	20	
Surr: 4-Bromofluorobenzene	0.99		0.9881		99.8	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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Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: WPX ENERGY CARLSB

Work Order Number: 1908856

RcptNo: 1

Received By: Daniel Marquez 8/15/2019 8:30:00 AM

Completed By: Michelle Garcia 8/15/2019 10:38:19 AM

Reviewed By: LB

Michelle Garcia

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 8/15/19

Special Handling (if applicable)

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

Person Notified: Kevin Smith Date: 8/15/19
By Whom: Leah Baca Via: ☒ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: The last samples were named SW 1-SW 7 instead of the SP 66-SP 72
Client Instructions: Report and the same the sample names from bottles

16. Additional remarks: analyze accordingly LB 8/15/19

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Yes			
2	4.3	Good	Yes			
3	4.5	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)

Turn-Around Time: 5 DAY TAT
☒ Standard ☐ Rush

Project Name: North Brushy Draw #BS-1
Project #:

Project Manager: Lori O'Brien
Sampler: Kevin Smith
On/Off: ☒ Yes ☐ No
of Coolers: 3
Cooler Temp (including CFI): Remarks: (°C)

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
8/12						19088510
8/12/14	1:00pm	soil	SP1	402(1)	ICE	001
			SP2			002
			SP3			003
			SP4			004
			SP5			005
			SP6			006
			SP7			007
			SP8			008
			SP9			009
			SP10			010
			SP11			011
			SP12			012

Date: 8/14/14 Time: 1:00pm Relinquished by: Kevin Smith
Date: 8/14/14 Time: 9:00 Relinquished by:
Received by: Date: 8/19/14 Time: 1:30
Received by: Date: 8/19/14 Time: 8:30

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 PCBs	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl ⁻ , Br ⁻ , NO ₃ ⁻ , NO ₂ ⁻ , PO ₄ ³⁻ , SO ₄ ²⁻	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
<input checked="" type="checkbox"/> BTEX / MTBE / TMBs (8021)	<input checked="" type="checkbox"/>							

Remarks: Report To: Deborah Watson
0.9+0.2=1.1%, 4.1+0.2=4.3%
4.3+0.2=4.5%
Lori O'Brien

Chain-of-Custody Record

Client: WDX Energy (Carlisle)

Mailing Address: ON FILE

Phone #: _____

email or Fax#: _____

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type) _____

Turn-Around Time: 5 DAY TAT

☒ Standard ☐ Rush

Project Name: _____

North Brushy Draw 35-1

Project #: _____

Project Manager: _____

Len O'Brien

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

of Coolers: _____

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

Container Type and #

Preservative Type

HEAL No. 1908850

4 oz (1)

ICE

013

014

015

016

017

018

019

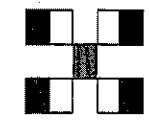
D20

D21

D22

D23

D24



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 PCB's		EDB (Method 504.1)		PAHs by 8310 or 8270SIMS		RCRA 8 Metals		Cl ⁻ , Br ⁻ , NO ₃ ⁻ , NO ₂ ⁻ , PO ₄ ³⁻ , SO ₄ ²⁻	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
BTEX / MTBE / TMB's (8021)	<input checked="" type="checkbox"/>												

Remarks:

Received by: [Signature] Date: 8/14/19 Time: 1300

Via: _____

Received by: [Signature] Date: 8/14/19 Time: 1900

Via: _____

Chain-of-Custody Record

Client: WPX Energy (LAWSON)

Mailing Address: OW 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
8/17/19		Soil	SP61
			SP62
			SP63
			SP64
			SP65
			SW1 SP66
			SW2 SP67
			SW3 SP68
			SW4 SP69
			SW5 SP70
			-SW6 SP71
			SW7 SP72

Date: 8/14/19 Time: 1:00p Relinquished by: Kevin Duen

Date: 8/14/19 Time: 1900 Relinquished by: [Signature]

Turn-Around Time: 5 day TAT

☒ Standard ☐ Rush

Project Name:

North Brushy Draw #35-1

Project #:

Project Manager:

Lori O'Brien

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

of Coolers: 1

Cooler Temp (including CP):

Container Type and #

Preservative Type

HEAL No.

40911 ICE

-061

-062

-063

-064

-065

-066

-067

-068

-069

-070

-071

-072

Received by: [Signature] Date: 8/14/19 Time: 1300

Received by: [Signature] Date: Time:

6 of 6

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	
Cl ⁻ , F ⁻ , Br ⁻ , NO ₃ ⁻ , NO ₂ ⁻ , PO ₄ ³⁻ , SO ₄ ²⁻	
8260 (VOA)	
8270 (Semi-VOA)	
Total Coliform (Present/Absent)	

Remarks:



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

September 05, 2019

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

RE: North Brushy Draw 35-1

OrderNo.: 1908E45

Dear Lori O'Brien:

Hall Environmental Analysis Laboratory received 68 sample(s) on 8/24/2019 and 1 sample on 8/28/19 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 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP66
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-001 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	230	60		mg/Kg	20	8/29/2019 7:37:02 PM	47159
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/28/2019 9:21:51 PM	47096
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/28/2019 9:21:51 PM	47096
Surr: DNOP	100	70-130		%Rec	1	8/28/2019 9:21:51 PM	47096
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/28/2019 2:21:31 PM	47087
Surr: BFB	97.2	77.4-118		%Rec	1	8/28/2019 2:21:31 PM	47087
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/28/2019 2:21:31 PM	47087
Toluene	ND	0.048		mg/Kg	1	8/28/2019 2:21:31 PM	47087
Ethylbenzene	ND	0.048		mg/Kg	1	8/28/2019 2:21:31 PM	47087
Xylenes, Total	ND	0.097		mg/Kg	1	8/28/2019 2:21:31 PM	47087
Surr: 4-Bromofluorobenzene	98.0	80-120		%Rec	1	8/28/2019 2:21:31 PM	47087

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP67
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-002 Matrix: SOIL Received Date: 8/24/2019 9:40:00 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 7:49:26 PM	47159
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/28/2019 10:36:04 PM	47096
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/28/2019 10:36:04 PM	47096
Surr: DNOP	96.1	70-130		%Rec	1	8/28/2019 10:36:04 PM	47096
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/28/2019 2:45:08 PM	47087
Surr: BFB	95.2	77.4-118		%Rec	1	8/28/2019 2:45:08 PM	47087
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/28/2019 2:45:08 PM	47087
Toluene	ND	0.048		mg/Kg	1	8/28/2019 2:45:08 PM	47087
Ethylbenzene	ND	0.048		mg/Kg	1	8/28/2019 2:45:08 PM	47087
Xylenes, Total	ND	0.096		mg/Kg	1	8/28/2019 2:45:08 PM	47087
Surr: 4-Bromofluorobenzene	95.4	80-120		%Rec	1	8/28/2019 2:45:08 PM	47087

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1908E45**

Date Reported: **9/5/2019**

CLIENT: WPX Energy

Client Sample ID: SP68

Project: North Brushy Draw 35-1

Collection Date: 8/23/2019

Lab ID: 1908E45-003

Matrix: SOIL

Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	310	60		mg/Kg	20	8/29/2019 8:01:51 PM	47159
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/28/2019 11:00:44 PM	47096
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/28/2019 11:00:44 PM	47096
Surr: DNOP	124	70-130		%Rec	1	8/28/2019 11:00:44 PM	47096
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/28/2019 3:08:45 PM	47087
Surr: BFB	94.1	77.4-118		%Rec	1	8/28/2019 3:08:45 PM	47087
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/28/2019 3:08:45 PM	47087
Toluene	ND	0.048		mg/Kg	1	8/28/2019 3:08:45 PM	47087
Ethylbenzene	ND	0.048		mg/Kg	1	8/28/2019 3:08:45 PM	47087
Xylenes, Total	ND	0.096		mg/Kg	1	8/28/2019 3:08:45 PM	47087
Surr: 4-Bromofluorobenzene	94.8	80-120		%Rec	1	8/28/2019 3:08:45 PM	47087

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP69
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-004 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	93	60		mg/Kg	20	8/29/2019 8:14:15 PM	47159
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/28/2019 11:25:21 PM	47096
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/28/2019 11:25:21 PM	47096
Surr: DNOP	101	70-130		%Rec	1	8/28/2019 11:25:21 PM	47096
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/28/2019 3:32:26 PM	47087
Surr: BFB	96.4	77.4-118		%Rec	1	8/28/2019 3:32:26 PM	47087
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/28/2019 3:32:26 PM	47087
Toluene	ND	0.049		mg/Kg	1	8/28/2019 3:32:26 PM	47087
Ethylbenzene	ND	0.049		mg/Kg	1	8/28/2019 3:32:26 PM	47087
Xylenes, Total	ND	0.098		mg/Kg	1	8/28/2019 3:32:26 PM	47087
Surr: 4-Bromofluorobenzene	96.6	80-120		%Rec	1	8/28/2019 3:32:26 PM	47087

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1908E45**

Date Reported: **9/5/2019**

CLIENT: WPX Energy

Client Sample ID: SP70

Project: North Brushy Draw 35-1

Collection Date: 8/23/2019

Lab ID: 1908E45-005

Matrix: SOIL

Received Date: 8/24/2019 9:40:00 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 8:26:40 PM	47159
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/28/2019 11:49:59 PM	47096
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/28/2019 11:49:59 PM	47096
Surr: DNOP	97.8	70-130		%Rec	1	8/28/2019 11:49:59 PM	47096
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/28/2019 5:07:25 PM	47087
Surr: BFB	93.7	77.4-118		%Rec	1	8/28/2019 5:07:25 PM	47087
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/28/2019 5:07:25 PM	47087
Toluene	ND	0.047		mg/Kg	1	8/28/2019 5:07:25 PM	47087
Ethylbenzene	ND	0.047		mg/Kg	1	8/28/2019 5:07:25 PM	47087
Xylenes, Total	ND	0.094		mg/Kg	1	8/28/2019 5:07:25 PM	47087
Surr: 4-Bromofluorobenzene	93.7	80-120		%Rec	1	8/28/2019 5:07:25 PM	47087

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP71
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-006 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	210	60		mg/Kg	20	8/30/2019 1:49:16 AM	47171
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/29/2019 12:14:33 AM	47096
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/29/2019 12:14:33 AM	47096
Surr: DNOP	92.6	70-130		%Rec	1	8/29/2019 12:14:33 AM	47096
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/28/2019 5:31:11 PM	47087
Surr: BFB	92.6	77.4-118		%Rec	1	8/28/2019 5:31:11 PM	47087
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/28/2019 5:31:11 PM	47087
Toluene	ND	0.050		mg/Kg	1	8/28/2019 5:31:11 PM	47087
Ethylbenzene	ND	0.050		mg/Kg	1	8/28/2019 5:31:11 PM	47087
Xylenes, Total	ND	0.099		mg/Kg	1	8/28/2019 5:31:11 PM	47087
Surr: 4-Bromofluorobenzene	91.9	80-120		%Rec	1	8/28/2019 5:31:11 PM	47087

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP72
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-007 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	8/30/2019 2:01:41 AM	47171
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/29/2019 12:39:18 AM	47096
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/29/2019 12:39:18 AM	47096
Surr: DNOP	102	70-130		%Rec	1	8/29/2019 12:39:18 AM	47096
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/28/2019 5:54:55 PM	47087
Surr: BFB	96.7	77.4-118		%Rec	1	8/28/2019 5:54:55 PM	47087
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	8/28/2019 5:54:55 PM	47087
Toluene	ND	0.047		mg/Kg	1	8/28/2019 5:54:55 PM	47087
Ethylbenzene	ND	0.047		mg/Kg	1	8/28/2019 5:54:55 PM	47087
Xylenes, Total	ND	0.094		mg/Kg	1	8/28/2019 5:54:55 PM	47087
Surr: 4-Bromofluorobenzene	95.3	80-120		%Rec	1	8/28/2019 5:54:55 PM	47087

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP73
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-008 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	64	61		mg/Kg	20	8/30/2019 2:14:06 AM	47171
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/29/2019 1:04:08 AM	47096
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/29/2019 1:04:08 AM	47096
Surr: DNOP	101	70-130		%Rec	1	8/29/2019 1:04:08 AM	47096
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/28/2019 6:18:34 PM	47087
Surr: BFB	102	77.4-118		%Rec	1	8/28/2019 6:18:34 PM	47087
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/28/2019 6:18:34 PM	47087
Toluene	ND	0.048		mg/Kg	1	8/28/2019 6:18:34 PM	47087
Ethylbenzene	ND	0.048		mg/Kg	1	8/28/2019 6:18:34 PM	47087
Xylenes, Total	ND	0.096		mg/Kg	1	8/28/2019 6:18:34 PM	47087
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	8/28/2019 6:18:34 PM	47087

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP74
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-009 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	8/30/2019 2:51:19 AM	47171
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/29/2019 1:28:48 AM	47096
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/29/2019 1:28:48 AM	47096
Surr: DNOP	102	70-130		%Rec	1	8/29/2019 1:28:48 AM	47096
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/28/2019 6:42:11 PM	47087
Surr: BFB	95.7	77.4-118		%Rec	1	8/28/2019 6:42:11 PM	47087
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/28/2019 6:42:11 PM	47087
Toluene	ND	0.049		mg/Kg	1	8/28/2019 6:42:11 PM	47087
Ethylbenzene	ND	0.049		mg/Kg	1	8/28/2019 6:42:11 PM	47087
Xylenes, Total	ND	0.098		mg/Kg	1	8/28/2019 6:42:11 PM	47087
Surr: 4-Bromofluorobenzene	94.3	80-120		%Rec	1	8/28/2019 6:42:11 PM	47087

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP75
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-010 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	110	60		mg/Kg	20	8/30/2019 3:03:43 AM	47171
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/29/2019 1:53:25 AM	47096
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/29/2019 1:53:25 AM	47096
Surr: DNOP	112	70-130		%Rec	1	8/29/2019 1:53:25 AM	47096
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/28/2019 7:05:43 PM	47087
Surr: BFB	91.8	77.4-118		%Rec	1	8/28/2019 7:05:43 PM	47087
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/28/2019 7:05:43 PM	47087
Toluene	ND	0.049		mg/Kg	1	8/28/2019 7:05:43 PM	47087
Ethylbenzene	ND	0.049		mg/Kg	1	8/28/2019 7:05:43 PM	47087
Xylenes, Total	ND	0.098		mg/Kg	1	8/28/2019 7:05:43 PM	47087
Surr: 4-Bromofluorobenzene	90.6	80-120		%Rec	1	8/28/2019 7:05:43 PM	47087

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP76
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-011 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	76	60		mg/Kg	20	8/30/2019 1:28:04 PM	47190
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/29/2019 2:18:03 AM	47096
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/29/2019 2:18:03 AM	47096
Surr: DNOP	104	70-130		%Rec	1	8/29/2019 2:18:03 AM	47096
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/28/2019 7:29:13 PM	47087
Surr: BFB	93.1	77.4-118		%Rec	1	8/28/2019 7:29:13 PM	47087
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/28/2019 7:29:13 PM	47087
Toluene	ND	0.049		mg/Kg	1	8/28/2019 7:29:13 PM	47087
Ethylbenzene	ND	0.049		mg/Kg	1	8/28/2019 7:29:13 PM	47087
Xylenes, Total	ND	0.099		mg/Kg	1	8/28/2019 7:29:13 PM	47087
Surr: 4-Bromofluorobenzene	92.8	80-120		%Rec	1	8/28/2019 7:29:13 PM	47087

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP77
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-012 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	110	60		mg/Kg	20	8/30/2019 2:05:18 PM	47190
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/29/2019 2:42:43 AM	47096
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/29/2019 2:42:43 AM	47096
Surr: DNOP	102	70-130		%Rec	1	8/29/2019 2:42:43 AM	47096
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/28/2019 7:52:44 PM	47087
Surr: BFB	90.3	77.4-118		%Rec	1	8/28/2019 7:52:44 PM	47087
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	8/28/2019 7:52:44 PM	47087
Toluene	ND	0.047		mg/Kg	1	8/28/2019 7:52:44 PM	47087
Ethylbenzene	ND	0.047		mg/Kg	1	8/28/2019 7:52:44 PM	47087
Xylenes, Total	ND	0.093		mg/Kg	1	8/28/2019 7:52:44 PM	47087
Surr: 4-Bromofluorobenzene	90.3	80-120		%Rec	1	8/28/2019 7:52:44 PM	47087

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP78
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-013 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	490	60		mg/Kg	20	8/30/2019 2:17:42 PM	47190
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/29/2019 3:07:30 AM	47096
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/29/2019 3:07:30 AM	47096
Surr: DNOP	107	70-130		%Rec	1	8/29/2019 3:07:30 AM	47096
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/28/2019 8:16:11 PM	47087
Surr: BFB	91.0	77.4-118		%Rec	1	8/28/2019 8:16:11 PM	47087
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/28/2019 8:16:11 PM	47087
Toluene	ND	0.047		mg/Kg	1	8/28/2019 8:16:11 PM	47087
Ethylbenzene	ND	0.047		mg/Kg	1	8/28/2019 8:16:11 PM	47087
Xylenes, Total	ND	0.095		mg/Kg	1	8/28/2019 8:16:11 PM	47087
Surr: 4-Bromofluorobenzene	90.8	80-120		%Rec	1	8/28/2019 8:16:11 PM	47087

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP79
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-014 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	370	60		mg/Kg	20	8/30/2019 2:54:55 PM	47190
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/29/2019 3:32:15 AM	47096
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/29/2019 3:32:15 AM	47096
Surr: DNOP	86.8	70-130		%Rec	1	8/29/2019 3:32:15 AM	47096
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/28/2019 8:39:38 PM	47087
Surr: BFB	87.1	77.4-118		%Rec	1	8/28/2019 8:39:38 PM	47087
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	8/28/2019 8:39:38 PM	47087
Toluene	ND	0.046		mg/Kg	1	8/28/2019 8:39:38 PM	47087
Ethylbenzene	ND	0.046		mg/Kg	1	8/28/2019 8:39:38 PM	47087
Xylenes, Total	ND	0.092		mg/Kg	1	8/28/2019 8:39:38 PM	47087
Surr: 4-Bromofluorobenzene	86.3	80-120		%Rec	1	8/28/2019 8:39:38 PM	47087

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP80
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-015 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	530	61		mg/Kg	20	8/30/2019 3:32:09 PM	47190
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/29/2019 9:19:44 AM	47114
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/29/2019 9:19:44 AM	47114
Surr: DNOP	93.5	70-130		%Rec	1	8/29/2019 9:19:44 AM	47114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/28/2019 9:19:56 PM	47094
Surr: BFB	93.4	77.4-118		%Rec	1	8/28/2019 9:19:56 PM	47094
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/28/2019 9:19:56 PM	47094
Toluene	ND	0.049		mg/Kg	1	8/28/2019 9:19:56 PM	47094
Ethylbenzene	ND	0.049		mg/Kg	1	8/28/2019 9:19:56 PM	47094
Xylenes, Total	ND	0.098		mg/Kg	1	8/28/2019 9:19:56 PM	47094
Surr: 4-Bromofluorobenzene	87.4	80-120		%Rec	1	8/28/2019 9:19:56 PM	47094

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1908E45**

Date Reported: **9/5/2019**

CLIENT: WPX Energy

Client Sample ID: SP81

Project: North Brushy Draw 35-1

Collection Date: 8/23/2019

Lab ID: 1908E45-016

Matrix: SOIL

Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	210	60		mg/Kg	20	8/30/2019 3:44:33 PM	47190
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/29/2019 10:31:59 AM	47114
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/29/2019 10:31:59 AM	47114
Surr: DNOP	97.6	70-130		%Rec	1	8/29/2019 10:31:59 AM	47114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/28/2019 10:28:32 PM	47094
Surr: BFB	97.1	77.4-118		%Rec	1	8/28/2019 10:28:32 PM	47094
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/28/2019 10:28:32 PM	47094
Toluene	ND	0.050		mg/Kg	1	8/28/2019 10:28:32 PM	47094
Ethylbenzene	ND	0.050		mg/Kg	1	8/28/2019 10:28:32 PM	47094
Xylenes, Total	ND	0.099		mg/Kg	1	8/28/2019 10:28:32 PM	47094
Surr: 4-Bromofluorobenzene	90.9	80-120		%Rec	1	8/28/2019 10:28:32 PM	47094

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1908E45**
Date Reported: **9/5/2019**

CLIENT: WPX Energy

Client Sample ID: SP82

Project: North Brushy Draw 35-1

Collection Date: 8/23/2019

Lab ID: 1908E45-017

Matrix: SOIL

Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	360	60		mg/Kg	20	8/30/2019 3:56:58 PM	47190
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/29/2019 10:56:05 AM	47114
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/29/2019 10:56:05 AM	47114
Surr: DNOP	92.9	70-130		%Rec	1	8/29/2019 10:56:05 AM	47114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/28/2019 11:37:24 PM	47094
Surr: BFB	91.3	77.4-118		%Rec	1	8/28/2019 11:37:24 PM	47094
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/28/2019 11:37:24 PM	47094
Toluene	ND	0.049		mg/Kg	1	8/28/2019 11:37:24 PM	47094
Ethylbenzene	ND	0.049		mg/Kg	1	8/28/2019 11:37:24 PM	47094
Xylenes, Total	ND	0.098		mg/Kg	1	8/28/2019 11:37:24 PM	47094
Surr: 4-Bromofluorobenzene	86.1	80-120		%Rec	1	8/28/2019 11:37:24 PM	47094

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP83
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-018 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	120	60		mg/Kg	20	8/30/2019 4:09:22 PM	47190
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/29/2019 11:20:08 AM	47114
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/29/2019 11:20:08 AM	47114
Surr: DNOP	95.8	70-130		%Rec	1	8/29/2019 11:20:08 AM	47114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2019 12:00:22 AM	47094
Surr: BFB	90.3	77.4-118		%Rec	1	8/29/2019 12:00:22 AM	47094
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 12:00:22 AM	47094
Toluene	ND	0.049		mg/Kg	1	8/29/2019 12:00:22 AM	47094
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2019 12:00:22 AM	47094
Xylenes, Total	ND	0.099		mg/Kg	1	8/29/2019 12:00:22 AM	47094
Surr: 4-Bromofluorobenzene	84.4	80-120		%Rec	1	8/29/2019 12:00:22 AM	47094

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP84
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-019 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	140	60		mg/Kg	20	8/30/2019 4:21:47 PM	47190
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/29/2019 11:44:09 AM	47114
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/29/2019 11:44:09 AM	47114
Surr: DNOP	96.2	70-130		%Rec	1	8/29/2019 11:44:09 AM	47114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2019 12:23:25 AM	47094
Surr: BFB	91.2	77.4-118		%Rec	1	8/29/2019 12:23:25 AM	47094
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 12:23:25 AM	47094
Toluene	ND	0.049		mg/Kg	1	8/29/2019 12:23:25 AM	47094
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2019 12:23:25 AM	47094
Xylenes, Total	ND	0.098		mg/Kg	1	8/29/2019 12:23:25 AM	47094
Surr: 4-Bromofluorobenzene	85.2	80-120		%Rec	1	8/29/2019 12:23:25 AM	47094

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP85
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-020 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	8/30/2019 4:34:12 PM	47190
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/29/2019 12:08:12 PM	47114
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/29/2019 12:08:12 PM	47114
Surr: DNOP	97.4	70-130		%Rec	1	8/29/2019 12:08:12 PM	47114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2019 12:46:26 AM	47094
Surr: BFB	91.7	77.4-118		%Rec	1	8/29/2019 12:46:26 AM	47094
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 12:46:26 AM	47094
Toluene	ND	0.049		mg/Kg	1	8/29/2019 12:46:26 AM	47094
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2019 12:46:26 AM	47094
Xylenes, Total	ND	0.098		mg/Kg	1	8/29/2019 12:46:26 AM	47094
Surr: 4-Bromofluorobenzene	84.2	80-120		%Rec	1	8/29/2019 12:46:26 AM	47094

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP86
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-021 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	530	60		mg/Kg	20	8/30/2019 4:46:36 PM	47190
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/29/2019 12:32:09 PM	47114
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/29/2019 12:32:09 PM	47114
Surr: DNOP	96.2	70-130		%Rec	1	8/29/2019 12:32:09 PM	47114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/29/2019 1:09:23 AM	47094
Surr: BFB	92.1	77.4-118		%Rec	1	8/29/2019 1:09:23 AM	47094
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 1:09:23 AM	47094
Toluene	ND	0.050		mg/Kg	1	8/29/2019 1:09:23 AM	47094
Ethylbenzene	ND	0.050		mg/Kg	1	8/29/2019 1:09:23 AM	47094
Xylenes, Total	ND	0.10		mg/Kg	1	8/29/2019 1:09:23 AM	47094
Surr: 4-Bromofluorobenzene	84.9	80-120		%Rec	1	8/29/2019 1:09:23 AM	47094

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP87
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-022 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	200	60		mg/Kg	20	8/30/2019 5:23:49 PM	47190
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/29/2019 12:56:05 PM	47114
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/29/2019 12:56:05 PM	47114
Surr: DNOP	96.9	70-130		%Rec	1	8/29/2019 12:56:05 PM	47114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2019 1:32:23 AM	47094
Surr: BFB	92.0	77.4-118		%Rec	1	8/29/2019 1:32:23 AM	47094
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/29/2019 1:32:23 AM	47094
Toluene	ND	0.049		mg/Kg	1	8/29/2019 1:32:23 AM	47094
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2019 1:32:23 AM	47094
Xylenes, Total	ND	0.098		mg/Kg	1	8/29/2019 1:32:23 AM	47094
Surr: 4-Bromofluorobenzene	85.1	80-120		%Rec	1	8/29/2019 1:32:23 AM	47094

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP88
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-023 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	8/30/2019 5:36:13 PM	47190
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/29/2019 1:20:00 PM	47114
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/29/2019 1:20:00 PM	47114
Surr: DNOP	91.1	70-130		%Rec	1	8/29/2019 1:20:00 PM	47114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/29/2019 1:55:17 AM	47094
Surr: BFB	98.2	77.4-118		%Rec	1	8/29/2019 1:55:17 AM	47094
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 1:55:17 AM	47094
Toluene	ND	0.050		mg/Kg	1	8/29/2019 1:55:17 AM	47094
Ethylbenzene	ND	0.050		mg/Kg	1	8/29/2019 1:55:17 AM	47094
Xylenes, Total	ND	0.10		mg/Kg	1	8/29/2019 1:55:17 AM	47094
Surr: 4-Bromofluorobenzene	89.8	80-120		%Rec	1	8/29/2019 1:55:17 AM	47094

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP89
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-024 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	70	60		mg/Kg	20	8/30/2019 5:48:38 PM	47190
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/29/2019 1:43:59 PM	47114
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/29/2019 1:43:59 PM	47114
Surr: DNOP	95.2	70-130		%Rec	1	8/29/2019 1:43:59 PM	47114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/29/2019 3:04:10 AM	47094
Surr: BFB	92.6	77.4-118		%Rec	1	8/29/2019 3:04:10 AM	47094
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 3:04:10 AM	47094
Toluene	ND	0.050		mg/Kg	1	8/29/2019 3:04:10 AM	47094
Ethylbenzene	ND	0.050		mg/Kg	1	8/29/2019 3:04:10 AM	47094
Xylenes, Total	ND	0.10		mg/Kg	1	8/29/2019 3:04:10 AM	47094
Surr: 4-Bromofluorobenzene	86.9	80-120		%Rec	1	8/29/2019 3:04:10 AM	47094

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP90
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-025 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	170	59		mg/Kg	20	8/30/2019 6:01:03 PM	47190
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	8/29/2019 2:08:04 PM	47114
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/29/2019 2:08:04 PM	47114
Surr: DNOP	98.3	70-130		%Rec	1	8/29/2019 2:08:04 PM	47114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/29/2019 3:27:05 AM	47094
Surr: BFB	93.3	77.4-118		%Rec	1	8/29/2019 3:27:05 AM	47094
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 3:27:05 AM	47094
Toluene	ND	0.050		mg/Kg	1	8/29/2019 3:27:05 AM	47094
Ethylbenzene	ND	0.050		mg/Kg	1	8/29/2019 3:27:05 AM	47094
Xylenes, Total	ND	0.10		mg/Kg	1	8/29/2019 3:27:05 AM	47094
Surr: 4-Bromofluorobenzene	85.9	80-120		%Rec	1	8/29/2019 3:27:05 AM	47094

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1908E45**

Date Reported: **9/5/2019**

CLIENT: WPX Energy

Client Sample ID: SP91

Project: North Brushy Draw 35-1

Collection Date: 8/23/2019

Lab ID: 1908E45-026

Matrix: SOIL

Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	120	60		mg/Kg	20	8/30/2019 6:13:27 PM	47190
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/29/2019 2:32:06 PM	47114
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/29/2019 2:32:06 PM	47114
Surr: DNOP	96.4	70-130		%Rec	1	8/29/2019 2:32:06 PM	47114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/29/2019 3:50:05 AM	47094
Surr: BFB	92.6	77.4-118		%Rec	1	8/29/2019 3:50:05 AM	47094
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 3:50:05 AM	47094
Toluene	ND	0.050		mg/Kg	1	8/29/2019 3:50:05 AM	47094
Ethylbenzene	ND	0.050		mg/Kg	1	8/29/2019 3:50:05 AM	47094
Xylenes, Total	ND	0.10		mg/Kg	1	8/29/2019 3:50:05 AM	47094
Surr: 4-Bromofluorobenzene	85.1	80-120		%Rec	1	8/29/2019 3:50:05 AM	47094

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy

Client Sample ID: SP92

Project: North Brushy Draw 35-1

Collection Date: 8/23/2019

Lab ID: 1908E45-027

Matrix: SOIL

Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	190	60		mg/Kg	20	8/30/2019 6:25:52 PM	47190
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/29/2019 2:56:12 PM	47114
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/29/2019 2:56:12 PM	47114
Surr: DNOP	98.8	70-130		%Rec	1	8/29/2019 2:56:12 PM	47114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2019 4:13:09 AM	47094
Surr: BFB	93.3	77.4-118		%Rec	1	8/29/2019 4:13:09 AM	47094
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 4:13:09 AM	47094
Toluene	ND	0.049		mg/Kg	1	8/29/2019 4:13:09 AM	47094
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2019 4:13:09 AM	47094
Xylenes, Total	ND	0.099		mg/Kg	1	8/29/2019 4:13:09 AM	47094
Surr: 4-Bromofluorobenzene	85.3	80-120		%Rec	1	8/29/2019 4:13:09 AM	47094

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 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP93
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-028 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	200	59		mg/Kg	20	8/30/2019 6:38:17 PM	47190
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	8/29/2019 3:20:18 PM	47114
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/29/2019 3:20:18 PM	47114
Surr: DNOP	97.6	70-130		%Rec	1	8/29/2019 3:20:18 PM	47114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/29/2019 4:36:15 AM	47094
Surr: BFB	89.1	77.4-118		%Rec	1	8/29/2019 4:36:15 AM	47094
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 4:36:15 AM	47094
Toluene	ND	0.050		mg/Kg	1	8/29/2019 4:36:15 AM	47094
Ethylbenzene	ND	0.050		mg/Kg	1	8/29/2019 4:36:15 AM	47094
Xylenes, Total	ND	0.099		mg/Kg	1	8/29/2019 4:36:15 AM	47094
Surr: 4-Bromofluorobenzene	80.9	80-120		%Rec	1	8/29/2019 4:36:15 AM	47094

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1908E45**

Date Reported: **9/5/2019**

CLIENT: WPX Energy

Client Sample ID: SP94

Project: North Brushy Draw 35-1

Collection Date: 8/23/2019

Lab ID: 1908E45-029

Matrix: SOIL

Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	230	60		mg/Kg	20	8/30/2019 6:50:42 PM	47190
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/29/2019 3:46:15 PM	47114
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/29/2019 3:46:15 PM	47114
Surr: DNOP	91.5	70-130		%Rec	1	8/29/2019 3:46:15 PM	47114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2019 4:59:23 AM	47094
Surr: BFB	92.7	77.4-118		%Rec	1	8/29/2019 4:59:23 AM	47094
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 4:59:23 AM	47094
Toluene	ND	0.049		mg/Kg	1	8/29/2019 4:59:23 AM	47094
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2019 4:59:23 AM	47094
Xylenes, Total	ND	0.099		mg/Kg	1	8/29/2019 4:59:23 AM	47094
Surr: 4-Bromofluorobenzene	83.7	80-120		%Rec	1	8/29/2019 4:59:23 AM	47094

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP95
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-030 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	190	60		mg/Kg	20	8/30/2019 7:52:44 PM	47195
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/29/2019 4:10:19 PM	47114
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/29/2019 4:10:19 PM	47114
Surr: DNOP	100	70-130		%Rec	1	8/29/2019 4:10:19 PM	47114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/29/2019 9:34:34 AM	47094
Surr: BFB	90.7	77.4-118		%Rec	1	8/29/2019 9:34:34 AM	47094
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 9:34:34 AM	47094
Toluene	ND	0.050		mg/Kg	1	8/29/2019 9:34:34 AM	47094
Ethylbenzene	ND	0.050		mg/Kg	1	8/29/2019 9:34:34 AM	47094
Xylenes, Total	ND	0.10		mg/Kg	1	8/29/2019 9:34:34 AM	47094
Surr: 4-Bromofluorobenzene	84.6	80-120		%Rec	1	8/29/2019 9:34:34 AM	47094

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP96
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-031 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	520	60		mg/Kg	20	8/30/2019 8:05:09 PM	47195
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/29/2019 4:34:21 PM	47114
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/29/2019 4:34:21 PM	47114
Surr: DNOP	100	70-130		%Rec	1	8/29/2019 4:34:21 PM	47114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2019 9:57:23 AM	47094
Surr: BFB	95.1	77.4-118		%Rec	1	8/29/2019 9:57:23 AM	47094
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 9:57:23 AM	47094
Toluene	ND	0.049		mg/Kg	1	8/29/2019 9:57:23 AM	47094
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2019 9:57:23 AM	47094
Xylenes, Total	ND	0.098		mg/Kg	1	8/29/2019 9:57:23 AM	47094
Surr: 4-Bromofluorobenzene	88.3	80-120		%Rec	1	8/29/2019 9:57:23 AM	47094

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1908E45**

Date Reported: **9/5/2019**

CLIENT: WPX Energy

Client Sample ID: SP97

Project: North Brushy Draw 35-1

Collection Date: 8/23/2019

Lab ID: 1908E45-032

Matrix: SOIL

Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	220	60		mg/Kg	20	8/30/2019 8:42:23 PM	47195
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/29/2019 4:58:20 PM	47114
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/29/2019 4:58:20 PM	47114
Surr: DNOP	110	70-130		%Rec	1	8/29/2019 4:58:20 PM	47114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2019 10:20:11 AM	47094
Surr: BFB	90.4	77.4-118		%Rec	1	8/29/2019 10:20:11 AM	47094
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 10:20:11 AM	47094
Toluene	ND	0.049		mg/Kg	1	8/29/2019 10:20:11 AM	47094
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2019 10:20:11 AM	47094
Xylenes, Total	ND	0.099		mg/Kg	1	8/29/2019 10:20:11 AM	47094
Surr: 4-Bromofluorobenzene	83.7	80-120		%Rec	1	8/29/2019 10:20:11 AM	47094

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1908E45**

Date Reported: **9/5/2019**

CLIENT: WPX Energy

Client Sample ID: SP98

Project: North Brushy Draw 35-1

Collection Date: 8/23/2019

Lab ID: 1908E45-033

Matrix: SOIL

Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	430	60		mg/Kg	20	8/30/2019 8:54:47 PM	47195
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/29/2019 5:22:37 PM	47114
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/29/2019 5:22:37 PM	47114
Surr: DNOP	94.0	70-130		%Rec	1	8/29/2019 5:22:37 PM	47114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/29/2019 10:43:01 AM	47094
Surr: BFB	91.5	77.4-118		%Rec	1	8/29/2019 10:43:01 AM	47094
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 10:43:01 AM	47094
Toluene	ND	0.050		mg/Kg	1	8/29/2019 10:43:01 AM	47094
Ethylbenzene	ND	0.050		mg/Kg	1	8/29/2019 10:43:01 AM	47094
Xylenes, Total	ND	0.10		mg/Kg	1	8/29/2019 10:43:01 AM	47094
Surr: 4-Bromofluorobenzene	84.0	80-120		%Rec	1	8/29/2019 10:43:01 AM	47094

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP99
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-034 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	930	60		mg/Kg	20	8/30/2019 9:32:01 PM	47195
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/29/2019 5:47:02 PM	47114
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/29/2019 5:47:02 PM	47114
Surr: DNOP	91.1	70-130		%Rec	1	8/29/2019 5:47:02 PM	47114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2019 11:05:50 AM	47094
Surr: BFB	89.7	77.4-118		%Rec	1	8/29/2019 11:05:50 AM	47094
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 11:05:50 AM	47094
Toluene	ND	0.049		mg/Kg	1	8/29/2019 11:05:50 AM	47094
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2019 11:05:50 AM	47094
Xylenes, Total	ND	0.099		mg/Kg	1	8/29/2019 11:05:50 AM	47094
Surr: 4-Bromofluorobenzene	82.4	80-120		%Rec	1	8/29/2019 11:05:50 AM	47094

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1908E45**

Date Reported: **9/5/2019**

CLIENT: WPX Energy

Client Sample ID: SP100

Project: North Brushy Draw 35-1

Collection Date: 8/23/2019

Lab ID: 1908E45-035

Matrix: SOIL

Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	210	60		mg/Kg	20	8/30/2019 9:44:25 PM	47195
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/29/2019 7:24:21 PM	47115
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/29/2019 7:24:21 PM	47115
Surr: DNOP	95.4	70-130		%Rec	1	8/29/2019 7:24:21 PM	47115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/28/2019 9:49:54 PM	47101
Surr: BFB	89.6	77.4-118		%Rec	1	8/28/2019 9:49:54 PM	47101
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/28/2019 9:49:54 PM	47101
Toluene	ND	0.049		mg/Kg	1	8/28/2019 9:49:54 PM	47101
Ethylbenzene	ND	0.049		mg/Kg	1	8/28/2019 9:49:54 PM	47101
Xylenes, Total	ND	0.098		mg/Kg	1	8/28/2019 9:49:54 PM	47101
Surr: 4-Bromofluorobenzene	89.0	80-120		%Rec	1	8/28/2019 9:49:54 PM	47101

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1908E45**

Date Reported: **9/5/2019**

CLIENT: WPX Energy

Client Sample ID: SP101

Project: North Brushy Draw 35-1

Collection Date: 8/23/2019

Lab ID: 1908E45-036

Matrix: SOIL

Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	230	60		mg/Kg	20	8/30/2019 10:21:39 PM	47195
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/29/2019 8:37:46 PM	47115
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/29/2019 8:37:46 PM	47115
Surr: DNOP	92.1	70-130		%Rec	1	8/29/2019 8:37:46 PM	47115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/28/2019 11:00:28 PM	47101
Surr: BFB	89.6	77.4-118		%Rec	1	8/28/2019 11:00:28 PM	47101
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/28/2019 11:00:28 PM	47101
Toluene	ND	0.049		mg/Kg	1	8/28/2019 11:00:28 PM	47101
Ethylbenzene	ND	0.049		mg/Kg	1	8/28/2019 11:00:28 PM	47101
Xylenes, Total	ND	0.098		mg/Kg	1	8/28/2019 11:00:28 PM	47101
Surr: 4-Bromofluorobenzene	89.3	80-120		%Rec	1	8/28/2019 11:00:28 PM	47101

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP102
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-037 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	140	60		mg/Kg	20	8/30/2019 10:34:04 PM	47195
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/29/2019 9:02:39 PM	47115
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/29/2019 9:02:39 PM	47115
Surr: DNOP	92.9	70-130		%Rec	1	8/29/2019 9:02:39 PM	47115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/29/2019 12:10:45 AM	47101
Surr: BFB	93.2	77.4-118		%Rec	1	8/29/2019 12:10:45 AM	47101
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 12:10:45 AM	47101
Toluene	ND	0.050		mg/Kg	1	8/29/2019 12:10:45 AM	47101
Ethylbenzene	ND	0.050		mg/Kg	1	8/29/2019 12:10:45 AM	47101
Xylenes, Total	ND	0.10		mg/Kg	1	8/29/2019 12:10:45 AM	47101
Surr: 4-Bromofluorobenzene	93.1	80-120		%Rec	1	8/29/2019 12:10:45 AM	47101

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1908E45**
Date Reported: **9/5/2019**

CLIENT: WPX Energy **Client Sample ID:** SP103
Project: North Brushy Draw 35-1 **Collection Date:** 8/23/2019
Lab ID: 1908E45-038 **Matrix:** SOIL **Received Date:** 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	290	59		mg/Kg	20	8/30/2019 10:46:29 PM	47195
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/29/2019 9:27:24 PM	47115
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/29/2019 9:27:24 PM	47115
Surr: DNOP	90.3	70-130		%Rec	1	8/29/2019 9:27:24 PM	47115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/29/2019 12:34:12 AM	47101
Surr: BFB	94.2	77.4-118		%Rec	1	8/29/2019 12:34:12 AM	47101
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 12:34:12 AM	47101
Toluene	ND	0.050		mg/Kg	1	8/29/2019 12:34:12 AM	47101
Ethylbenzene	ND	0.050		mg/Kg	1	8/29/2019 12:34:12 AM	47101
Xylenes, Total	ND	0.099		mg/Kg	1	8/29/2019 12:34:12 AM	47101
Surr: 4-Bromofluorobenzene	94.0	80-120		%Rec	1	8/29/2019 12:34:12 AM	47101

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP104
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-039 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	170	60		mg/Kg	20	8/30/2019 10:58:53 PM	47195
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	8/29/2019 9:52:06 PM	47115
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/29/2019 9:52:06 PM	47115
Surr: DNOP	96.4	70-130		%Rec	1	8/29/2019 9:52:06 PM	47115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2019 12:57:38 AM	47101
Surr: BFB	89.0	77.4-118		%Rec	1	8/29/2019 12:57:38 AM	47101
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 12:57:38 AM	47101
Toluene	ND	0.049		mg/Kg	1	8/29/2019 12:57:38 AM	47101
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2019 12:57:38 AM	47101
Xylenes, Total	ND	0.099		mg/Kg	1	8/29/2019 12:57:38 AM	47101
Surr: 4-Bromofluorobenzene	89.1	80-120		%Rec	1	8/29/2019 12:57:38 AM	47101

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP105
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-040 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	200	60		mg/Kg	20	8/30/2019 11:11:17 PM	47195
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/29/2019 10:16:53 PM	47115
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/29/2019 10:16:53 PM	47115
Surr: DNOP	93.3	70-130		%Rec	1	8/29/2019 10:16:53 PM	47115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/29/2019 1:21:03 AM	47101
Surr: BFB	91.8	77.4-118		%Rec	1	8/29/2019 1:21:03 AM	47101
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 1:21:03 AM	47101
Toluene	ND	0.050		mg/Kg	1	8/29/2019 1:21:03 AM	47101
Ethylbenzene	ND	0.050		mg/Kg	1	8/29/2019 1:21:03 AM	47101
Xylenes, Total	ND	0.10		mg/Kg	1	8/29/2019 1:21:03 AM	47101
Surr: 4-Bromofluorobenzene	92.5	80-120		%Rec	1	8/29/2019 1:21:03 AM	47101

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP106
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-041 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	480	60		mg/Kg	20	8/30/2019 11:23:41 PM	47195
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	8/29/2019 10:41:43 PM	47115
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/29/2019 10:41:43 PM	47115
Surr: DNOP	95.0	70-130		%Rec	1	8/29/2019 10:41:43 PM	47115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2019 1:44:51 AM	47101
Surr: BFB	99.1	77.4-118		%Rec	1	8/29/2019 1:44:51 AM	47101
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 1:44:51 AM	47101
Toluene	ND	0.049		mg/Kg	1	8/29/2019 1:44:51 AM	47101
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2019 1:44:51 AM	47101
Xylenes, Total	ND	0.099		mg/Kg	1	8/29/2019 1:44:51 AM	47101
Surr: 4-Bromofluorobenzene	99.0	80-120		%Rec	1	8/29/2019 1:44:51 AM	47101

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP107
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-042 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	320	60		mg/Kg	20	8/30/2019 11:36:06 PM	47195
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	8.2		mg/Kg	1	8/29/2019 11:06:30 PM	47115
Motor Oil Range Organics (MRO)	ND	41		mg/Kg	1	8/29/2019 11:06:30 PM	47115
Surr: DNOP	94.1	70-130		%Rec	1	8/29/2019 11:06:30 PM	47115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2019 2:08:37 AM	47101
Surr: BFB	91.8	77.4-118		%Rec	1	8/29/2019 2:08:37 AM	47101
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 2:08:37 AM	47101
Toluene	ND	0.049		mg/Kg	1	8/29/2019 2:08:37 AM	47101
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2019 2:08:37 AM	47101
Xylenes, Total	ND	0.099		mg/Kg	1	8/29/2019 2:08:37 AM	47101
Surr: 4-Bromofluorobenzene	91.0	80-120		%Rec	1	8/29/2019 2:08:37 AM	47101

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP108
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-043 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	240	60		mg/Kg	20	8/30/2019 11:48:30 PM	47195
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/29/2019 11:31:14 PM	47115
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/29/2019 11:31:14 PM	47115
Surr: DNOP	96.4	70-130		%Rec	1	8/29/2019 11:31:14 PM	47115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/29/2019 2:32:10 AM	47101
Surr: BFB	98.6	77.4-118		%Rec	1	8/29/2019 2:32:10 AM	47101
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 2:32:10 AM	47101
Toluene	ND	0.050		mg/Kg	1	8/29/2019 2:32:10 AM	47101
Ethylbenzene	ND	0.050		mg/Kg	1	8/29/2019 2:32:10 AM	47101
Xylenes, Total	ND	0.099		mg/Kg	1	8/29/2019 2:32:10 AM	47101
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	8/29/2019 2:32:10 AM	47101

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP109
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-044 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	8/31/2019 12:00:55 AM	47195
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	7.8		mg/Kg	1	8/29/2019 11:55:54 PM	47115
Motor Oil Range Organics (MRO)	ND	39		mg/Kg	1	8/29/2019 11:55:54 PM	47115
Surr: DNOP	93.3	70-130		%Rec	1	8/29/2019 11:55:54 PM	47115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2019 2:55:49 AM	47101
Surr: BFB	92.4	77.4-118		%Rec	1	8/29/2019 2:55:49 AM	47101
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 2:55:49 AM	47101
Toluene	ND	0.049		mg/Kg	1	8/29/2019 2:55:49 AM	47101
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2019 2:55:49 AM	47101
Xylenes, Total	ND	0.098		mg/Kg	1	8/29/2019 2:55:49 AM	47101
Surr: 4-Bromofluorobenzene	92.8	80-120		%Rec	1	8/29/2019 2:55:49 AM	47101

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1908E45**
Date Reported: **9/5/2019**

CLIENT: WPX Energy **Client Sample ID:** SP110
Project: North Brushy Draw 35-1 **Collection Date:** 8/23/2019
Lab ID: 1908E45-045 **Matrix:** SOIL **Received Date:** 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	8/31/2019 12:13:19 AM	47195
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/30/2019 12:20:43 AM	47115
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/30/2019 12:20:43 AM	47115
Surr: DNOP	94.3	70-130		%Rec	1	8/30/2019 12:20:43 AM	47115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2019 3:42:57 AM	47101
Surr: BFB	100	77.4-118		%Rec	1	8/29/2019 3:42:57 AM	47101
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 3:42:57 AM	47101
Toluene	ND	0.049		mg/Kg	1	8/29/2019 3:42:57 AM	47101
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2019 3:42:57 AM	47101
Xylenes, Total	ND	0.098		mg/Kg	1	8/29/2019 3:42:57 AM	47101
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	8/29/2019 3:42:57 AM	47101

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 **1908E45**

Date Reported: **9/5/2019**

CLIENT: WPX Energy

Client Sample ID: SP111

Project: North Brushy Draw 35-1

Collection Date: 8/23/2019

Lab ID: 1908E45-046

Matrix: SOIL

Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	8/31/2019 12:50:33 AM	47195
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/30/2019 12:45:28 AM	47115
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/30/2019 12:45:28 AM	47115
Surr: DNOP	96.9	70-130		%Rec	1	8/30/2019 12:45:28 AM	47115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/29/2019 4:06:28 AM	47101
Surr: BFB	90.7	77.4-118		%Rec	1	8/29/2019 4:06:28 AM	47101
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 4:06:28 AM	47101
Toluene	ND	0.050		mg/Kg	1	8/29/2019 4:06:28 AM	47101
Ethylbenzene	ND	0.050		mg/Kg	1	8/29/2019 4:06:28 AM	47101
Xylenes, Total	ND	0.10		mg/Kg	1	8/29/2019 4:06:28 AM	47101
Surr: 4-Bromofluorobenzene	90.7	80-120		%Rec	1	8/29/2019 4:06:28 AM	47101

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP112
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-047 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	8/31/2019 1:02:57 AM	47195
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/30/2019 1:10:09 AM	47115
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/30/2019 1:10:09 AM	47115
Surr: DNOP	96.5	70-130		%Rec	1	8/30/2019 1:10:09 AM	47115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2019 4:29:59 AM	47101
Surr: BFB	94.7	77.4-118		%Rec	1	8/29/2019 4:29:59 AM	47101
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 4:29:59 AM	47101
Toluene	ND	0.049		mg/Kg	1	8/29/2019 4:29:59 AM	47101
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2019 4:29:59 AM	47101
Xylenes, Total	ND	0.098		mg/Kg	1	8/29/2019 4:29:59 AM	47101
Surr: 4-Bromofluorobenzene	94.2	80-120		%Rec	1	8/29/2019 4:29:59 AM	47101

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy **Client Sample ID:** SP113
Project: North Brushy Draw 35-1 **Collection Date:** 8/23/2019
Lab ID: 1908E45-048 **Matrix:** SOIL **Received Date:** 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	8/31/2019 1:15:22 AM	47195
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/30/2019 1:34:48 AM	47115
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/30/2019 1:34:48 AM	47115
Surr: DNOP	99.1	70-130		%Rec	1	8/30/2019 1:34:48 AM	47115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2019 4:53:34 AM	47101
Surr: BFB	102	77.4-118		%Rec	1	8/29/2019 4:53:34 AM	47101
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 4:53:34 AM	47101
Toluene	ND	0.049		mg/Kg	1	8/29/2019 4:53:34 AM	47101
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2019 4:53:34 AM	47101
Xylenes, Total	ND	0.098		mg/Kg	1	8/29/2019 4:53:34 AM	47101
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	8/29/2019 4:53:34 AM	47101

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP114
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-049 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	8/31/2019 1:27:47 AM	47195
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/30/2019 1:59:36 AM	47115
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/30/2019 1:59:36 AM	47115
Surr: DNOP	92.0	70-130		%Rec	1	8/30/2019 1:59:36 AM	47115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/29/2019 11:10:53 AM	47101
Surr: BFB	89.5	77.4-118		%Rec	1	8/29/2019 11:10:53 AM	47101
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 11:10:53 AM	47101
Toluene	ND	0.050		mg/Kg	1	8/29/2019 11:10:53 AM	47101
Ethylbenzene	ND	0.050		mg/Kg	1	8/29/2019 11:10:53 AM	47101
Xylenes, Total	ND	0.10		mg/Kg	1	8/29/2019 11:10:53 AM	47101
Surr: 4-Bromofluorobenzene	91.8	80-120		%Rec	1	8/29/2019 11:10:53 AM	47101

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1908E45**

Date Reported: **9/5/2019**

CLIENT: WPX Energy

Client Sample ID: SP115

Project: North Brushy Draw 35-1

Collection Date: 8/23/2019

Lab ID: 1908E45-050

Matrix: SOIL

Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	520	60		mg/Kg	20	8/31/2019 2:05:01 AM	47207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/30/2019 2:24:25 AM	47115
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/30/2019 2:24:25 AM	47115
Surr: DNOP	93.3	70-130		%Rec	1	8/30/2019 2:24:25 AM	47115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/29/2019 11:34:16 AM	47101
Surr: BFB	91.3	77.4-118		%Rec	1	8/29/2019 11:34:16 AM	47101
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 11:34:16 AM	47101
Toluene	ND	0.050		mg/Kg	1	8/29/2019 11:34:16 AM	47101
Ethylbenzene	ND	0.050		mg/Kg	1	8/29/2019 11:34:16 AM	47101
Xylenes, Total	ND	0.099		mg/Kg	1	8/29/2019 11:34:16 AM	47101
Surr: 4-Bromofluorobenzene	92.7	80-120		%Rec	1	8/29/2019 11:34:16 AM	47101

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP116
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-051 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	8/31/2019 2:42:15 AM	47207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	8/30/2019 2:49:05 AM	47115
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/30/2019 2:49:05 AM	47115
Surr: DNOP	95.2	70-130		%Rec	1	8/30/2019 2:49:05 AM	47115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2019 11:57:43 AM	47101
Surr: BFB	91.6	77.4-118		%Rec	1	8/29/2019 11:57:43 AM	47101
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 11:57:43 AM	47101
Toluene	ND	0.049		mg/Kg	1	8/29/2019 11:57:43 AM	47101
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2019 11:57:43 AM	47101
Xylenes, Total	ND	0.098		mg/Kg	1	8/29/2019 11:57:43 AM	47101
Surr: 4-Bromofluorobenzene	93.3	80-120		%Rec	1	8/29/2019 11:57:43 AM	47101

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1908E45**
Date Reported: **9/5/2019**

CLIENT: WPX Energy **Client Sample ID:** SP118
Project: North Brushy Draw 35-1 **Collection Date:** 8/23/2019
Lab ID: 1908E45-053 **Matrix:** SOIL **Received Date:** 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	560	59		mg/Kg	20	9/1/2019 6:59:01 PM	47207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	8/30/2019 3:13:47 AM	47115
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/30/2019 3:13:47 AM	47115
Surr: DNOP	91.6	70-130		%Rec	1	8/30/2019 3:13:47 AM	47115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2019 12:21:07 PM	47101
Surr: BFB	97.7	77.4-118		%Rec	1	8/29/2019 12:21:07 PM	47101
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 12:21:07 PM	47101
Toluene	ND	0.049		mg/Kg	1	8/29/2019 12:21:07 PM	47101
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2019 12:21:07 PM	47101
Xylenes, Total	ND	0.098		mg/Kg	1	8/29/2019 12:21:07 PM	47101
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	8/29/2019 12:21:07 PM	47101

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1908E45**

Date Reported: **9/5/2019**

CLIENT: WPX Energy

Client Sample ID: SP119

Project: North Brushy Draw 35-1

Collection Date: 8/23/2019

Lab ID: 1908E45-054

Matrix: SOIL

Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	190	60		mg/Kg	20	9/1/2019 7:36:14 PM	47207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/30/2019 3:38:27 AM	47115
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/30/2019 3:38:27 AM	47115
Surr: DNOP	92.1	70-130		%Rec	1	8/30/2019 3:38:27 AM	47115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2019 3:29:29 PM	47101
Surr: BFB	97.0	77.4-118		%Rec	1	8/29/2019 3:29:29 PM	47101
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 3:29:29 PM	47101
Toluene	ND	0.049		mg/Kg	1	8/29/2019 3:29:29 PM	47101
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2019 3:29:29 PM	47101
Xylenes, Total	ND	0.098		mg/Kg	1	8/29/2019 3:29:29 PM	47101
Surr: 4-Bromofluorobenzene	97.3	80-120		%Rec	1	8/29/2019 3:29:29 PM	47101

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP120
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-055 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	130	60		mg/Kg	20	9/1/2019 8:13:28 PM	47207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/30/2019 4:03:05 AM	47115
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/30/2019 4:03:05 AM	47115
Surr: DNOP	92.1	70-130		%Rec	1	8/30/2019 4:03:05 AM	47115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/29/2019 4:40:17 PM	47101
Surr: BFB	92.6	77.4-118		%Rec	1	8/29/2019 4:40:17 PM	47101
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 4:40:17 PM	47101
Toluene	ND	0.050		mg/Kg	1	8/29/2019 4:40:17 PM	47101
Ethylbenzene	ND	0.050		mg/Kg	1	8/29/2019 4:40:17 PM	47101
Xylenes, Total	ND	0.10		mg/Kg	1	8/29/2019 4:40:17 PM	47101
Surr: 4-Bromofluorobenzene	92.7	80-120		%Rec	1	8/29/2019 4:40:17 PM	47101

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP121
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-056 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	200	60		mg/Kg	20	9/1/2019 8:25:52 PM	47207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/29/2019 5:49:37 PM	47122
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/29/2019 5:49:37 PM	47122
Surr: DNOP	105	70-130		%Rec	1	8/29/2019 5:49:37 PM	47122
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2019 11:28:41 AM	47116
Surr: BFB	91.6	77.4-118		%Rec	1	8/29/2019 11:28:41 AM	47116
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 11:28:41 AM	47116
Toluene	ND	0.049		mg/Kg	1	8/29/2019 11:28:41 AM	47116
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2019 11:28:41 AM	47116
Xylenes, Total	ND	0.098		mg/Kg	1	8/29/2019 11:28:41 AM	47116
Surr: 4-Bromofluorobenzene	83.7	80-120		%Rec	1	8/29/2019 11:28:41 AM	47116

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP122
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-057 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	370	60		mg/Kg	20	9/1/2019 8:38:16 PM	47207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	7.9		mg/Kg	1	8/29/2019 6:56:50 PM	47122
Motor Oil Range Organics (MRO)	ND	40		mg/Kg	1	8/29/2019 6:56:50 PM	47122
Surr: DNOP	102	70-130		%Rec	1	8/29/2019 6:56:50 PM	47122
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2019 12:37:16 PM	47116
Surr: BFB	92.3	77.4-118		%Rec	1	8/29/2019 12:37:16 PM	47116
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 12:37:16 PM	47116
Toluene	ND	0.049		mg/Kg	1	8/29/2019 12:37:16 PM	47116
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2019 12:37:16 PM	47116
Xylenes, Total	ND	0.098		mg/Kg	1	8/29/2019 12:37:16 PM	47116
Surr: 4-Bromofluorobenzene	86.4	80-120		%Rec	1	8/29/2019 12:37:16 PM	47116

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP123
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-058 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	240	60		mg/Kg	20	9/1/2019 8:50:40 PM	47207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/29/2019 7:19:12 PM	47122
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/29/2019 7:19:12 PM	47122
Surr: DNOP	105	70-130		%Rec	1	8/29/2019 7:19:12 PM	47122
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2019 2:33:14 PM	47116
Surr: BFB	94.6	77.4-118		%Rec	1	8/29/2019 2:33:14 PM	47116
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 2:33:14 PM	47116
Toluene	ND	0.049		mg/Kg	1	8/29/2019 2:33:14 PM	47116
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2019 2:33:14 PM	47116
Xylenes, Total	ND	0.098		mg/Kg	1	8/29/2019 2:33:14 PM	47116
Surr: 4-Bromofluorobenzene	89.3	80-120		%Rec	1	8/29/2019 2:33:14 PM	47116

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SP124
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-059 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	410	60		mg/Kg	20	9/1/2019 9:03:04 PM	47207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/29/2019 7:41:41 PM	47122
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/29/2019 7:41:41 PM	47122
Surr: DNOP	100	70-130		%Rec	1	8/29/2019 7:41:41 PM	47122
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/29/2019 2:56:14 PM	47116
Surr: BFB	94.0	77.4-118		%Rec	1	8/29/2019 2:56:14 PM	47116
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 2:56:14 PM	47116
Toluene	ND	0.050		mg/Kg	1	8/29/2019 2:56:14 PM	47116
Ethylbenzene	ND	0.050		mg/Kg	1	8/29/2019 2:56:14 PM	47116
Xylenes, Total	ND	0.099		mg/Kg	1	8/29/2019 2:56:14 PM	47116
Surr: 4-Bromofluorobenzene	87.3	80-120		%Rec	1	8/29/2019 2:56:14 PM	47116

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy **Client Sample ID:** SP125
Project: North Brushy Draw 35-1 **Collection Date:** 8/23/2019
Lab ID: 1908E45-060 **Matrix:** SOIL **Received Date:** 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	230	60		mg/Kg	20	9/1/2019 9:15:29 PM	47207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	8/29/2019 8:04:01 PM	47122
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/29/2019 8:04:01 PM	47122
Surr: DNOP	104	70-130		%Rec	1	8/29/2019 8:04:01 PM	47122
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/29/2019 3:19:15 PM	47116
Surr: BFB	95.7	77.4-118		%Rec	1	8/29/2019 3:19:15 PM	47116
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/29/2019 3:19:15 PM	47116
Toluene	ND	0.048		mg/Kg	1	8/29/2019 3:19:15 PM	47116
Ethylbenzene	ND	0.048		mg/Kg	1	8/29/2019 3:19:15 PM	47116
Xylenes, Total	ND	0.096		mg/Kg	1	8/29/2019 3:19:15 PM	47116
Surr: 4-Bromofluorobenzene	88.6	80-120		%Rec	1	8/29/2019 3:19:15 PM	47116

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy **Client Sample ID:** SW8
Project: North Brushy Draw 35-1 **Collection Date:** 8/23/2019
Lab ID: 1908E45-061 **Matrix:** SOIL **Received Date:** 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	140	60		mg/Kg	20	9/1/2019 9:27:53 PM	47207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	8.0		mg/Kg	1	8/29/2019 8:26:23 PM	47122
Motor Oil Range Organics (MRO)	ND	40		mg/Kg	1	8/29/2019 8:26:23 PM	47122
Surr: DNOP	106	70-130		%Rec	1	8/29/2019 8:26:23 PM	47122
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/29/2019 4:51:14 PM	47116
Surr: BFB	94.2	77.4-118		%Rec	1	8/29/2019 4:51:14 PM	47116
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/29/2019 4:51:14 PM	47116
Toluene	ND	0.047		mg/Kg	1	8/29/2019 4:51:14 PM	47116
Ethylbenzene	ND	0.047		mg/Kg	1	8/29/2019 4:51:14 PM	47116
Xylenes, Total	ND	0.094		mg/Kg	1	8/29/2019 4:51:14 PM	47116
Surr: 4-Bromofluorobenzene	88.0	80-120		%Rec	1	8/29/2019 4:51:14 PM	47116

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SW9
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-062 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	290	60		mg/Kg	20	9/1/2019 9:40:18 PM	47207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/29/2019 8:48:44 PM	47122
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/29/2019 8:48:44 PM	47122
Surr: DNOP	104	70-130		%Rec	1	8/29/2019 8:48:44 PM	47122
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/29/2019 5:14:13 PM	47116
Surr: BFB	90.8	77.4-118		%Rec	1	8/29/2019 5:14:13 PM	47116
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/29/2019 5:14:13 PM	47116
Toluene	ND	0.047		mg/Kg	1	8/29/2019 5:14:13 PM	47116
Ethylbenzene	ND	0.047		mg/Kg	1	8/29/2019 5:14:13 PM	47116
Xylenes, Total	ND	0.095		mg/Kg	1	8/29/2019 5:14:13 PM	47116
Surr: 4-Bromofluorobenzene	83.9	80-120		%Rec	1	8/29/2019 5:14:13 PM	47116

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SW10
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-063 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	650	60		mg/Kg	20	9/1/2019 9:52:42 PM	47207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	8/29/2019 9:11:07 PM	47122
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	8/29/2019 9:11:07 PM	47122
Surr: DNOP	102	70-130		%Rec	1	8/29/2019 9:11:07 PM	47122
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/29/2019 5:37:12 PM	47116
Surr: BFB	91.5	77.4-118		%Rec	1	8/29/2019 5:37:12 PM	47116
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/29/2019 5:37:12 PM	47116
Toluene	ND	0.047		mg/Kg	1	8/29/2019 5:37:12 PM	47116
Ethylbenzene	ND	0.047		mg/Kg	1	8/29/2019 5:37:12 PM	47116
Xylenes, Total	ND	0.095		mg/Kg	1	8/29/2019 5:37:12 PM	47116
Surr: 4-Bromofluorobenzene	84.4	80-120		%Rec	1	8/29/2019 5:37:12 PM	47116

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SW11
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-064 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	430	60		mg/Kg	20	9/1/2019 10:05:07 PM	47207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/29/2019 9:33:20 PM	47122
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/29/2019 9:33:20 PM	47122
Surr: DNOP	104	70-130		%Rec	1	8/29/2019 9:33:20 PM	47122
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/29/2019 6:00:07 PM	47116
Surr: BFB	94.9	77.4-118		%Rec	1	8/29/2019 6:00:07 PM	47116
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/29/2019 6:00:07 PM	47116
Toluene	ND	0.048		mg/Kg	1	8/29/2019 6:00:07 PM	47116
Ethylbenzene	ND	0.048		mg/Kg	1	8/29/2019 6:00:07 PM	47116
Xylenes, Total	ND	0.096		mg/Kg	1	8/29/2019 6:00:07 PM	47116
Surr: 4-Bromofluorobenzene	86.8	80-120		%Rec	1	8/29/2019 6:00:07 PM	47116

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SW12
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-065 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	360	60		mg/Kg	20	9/1/2019 10:42:20 PM	47207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	8/29/2019 9:55:47 PM	47122
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/29/2019 9:55:47 PM	47122
Surr: DNOP	108	70-130		%Rec	1	8/29/2019 9:55:47 PM	47122
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/29/2019 6:23:01 PM	47116
Surr: BFB	92.9	77.4-118		%Rec	1	8/29/2019 6:23:01 PM	47116
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 6:23:01 PM	47116
Toluene	ND	0.050		mg/Kg	1	8/29/2019 6:23:01 PM	47116
Ethylbenzene	ND	0.050		mg/Kg	1	8/29/2019 6:23:01 PM	47116
Xylenes, Total	ND	0.10		mg/Kg	1	8/29/2019 6:23:01 PM	47116
Surr: 4-Bromofluorobenzene	84.7	80-120		%Rec	1	8/29/2019 6:23:01 PM	47116

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SW13
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-066 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	410	60		mg/Kg	20	9/1/2019 10:54:45 PM	47207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	8.4		mg/Kg	1	8/29/2019 10:18:06 PM	47122
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	8/29/2019 10:18:06 PM	47122
Surr: DNOP	97.1	70-130		%Rec	1	8/29/2019 10:18:06 PM	47122
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/29/2019 6:45:58 PM	47116
Surr: BFB	93.7	77.4-118		%Rec	1	8/29/2019 6:45:58 PM	47116
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 6:45:58 PM	47116
Toluene	ND	0.050		mg/Kg	1	8/29/2019 6:45:58 PM	47116
Ethylbenzene	ND	0.050		mg/Kg	1	8/29/2019 6:45:58 PM	47116
Xylenes, Total	ND	0.099		mg/Kg	1	8/29/2019 6:45:58 PM	47116
Surr: 4-Bromofluorobenzene	86.0	80-120		%Rec	1	8/29/2019 6:45:58 PM	47116

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1908E45**

Date Reported: **9/5/2019**

CLIENT: WPX Energy

Client Sample ID: SW14

Project: North Brushy Draw 35-1

Collection Date: 8/23/2019

Lab ID: 1908E45-067

Matrix: SOIL

Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	180	59		mg/Kg	20	9/1/2019 11:07:10 PM	47207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/29/2019 10:40:33 PM	47122
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/29/2019 10:40:33 PM	47122
Surr: DNOP	98.8	70-130		%Rec	1	8/29/2019 10:40:33 PM	47122
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/29/2019 7:08:53 PM	47116
Surr: BFB	93.6	77.4-118		%Rec	1	8/29/2019 7:08:53 PM	47116
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/29/2019 7:08:53 PM	47116
Toluene	ND	0.050		mg/Kg	1	8/29/2019 7:08:53 PM	47116
Ethylbenzene	ND	0.050		mg/Kg	1	8/29/2019 7:08:53 PM	47116
Xylenes, Total	ND	0.099		mg/Kg	1	8/29/2019 7:08:53 PM	47116
Surr: 4-Bromofluorobenzene	85.8	80-120		%Rec	1	8/29/2019 7:08:53 PM	47116

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1908E45
Date Reported: 9/5/2019

CLIENT: WPX Energy Client Sample ID: SW15
Project: North Brushy Draw 35-1 Collection Date: 8/23/2019
Lab ID: 1908E45-068 Matrix: SOIL Received Date: 8/24/2019 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	350	60		mg/Kg	20	9/1/2019 11:19:35 PM	47207
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/29/2019 11:02:57 PM	47122
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/29/2019 11:02:57 PM	47122
Surr: DNOP	99.8	70-130		%Rec	1	8/29/2019 11:02:57 PM	47122
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/29/2019 7:31:43 PM	47116
Surr: BFB	90.9	77.4-118		%Rec	1	8/29/2019 7:31:43 PM	47116
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/29/2019 7:31:43 PM	47116
Toluene	ND	0.049		mg/Kg	1	8/29/2019 7:31:43 PM	47116
Ethylbenzene	ND	0.049		mg/Kg	1	8/29/2019 7:31:43 PM	47116
Xylenes, Total	ND	0.098		mg/Kg	1	8/29/2019 7:31:43 PM	47116
Surr: 4-Bromofluorobenzene	83.9	80-120		%Rec	1	8/29/2019 7:31:43 PM	47116

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E45

Date Reported: 9/5/2019

CLIENT: WPX Energy

Client Sample ID: SP117

Project: North Brushy Draw 35-1

Collection Date: 8/23/2019

Lab ID: 1908E45 -069

Matrix: SOIL

Received Date: 8/28/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	880	60		mg/Kg	20	8/28/2019 1:31:23 PM	47130
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	8/28/2019 2:10:42 PM	47117
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/28/2019 2:10:42 PM	47117
Surr: DNOP	90.2	70-130		%Rec	1	8/28/2019 2:10:42 PM	47117
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	8/28/2019 8:57:00 PM	G62476
Surr: BFB	92.2	77.4-118		%Rec	1	8/28/2019 8:57:00 PM	G62476
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.021		mg/Kg	1	8/28/2019 8:57:00 PM	B62476
Toluene	ND	0.041		mg/Kg	1	8/28/2019 8:57:00 PM	B62476
Ethylbenzene	ND	0.041		mg/Kg	1	8/28/2019 8:57:00 PM	B62476
Xylenes, Total	ND	0.082		mg/Kg	1	8/28/2019 8:57:00 PM	B62476
Surr: 4-Bromofluorobenzene	86.2	80-120		%Rec	1	8/28/2019 8:57:00 PM	B62476

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

Qualifiers:	<ul style="list-style-type: none">* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to MatrixH Holding times for preparation or analysis exceededND Not Detected at the Reporting LimitPQL Practical Quantitative LimitS % Recovery outside of range due to dilution or matrix	<ul style="list-style-type: none">B Analyte detected in the associated Method BlankE Value above quantitation rangeJ Analyte detected below quantitation limitsP Sample pH Not In RangeRL Reporting Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E45

05-Sep-19

Client: WPX Energy

Project: North Brushy Draw 35-1

Sample ID: MB-47159	SampType: mblk	TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 47159	RunNo: 62527
Prep Date: 8/29/2019	Analysis Date: 8/29/2019	SeqNo: 2128255 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	1.5

Sample ID: LCS-47159	SampType: lcs	TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 47159	RunNo: 62527
Prep Date: 8/29/2019	Analysis Date: 8/29/2019	SeqNo: 2128256 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	14	1.5 15.00 0 94.2 90 110

Sample ID: MB-47171	SampType: mblk	TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 47171	RunNo: 62527
Prep Date: 8/29/2019	Analysis Date: 8/29/2019	SeqNo: 2128285 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	1.5

Sample ID: LCS-47171	SampType: lcs	TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 47171	RunNo: 62527
Prep Date: 8/29/2019	Analysis Date: 8/29/2019	SeqNo: 2128286 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	14	1.5 15.00 0 96.0 90 110

Sample ID: MB-47910	SampType: mblk	TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 47190	RunNo: 62558
Prep Date: 8/30/2019	Analysis Date: 8/30/2019	SeqNo: 2129733 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	4.5

Sample ID: LCS-47910	SampType: lcs	TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 47190	RunNo: 62558
Prep Date: 8/30/2019	Analysis Date: 8/30/2019	SeqNo: 2129734 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	14	4.5 15.00 0 93.2 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#: 1908E45

05-Sep-19

Client: WPX Energy

Project: North Brushy Draw 35-1

Sample ID: MB-47195	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 47195	RunNo: 62558								
Prep Date: 8/30/2019	Analysis Date: 8/30/2019	SeqNo: 2129771	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-47195	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 47195	RunNo: 62558								
Prep Date: 8/30/2019	Analysis Date: 8/30/2019	SeqNo: 2129772	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.4	90	110			

Sample ID: MB-47207	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 47207	RunNo: 62558								
Prep Date: 8/30/2019	Analysis Date: 8/31/2019	SeqNo: 2129803	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-47207	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 47207	RunNo: 62558								
Prep Date: 8/30/2019	Analysis Date: 8/31/2019	SeqNo: 2129804	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.6	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#: 1908E45

05-Sep-19

Client: WPX Energy

Project: North Brushy Draw 35-1

Sample ID: MB-47096	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 47096	RunNo: 62455								
Prep Date: 8/27/2019	Analysis Date: 8/28/2019	SeqNo: 2126367			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	12		10.00		117	70	130			

Sample ID: LCS-47096	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 47096	RunNo: 62455								
Prep Date: 8/27/2019	Analysis Date: 8/28/2019	SeqNo: 2126368			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	5.5		5.000		109	70	130			

Sample ID: 1908E45-001AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SP66	Batch ID: 47096	RunNo: 62455								
Prep Date: 8/27/2019	Analysis Date: 8/28/2019	SeqNo: 2126429			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.4	46.90	0	101	57	142			
Surr: DNOP	5.1		4.690		109	70	130			

Sample ID: 1908E45-001AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SP66	Batch ID: 47096	RunNo: 62455								
Prep Date: 8/27/2019	Analysis Date: 8/28/2019	SeqNo: 2126431			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	9.9	49.46	0	93.1	57	142	3.20	20	
Surr: DNOP	4.9		4.946		98.1	70	130	0	0	

Sample ID: MB-47114	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 47114	RunNo: 62526								
Prep Date: 8/28/2019	Analysis Date: 8/29/2019	SeqNo: 2127078			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		90.6	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E45

05-Sep-19

Client: WPX Energy

Project: North Brushy Draw 35-1

Sample ID: LCS-47114	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 47114	RunNo: 62526								
Prep Date: 8/28/2019	Analysis Date: 8/29/2019	SeqNo: 2127079 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	88.4	63.9	124			
Surr: DNOP	4.5		5.000		90.2	70	130			

Sample ID: 1908E45-015AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SP80	Batch ID: 47114	RunNo: 62526								
Prep Date: 8/28/2019	Analysis Date: 8/29/2019	SeqNo: 2127081 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	9.8	49.16	0	92.8	57	142			
Surr: DNOP	4.6		4.916		93.0	70	130			

Sample ID: 1908E45-015AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SP80	Batch ID: 47114	RunNo: 62526								
Prep Date: 8/28/2019	Analysis Date: 8/29/2019	SeqNo: 2127082 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	9.2	46.00	0	96.1	57	142	3.12	20	
Surr: DNOP	4.6		4.600		99.8	70	130	0	0	

Sample ID: 1908E45-056AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SP121	Batch ID: 47122	RunNo: 62465								
Prep Date: 8/28/2019	Analysis Date: 8/29/2019	SeqNo: 2127306 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	9.9	49.31	0	103	57	142			
Surr: DNOP	4.9		4.931		98.9	70	130			

Sample ID: 1908E45-056AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SP121	Batch ID: 47122	RunNo: 62465								
Prep Date: 8/28/2019	Analysis Date: 8/29/2019	SeqNo: 2127307 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	8.5	42.48	0	103	57	142	15.0	20	
Surr: DNOP	4.0		4.248		95.2	70	130	0	0	

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: 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E45

05-Sep-19

Client: WPX Energy

Project: North Brushy Draw 35-1

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: 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	4.8		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: 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		101	70	130			

Sample ID: MB-47115	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 47115	RunNo: 62526								
Prep Date: 8/28/2019	Analysis Date: 8/29/2019	SeqNo: 2128115	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	9.2		10.00		91.5	70	130			

Sample ID: LCS-47115	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 47115	RunNo: 62526								
Prep Date: 8/28/2019	Analysis Date: 8/29/2019	SeqNo: 2128116	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.0	63.9	124			
Surr: DNOP	4.6		5.000		93.0	70	130			

Sample ID: 1908E45-035AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SP100	Batch ID: 47115	RunNo: 62526								
Prep Date: 8/28/2019	Analysis Date: 8/29/2019	SeqNo: 2128117	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	8.9	44.29	0	89.4	57	142			
Surr: DNOP	4.1		4.429		93.6	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E45

05-Sep-19

Client: WPX Energy

Project: North Brushy Draw 35-1

Sample ID: 1908E45-035AMSD		SampType: MSD		TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: SP100		Batch ID: 47115		RunNo: 62526						
Prep Date: 8/28/2019		Analysis Date: 8/29/2019		SeqNo: 2128118		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	8.9	44.52	0	93.3	57	142	4.76	20	
Surr: DNOP	4.2		4.452		95.1	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E45

05-Sep-19

Client: WPX Energy

Project: North Brushy Draw 35-1

Sample ID: MB-47094	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 47094	RunNo: 62476								
Prep Date: 8/27/2019	Analysis Date: 8/28/2019	SeqNo: 2125516			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		93.2	77.4	118			

Sample ID: LCS-47094	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 47094	RunNo: 62476								
Prep Date: 8/27/2019	Analysis Date: 8/28/2019	SeqNo: 2125517			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	85.9	80	120			
Surr: BFB	1100		1000		110	77.4	118			

Sample ID: 1908E45-016AMS	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: SP81	Batch ID: 47094	RunNo: 62476								
Prep Date: 8/27/2019	Analysis Date: 8/28/2019	SeqNo: 2125520			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.9	24.68	0	100	69.1	142			
Surr: BFB	1100		987.2		113	77.4	118			

Sample ID: 1908E45-016AMSD	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: SP81	Batch ID: 47094	RunNo: 62476								
Prep Date: 8/27/2019	Analysis Date: 8/28/2019	SeqNo: 2125521			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.9	24.61	0	98.0	69.1	142	2.28	20	
Surr: BFB	1100		984.3		111	77.4	118	0	0	

Sample ID: MB-47087	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 47087	RunNo: 62475								
Prep Date: 8/27/2019	Analysis Date: 8/28/2019	SeqNo: 2125577			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	970		1000		97.2	77.4	118			

Sample ID: LCS-47087	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 47087	RunNo: 62475								
Prep Date: 8/27/2019	Analysis Date: 8/28/2019	SeqNo: 2125578			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	970		1000		97.2	77.4	118			

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#: 1908E45

05-Sep-19

Client: WPX Energy

Project: North Brushy Draw 35-1

Sample ID: LCS-47087	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 47087			RunNo: 62475						
Prep Date: 8/27/2019	Analysis Date: 8/28/2019			SeqNo: 2125578		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	82.8	80	120			
Surr: BFB	1000		1000		105	77.4	118			

Sample ID: MB-47101	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 47101			RunNo: 62475						
Prep Date: 8/27/2019	Analysis Date: 8/28/2019			SeqNo: 2125601		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	950		1000		94.9	77.4	118			

Sample ID: LCS-47101	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 47101			RunNo: 62475						
Prep Date: 8/27/2019	Analysis Date: 8/28/2019			SeqNo: 2125602		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	1000		1000		102	77.4	118			

Sample ID: 1908E45-036AMS	SampType: MS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: SP101	Batch ID: 47101			RunNo: 62475						
Prep Date: 8/27/2019	Analysis Date: 8/28/2019			SeqNo: 2125605		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	24.85	0	89.6	69.1	142			
Surr: BFB	1000		994.0		103	77.4	118			

Sample ID: 1908E45-036AMSD	SampType: MSD			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: SP101	Batch ID: 47101			RunNo: 62475						
Prep Date: 8/27/2019	Analysis Date: 8/28/2019			SeqNo: 2125606		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	24.90	0	92.3	69.1	142	3.19	20	
Surr: BFB	1000		996.0		104	77.4	118	0	0	

Sample ID: MB-47116	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 47116			RunNo: 62534						
Prep Date: 8/28/2019	Analysis Date: 8/29/2019			SeqNo: 2127436		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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E45

05-Sep-19

Client: WPX Energy

Project: North Brushy Draw 35-1

Sample ID: MB-47116	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range
Client ID: PBS	Batch ID: 47116	RunNo: 62534
Prep Date: 8/28/2019	Analysis Date: 8/29/2019	SeqNo: 2127436 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 93.0 77.4 118

Sample ID: LCS-47116	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range
Client ID: LCSS	Batch ID: 47116	RunNo: 62534
Prep Date: 8/28/2019	Analysis Date: 8/29/2019	SeqNo: 2127437 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 90.6 80 120
Surr: BFB	1100	1000 108 77.4 118

Sample ID: 1908E45-056AMS	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range
Client ID: SP121	Batch ID: 47116	RunNo: 62534
Prep Date: 8/28/2019	Analysis Date: 8/29/2019	SeqNo: 2127439 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	24	4.9 24.63 0 99.3 69.1 142
Surr: BFB	1100	985.2 114 77.4 118

Sample ID: 1908E45-056AMSD	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range
Client ID: SP121	Batch ID: 47116	RunNo: 62534
Prep Date: 8/28/2019	Analysis Date: 8/29/2019	SeqNo: 2127440 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	24	4.8 23.85 0 100 69.1 142 2.52 20
Surr: BFB	1100	954.2 113 77.4 118 0 0

Sample ID: MB-47143	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range
Client ID: PBS	Batch ID: 47143	RunNo: 62534
Prep Date: 8/28/2019	Analysis Date: 8/29/2019	SeqNo: 2127461 Units: %Rec
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: BFB	940	1000 94.1 77.4 118

Sample ID: LCS-47143	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range
Client ID: LCSS	Batch ID: 47143	RunNo: 62534
Prep Date: 8/28/2019	Analysis Date: 8/29/2019	SeqNo: 2127462 Units: %Rec
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: BFB	1100	1000 112 77.4 118

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#: 1908E45

05-Sep-19

Client: WPX Energy

Project: North Brushy Draw 35-1

Sample ID: MB-47094	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 47094	RunNo: 62476								
Prep Date: 8/27/2019	Analysis Date: 8/28/2019	SeqNo: 2125551			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	0.86		1.000		85.8	80	120			

Sample ID: LCS-47094	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 47094	RunNo: 62476								
Prep Date: 8/27/2019	Analysis Date: 8/28/2019	SeqNo: 2125552			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.025	1.000	0	87.0	80	120			
Toluene	0.91	0.050	1.000	0	91.3	80	120			
Ethylbenzene	0.92	0.050	1.000	0	92.5	80	120			
Xylenes, Total	2.7	0.10	3.000	0	91.4	80	120			
Surr: 4-Bromofluorobenzene	0.92		1.000		92.0	80	120			

Sample ID: 1908E45-015AMS	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: SP80	Batch ID: 47094	RunNo: 62476								
Prep Date: 8/27/2019	Analysis Date: 8/28/2019	SeqNo: 2125554			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	0.9921	0	97.6	76	123			
Toluene	1.0	0.050	0.9921	0	102	80.3	127			
Ethylbenzene	1.0	0.050	0.9921	0	105	80.2	131			
Xylenes, Total	3.1	0.099	2.976	0	103	78	133			
Surr: 4-Bromofluorobenzene	0.94		0.9921		94.8	80	120			

Sample ID: 1908E45-015AMSD	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: SP80	Batch ID: 47094	RunNo: 62476								
Prep Date: 8/27/2019	Analysis Date: 8/28/2019	SeqNo: 2125555			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	0.9823	0	96.2	76	123	2.45	20	
Toluene	1.0	0.049	0.9823	0	101	80.3	127	1.85	20	
Ethylbenzene	1.0	0.049	0.9823	0	106	80.2	131	0.739	20	
Xylenes, Total	3.0	0.098	2.947	0	102	78	133	1.92	20	
Surr: 4-Bromofluorobenzene	0.93		0.9823		94.9	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E45

05-Sep-19

Client: WPX Energy

Project: North Brushy Draw 35-1

Sample ID: MB-47087	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 47087	RunNo: 62475								
Prep Date: 8/27/2019	Analysis Date: 8/28/2019	SeqNo: 2125624 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	0.99		1.000		99.5	80	120			

Sample ID: LCS-47087	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 47087	RunNo: 62475								
Prep Date: 8/27/2019	Analysis Date: 8/28/2019	SeqNo: 2125625 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	97.6	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	0.97		1.000		96.5	80	120			

Sample ID: MB-47101	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 47101	RunNo: 62475								
Prep Date: 8/27/2019	Analysis Date: 8/28/2019	SeqNo: 2125648 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	0.96		1.000		96.1	80	120			

Sample ID: LCS-47101	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 47101	RunNo: 62475								
Prep Date: 8/27/2019	Analysis Date: 8/28/2019	SeqNo: 2125649 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	1.000	0	93.5	80	120			
Toluene	0.97	0.050	1.000	0	96.7	80	120			
Ethylbenzene	0.97	0.050	1.000	0	96.7	80	120			
Xylenes, Total	2.9	0.10	3.000	0	98.0	80	120			
Surr: 4-Bromofluorobenzene	0.93		1.000		92.8	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E45

05-Sep-19

Client: WPX Energy

Project: North Brushy Draw 35-1

Sample ID: 1908E45-035AMS	SampType: MS			TestCode: EPA Method 8021B: Volatiles						
Client ID: SP100	Batch ID: 47101			RunNo: 62475						
Prep Date: 8/27/2019	Analysis Date: 8/28/2019			SeqNo: 2125651			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	0.9940	0.01186	98.0	76	123			
Toluene	1.0	0.050	0.9940	0.01020	103	80.3	127			
Ethylbenzene	1.0	0.050	0.9940	0	105	80.2	131			
Xylenes, Total	3.2	0.099	2.982	0.01804	105	78	133			
Surr: 4-Bromofluorobenzene	0.94		0.9940		94.9	80	120			

Sample ID: 1908E45-035AMSD		SampType: MSD		TestCode: EPA Method 8021B: Volatiles						
Client ID: SP100		Batch ID: 47101		RunNo: 62475						
Prep Date: 8/27/2019		Analysis Date: 8/28/2019		SeqNo: 2125652		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9728	0.01186	101	76	123	0.924	20	
Toluene	1.1	0.049	0.9728	0.01020	107	80.3	127	1.55	20	
Ethylbenzene	1.1	0.049	0.9728	0	112	80.2	131	4.24	20	
Xylenes, Total	3.3	0.097	2.918	0.01804	111	78	133	3.33	20	
Surr: 4-Bromofluorobenzene	0.98		0.9728		101	80	120	0	0	

Sample ID: MB-47116		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS		Batch ID: 47116		RunNo: 62534						
Prep Date: 8/28/2019		Analysis Date: 8/29/2019		SeqNo: 2127484		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	0.88		1.000		87.8	80	120			

Sample ID: LCS-47116		SampType: LCS		TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS		Batch ID: 47116		RunNo: 62534						
Prep Date: 8/28/2019		Analysis Date: 8/29/2019		SeqNo: 2127485			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	91.9	80	120			
Toluene	0.95	0.050	1.000	0	95.4	80	120			
Ethylbenzene	0.98	0.050	1.000	0	97.6	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.5	80	120			
Surr: 4-Bromofluorobenzene	0.92		1.000		92.5	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E45

05-Sep-19

Client: WPX Energy

Project: North Brushy Draw 35-1

Sample ID: 1908E45-057AMS		SampType: MS		TestCode: EPA Method 8021B: Volatiles						
Client ID: SP122		Batch ID: 47116		RunNo: 62534						
Prep Date: 8/28/2019		Analysis Date: 8/29/2019		SeqNo: 2127488		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.024	0.9470	0	97.4	76	123			
Toluene	0.98	0.047	0.9470	0	104	80.3	127			
Ethylbenzene	1.0	0.047	0.9470	0	108	80.2	131			
Xylenes, Total	3.0	0.095	2.841	0	105	78	133			
Surr: 4-Bromofluorobenzene	0.88		0.9470		93.0	80	120			

Sample ID: 1908E45-057AMSD		SampType: MSD		TestCode: EPA Method 8021B: Volatiles						
Client ID: SP122		Batch ID: 47116		RunNo: 62534						
Prep Date: 8/28/2019		Analysis Date: 8/29/2019		SeqNo: 2127489		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.024	0.9597	0	104	76	123	7.48	20	
Toluene	1.0	0.048	0.9597	0	109	80.3	127	6.26	20	
Ethylbenzene	1.1	0.048	0.9597	0	113	80.2	131	6.10	20	
Xylenes, Total	3.2	0.096	2.879	0	110	78	133	5.76	20	
Surr: 4-Bromofluorobenzene	0.89		0.9597		92.5	80	120	0	0	

Sample ID: MB-47143		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS		Batch ID: 47143		RunNo: 62534						
Prep Date: 8/28/2019		Analysis Date: 8/29/2019		SeqNo: 2127509			Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.87		1.000		86.7	80	120			

Sample ID: LCS-47143		SampType: LCS		TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS		Batch ID: 47143		RunNo: 62534						
Prep Date: 8/28/2019		Analysis Date: 8/29/2019		SeqNo: 2127510			Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.95		1.000		95.4	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E45

05-Sep-19

Client: WPX Energy

Project: North Brushy Draw 35-1

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			

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#: 1908E45

05-Sep-19

Client: WPX Energy

Project: North Brushy Draw 35-1

Sample ID: LCS-47117	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 47117	RunNo: 62465								
Prep Date: 8/28/2019	Analysis Date: 8/28/2019	SeqNo: 2125041 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	99.7	63.9	124			
Surr: DNOP	4.4		5.000		88.9	70	130			

Sample ID: MB-47117	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 47117	RunNo: 62465								
Prep Date: 8/28/2019	Analysis Date: 8/28/2019	SeqNo: 2125042 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	9.8		10.00		98.1	70	130			

Sample ID: 1908G14-001AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BatchQC	Batch ID: 47117	RunNo: 62465								
Prep Date: 8/28/2019	Analysis Date: 8/28/2019	SeqNo: 2125464 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	68	9.7	48.40	22.76	92.9	57	142			
Surr: DNOP	4.8		4.840		99.0	70	130			

Sample ID: 1908G14-001AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BatchQC	Batch ID: 47117	RunNo: 62465								
Prep Date: 8/28/2019	Analysis Date: 8/28/2019	SeqNo: 2125465 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	62	8.7	43.40	22.76	89.8	57	142	9.19	20	
Surr: DNOP	4.4		4.340		100	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E45

05-Sep-19

Client: WPX Energy

Project: North Brushy Draw 35-1

Sample ID: RB	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: G62476	RunNo: 62476								
Prep Date:	Analysis Date: 8/28/2019	SeqNo: 2125492 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		97.6	77.4	118			

Sample ID: 2.5UG GRO LCS	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: G62476	RunNo: 62476								
Prep Date:	Analysis Date: 8/28/2019	SeqNo: 2125493 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	80	120			
Surr: BFB	1100		1000		113	77.4	118			

Sample ID: 1908G14-001AMS	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: BatchQC	Batch ID: G62476	RunNo: 62476								
Prep Date:	Analysis Date: 8/28/2019	SeqNo: 2125495 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	85	17	83.89	0	102	69.1	142			
Surr: BFB	3800		3356		112	77.4	118			

Sample ID: 1908G14-001AMSD	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: BatchQC	Batch ID: G62476	RunNo: 62476								
Prep Date:	Analysis Date: 8/28/2019	SeqNo: 2125496 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	91	17	83.89	0	109	69.1	142	6.61	20	
Surr: BFB	3800		3356		113	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#: 1908E45
05-Sep-19

Client: WPX Energy
Project: North Brushy Draw 35-1

Sample ID: RB	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: B62476		RunNo: 62476							
Prep Date:	Analysis Date: 8/28/2019		SeqNo: 2125539		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	0.92		1.000		92.1	80	120			

Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: B62476	RunNo: 62476								
Prep Date:	Analysis Date: 8/28/2019	SeqNo: 2125540 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Benzene	1.0	0.025	1.000	0	99.7	80	120			
Toluene	0.99	0.050	1.000	0	98.7	80	120			
Ethylbenzene	1.0	0.050	1.000	0	100	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.5	80	120			
Surr: 4-Bromofluorobenzene	0.99		1.000		98.7	80	120			

Sample ID: 1908G14-001AMS		SampType: MS		TestCode: EPA Method 8021B: Volatiles						
Client ID: BatchQC		Batch ID: B62476		RunNo: 62476						
Prep Date:		Analysis Date: 8/28/2019		SeqNo: 2125542		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Benzene	3.4	0.084	3.356	0.01533	101	76	123			
Toluene	3.4	0.17	3.356	0.02762	102	80.3	127			
Ethylbenzene	3.4	0.17	3.356	0	102	80.2	131			
Xylenes, Total	10	0.34	10.07	0	99.4	78	133			
Surr: 4-Bromofluorobenzene	3.2		3.356		96.0	80	120			

Sample ID: 1908G14-001AMSD		SampType: MSD		TestCode: EPA Method 8021B: Volatiles						
Client ID: BatchQC		Batch ID: B62476		RunNo: 62476						
Prep Date:		Analysis Date: 8/28/2019		SeqNo: 2125543		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Benzene	3.5	0.084	3.356	0.01533	105	76	123	4.29	20	
Toluene	3.6	0.17	3.356	0.02762	107	80.3	127	4.83	20	
Ethylbenzene	3.6	0.17	3.356	0	107	80.2	131	4.74	20	
Xylenes, Total	11	0.34	10.07	0	105	78	133	5.34	20	
Surr: 4-Bromofluorobenzene	3.3		3.356		98.8	80	120	0	0	

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	

Sample Log-In Check List

Client Name: **WPX ENERGY CARLSB**

Work Order Number: **1908E45**

RcptNo: 1

Received By: **Yazmine Garduno**

8/24/2019 9:40:00 AM

Yazmine Garduno

Completed By: **Yazmine Garduno**

8/24/2019 10:46:00 AM

Yazmine Garduno

Reviewed By: **ENM**

8/26/19

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 8/26/19**

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	5.6	Good				
2	5.9	Good				
3	5.6	Good				
4	5.3	Good				

Chain-of-Custody Record

Client: WFX (Carlsbad)

Mailing Address: EN 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: North Brushy Draw #35-1

Project #: _____

Project Manager: Lori O'Brien

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

of Coolers: 4

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
8/23/19		Soil	SP66	40261	ICE	-001
			SP67			-002
			SP68			-003
			SP69			-004
			SP70			-005
			SP71			-006
			SP72			-007
			SP73			-008
			SP74			-009
			SP75			-010
			SP76			-011
			SP77			-012

Relinquished by: Kevin Smith Date: 8/23/19 3:00p

Received by: WFX Date: 8/23/19 1:50p

Relinquished by: _____ Date: _____

Received by: Kevin Smith Date: 8/23/19 1:50p

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"/>
Cl 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: Report To: Deborah Watson

5.1 +0.5 = 5.6

5.4 +0.5 = 5.9

5.1 +0.5 = 5.6

4.9 +0.5 = 5.4

Kevin Smith

Lori O'Brien

Chain-of-Custody Record

Client: WPK (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: North Brushy Draw #35-1

Project #:

Project Manager: Lori O'Brien

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

of Coolers: 4

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
8/23/14		Soil	SP102	402(1)	IE	-037
			SP103			-038
			SP104			-039
			SP105			-040
			SP106			-041
			SP107			-042
			SP108			-043
			SP109			-044
			SP110			-045
			SP111			-046
			SP112			-047
			SP113			-048

Date: 8/23/14 Time: 5:00pm

Date: 8/23/14 Time: 1:50p

Date: 8/23/14 Time: 190

Date: 8/23/14 Time: 190



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)	X	8081 Pesticides/8082 PCB's		EDB (Method 504.1)		PAHs by 8310 or 8270SIMS		RCRA 8 Metals		CF, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄		8260 (VOA)		8270 (Semi-VOA)		Total Coliform (Present/Absent)	
BTEX / MTBE / TMB's (8021)	X																

Remarks:

5.1 to 5 = 5.6
5.4 to 5 = 5.6
5.1 to 5 = 5.6
4.8 to 5 = 5.3



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

September 20, 2019

Lori O'Brien

WPX Energy

5315 Buena Vista Drive

Carlsbad, NM 88220

TEL: (505) 386-9693

FAX:

RE: North Brushy Draw 35 1

OrderNo.: 1909A19

Dear Lori O'Brien:

Hall Environmental Analysis Laboratory received 3 sample(s) on 9/19/2019 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 **1909A19**

Date Reported: **9/20/2019**

CLIENT: WPX Energy

Client Sample ID: SP99

Project: North Brushy Draw 35 1

Collection Date: 9/18/2019

Lab ID: 1909A19-001

Matrix: SOIL

Received Date: 9/19/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	200	60		mg/Kg	20	9/19/2019 12:12:50 PM	47585

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 4

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1909A19**

Date Reported: **9/20/2019**

CLIENT: WPX Energy

Client Sample ID: SP117

Project: North Brushy Draw 35 1

Collection Date: 9/18/2019

Lab ID: 1909A19-002

Matrix: SOIL

Received Date: 9/19/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	200	60		mg/Kg	20	9/19/2019 12:25:15 PM	47585

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 2 of 4

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1909A19**

Date Reported: **9/20/2019**

CLIENT: WPX Energy

Client Sample ID: SW10

Project: North Brushy Draw 35 1

Collection Date: 9/18/2019

Lab ID: 1909A19-003

Matrix: SOIL

Received Date: 9/19/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	250	60		mg/Kg	20	9/19/2019 12:37:40 PM	47585

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 3 of 4

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1909A19

20-Sep-19

Client: WPX Energy

Project: North Brushy Draw 35 1

Sample ID: MB-47585	SampType: MBLK	TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 47585	RunNo: 63048
Prep Date: 9/19/2019	Analysis Date: 9/19/2019	SeqNo: 2150546 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	1.5

Sample ID: LCS-47585	SampType: LCS	TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 47585	RunNo: 63048
Prep Date: 9/19/2019	Analysis Date: 9/19/2019	SeqNo: 2150547 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	14	1.5 15.00 0 95.2 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

Page 4 of 4

Sample Log-In Check List

Client Name: **WPX ENERGY**

Work Order Number: **1909A19**

RcptNo: 1

Received By: **Daniel Marquez**

9/19/2019 9:00:00 AM

Completed By: **Leah Baca**

9/19/2019 10:07:44 AM

Reviewed By: *JU 9.19.19*

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° 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: *LB 9/19/19*

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 °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.5	Good	Yes			
2	2.1	Good	Yes			

Chain-of-Custody Record

Client: WPA Energy - Permian

Mailing Address: OW Fire

Phone #: ↓

email or Fax#: ↓

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

Accreditation: ☐ Az Compliance ☐ NELAC ☐ Other

☐ EDD (Type)

Date Time Matrix Sample Name

9/18/19 12:00pm Soil SP99

1 SP119

SW10

Relinquished by: WPA Energy

Date: 9/19/19 1900

Turn-Around Time: ☐ Standard ☒ Rush 1 day

Project Name: Northern Brushy Draw #35-1

Project #:

Project Manager: Lori O'Brien

Sampler: Lori O'Brien

On Ice: ☒ Yes ☐ No

of Coolers: 2

Cooler Temp (including CF): 58-03-55-2408-

Container Type and # 4oz 11 Ice

Preservative Type Ice

HEAL No. 1909A19

2.12

-001

-002

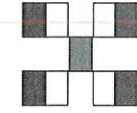
-003

Received by: WPA Energy

Date: 9/18/19 1400

Received by: Don Carter

Date: 9/19/19 900



HALL ENVIRONMENTAL ANALYSIS LABORATORY

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4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

BTEX / MTBE / TMB's (8021) TPH:8015D(GRO / DRO / MRO) 8081 Pesticides/8082 PCB's EDB (Method 504.1) PAHs by 8310 or 8270SIMS RCRA 8 Metals (C) F, Br, NO₃, NO₂, PO₄, SO₄ 8260 (VOA) 8270 (Semi-VOA) Total Coliform (Present/Absent)

Remarks:

Report To Debbie Watson
Lori O'Brien
Kevin Smith



Appendix D: Site Photos



Excavated Area

August 23, 2019





Excavated Area

August 23, 2019





Excavated Area

August 23, 2019





Excavated Area

August 23, 2019





Excavated Area

August 23, 2019





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Excavated Area

August 23, 2019

