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

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-4891
Contact mailing address: 5315 Buena Vista Drive, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.33332 Longitude -104.08521
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: LVP SWD #001	Site Type: Well Pad
Date Release Discovered: July 18, 2018	API# *(if applicable)* 30-015-42234

Unit Letter	Section	Township	Range	County
I	04	23S	28E	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)

☐ Crude Oil	Volume Released (bbls)less than 1,000 bbl	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) less than 4,750 bbl	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
Cause of Release Fire at the facility.		

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

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

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

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Deborah Watson Title: HSE Specialist

Signature: Deborah Watson Date: December 20, 2019

email: deborah.watson@wpxenergy.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: _____

HRL COMPLIANCE SOLUTIONS
P.O. Box 1708 • Artesia, NM 88211
www.hrlcomp.com

December 20, 2019

Ms. Deborah Watson
Environmental Specialist
WPX Energy Permian, LLC
5315 Buena Vista Drive
Carlsbad, New Mexico 88220

Subject: Closure Report
2RP-4891
LVP SWD #001
Eddy County, New Mexico

Ms. Watson:

HRL Compliance Solutions, Inc. (HRL) is pleased to submit the attached closure report summarizing the actions taken to remediate the LVP SWD #001 release. The purpose of the report is to obtain approval from the New Mexico Oil Conservation Division (NMOCD) for the remediation and closure of the release that occurred on July 18, 2018. Table 1 below summarizes information regarding the release.

Table 1: Release Summary

Item	**Discussion**		
Site Name	LVP SWD #001		
Location	Latitude	Longitude	Public Lands
	32.33331684°	-104.0852087°	Unit Letter I, Section 4, Township 23S, Range 28E
Company	WPX Energy Permian, LLC		
District RP	2RP-4891		
API #	30-015-42234		
Date Release Discovered	7/18/2018		
Date Reported	7/18/2018		
Reported To	Ken McQueen: Energy, Minerals and Natural Resources Department (EMNRD) Cabinet Secretary		
Surface Owner	Private		
Mineral Owner	State		

Item	Discussion
Cause of Release	Fire to Tank Battery
Released Material	Produced Water and Oil
Volume of Release	Less than 4,750 Barrels of Produced Water and Less than 1,000 Barrels of Oil
Volume Recovered	0 Barrels
Depth to Groundwater	Less than 50 feet below ground surface
Nearest Waterway	Pecos River, 0.25 miles south of release

1.0 Background & Notification

On July 18, 2018, a fire occurred at the LVP SWD #1 well pad in Eddy County, New Mexico. The fire affected the on-site tank battery, resulting in a release of produced water and oil. The volume of release was determined to be less than 4,750 barrels of produced water and less than 1,000 barrels of oil. Immediate notification was provided to Ken McQueen, EMNRD Cabinet Secretary and an initial C-141 was submitted to the NMOCD District II Artesia office on July 30, 2018 (Appendix A).

2.0 Site Assessment and Characterization

The location of the release is approximately three miles northeast of Loving, New Mexico at an elevation of approximately 3,010 feet above sea level (Figure 1). The nearest surface water, the Pecos River, is located approximately 0.25 miles south of the release (Figure 2).

Depth-to-groundwater at the release was estimated to be less than 50 feet below ground surface, as determined by review of the United States Geological Survey (USGS) National Water Information System. A three-mile radius search of the USGS National Water Information System revealed six water wells with an average depth to groundwater of 25 feet (Figure 2 and Table A).

An assessment of wetlands and springs was conducted using the National Wetlands Inventory (Figure 3). No wetlands were identified within 300 feet of the release location. There are no springs within 1,000 feet of this location.

The release location is not within an area identified as an unstable karst geology area (Figure 4).

Based on the assessments outlined above, and in accordance with NMAC 19.15.29.12, the following closure criteria were applicable to the site.

Table 2: Closure Criteria

Depth to Ground Water	Constituent	Limit in milligrams per kilogram (mg/kg)
Less than 50 feet	Chloride	600 mg/kg
	Total Petroleum Hydrocarbons (TPH)	100 mg/kg
	Benzene	10 mg/kg
	Benzene, toluene, ethylbenzene, and total xylenes (BTEX)	50 mg/kg

3.0 Soil Remediation

Prior to remedial activity, the impacted area was mapped by an environmental consulting company with a Trimble survey-grade global positioning system (GPS) to delineate the horizontal extent of the release. The release impacted a total area of approximately 9,850 square yards (Figure 5). The impacts were limited to the LVP SWD #001 well pad surface.

Mechanical excavation of the impacted soil was performed by SDR Enterprises, LLC (SDR) utilizing a hydraulic excavator. As the excavator removed soil from the impacted area, a backhoe loaded the soil onto a belly dump truck to be transported offsite. All excavated soil was transported to R360 Halfway Site, an exploration and production waste disposal facility located in Hobbs, New Mexico.

Throughout remedial activities, HRL personnel collected soil samples for field screening to assess the in-situ concentrations of the impacted area. The field screening results were used to guide the excavation to soil concentrations below the parameters specified in Table I of 19.15.29.12 NMAC. Field screen data was collected utilizing an electrical conductivity (EC) meter, a photoionization detector (PID), and PetroFLAG kit. The EC meter was utilized to approximate soil chloride concentrations. The PID unit was used to approximate soil concentrations of non-specific volatile organic compounds (VOC's) such as benzene and lighter-end hydrocarbons. The PetroFLAG kit was used to approximate soil concentrations of petroleum hydrocarbons.

In the impacted area beneath the tank battery (Figure 6A), a well-cemented caliche hardpan layer was encountered at approximately three feet below ground surface. In this area, a hydraulic hammer was used to penetrate and break through the caliche hardpan (Appendix D, Photographs). The excavation was extended an additional 1.5 feet to a total depth of 4.5 feet below ground surface. This area was prioritized during remedial activities so that that the tank battery could be rebuilt as soon as possible. Following receipt of laboratory analytical results for the confirmation samples, WPX received approval from NMOCD to backfill the area and the battery was subsequently reconstructed.

Following the reconstruction of the tank battery, all remaining excavation areas were extended to a total depth of approximately five feet below ground surface. Upon completion of the excavation, an estimated total volume of 17,280 cubic yards was removed from the impacted area.

Upon receipt of soil sample analytical results to confirm the remaining in-situ soil was below NMOCD closure criteria, SDR backfilled the excavation area with approximately 16,500 cubic yards of clean caliche.

4.0 Confirmation Soil Sampling and Analytical Results

A confirmation sample plan was implemented utilizing a five-point composite sample strategy that represented areas less than 200-square feet, in accordance with Subparagraph (c) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC. A total of 494 confirmation samples were collected, including 455 excavation footprint samples and 39 sidewall samples. Confirmation sampling occurred in stages and was divided by excavation area. The three areas were divided into the northernmost Tank Battery Excavation Area, the Southern Excavation Area, and the Central Excavation Area. Digital receipts of confirmation sample notifications to EMNRD and NMOCD are attached as Appendix B.

All confirmation samples were submitted to Hall Environmental Analysis Laboratory, Inc., a National Environmental Laboratory Accreditation Program (NELAP) laboratory, in accordance with NMOCD soil sampling procedures. The samples were analyzed for:

- Chloride by EPA Method 300.0
- Benzene, toluene, ethyl benzene, and total xylenes (BTEX) by EPA Method 8021B
- Gasoline range organics (GRO), diesel range organics (DRO), and motor oil range organics (MRO) by EPA Method 8015M/D

A summary of the laboratory results is attached as Table A with the raw analytical reports included as Appendix C.

Confirmation sampling of the Tank Battery Excavation Area occurred on February 27 and 28, 2019. A total of 123 footprint samples (SP1 through SP123) and 8 sidewall samples (SW1 through SW8) were collected (Figures 6A through 6C). Samples which exceeded NMOCD closure standards were resampled on March 11, 2019.

Confirmation sampling of the Southern Excavation Area occurred on April 2 and 3, 2019. A total of 217 footprint samples (SP124-SP341) and 22 sidewall samples (SW9 through SW31) were collected (Figures 6D, 6E, and 6F). All of the samples collected in the Southern Excavation Area were reported below applicable NMOCD closure standards.

Confirmation sampling of the Central Excavation Area occurred on June 26 and 27, 2019. A total of 113 footprint samples (SP342 through SP455) and 7 sidewall samples (SW32 through SW39) were collected (Figures 6F and 6I). Samples which exceeded NMOCD closure standards were resampled on July 17, 2019.

5.0 Summary

A release occurred at the LVP SWD #001 well site on July 18, 2018, that was due to a fire at the tank battery. A volume of less than 4,750 barrels of produced water and less than 1,000 barrels of oil impacted the well pad surface. The excavation was completed to a depth of 4.5 feet below ground surface in the tank battery area and five feet below ground surface in the other areas. Upon completion of the excavation, an estimated total volume of 17,280 cubic yards was removed from the impacted area. Impacted soil was transported to R360 waste disposal facility located in Hobbs, New Mexico.

A total of 494 confirmation samples were collected to confirm the remaining in-situ soil concentrations were below NMOCD closure standards. Analytical results for all 494 samples were reported below the cleanup limits outlined in Table 1 of Subsection E of NMAC 19.15.29.12. Upon receipt of confirmatory soil sample the excavation was backfilled. At this time, HRL does not recommend additional remedial action.

6.0 Scope and Limitations

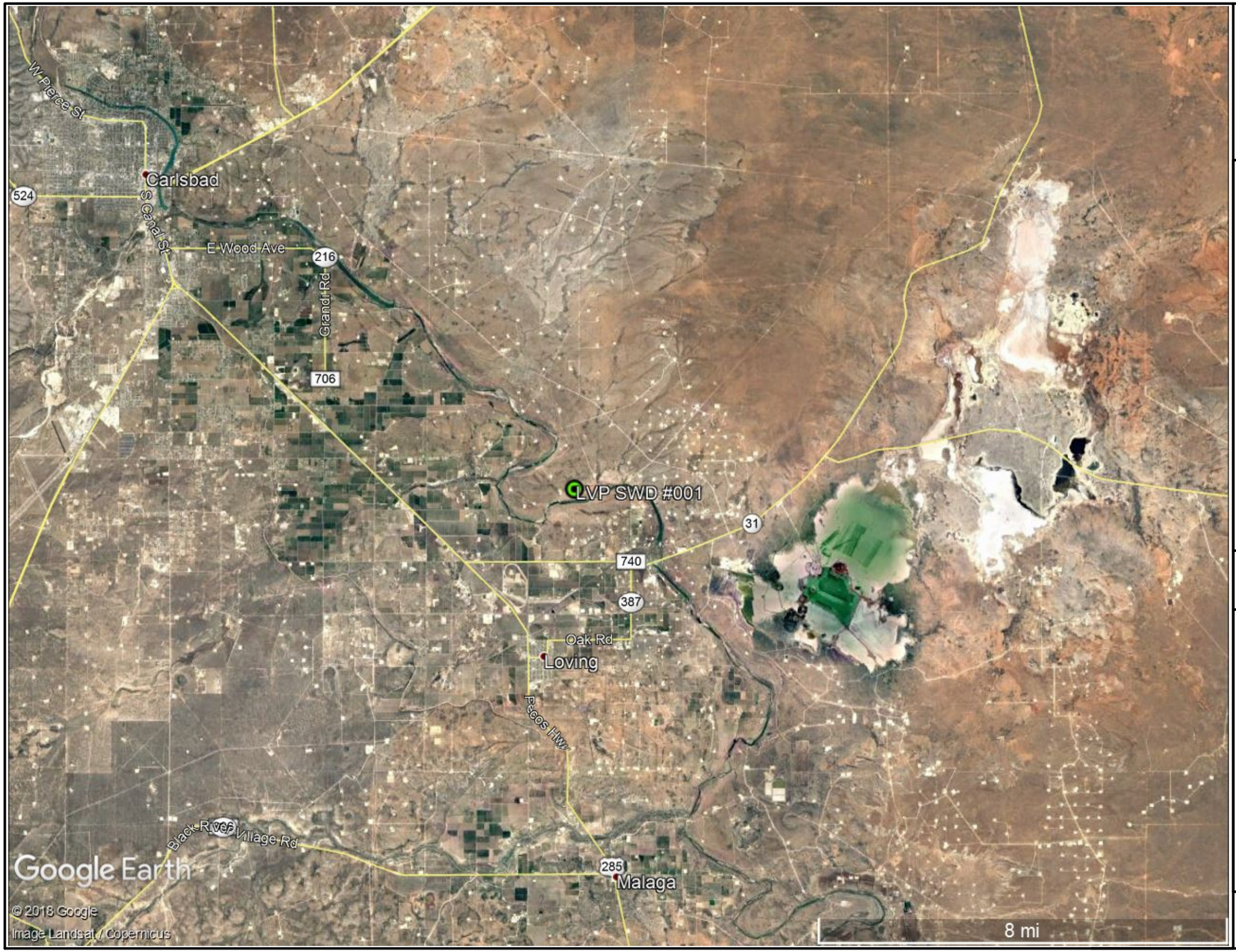
The scope of HRL's services consists of site delineation and characterization, directing remediation activity, collecting confirmation soil samples, and preparation of this closure report. The tasks have been completed in accordance with 19.15.29 NMAC.

Please contact me at (575) 616-7398 ext. 435 with any questions or concerns regarding this report.

Prepared by:
HRL Compliance Solutions, Inc.

Kevin Smith
Environmental Scientist

Attachments:



WPXENERGY

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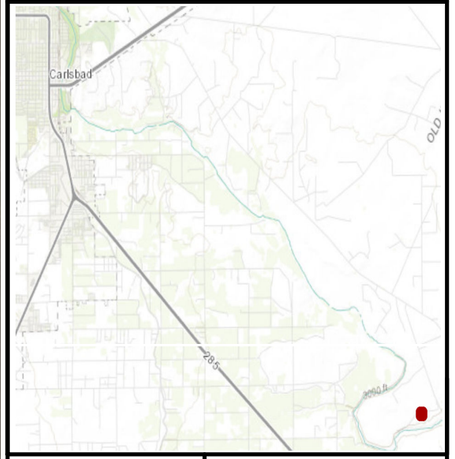
Figure 1:
Site Location Map

LVP SWD #001
32.333125348 -104.084564629
Section 4, Township 23 South, Range 28 East

Mapped Features

Point of Release

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



HRL COMPLIANCE SOLUTIONS

Author: K. Smith
Rev: 0
Date: 10/23/2019

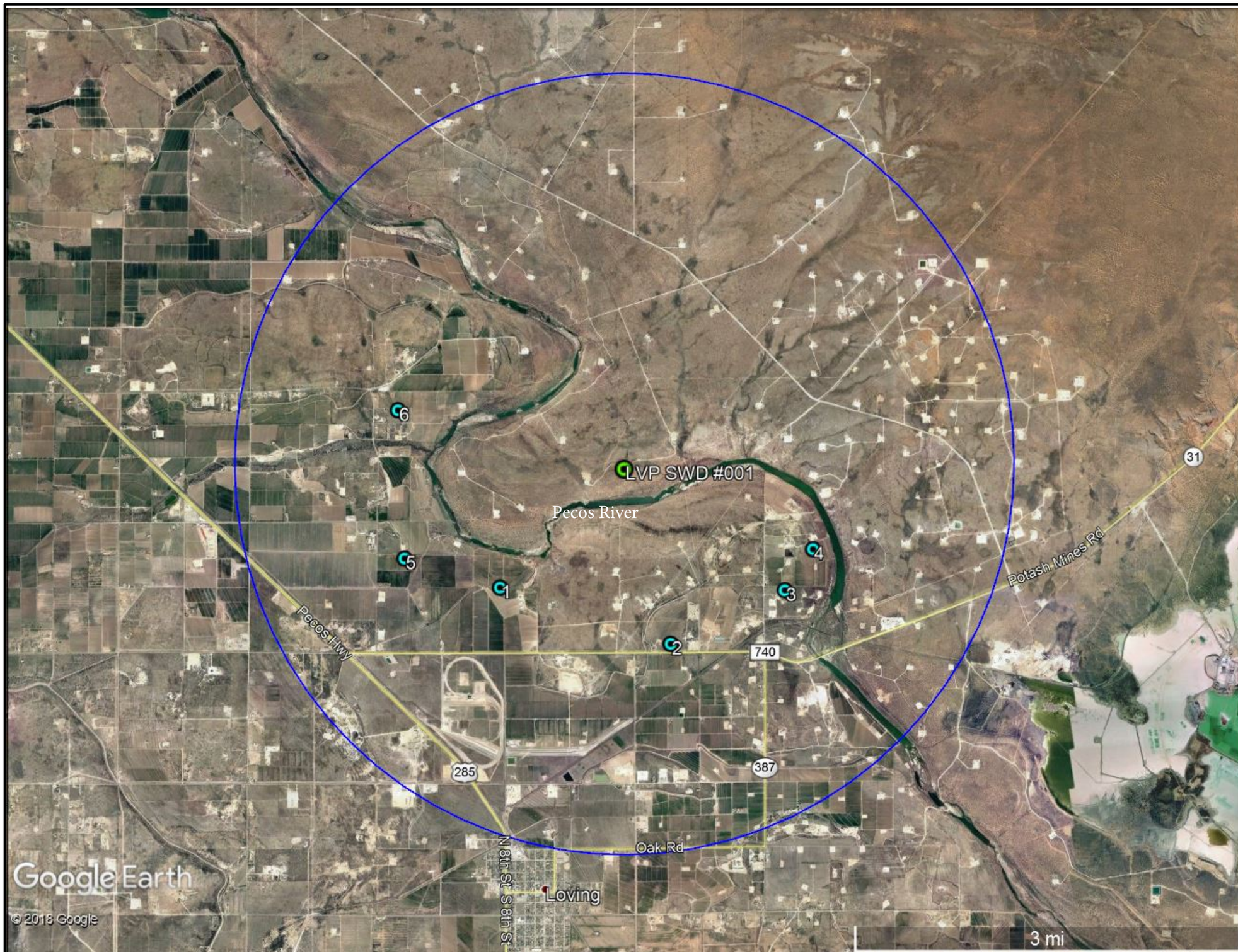


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Figure 2:
Depth to Groundwater Map

LVP SWD #001
32.333125348 -104.084564629
Section 4, Township 23 South, Range 28 East

Mapped Features

- Point of Release
- Water Well Location
- 3 Mile Radius From Release

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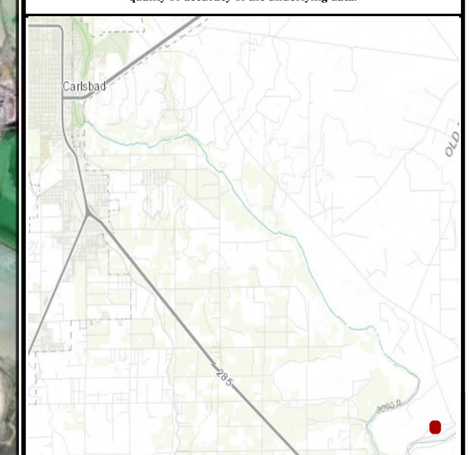

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Author: K. Smith
Rev: 0
Date: 10/23/2019

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Figure 3:
Wetlands Assessment Map

LVP SWD #1
32.333125348 -104.084564629
Section 4, Township 23 South, Range 28 East

Mapped Features

- LVP SWD #001
- Freshwater Emergent Wetland
- Riverine

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Author: K. Smith
Rev: 0
Date: 10/23/2019

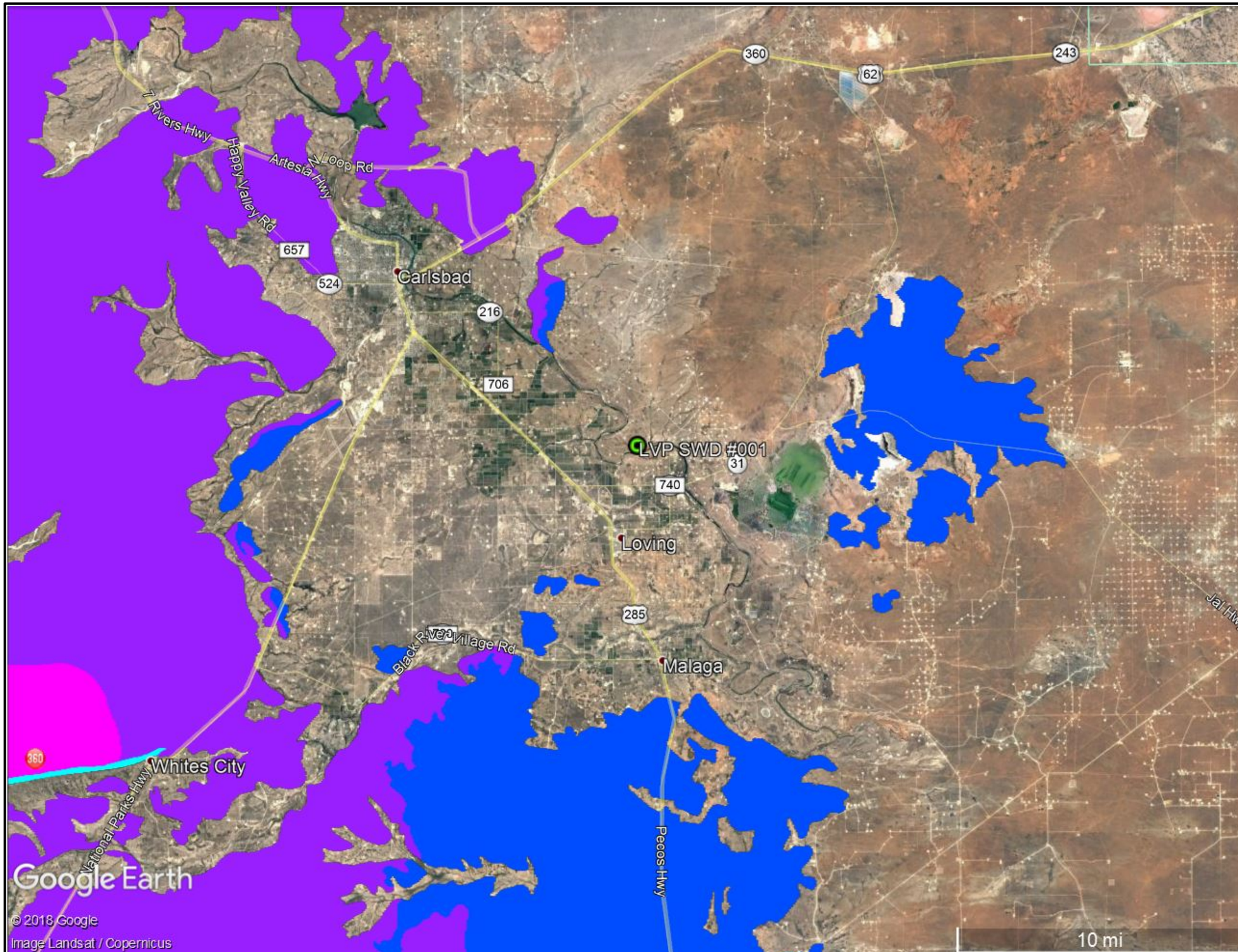

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Figure 4:
Karst Location Map

LVP SWD #001
32.333125348 -104.084564629
Section 4, Township 23 South, Range 28 East

Mapped Features

- Point of Release
- Carbonate (Rustler Formation)
- Evaporite (Salado Formation)
- Evaporite (Seven Rivers Formation)

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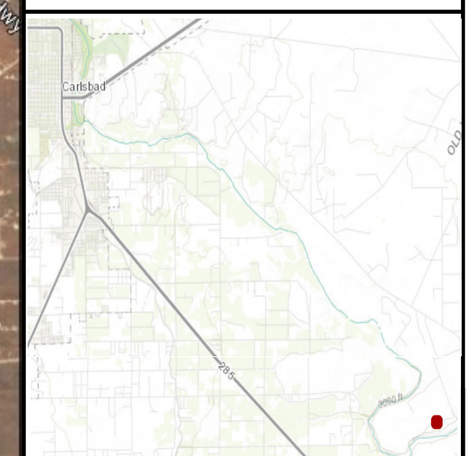

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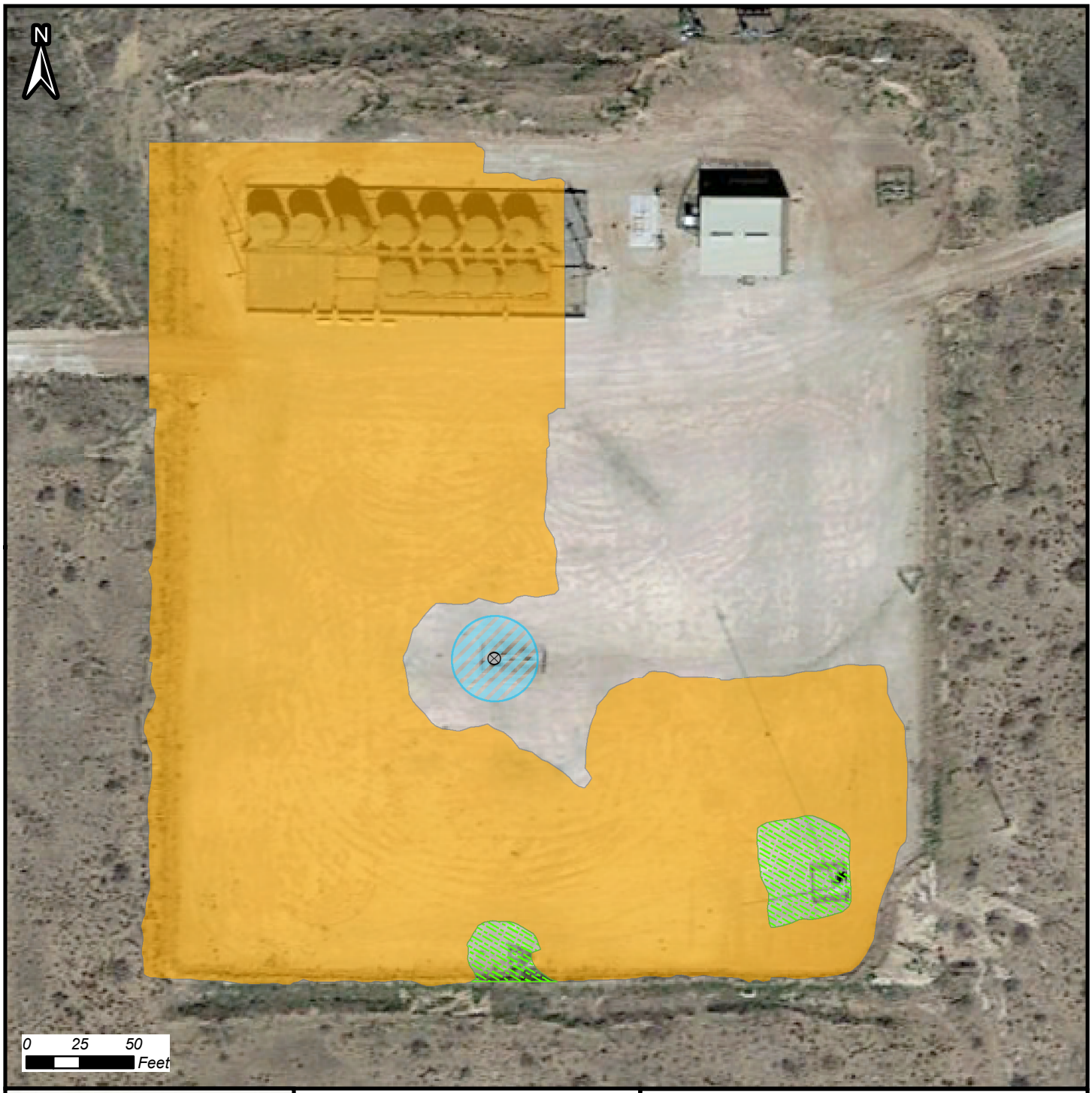
Author: K. Smith
Rev: 0
Date: 10/23/2019



NOTES / COMMENTS:

The total, combined impacted area covers approximately 88,643 square feet.

WPXENERGY

Figure 5: Impacted Area Map

LVP SWD

32.333125348 -104.084564629

Section 4, Township 23 South, Range 28 East

Mapped Features

- Wellhead
- Combined Impacted Area
- Communications Tower
- 20-ft Buffer Zone

HRL COMPLIANCE SOLUTIONS

Author: A. Asay

Revision: 0

Date: 10/22/2019

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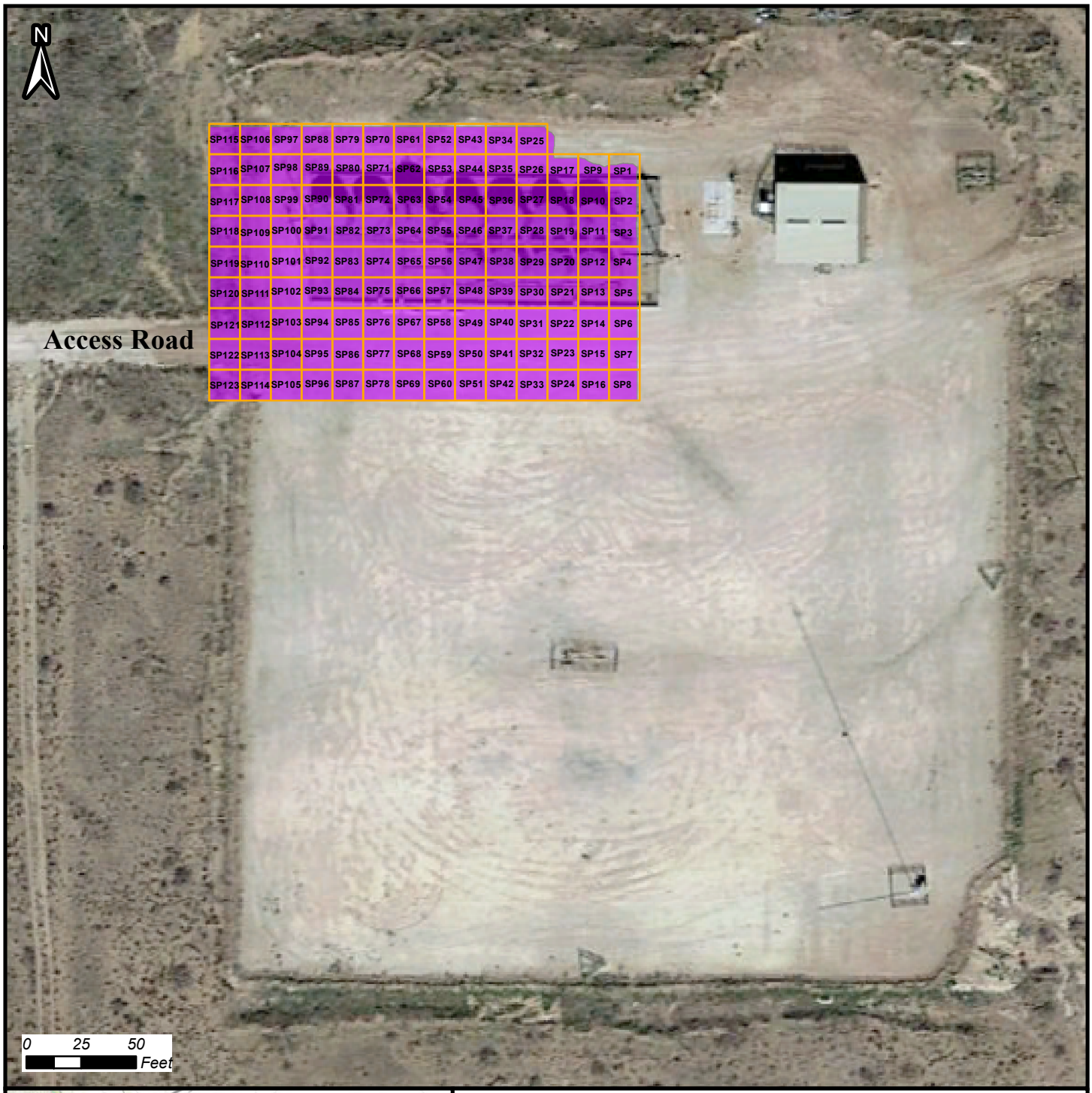

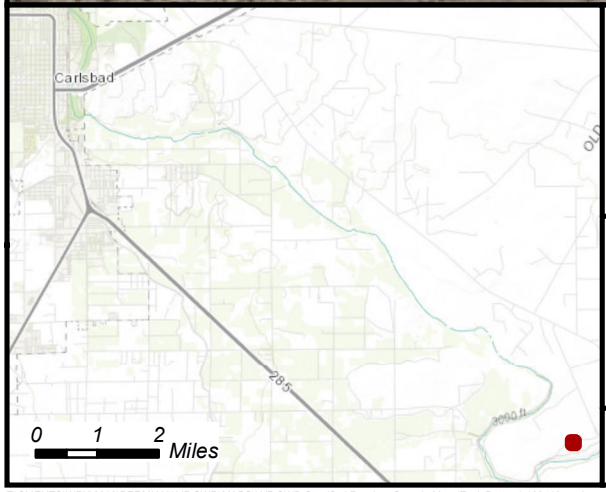

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Figure 6A: Confirmation Sample Location Map - Tank Battery Area Footprint (Sample ID)

LVP SWD Tank Battery Footprint

32.333125348 -104.084564629
Section 4, Township 23 South, Range 28 East

Mapped Features

- 14' X 14' Grid
- Tank Battery

HRL COMPLIANCE SOLUTIONS

Author: A. Asay
Revision: 0
Date: 10/24/2019

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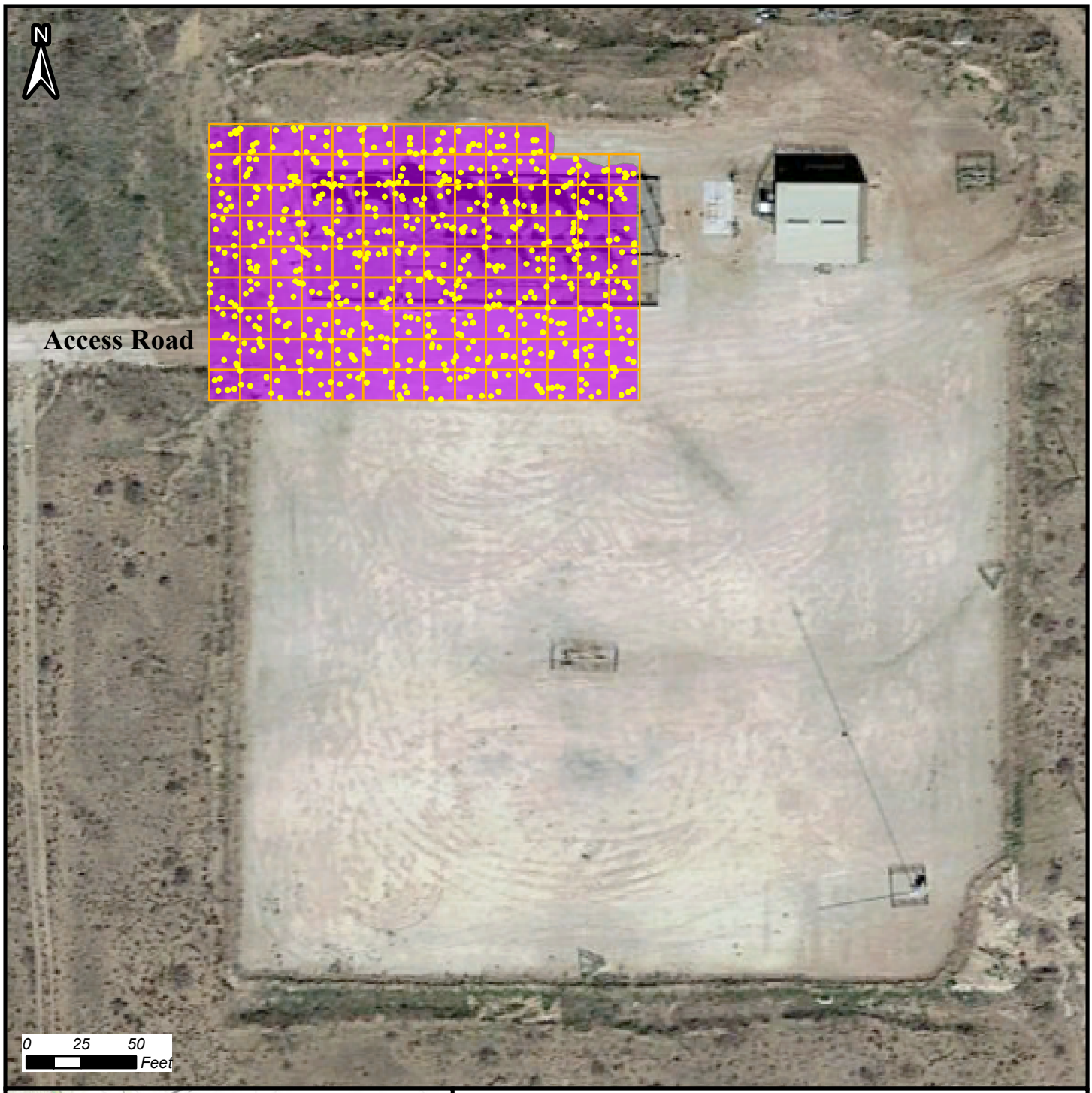

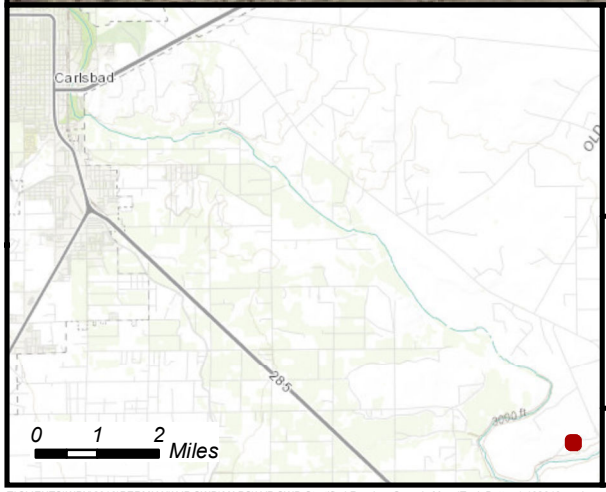

Figure 6B: Confirmation Sample Location Map - Tank Battery Area Footprint (Sample Points)

WPXENERGY

LVP SWD Tank Battery Footprint

32.333125348 -104.084564629
Section 4, Township 23 South, Range 28 East

Mapped Features

- Composite Sample Location
- Tank Battery
- 14' X 14' Grid

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HRL COMPLIANCE SOLUTIONS

Author: A. Asay
Revision: 0
Date: 10/24/2019

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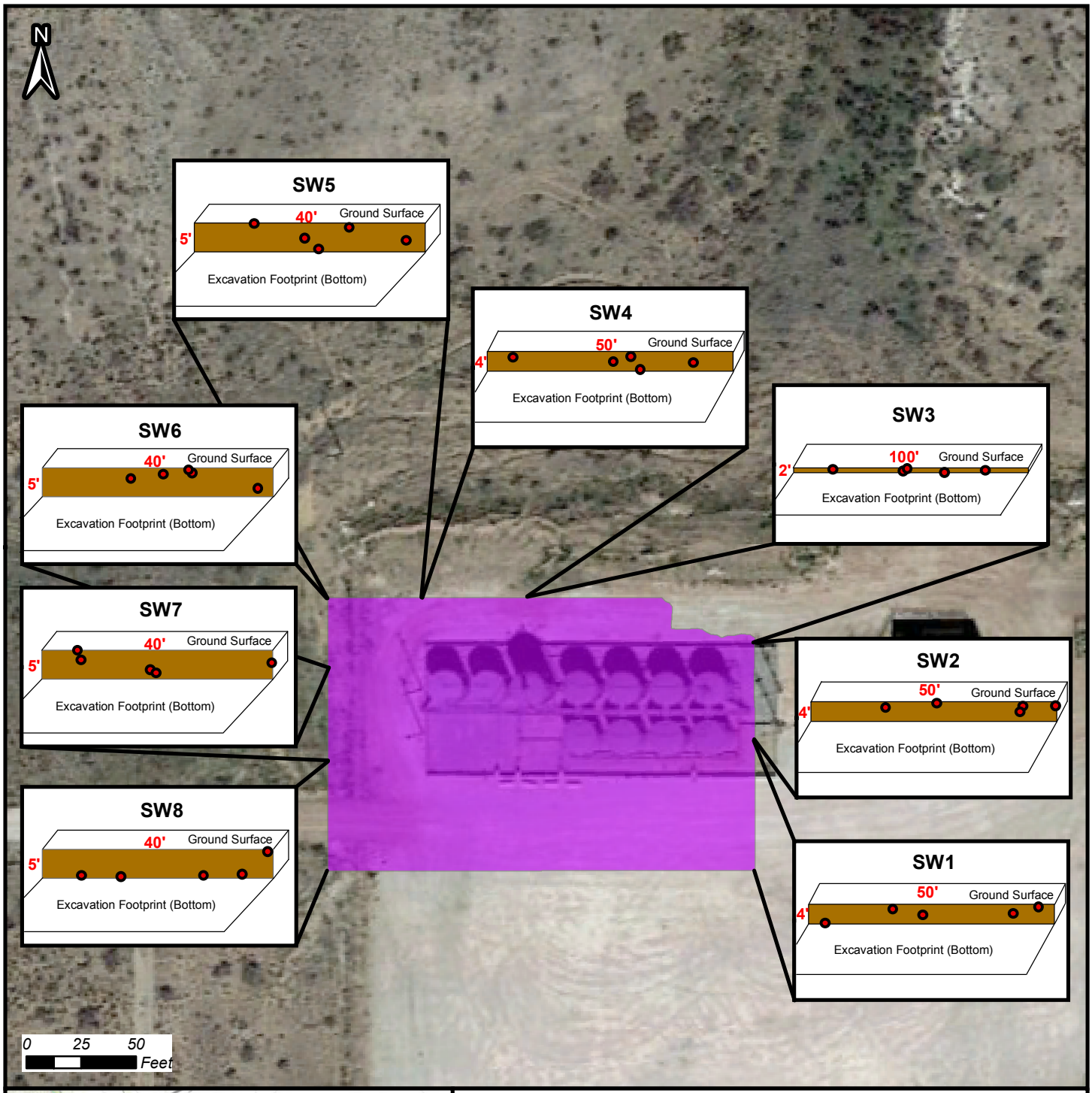

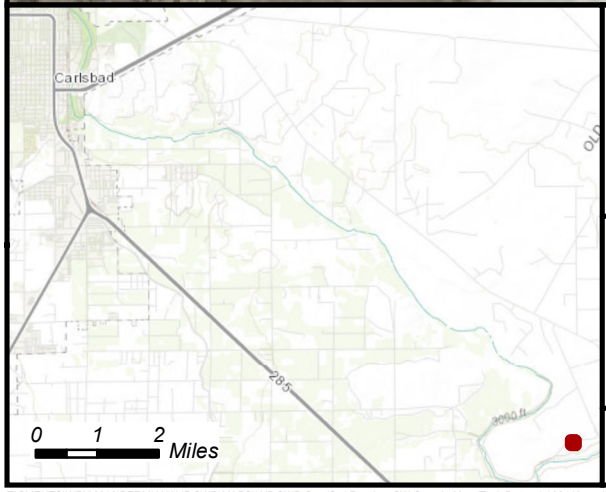

WPXENERGY

Figure 6C: Confirmation Sample Location Map - Tank Battery Area Sidewalls

LVP SWD Tank Battery Sidewall

32.333125348 -104.084564629
Section 4, Township 23 South, Range 28 East

Mapped Features

- Sidewall Sample Location
- Sidewall
- Tank Battery

HRL COMPLIANCE SOLUTIONS

Author: A. Asay
Revision: 0
Date: 10/24/2019

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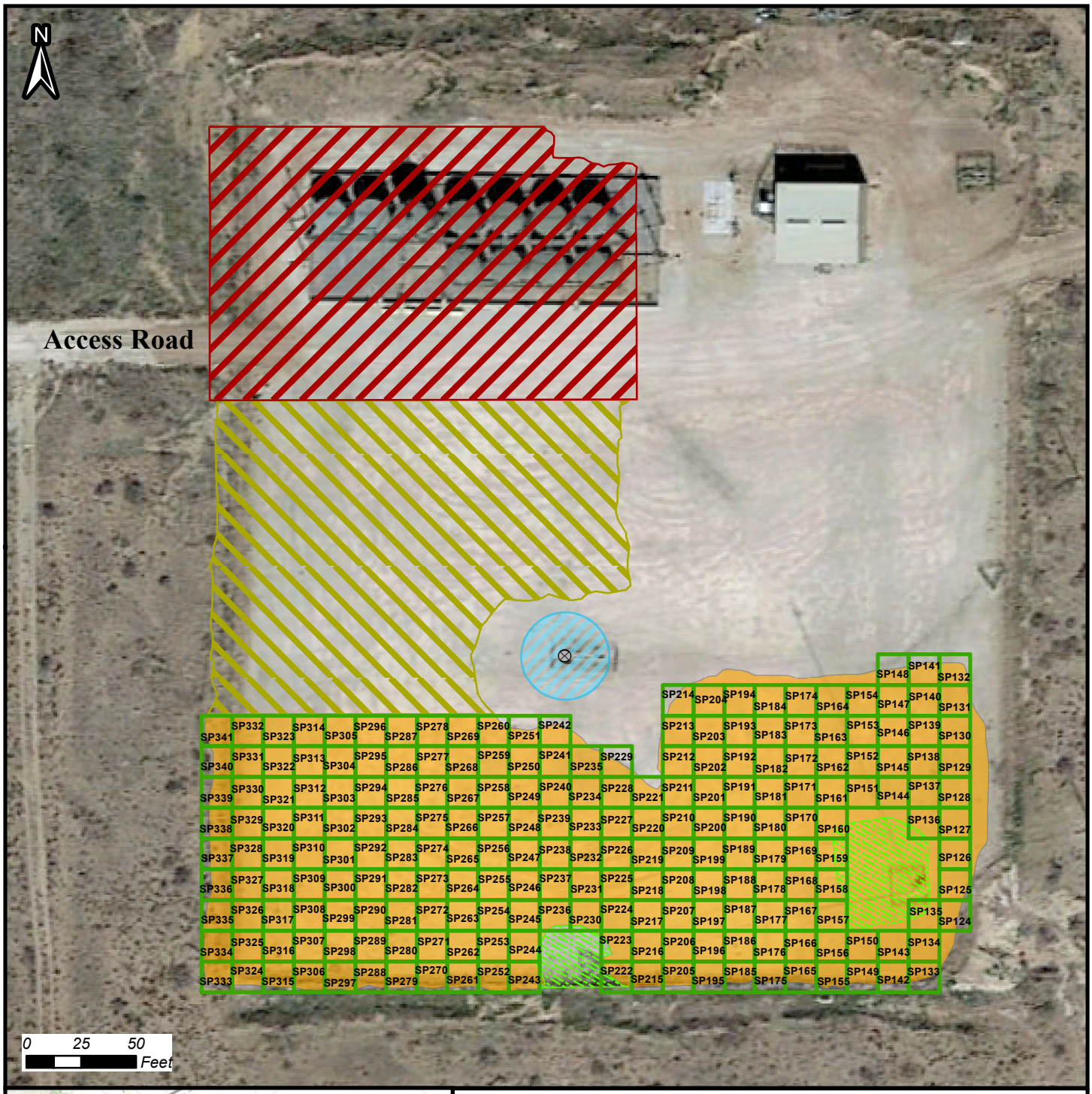

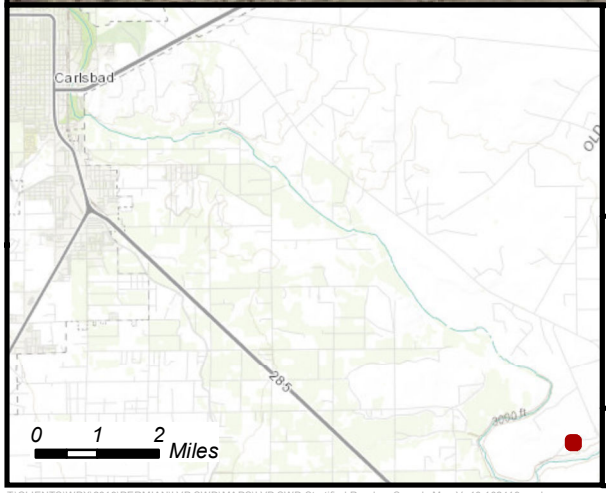

WPXENERGY

Figure 6D: Confirmation Sample Location Map - Southern Area Footprint (Sample ID)

LVP SWD Excavation Footprint

32.333125348 -104.084564629
Section 4, Township 23 South, Range 28 East

Mapped Features

- Wellhead
- 14' X 14' Grid
- Excavation Area
- Backfill Area
- Tank Battery Footprint (See Associated Maps)
- 20-ft Buffer Zone
- Communications Tower and Equipment

HRL COMPLIANCE SOLUTIONS

Author: A. Asay
Revision: 0
Date: 10/24/2019

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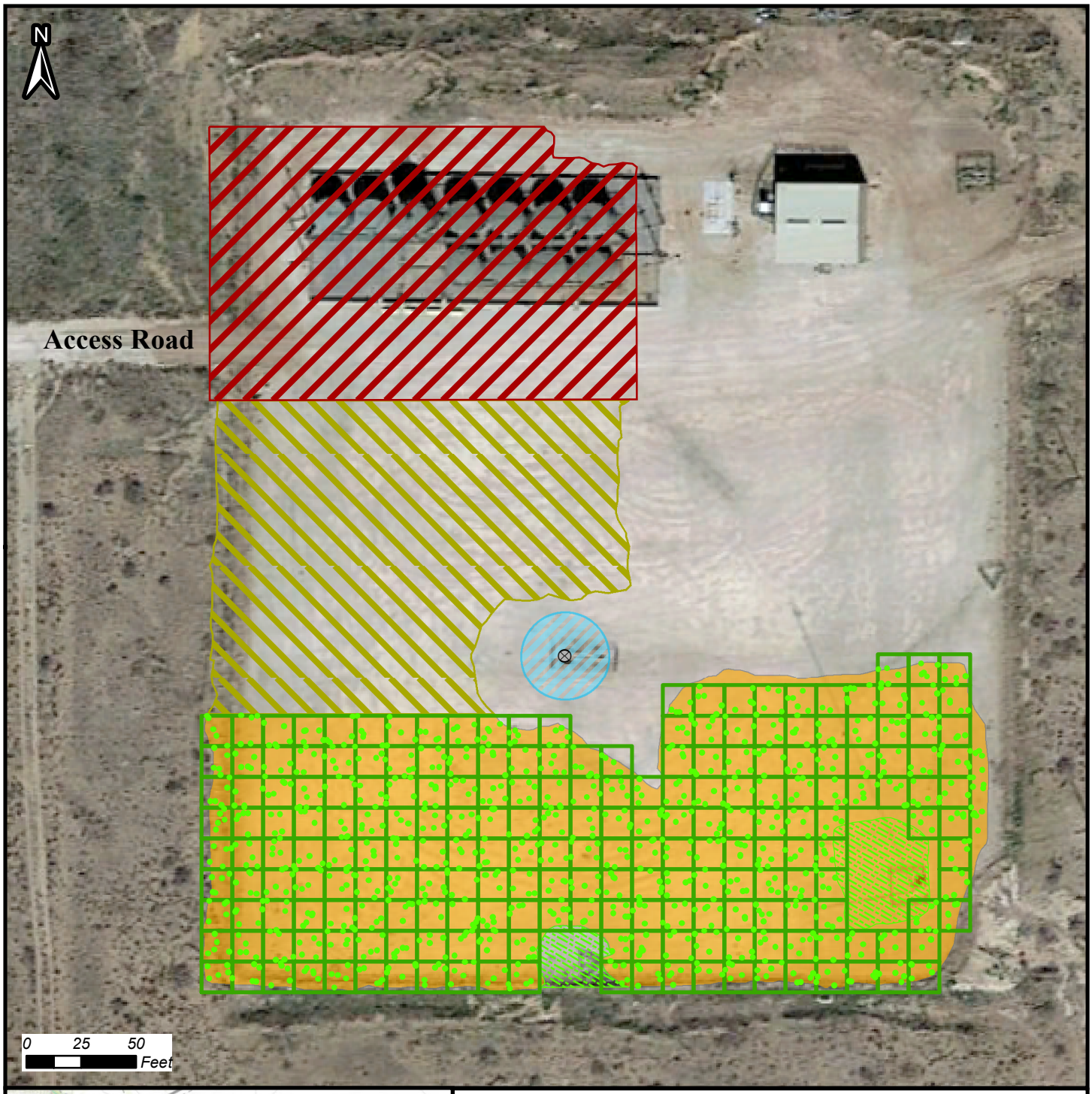

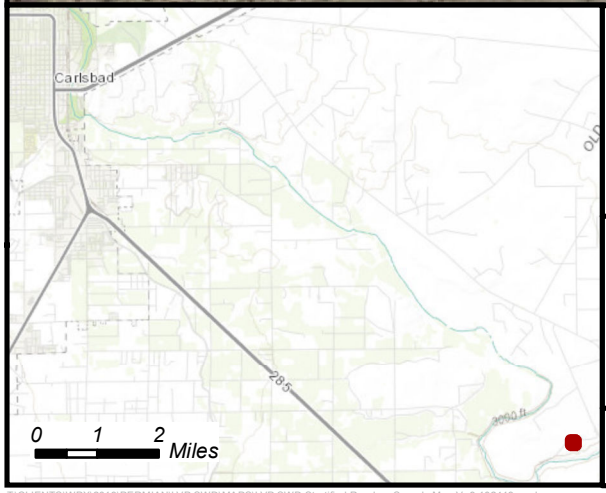

WPXENERGY

Figure 6E: Confirmation Sample Location Map - Southern Area Footprint (Sample Points)

LVP SWD Excavation Footprint

32.333125348 -104.084564629
Section 4, Township 23 South, Range 28 East

Mapped Features

- Wellhead
- Composite Sample Location
- 14' X 14' Grid
- Communications Tower and Equipment
- Excavation Area
- Tank Battery Footprint (See Associated Maps)
- 20-ft Buffer Zone
- Backfill Area

HRL COMPLIANCE SOLUTIONS

Author: A. Asay
Revision: 0
Date: 10/24/2019

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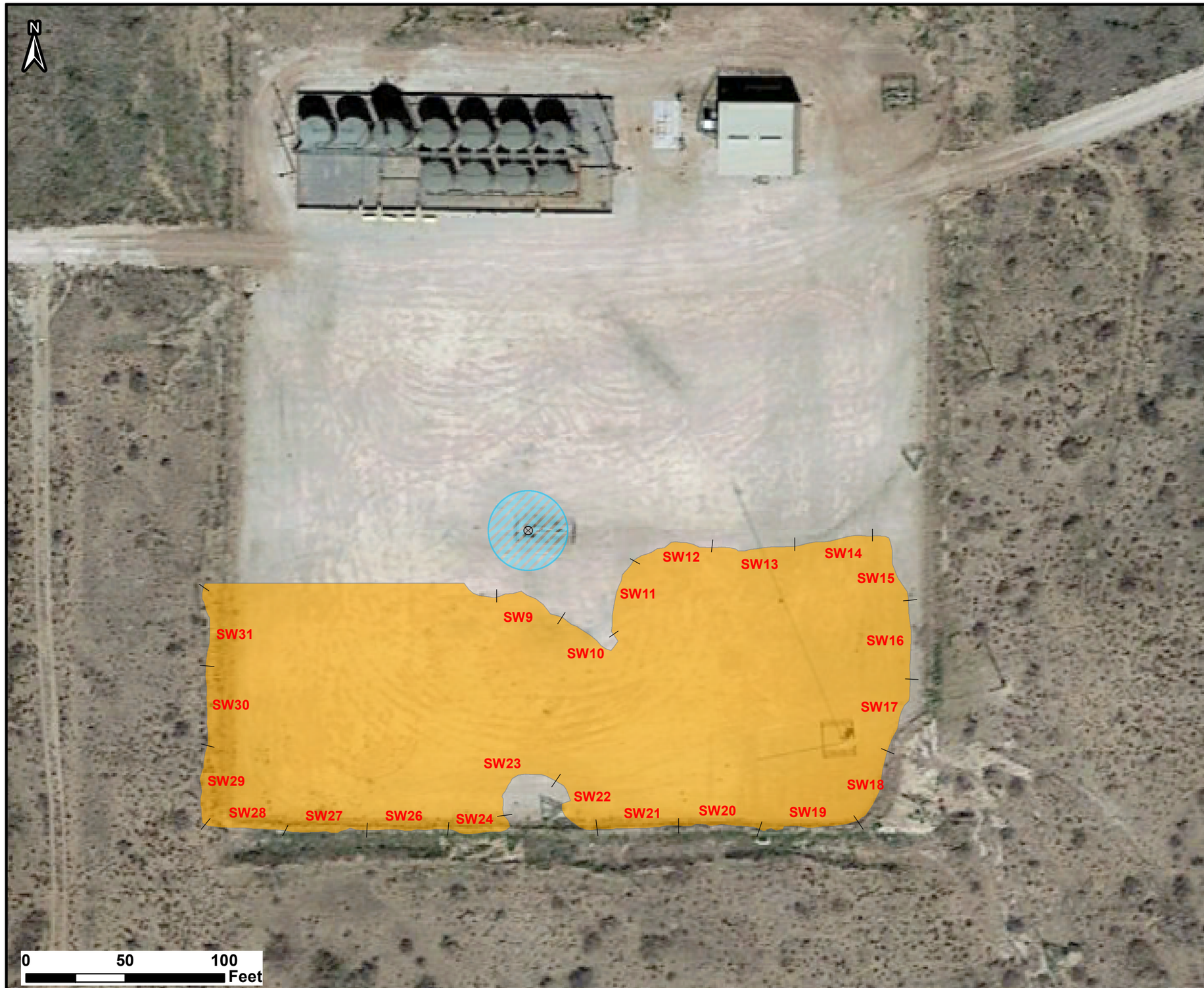

Composite Sample Diagrams

Figure 6F: Confirmation Sample Location Map - Southern Area Sidewalls

LVP SWD Sidewalls

32.333125348 -104.084564629

Section 4, Township 23 South, Range 28 East

WPXENERGY

Mapped Features

- Sidewall Sample Location
- 20-ft Buffer Zone
- Wellhead
- Excavation Area

HRL COMPLIANCE SOLUTIONS

Author: A. Asay
Revision: 0
Date: 10/24/2019

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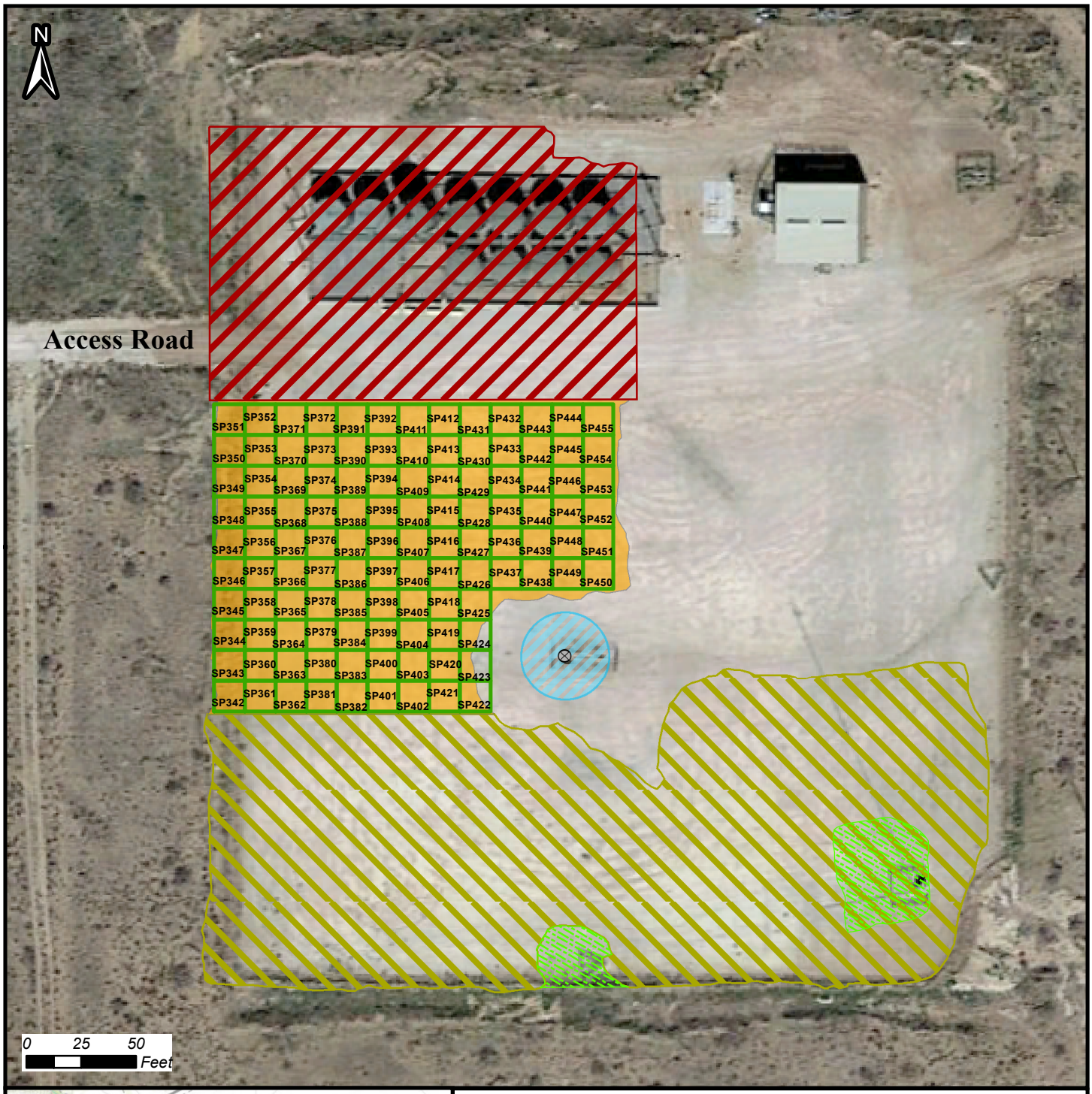

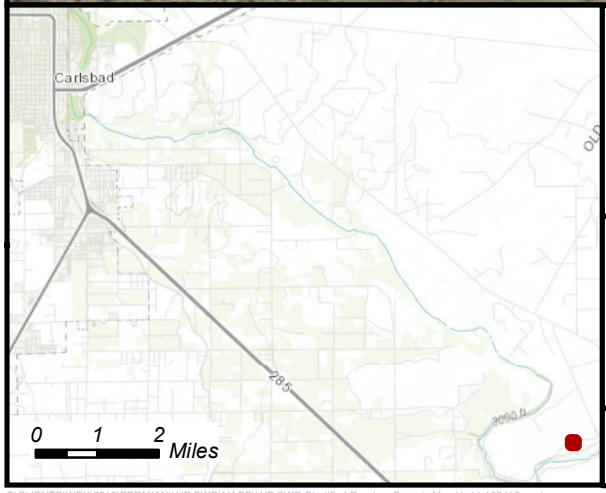

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Figure 6G: Confirmation Sample Location Map - Central Area Footprint (Sample ID)

LVP SWD Excavation Footprint

32.333125348 -104.084564629
Section 4, Township 23 South, Range 28 East

Mapped Features

- Wellhead
- 14' X 14' Grid
- Central Investigation Area
- Southern Investigation Area (See Associated Maps)
- Tank Battery Footprint (See Associated Maps)
- 20-ft Buffer Zone
- Communications Tower and Equipment

HRL COMPLIANCE SOLUTIONS

Author: A. Asay
Revision: 0
Date: 10/24/2019

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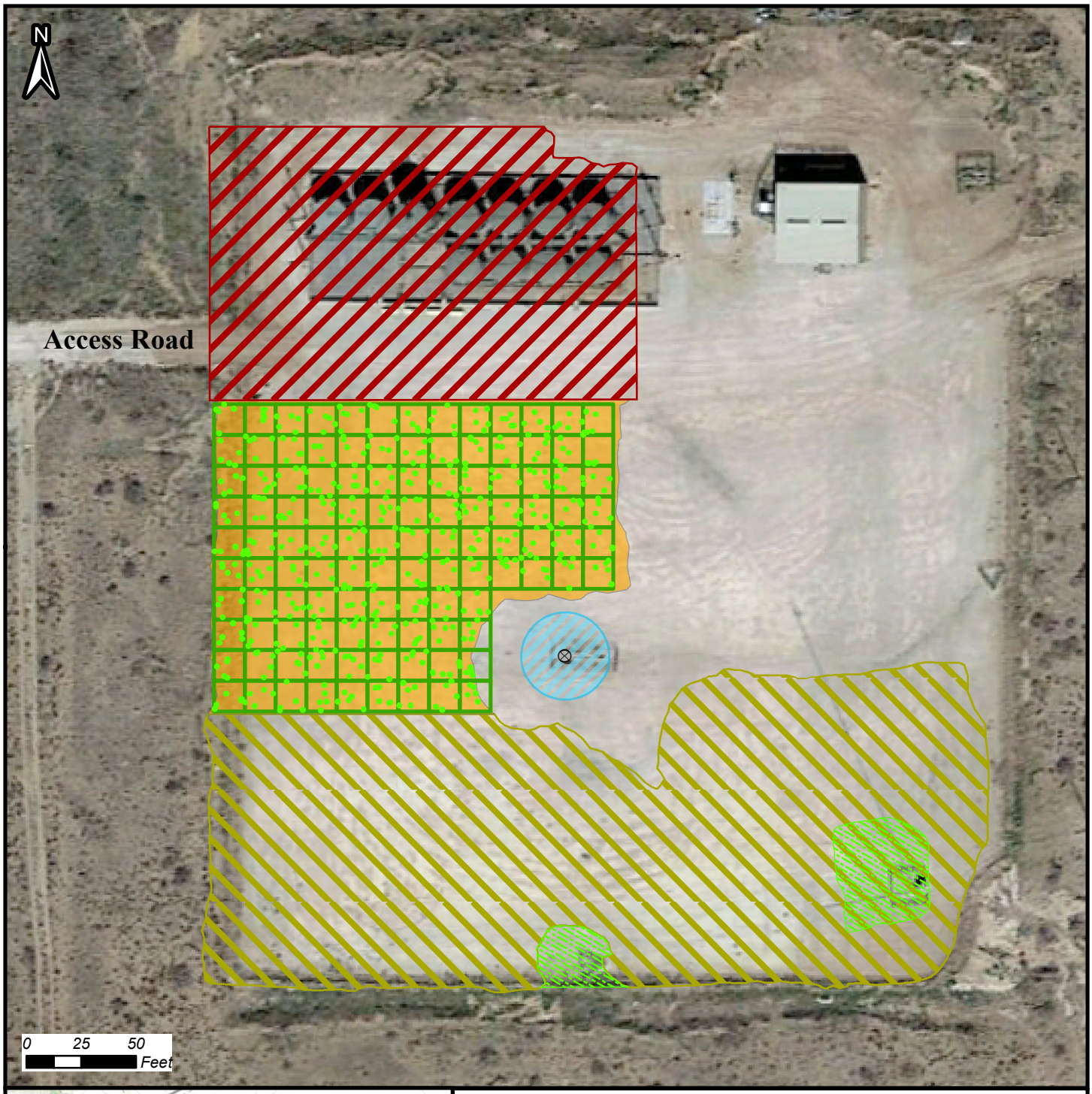

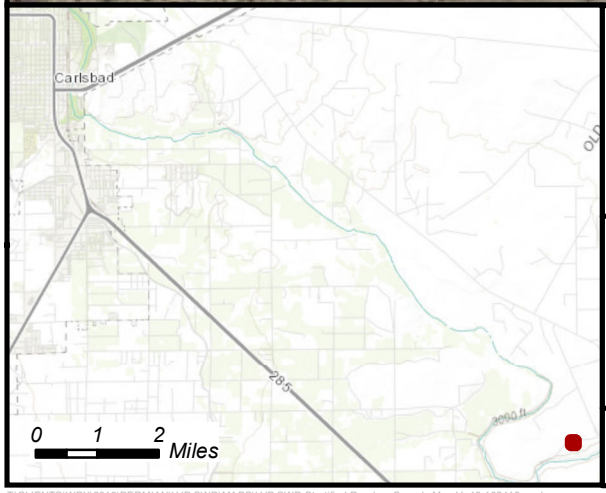

WPXENERGY

Figure 6H: Confirmation Sample Location Map - Central Area Footprint (Sample Points)

LVP SWD Excavation Footprint

32.333125348 -104.084564629
Section 4, Township 23 South, Range 28 East

Mapped Features

- Wellhead
- Composite Sample Location
- 14' X 14' Grid
- Communications Tower and Equipment
- Central Investigation Area
- Tank Battery Footprint (See Associated Maps)
- 20-ft Buffer Zone
- Southern Investigation Area (See Associated Maps)

HRL COMPLIANCE SOLUTIONS

Author: A. Asay
Revision: 0
Date: 10/24/2019

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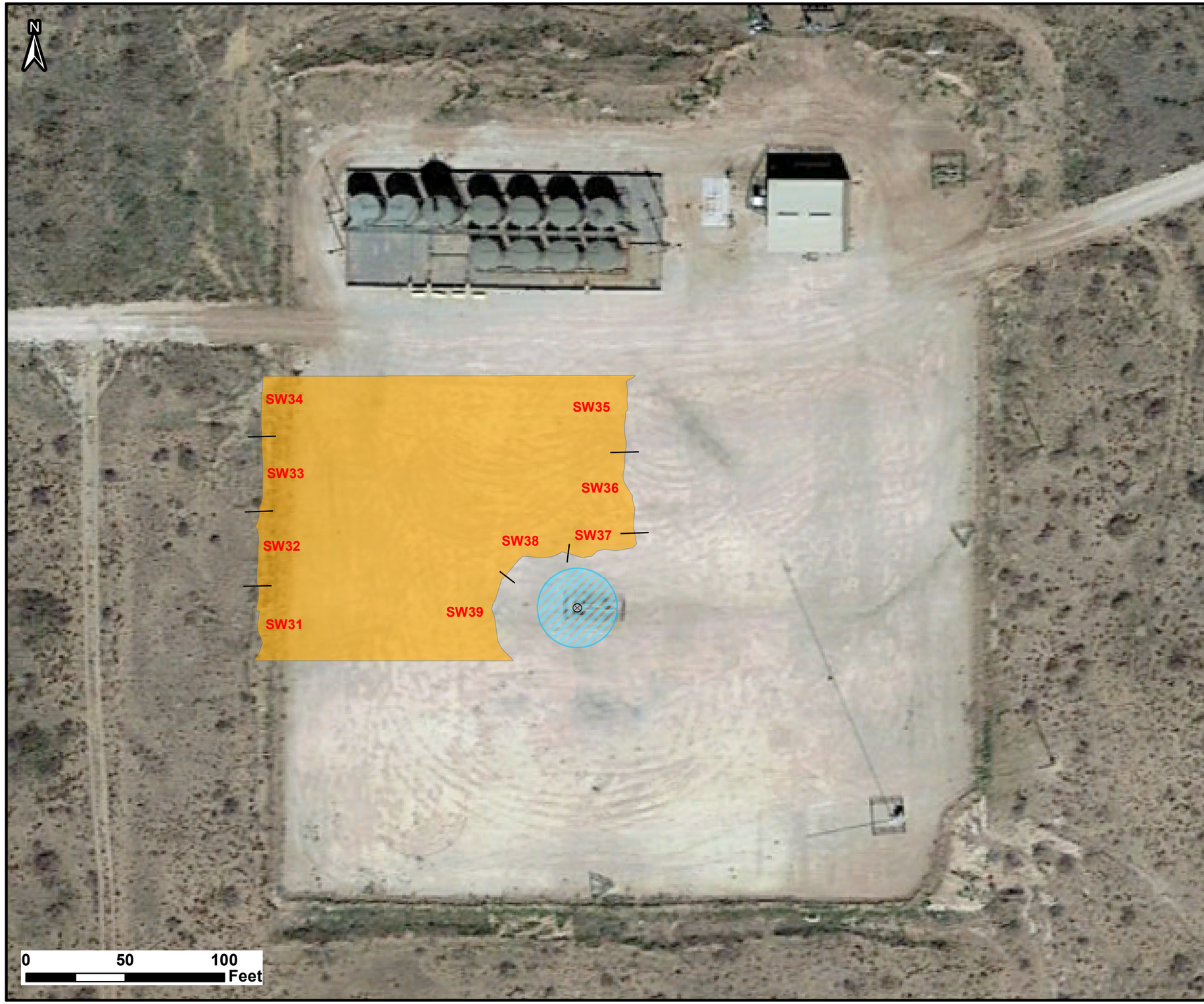

Composite Sample Diagrams

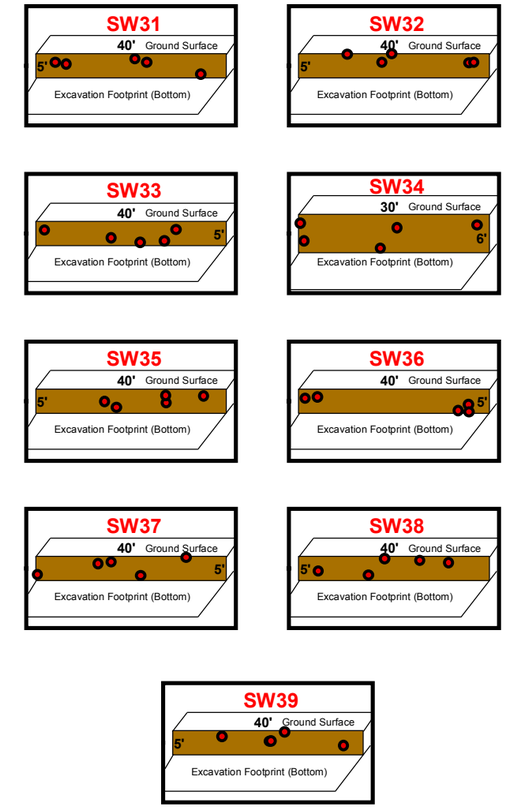

Figure 6I: Confirmation Sample Location Map - Central Area Sidewalls

LVP SWD Sidewalls

32.333125348 -104.084564629

Section 4, Township 23 South, Range 28 East

WPXENERGY

Mapped Features

- Sidewall Sample Location
- 20-ft Buffer Zone
- Wellhead
- Excavation Area

HRL COMPLIANCE SOLUTIONS

Author: A. Asay
Revision: 0
Date: 10/24/2019

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Table A:
Water Well Data Summary

Well Number on Figure 2	Well ID	Water Level Below Surface (ft.)	Distance from Source (mi)
1	USGS 321852104045601	19	1.39
2	USGS 322024104064601	25	1.41
3	USGS 321927104033701	18	1.53
4	USGS 321924104065201	32	1.67
5	USGS 322030104065202	30	1.79
6	USGS 321859104062101	28	1.81
* avg depth of water below ground surface = 25 feet			

Table B:
Laboratory Results Summary

WPX Energy Permian, LLC LVP SWD #001			Sample Results - Hall Environmental Analysis Laboratory						
Excavation Footprint									Reported in mg/kg
NM OCD Table 1 Thresholds (GW <50')			600	10	50	100			
Sample ID	Depth (ft)	Sampling Date	Chloride	Benzene	BTEX	GRO	DRO	MRO	Total TPH
SP1	4	2/27/2019	ND	ND	ND	ND	ND	ND	ND
SP2	4	2/27/2019	74	ND	ND	ND	150	75	225
SP2R	4.5	3/11/2019	-	-	-	-	ND	ND	ND
SP3	4	2/27/2019	120	ND	ND	ND	ND	ND	ND
SP4	4	2/27/2019	100	ND	ND	ND	ND	ND	ND
SP5	4	2/27/2019	220	ND	ND	ND	ND	ND	ND
SP6	4	2/27/2019	260	ND	ND	ND	ND	ND	ND
SP7	4	2/27/2019	ND	ND	ND	ND	ND	ND	ND
SP8	4	2/27/2019	300	ND	ND	ND	14	ND	14
SP9	4	2/27/2019	ND	ND	ND	ND	ND	ND	ND
SP10	4	2/27/2019	ND	ND	ND	ND	ND	ND	ND
SP11	4	2/27/2019	150	ND	ND	ND	11	ND	11
SP12	4	2/27/2019	310	ND	ND	ND	12	ND	12
SP13	4	2/27/2019	ND	ND	ND	ND	ND	ND	ND
SP14	4	2/27/2019	320	ND	ND	ND	ND	ND	ND
SP15	4	2/27/2019	470	ND	ND	ND	ND	ND	ND
SP16	4	2/27/2019	84	ND	ND	ND	ND	ND	ND
SP17	4	2/27/2019	83	ND	ND	ND	350	170	520
SP17R	4.5	3/11/2019	-	-	-	-	ND	ND	ND
SP18	4	2/27/2019	140	ND	ND	ND	68	ND	68
SP19	4	2/27/2019	310	ND	ND	ND	17	ND	17
SP20	4	2/27/2019	ND	ND	ND	ND	ND	ND	ND
SP21	4	2/27/2019	100	ND	ND	ND	14	ND	14
SP22	4	2/27/2019	85	ND	ND	ND	ND	ND	ND
SP23	4	2/27/2019	560	ND	ND	ND	ND	ND	ND
SP24	4	2/27/2019	520	ND	ND	ND	ND	ND	ND
SP25	4	2/27/2019	500	ND	ND	ND	ND	ND	ND
SP26	4	2/27/2019	580	ND	ND	ND	ND	ND	ND
SP27	4	2/27/2019	110	ND	ND	ND	ND	ND	ND
SP28	4	2/27/2019	660	ND	ND	ND	ND	ND	ND
SP28R	4.5	3/11/2019	140	-	-	-	-	-	-

WPX Energy Permian, LLC LVP SWD #001			Sample Results - Hall Environmental Analysis Laboratory						
Excavation Footprint								Reported in mg/kg	
NM OCD Table 1 Thresholds (GW <50')			600	10	50	100			
Sample ID	Depth (ft)	Sampling Date	Chloride	Benzene	BTEX	GRO	DRO	MRO	Total TPH
SP29	4	2/27/2019	71	ND	ND	ND	ND	ND	ND
SP30	4	2/27/2019	400	ND	ND	ND	ND	ND	ND
SP31	4	2/27/2019	390	ND	ND	ND	ND	ND	ND
SP32	4	2/27/2019	440	ND	ND	ND	ND	ND	ND
SP33	4	2/27/2019	ND	ND	ND	ND	ND	ND	ND
SP34	4	2/27/2019	ND	ND	ND	ND	ND	ND	ND
SP35	4	2/27/2019	130	ND	ND	ND	ND	ND	ND
SP36	4	2/27/2019	530	ND	ND	ND	44	110	154
SP36R	4.5	3/11/2019	-	-	-	-	ND	ND	ND
SP37	4	2/27/2019	90	ND	ND	ND	ND	ND	ND
SP38	4	2/27/2019	270	ND	ND	ND	ND	ND	ND
SP39	4	2/27/2019	360	ND	ND	ND	ND	ND	ND
SP40	4	2/27/2019	750	ND	ND	ND	ND	ND	ND
SP40R	4.5	3/11/2019	66	-	-	-	-	-	-
SP41	4	2/27/2019	98	ND	ND	ND	ND	ND	ND
SP42	4	2/27/2019	77	ND	ND	ND	ND	ND	ND
SP43	4	2/27/2019	130	ND	ND	ND	ND	ND	ND
SP44	4	2/27/2019	63	ND	ND	ND	ND	ND	ND
SP45	4	2/27/2019	130	ND	ND	ND	ND	ND	ND
SP46	4	2/28/2019	460	ND	ND	ND	ND	ND	ND
SP47	4	2/28/2019	320	ND	ND	ND	ND	ND	ND
SP48	4	2/28/2019	670	ND	ND	ND	ND	ND	ND
SP48R	4.5	3/11/2019	65	-	-	-	-	-	-
SP49	4	2/28/2019	390	ND	ND	ND	ND	ND	ND
SP50	4	2/28/2019	350	ND	ND	ND	ND	ND	ND
SP51	4	2/28/2019	350	ND	ND	ND	ND	ND	ND
SP52	4	2/28/2019	120	ND	ND	ND	ND	ND	ND
SP53	4	2/28/2019	290	ND	ND	ND	ND	ND	ND
SP54	4	2/28/2019	130	ND	ND	ND	ND	ND	ND

WPX Energy Permian, LLC LVP SWD #001			Sample Results - Hall Environmental Analysis Laboratory						
Excavation Footprint								Reported in mg/kg	
NM OCD Table 1 Thresholds (GW <50')			600	10	50	100			
Sample ID	Depth (ft)	Sampling Date	Chloride	Benzene	BTEX	GRO	DRO	MRO	Total TPH
SP55	4	2/28/2019	220	ND	ND	ND	ND	ND	ND
SP56	4	2/28/2019	230	ND	ND	ND	ND	ND	ND
SP57	4	2/28/2019	330	ND	ND	ND	ND	ND	ND
SP58	4	2/28/2019	410	ND	ND	ND	ND	ND	ND
SP59	4	2/28/2019	290	ND	ND	ND	ND	ND	ND
SP60	4	2/28/2019	180	ND	ND	ND	ND	ND	ND
SP61	4	2/28/2019	260	ND	ND	ND	ND	ND	ND
SP62	4	2/28/2019	240	ND	ND	ND	ND	ND	ND
SP63	4	2/28/2019	88	ND	ND	ND	ND	ND	ND
SP64	4	2/28/2019	310	ND	ND	ND	ND	ND	ND
SP65	4	2/28/2019	270	ND	ND	ND	ND	ND	ND
SP66	4	2/28/2019	220	ND	ND	ND	ND	ND	ND
SP67	4	2/28/2019	370	ND	ND	ND	ND	ND	ND
SP68	4	2/28/2019	320	ND	ND	ND	ND	ND	ND
SP69	4	2/28/2019	320	ND	ND	ND	ND	ND	ND
SP70	4	2/28/2019	280	ND	ND	ND	ND	ND	ND
SP71	4	2/28/2019	230	ND	ND	ND	ND	ND	ND
SP72	4	2/28/2019	300	ND	ND	ND	ND	ND	ND
SP73	4	2/28/2019	110	ND	ND	ND	ND	ND	ND
SP74	4	2/28/2019	180	ND	ND	ND	ND	ND	ND
SP75	4	2/28/2019	ND	ND	ND	ND	ND	ND	ND
SP76	4	2/28/2019	ND	ND	ND	ND	ND	ND	ND
SP77	4	2/28/2019	69	ND	ND	ND	ND	ND	ND
SP78	4	2/28/2019	200	ND	ND	ND	ND	ND	ND
SP79	4	2/28/2019	ND	ND	ND	ND	ND	ND	ND
SP80	4	2/28/2019	150	ND	ND	ND	ND	ND	ND
SP81	4	2/28/2019	310	ND	ND	ND	ND	ND	ND
SP82	4	2/28/2019	ND	ND	ND	ND	ND	ND	ND
SP83	4	2/28/2019	700	ND	ND	ND	ND	ND	ND
SP83R	4	3/11/2019	82	-	-	-	-		

WPX Energy Permian, LLC LVP SWD #001			Sample Results - Hall Environmental Analysis Laboratory						
Excavation Footprint									Reported in mg/kg
NM OCD Table 1 Thresholds (GW <50')			600	10	50	100			
Sample ID	Depth (ft)	Sampling Date	Chloride	Benzene	BTEX	GRO	DRO	MRO	Total TPH
SP84	4	2/28/2019	110	ND	ND	ND	ND	ND	ND
SP85	4	2/28/2019	210	ND	ND	ND	ND	ND	ND
SP86	4	2/28/2019	120	ND	ND	ND	ND	ND	ND
SP87	4	2/28/2019	250	ND	ND	ND	ND	ND	ND
SP88	4	2/28/2019	280	ND	ND	ND	ND	ND	ND
SP89	4	2/28/2019	260	ND	ND	ND	ND	ND	ND
SP90	4	2/28/2019	450	ND	ND	ND	ND	ND	ND
SP91	4	2/28/2019	320	ND	ND	ND	ND	ND	ND
SP92	4	2/28/2019	320	ND	ND	ND	ND	ND	181
SP92R	4.5	3/11/2019	-	-	-	-	ND	ND	ND
SP93	4	2/28/2019	290	ND	ND	ND	ND	ND	ND
SP94	4	2/28/2019	360	ND	ND	ND	ND	ND	ND
SP95	4	2/28/2019	330	ND	ND	ND	ND	ND	ND
SP96	4	2/28/2019	430	ND	ND	ND	ND	ND	ND
SP97	4	2/28/2019	390	ND	ND	ND	ND	ND	ND
SP98	4	2/28/2019	390	ND	ND	ND	ND	ND	ND
SP99	4	2/28/2019	1300	ND	ND	ND	ND	ND	ND
SP99R	4.5	3/11/2019	170	-	-	-	-	-	-
SP100	4	2/28/2019	320	ND	ND	ND	ND	ND	ND
SP101	4	2/28/2019	690	ND	ND	ND	ND	ND	ND
SP101R	4.5	3/11/2019	61	-	-	-	-	-	-
SP102	4	2/28/2019	460	ND	ND	ND	ND	ND	ND
SP103	4	2/28/2019	130	ND	ND	ND	ND	ND	ND
SP104	4	2/28/2019	240	ND	ND	ND	ND	ND	ND
SP105	4	2/28/2019	300	ND	ND	ND	ND	ND	ND
SP106	4	2/28/2019	280	ND	ND	ND	ND	ND	ND
SP107	4	2/28/2019	330	ND	ND	ND	ND	ND	ND
SP108	4	2/28/2019	230	ND	ND	ND	ND	ND	ND
SP109	4	2/28/2019	270	ND	ND	ND	ND	ND	ND
SP110	4	2/28/2019	260	ND	ND	ND	ND	ND	ND

WPX Energy Permian, LLC LVP SWD #001			Sample Results - Hall Environmental Analysis Laboratory						
Excavation Footprint								Reported in mg/kg	
NM OCD Table 1 Thresholds (GW <50')			600	10	50	100			
Sample ID	Depth (ft)	Sampling Date	Chloride	Benzene	BTEX	GRO	DRO	MRO	Total TPH
SP111	4	2/28/2019	290	ND	ND	ND	ND	ND	ND
SP112	4	2/28/2019	270	ND	ND	ND	ND	ND	ND
SP113	4	2/28/2019	340	ND	ND	ND	ND	ND	ND
SP114	4	2/28/2019	390	ND	ND	ND	ND	ND	ND
SP115	4	2/28/2019	310	ND	ND	ND	ND	ND	ND
SP116	4	2/28/2019	300	ND	ND	ND	ND	ND	ND
SP117	4	2/28/2019	170	ND	ND	ND	ND	ND	ND
SP118	4	2/28/2019	300	ND	ND	ND	ND	ND	ND
SP119	4	2/28/2019	480	ND	ND	ND	ND	ND	ND
SP120	4	2/28/2019	590	ND	ND	ND	ND	ND	ND
SP121	4	2/28/2019	290	ND	ND	ND	ND	ND	ND
SP122	4	2/28/2019	440	ND	ND	ND	ND	ND	ND
SP123	4	2/28/2019	230	ND	ND	ND	ND	ND	ND
SP124	5	4/2/2019	190	ND	ND	ND	ND	ND	ND
SP125	5	4/2/2019	170	ND	ND	ND	ND	ND	ND
SP126	5	4/2/2019	280	ND	ND	ND	ND	ND	ND
SP127	5	4/2/2019	200	ND	ND	ND	ND	ND	ND
SP128	5	4/2/2019	130	ND	ND	ND	ND	ND	ND
SP129	5	4/2/2019	150	ND	ND	ND	ND	ND	ND
SP130	5	4/2/2019	240	ND	ND	ND	ND	ND	ND
SP131	5	4/2/2019	220	ND	ND	ND	ND	ND	ND
SP132	5	4/2/2019	130	ND	ND	ND	ND	ND	ND
SP133	5	4/2/2019	190	ND	ND	ND	ND	ND	ND
SP134	5	4/2/2019	120	ND	ND	ND	ND	ND	ND
SP135	5	4/2/2019	150	ND	ND	ND	ND	ND	ND
SP136	5	4/2/2019	160	ND	ND	ND	ND	ND	ND
SP137	5	4/2/2019	180	ND	ND	ND	ND	ND	ND
SP138	5	4/2/2019	210	ND	ND	ND	ND	ND	ND
SP139	5	4/2/2019	220	ND	ND	ND	ND	ND	ND
SP140	5	4/2/2019	170	ND	ND	ND	ND	ND	ND
SP141	5	4/2/2019	130	ND	ND	ND	ND	ND	ND
SP142	5	4/2/2019	150	ND	ND	ND	ND	ND	ND
SP143	5	4/2/2019	270	ND	ND	ND	ND	ND	ND

WPX Energy Permian, LLC LVP SWD #001			Sample Results - Hall Environmental Analysis Laboratory						
Excavation Footprint								Reported in mg/kg	
NM OCD Table 1 Thresholds (GW <50')			600	10	50	100			
Sample ID	Depth (ft)	Sampling Date	Chloride	Benzene	BTEX	GRO	DRO	MRO	Total TPH
SP144	5	4/2/2019	150	ND	ND	ND	ND	ND	ND
SP145	5	4/2/2019	73	ND	ND	ND	ND	ND	ND
SP146	5	4/2/2019	180	ND	ND	ND	ND	ND	ND
SP147	5	4/2/2019	180	ND	ND	ND	ND	ND	ND
SP148	5	4/2/2019	150	ND	ND	ND	ND	ND	ND
SP149	5	4/2/2019	200	ND	ND	ND	ND	ND	ND
SP150	5	4/2/2019	220	ND	ND	ND	ND	ND	ND
SP151	5	4/2/2019	90	ND	ND	ND	ND	ND	ND
SP152	5	4/2/2019	130	ND	ND	ND	ND	ND	ND
SP153	5	4/2/2019	190	ND	ND	ND	ND	ND	ND
SP154	5	4/2/2019	190	ND	ND	ND	ND	ND	ND
SP155	5	4/2/2019	150	ND	ND	ND	ND	ND	ND
SP156	5	4/2/2019	120	ND	ND	ND	ND	ND	ND
SP157	5	4/2/2019	130	ND	ND	ND	ND	ND	ND
SP158	5	4/2/2019	140	ND	ND	ND	ND	ND	ND
SP159	5	4/2/2019	160	ND	ND	ND	ND	ND	ND
SP160	5	4/2/2019	160	ND	ND	ND	ND	ND	ND
SP161	5	4/2/2019	150	ND	ND	ND	ND	ND	ND
SP162	5	4/2/2019	150	ND	ND	ND	ND	ND	ND
SP163	5	4/2/2019	230	ND	ND	ND	ND	ND	ND
SP164	5	4/2/2019	310	ND	ND	ND	ND	ND	ND
SP165	5	4/3/2019	180	ND	ND	ND	ND	ND	ND
SP166	5	4/3/2019	250	ND	ND	ND	ND	ND	ND
SP167	5	4/3/2019	250	ND	ND	ND	ND	ND	ND
SP168	5	4/3/2019	210	ND	ND	ND	ND	ND	ND
SP169	5	4/3/2019	230	ND	ND	ND	ND	ND	ND
SP170	5	4/3/2019	200	ND	ND	ND	ND	ND	ND
SP171	5	4/3/2019	190	ND	ND	ND	ND	ND	ND
SP172	5	4/3/2019	180	ND	ND	ND	ND	ND	ND
SP173	5	4/3/2019	210	ND	ND	ND	ND	ND	ND
SP174	5	4/3/2019	230	ND	ND	ND	ND	ND	ND
SP175	5	4/3/2019	300	ND	ND	ND	ND	ND	ND
SP176	5	4/3/2019	240	ND	ND	ND	ND	ND	ND
SP177	5	4/3/2019	230	ND	ND	ND	ND	ND	ND

WPX Energy Permian, LLC LVP SWD #001			Sample Results - Hall Environmental Analysis Laboratory						
Excavation Footprint								Reported in mg/kg	
NM OCD Table 1 Thresholds (GW <50')			600	10	50	100			
Sample ID	Depth (ft)	Sampling Date	Chloride	Benzene	BTEX	GRO	DRO	MRO	Total TPH
SP178	5	4/3/2019	260	ND	ND	ND	ND	ND	ND
SP179	5	4/3/2019	270	ND	ND	ND	ND	ND	ND
SP180	5	4/3/2019	150	ND	ND	ND	ND	ND	ND
SP181	5	4/3/2019	330	ND	ND	ND	ND	ND	ND
SP182	5	4/3/2019	240	ND	ND	ND	ND	ND	ND
SP183	5	4/3/2019	240	ND	ND	ND	ND	ND	ND
SP184	5	4/3/2019	170	ND	ND	ND	ND	ND	ND
SP185	5	4/3/2019	220	ND	ND	ND	ND	ND	ND
SP186	5	4/3/2019	170	ND	ND	ND	ND	ND	ND
SP187	5	4/3/2019	220	ND	ND	ND	ND	ND	ND
SP188	5	4/3/2019	180	ND	ND	ND	ND	ND	ND
SP189	5	4/3/2019	150	ND	ND	ND	ND	ND	ND
SP190	5	4/3/2019	120	ND	ND	ND	ND	ND	ND
SP191	5	4/3/2019	190	ND	ND	ND	ND	ND	ND
SP192	5	4/3/2019	120	ND	ND	ND	ND	ND	ND
SP193	5	4/3/2019	220	ND	ND	ND	ND	ND	ND
SP194	5	4/3/2019	150	ND	ND	ND	ND	ND	ND
SP195	5	4/3/2019	220	ND	ND	ND	ND	ND	ND
SP196	5	4/3/2019	110	ND	ND	ND	ND	ND	ND
SP197	5	4/3/2019	150	ND	ND	ND	ND	ND	ND
SP198	5	4/3/2019	160	ND	ND	ND	ND	ND	ND
SP199	5	4/3/2019	210	ND	ND	ND	ND	ND	ND
SP200	5	4/3/2019	150	ND	ND	ND	ND	ND	ND
SP201	5	4/3/2019	160	ND	ND	ND	ND	ND	ND
SP202	5	4/3/2019	140	ND	ND	ND	ND	ND	ND
SP203	5	4/3/2019	220	ND	ND	ND	ND	ND	ND
SP204	5	4/3/2019	200	ND	ND	ND	ND	ND	ND
SP205	5	4/3/2019	210	ND	ND	ND	ND	ND	ND
SP206	5	4/3/2019	240	ND	ND	ND	ND	ND	ND
SP207	5	4/3/2019	180	ND	ND	ND	ND	ND	ND
SP208	5	4/3/2019	200	ND	ND	ND	ND	ND	ND
SP209	5	4/3/2019	210	ND	ND	ND	ND	ND	ND
SP210	5	4/3/2019	270	ND	ND	ND	ND	ND	ND
SP211	5	4/3/2019	180	ND	ND	ND	ND	ND	ND

WPX Energy Permian, LLC LVP SWD #001			Sample Results - Hall Environmental Analysis Laboratory						
Excavation Footprint								Reported in mg/kg	
NM OCD Table 1 Thresholds (GW <50')			600	10	50	100			
Sample ID	Depth (ft)	Sampling Date	Chloride	Benzene	BTEX	GRO	DRO	MRO	Total TPH
SP212	5	4/3/2019	190	ND	ND	ND	ND	ND	ND
SP213	5	4/3/2019	130	ND	ND	ND	ND	ND	ND
SP214	5	4/3/2019	210	ND	ND	ND	ND	ND	ND
SP215	5	4/3/2019	190	ND	ND	ND	ND	ND	ND
SP216	5	4/3/2019	200	ND	ND	ND	ND	ND	ND
SP217	5	4/3/2019	110	ND	ND	ND	ND	ND	ND
SP218	5	4/3/2019	180	ND	ND	ND	ND	ND	ND
SP219	5	4/3/2019	200	ND	ND	ND	ND	ND	ND
SP220	5	4/3/2019	210	ND	ND	ND	ND	ND	ND
SP221	5	4/3/2019	240	ND	ND	ND	ND	ND	ND
SP222	5	4/3/2019	170	ND	ND	ND	ND	ND	ND
SP223	5	4/3/2019	190	ND	ND	ND	ND	ND	ND
SP224	5	4/3/2019	160	ND	ND	ND	ND	ND	ND
SP225	5	4/3/2019	220	ND	ND	ND	ND	ND	ND
SP226	5	4/3/2019	180	ND	ND	ND	ND	ND	ND
SP227	5	4/3/2019	180	ND	ND	ND	ND	ND	ND
SP228	5	4/3/2019	200	ND	ND	ND	ND	ND	ND
SP229	5	4/3/2019	230	ND	ND	ND	ND	ND	ND
SP230	5	4/3/2019	260	ND	ND	ND	ND	ND	ND
SP231	5	4/3/2019	210	ND	ND	ND	ND	ND	ND
SP232	5	4/3/2019	91	ND	ND	ND	ND	ND	ND
SP233	5	4/3/2019	433	ND	ND	ND	ND	ND	ND
SP234	5	4/3/2019	170	ND	ND	ND	ND	ND	ND
SP235	5	4/3/2019	130	ND	ND	ND	ND	ND	ND
SP236	5	4/3/2019	110	ND	ND	ND	ND	ND	ND
SP237	5	4/3/2019	260	ND	ND	ND	ND	ND	ND
SP238	5	4/3/2019	160	ND	ND	ND	ND	ND	ND
SP239	5	4/3/2019	210	ND	ND	ND	ND	ND	ND
SP240	5	4/3/2019	230	ND	ND	ND	ND	ND	ND
SP241	5	4/3/2019	260	ND	ND	ND	ND	ND	ND
SP242	5	4/3/2019	160	ND	ND	ND	ND	ND	ND
SP243	5	4/3/2019	120	ND	ND	ND	ND	ND	ND
SP244	5	4/3/2019	120	ND	ND	ND	ND	ND	ND

WPX Energy Permian, LLC LVP SWD #001			Sample Results - Hall Environmental Analysis Laboratory						
Excavation Footprint								Reported in mg/kg	
NM OCD Table 1 Thresholds (GW <50')			600	10	50	100			
Sample ID	Depth (ft)	Sampling Date	Chloride	Benzene	BTEX	GRO	DRO	MRO	Total TPH
SP244	5	4/3/2019	120	ND	ND	ND	ND	ND	ND
SP245	5	4/3/2019	81	ND	ND	ND	ND	ND	ND
SP246	5	4/3/2019	190	ND	ND	ND	ND	ND	ND
SP247	5	4/3/2019	120	ND	ND	ND	ND	ND	ND
SP248	5	4/3/2019	74	ND	ND	ND	ND	ND	ND
SP249	5	4/3/2019	150	ND	ND	ND	ND	ND	ND
SP250	5	4/3/2019	220	ND	ND	ND	ND	ND	ND
SP251	5	4/3/2019	180	ND	ND	ND	ND	ND	ND
SP252	5	4/3/2019	110	ND	ND	ND	ND	ND	ND
SP253	5	4/3/2019	190	ND	ND	ND	ND	ND	ND
SP254	5	4/3/2019	170	ND	ND	ND	ND	ND	ND
SP255	5	4/3/2019	120	ND	ND	ND	ND	ND	ND
SP256	5	4/3/2019	130	ND	ND	ND	ND	ND	ND
SP257	5	4/3/2019	130	ND	ND	ND	ND	ND	ND
SP258	5	4/3/2019	170	ND	ND	ND	ND	ND	ND
SP259	5	4/3/2019	250	ND	ND	ND	ND	ND	ND
SP260	5	4/3/2019	310	ND	ND	ND	ND	ND	ND
SP261	5	4/3/2019	200	ND	ND	ND	ND	ND	ND
SP262	5	4/3/2019	200	ND	ND	ND	ND	ND	ND
SP263	5	4/3/2019	180	ND	ND	ND	ND	ND	ND
SP264	5	4/3/2019	280	ND	ND	ND	ND	ND	ND
SP265	5	4/3/2019	150	ND	ND	ND	ND	ND	ND
SP266	5	4/3/2019	280	ND	ND	ND	ND	ND	ND
SP267	5	4/3/2019	94	ND	ND	ND	ND	ND	ND
SP268	5	4/3/2019	200	ND	ND	ND	ND	ND	ND
SP269	5	4/3/2019	230	ND	ND	ND	ND	ND	ND
SP270	5	4/3/2019	220	ND	ND	ND	ND	ND	ND
SP271	5	4/3/2019	260	ND	ND	ND	ND	ND	ND
SP272	5	4/3/2019	160	ND	ND	ND	ND	ND	ND
SP273	5	4/3/2019	200	ND	ND	ND	ND	ND	ND

WPX Energy Permian, LLC LVP SWD #001			Sample Results - Hall Environmental Analysis Laboratory						
Excavation Footprint								Reported in mg/kg	
NM OCD Table 1 Thresholds (GW <50')			600	10	50	100			
Sample ID	Depth (ft)	Sampling Date	Chloride	Benzene	BTEX	GRO	DRO	MRO	Total TPH
SP274	5	4/3/2019	120	ND	ND	ND	ND	ND	ND
SP275	5	4/3/2019	ND	ND	ND	ND	ND	ND	ND
SP276	5	4/3/2019	260	ND	ND	ND	ND	ND	ND
SP277	5	4/3/2019	210	ND	ND	ND	ND	ND	ND
SP278	5	4/3/2019	170	ND	ND	ND	ND	ND	ND
SP279	5	4/3/2019	86	ND	ND	ND	ND	ND	ND
SP280	5	4/3/2019	120	ND	ND	ND	ND	ND	ND
SP281	5	4/3/2019	140	ND	ND	ND	ND	ND	ND
SP282	5	4/3/2019	210	ND	ND	ND	ND	ND	ND
SP283	5	4/3/2019	220	ND	ND	ND	ND	ND	ND
SP284	5	4/3/2019	150	ND	ND	ND	ND	ND	ND
SP285	5	4/3/2019	170	ND	ND	ND	ND	ND	ND
SP286	5	4/3/2019	140	ND	ND	ND	ND	ND	ND
SP287	5	4/3/2019	ND	ND	ND	ND	ND	ND	ND
SP288	5	4/3/2019	180	ND	ND	ND	ND	ND	ND
SP289	5	4/3/2019	ND	ND	ND	ND	ND	ND	ND
SP290	5	4/3/2019	130	ND	ND	ND	ND	ND	ND
SP291	5	4/3/2019	280	ND	ND	ND	ND	ND	ND
SP292	5	4/3/2019	230	ND	ND	ND	ND	ND	ND
SP293	5	4/3/2019	290	ND	ND	ND	ND	ND	ND
SP294	5	4/3/2019	ND	ND	ND	ND	ND	ND	ND
SP295	5	4/3/2019	180	ND	ND	ND	ND	ND	ND
SP296	5	4/3/2019	ND	ND	ND	ND	ND	ND	ND
SP297	5	4/3/2019	ND	ND	ND	ND	ND	ND	ND
SP298	5	4/3/2019	230	ND	ND	ND	ND	ND	ND
SP299	5	4/3/2019	ND	ND	ND	ND	ND	ND	ND
SP300	5	4/3/2019	150	ND	ND	ND	ND	ND	ND
SP301	5	4/3/2019	130	ND	ND	ND	ND	ND	ND
SP302	5	4/3/2019	240	ND	ND	ND	ND	ND	ND

WPX Energy Permian, LLC LVP SWD #001			Sample Results - Hall Environmental Analysis Laboratory						
Excavation Footprint								Reported in mg/kg	
NM OCD Table 1 Thresholds (GW <50')			600	10	50	100			
Sample ID	Depth (ft)	Sampling Date	Chloride	Benzene	BTEX	GRO	DRO	MRO	Total TPH
SP303	5	4/3/2019	85	ND	ND	ND	ND	ND	ND
SP304	5	4/3/2019	170	ND	ND	ND	ND	ND	ND
SP305	5	4/3/2019	ND	ND	ND	ND	ND	ND	ND
SP306	5	4/3/2019	110	ND	ND	ND	19.0	ND	19.0
SP307	5	4/3/2019	89	ND	ND	ND	ND	ND	ND
SP308	5	4/3/2019	140	ND	ND	ND	ND	ND	ND
SP309	5	4/3/2019	120	ND	ND	ND	ND	ND	ND
SP310	5	4/3/2019	130	ND	ND	ND	ND	ND	ND
SP311	5	4/3/2019	310	ND	ND	ND	ND	ND	ND
SP312	5	4/3/2019	100	ND	ND	ND	ND	ND	ND
SP313	5	4/3/2019	140	ND	ND	ND	ND	ND	ND
SP314	5	4/3/2019	220	ND	ND	ND	ND	ND	ND
SP315	5	4/3/2019	ND	ND	ND	ND	ND	ND	ND
SP316	5	4/3/2019	120	ND	ND	ND	ND	ND	ND
SP317	5	4/3/2019	120	ND	ND	ND	ND	ND	ND
SP318	5	4/3/2019	200	ND	ND	ND	ND	ND	ND
SP319	5	4/3/2019	130	ND	ND	ND	ND	ND	ND
SP320	5	4/3/2019	140	ND	ND	ND	ND	ND	ND
SP321	5	4/3/2019	190	ND	ND	ND	ND	ND	ND
SP322	5	4/3/2019	120	ND	ND	ND	ND	ND	ND
SP323	5	4/3/2019	240	ND	ND	ND	ND	ND	ND
SP324	5	4/3/2019	190	ND	ND	ND	ND	ND	ND
SP325	5	4/3/2019	280	ND	ND	ND	ND	ND	ND
SP326	5	4/3/2019	210	ND	ND	ND	ND	ND	ND
SP327	5	4/3/2019	280	ND	ND	ND	ND	ND	ND
SP328	5	4/3/2019	170	ND	ND	ND	ND	ND	ND
SP329	5	4/3/2019	88	ND	ND	ND	ND	ND	ND
SP330	5	4/3/2019	100	ND	ND	ND	ND	ND	ND
SP331	5	4/3/2019	130	ND	ND	ND	ND	ND	ND
SP332	5	4/3/2019	180	ND	ND	ND	ND	ND	ND
SP333	5	4/3/2019	220	ND	ND	ND	ND	ND	ND

WPX Energy Permian, LLC LVP SWD #001			Sample Results - Hall Environmental Analysis Laboratory						
Excavation Footprint									Reported in mg/kg
NM OCD Table 1 Thresholds (GW <50')			600	10	50	100			
Sample ID	Depth (ft)	Sampling Date	Chloride	Benzene	BTEX	GRO	DRO	MRO	Total TPH
SP334	5	4/3/2019	250	ND	ND	ND	ND	ND	ND
SP335	5	4/3/2019	150	ND	ND	ND	ND	ND	ND
SP336	5	4/3/2019	280	ND	ND	ND	ND	ND	ND
SP337	5	4/3/2019	130	ND	ND	ND	ND	ND	ND
SP338	5	4/3/2019	190	ND	ND	ND	ND	ND	ND
SP339	5	4/3/2019	150	ND	ND	ND	ND	ND	ND
SP340	5	4/3/2019	220	ND	ND	ND	ND	ND	ND
SP341	5	4/3/2019	120	ND	ND	ND	ND	ND	ND
SP342	5	6/26/2019	260	ND	ND	ND	ND	ND	ND
SP343	5	6/26/2019	220	ND	ND	ND	ND	ND	ND
SP344	5	6/26/2019	810	ND	ND	ND	ND	ND	ND
	5.5	7/17/2019	160						
SP345	5	6/26/2019	400	ND	ND	ND	ND	ND	ND
SP346	5	6/26/2019	230	ND	ND	ND	ND	ND	ND
SP347	5	6/26/2019	250	ND	ND	ND	ND	ND	ND
SP348	5	6/26/2019	120	ND	ND	ND	ND	ND	ND
SP349	5	6/26/2019	220	ND	ND	ND	ND	ND	ND
SP350	5	6/26/2019	250	ND	ND	ND	ND	ND	ND
SP351	5	6/26/2019	330	ND	ND	ND	ND	ND	ND
SP352	5	6/26/2019	240	ND	ND	ND	ND	ND	ND
SP353	5	6/26/2019	170	ND	ND	ND	ND	ND	ND
SP354	5	6/26/2019	240	ND	ND	ND	ND	ND	ND
SP355	5	6/26/2019	880	ND	ND	ND	ND	ND	ND
	5.5	7/17/2019	230						
SP356	5	6/26/2019	150	ND	ND	ND	ND	ND	ND
SP357	5	6/26/2019	200	ND	ND	ND	ND	ND	ND
SP358	5	6/26/2019	210	ND	ND	ND	ND	ND	ND
SP359	5	6/26/2019	260	ND	ND	ND	ND	ND	ND
SP360	5	6/26/2019	220	ND	ND	ND	ND	ND	ND
SP361	5	6/26/2019	120	ND	ND	ND	ND	ND	ND
SP362	5	6/26/2019	180	ND	ND	ND	ND	ND	ND
SP363	5	6/26/2019	99	ND	ND	ND	ND	ND	ND
SP364	5	6/26/2019	180	ND	ND	ND	ND	ND	ND
SP365	5	6/26/2019	190	ND	ND	ND	ND	ND	ND
SP366	5	6/26/2019	140	ND	ND	ND	ND	ND	ND

WPX Energy Permian, LLC LVP SWD #001			Sample Results - Hall Environmental Analysis Laboratory						
Excavation Footprint								Reported in mg/kg	
NM OCD Table 1 Thresholds (GW <50')			600	10	50	100			
Sample ID	Depth (ft)	Sampling Date	Chloride	Benzene	BTEX	GRO	DRO	MRO	Total TPH
SP367	5	6/26/2019	160	ND	ND	ND	ND	ND	ND
SP368	5	6/26/2019	180	ND	ND	ND	ND	ND	ND
SP369	5	6/26/2019	170	ND	ND	ND	ND	ND	ND
SP370	5	6/26/2019	200	ND	ND	ND	ND	ND	ND
SP371	5	6/26/2019	240	ND	ND	ND	ND	ND	ND
SP372	5	6/26/2019	230	ND	ND	ND	ND	ND	ND
SP373	5	6/26/2019	170	ND	ND	ND	ND	ND	ND
SP374	5	6/26/2019	200	ND	ND	ND	ND	ND	ND
SP375	5	6/26/2019	210	ND	ND	ND	ND	ND	ND
SP376	5	6/26/2019	300	ND	ND	ND	ND	ND	ND
SP377	5	6/26/2019	150	ND	ND	ND	ND	ND	ND
SP378	5	6/26/2019	370	ND	ND	ND	ND	ND	ND
SP379	5	6/26/2019	280	ND	ND	ND	ND	ND	ND
SP380	5	6/26/2019	290	ND	ND	ND	ND	ND	ND
SP381	5	6/26/2019	240	ND	ND	ND	ND	ND	ND
SP382	5	6/26/2019	270	ND	ND	ND	ND	ND	ND
SP383	5	6/26/2019	310	ND	ND	ND	ND	ND	ND
SP384	5	6/26/2019	290	ND	ND	ND	ND	ND	ND
SP385	5	6/26/2019	270	ND	ND	ND	ND	ND	ND
SP386	5	6/26/2019	260	ND	ND	ND	ND	ND	ND
SP387	5	6/26/2019	310	ND	ND	ND	ND	ND	ND
SP388	5	6/26/2019	260	ND	ND	ND	ND	ND	ND
SP389	5	6/26/2019	530	ND	ND	ND	ND	ND	ND
SP390	5	6/26/2019	330	ND	ND	ND	ND	ND	ND
SP391	5	6/26/2019	250	ND	ND	ND	ND	ND	ND
SP392	5	6/26/2019	300	ND	ND	ND	ND	ND	ND
SP393	5	6/26/2019	310	ND	ND	ND	ND	ND	ND
SP394	5	6/26/2019	230	ND	ND	ND	ND	ND	ND
SP395	5	6/26/2019	220	ND	ND	ND	ND	ND	ND
SP396	5	6/26/2019	290	ND	ND	ND	ND	ND	ND
SP397	5	6/26/2019	270	ND	ND	ND	ND	ND	ND

WPX Energy Permian, LLC LVP SWD #001			Sample Results - Hall Environmental Analysis Laboratory						
Excavation Footprint								Reported in mg/kg	
NM OCD Table 1 Thresholds (GW <50')			600	10	50	100			
Sample ID	Depth (ft)	Sampling Date	Chloride	Benzene	BTEX	GRO	DRO	MRO	Total TPH
SP398	5	6/26/2019	280	ND	ND	ND	ND	ND	ND
SP399	5	6/26/2019	230	ND	ND	ND	ND	ND	ND
SP400	5	6/26/2019	310	ND	ND	ND	ND	ND	ND
SP401	5	6/26/2019	410	ND	ND	ND	ND	ND	ND
SP402	5	6/27/2019	180	ND	ND	ND	ND	ND	ND
SP403	5	6/27/2019	310	ND	ND	ND	ND	ND	ND
SP404	5	6/27/2019	340	ND	ND	ND	ND	ND	ND
SP405	5	7/2/2019	280	ND	ND	ND	ND	ND	ND
SP406	5	6/27/2019	260	ND	ND	ND	ND	ND	ND
SP407	5	6/27/2019	280	ND	ND	ND	ND	ND	ND
SP408	5	6/27/2019	280	ND	ND	ND	ND	ND	ND
SP409	5	7/2/2019	190	ND	ND	ND	ND	ND	ND
SP410	5	6/27/2019	210	ND	ND	ND	ND	ND	ND
SP411	5	7/2/2019	190	ND	ND	ND	ND	ND	ND
SP412	5	6/27/2019	240	ND	ND	ND	ND	ND	ND
SP413	5	6/27/2019	140	ND	ND	ND	ND	ND	ND
SP414	5	6/27/2019	150	ND	ND	ND	ND	ND	ND
SP415	5	6/27/2019	150	ND	ND	ND	ND	ND	ND
SP416	5	7/2/2019	190	ND	ND	ND	ND	ND	ND
SP417	5	6/27/2019	200	ND	ND	ND	ND	ND	ND
SP418	5	6/27/2019	260	ND	ND	ND	ND	ND	ND
SP419	5	6/27/2019	280	ND	ND	ND	ND	ND	ND
SP420	5	6/27/2019	310	ND	ND	ND	ND	ND	ND
SP421	5	7/2/2019	170	ND	ND	ND	ND	ND	ND
SP422	5	7/2/2019	180	ND	ND	ND	ND	ND	ND
SP423	5	6/27/2019	340	ND	ND	ND	ND	ND	ND
SP424	5	6/27/2019	150	ND	ND	ND	ND	ND	ND
SP425	5	6/27/2019	160	ND	ND	ND	ND	ND	ND
SP426	5	6/27/2019	270	ND	ND	ND	ND	ND	ND
SP427	5	6/27/2019	290	ND	ND	ND	ND	ND	ND
SP428	5	6/27/2019	290	ND	ND	ND	ND	ND	ND
SP429	5	7/2/2019	190	ND	ND	ND	ND	ND	ND

WPX Energy Permian, LLC LVP SWD #001			Sample Results - Hall Environmental Analysis Laboratory						
Excavation Footprint									*Reported in mg/kg*
NM OCD Table 1 Thresholds (GW <50')			600	10	50	100			
Sample ID	Depth (ft)	Sampling Date	Chloride	Benzene	BTEX	GRO	DRO	MRO	Total TPH
SP430	5	6/27/2019	350	ND	ND	ND	ND	ND	ND
SP431	5	7/2/2019	210	ND	ND	ND	ND	ND	ND
SP432	5	6/27/2019	180	ND	ND	ND	ND	ND	ND
SP433	5	7/2/2019	210	ND	ND	ND	ND	ND	ND
SP434	5	7/2/2019	170	ND	ND	ND	ND	ND	ND
SP435	5	6/27/2019	250	ND	ND	ND	ND	ND	ND
SP436	5	7/2/2019	190	ND	ND	ND	ND	ND	ND
SP437	5	6/27/2019	170	ND	ND	ND	ND	ND	ND
SP438	5	6/27/2019	360	ND	ND	ND	ND	ND	ND
SP439	5	7/2/2019	280	ND	ND	ND	ND	ND	ND
SP440	5	6/27/2019	210	ND	ND	ND	ND	ND	ND
SP441	5	6/27/2019	270	ND	ND	ND	ND	ND	ND
SP442	5	6/27/2019	260	ND	ND	ND	ND	ND	ND
SP443	5	7/2/2019	190	ND	ND	ND	ND	ND	ND
SP444	5	6/27/2019	200	ND	ND	ND	ND	ND	ND
SP445	5	6/27/2019	320	ND	ND	ND	ND	ND	ND
SP446	5	6/27/2019	260	ND	ND	ND	ND	ND	ND
SP447	5	6/27/2019	270	ND	ND	ND	ND	ND	ND
SP448	5	7/2/2019	200	ND	ND	ND	ND	ND	ND
SP449	5	7/2/2019	210	ND	ND	ND	ND	ND	ND
SP450	5	6/27/2019	240	ND	ND	ND	ND	ND	ND
SP451	5	6/27/2019	260	ND	ND	ND	ND	ND	ND
SP452	5	6/27/2019	230	ND	ND	ND	ND	ND	ND
SP453	5	6/27/2019	330	ND	ND	ND	ND	ND	ND
SP454	5	6/27/2019	260	ND	ND	ND	ND	ND	ND
SP455	5	6/27/2019	200	ND	ND	ND	ND	ND	ND

WPX Energy Permian, LLC LVP SWD #001			Sample Results - Hall Environmental Analysis Laboratory						
Excavation Sidewalls								Reported in mg/kg	
NM OCD Table 1 Thresholds (GW <50')			600	10	50	100			
Sample ID	Depth (ft)	Sampling Date	Chloride	Benzene	BTEX	GRO	DRO	MRO	Total TPH
SW1	Composite	2/28/2019	70	ND	ND	ND	ND	ND	ND
SW2	Composite	2/28/2019	72	ND	ND	ND	ND	ND	ND
SW3	Composite	2/28/2019	550	ND	ND	ND	ND	ND	ND
SW4	Composite	2/28/2019	560	ND	ND	ND	ND	ND	ND
SW5	Composite	2/28/2019	600	ND	ND	ND	ND	ND	ND
SW6	Composite	2/28/2019	850	ND	ND	ND	ND	ND	ND
SW6R	Composite	3/11/2019	110	-	-	-	-	-	-
SW7	Composite	2/28/2019	570	ND	ND	ND	ND	ND	ND
SW8	Composite	2/28/2019	ND	ND	ND	ND	ND	ND	ND
SW9	Composite	4/3/2019	110	ND	ND	ND	ND	ND	ND
SW10	Composite	4/3/2019	120	ND	ND	ND	ND	ND	ND
SW11	Composite	4/3/2019	110	ND	ND	ND	ND	ND	ND
SW12	Composite	4/3/2019	75	ND	ND	ND	ND	ND	ND
SW13	Composite	4/3/2019	130	ND	ND	ND	ND	ND	ND
SW14	Composite	4/3/2019	130	ND	ND	ND	ND	ND	ND
SW15	Composite	4/3/2019	110	ND	ND	ND	ND	ND	ND
SW16	Composite	4/3/2019	110	ND	ND	ND	ND	ND	ND
SW17	Composite	4/3/2019	110	ND	ND	ND	ND	ND	ND
SW18	Composite	4/3/2019	130	ND	ND	ND	ND	ND	ND
SW19	Composite	4/3/2019	96	ND	ND	ND	ND	ND	ND
SW20	Composite	4/3/2019	110	ND	ND	ND	ND	ND	ND
SW21	Composite	4/3/2019	360	ND	ND	ND	ND	ND	ND
SW22	Composite	4/3/2019	71	ND	ND	ND	ND	ND	ND
SW23	Composite	4/3/2019	110	ND	ND	ND	ND	ND	ND
SW24	Composite	4/3/2019	260	ND	ND	ND	ND	ND	ND
SW25	Composite	4/3/2019	130	ND	ND	ND	ND	ND	ND

WPX Energy Permian, LLC LVP SWD #001			Sample Results - Hall Environmental Analysis Laboratory						
Excavation Sidewalls								Reported in mg/kg	
NM OCD Table 1 Thresholds (GW <50')			600	10	50	100			
Sample ID	Depth (ft)	Sampling Date	Chloride	Benzene	BTEX	GRO	DRO	MRO	Total TPH
SW26	Composite	4/3/2019	380	ND	ND	ND	ND	ND	ND
SW27	Composite	4/3/2019	120	ND	ND	ND	ND	ND	ND
SW28	Composite	4/3/2019	130	ND	ND	ND	ND	ND	ND
SW29	Composite	4/3/2019	93	ND	ND	ND	ND	ND	ND
SW30	Composite	4/3/2019	110	ND	ND	ND	ND	ND	ND
SW31	Composite	7/2/2019	180	ND	ND	ND	ND	ND	ND
SW32	Composite	7/2/2019	120	ND	ND	ND	ND	ND	ND
SW33	Composite	7/2/2019	240	ND	ND	ND	ND	ND	ND
SW34	Composite	6/27/2019	220	ND	ND	ND	ND	ND	ND
SW35	Composite	7/2/2019	160	ND	ND	ND	ND	ND	ND
SW36	Composite	7/2/2019	140	ND	ND	ND	ND	ND	ND
SW37	Composite	6/27/2019	230	ND	ND	ND	ND	ND	ND
SW38	Composite	6/27/2019	210	ND	ND	ND	ND	ND	ND
SW39	Composite	6/27/2019	710	ND	ND	ND	ND	ND	ND
	Composite	7/17/2019	180						

Appendix A:
Release Notification

RECEIVED

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

JUL 30 2018
DISTRICT II-ARTESIA O.C.D.

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

nAB1821830790

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: RKI Exploration and Production, LLC 241289	Contact Karolina Blaney
Address 5315 Buena Vista Dr. Carlsbad, NM 88220	Telephone No. 970 589 0743
Facility Name LVP SWD #1	Facility Type Well Pad

Surface Owner: Private	Mineral Owner: State	API No. 30-015-42234

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
I	4	23S	28E	2100	FSL	385	FEL	Eddy

Latitude_32.33331684____ **Longitude**__-104.08520874__ NAD83

NATURE OF RELEASE

Type of Release: Produced Water, Oil and 15% Hydrochloric Acid	Volume of Release Unknown	Volume Recovered 0
Source of Release Tank Battery	Date and Hour of Occurrence 7/18/18	Date and Hour of Discovery 7/18/18
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Ken McQueen EMNRD Cabinet Secretary	
By Whom? Jeff Wilson	Date and Hour 7/18/18	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*
The spill was caused by the fire. The cause of the fire is currently under investigation.

Describe Area Affected and Cleanup Action Taken.*
The affected area was mapped with a Trimble to delineate the horizontal extent of the spill. 22 samples were collected from seven sampling locations and were sent to a lab for analysis. Excavation of the impacted soil along the south side of the location will start as soon as the line locates are completed. The north side of the pad will be excavated when the site is cleared of debris. The impacted soil will be hauled to disposal. Confirmation samples will be collected when the excavation activities are completed. WPX will submit a closure report for OCD's approval prior to backfilling.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Karolina Blaney	**OIL CONSERVATION DIVISION**
Printed Name: Karolina Blaney	Approved by Environmental Specialist: Signed By Kyle Brownlow
Title: Environmental Specialist	Approval Date: 8/6/18 Expiration Date: N/A
E-mail Address: Karolina.blaney@wpxenergy.com	Conditions of Approval: See attached
Date: 7-30-18 Phone: 970 589 0743	Attached ☐ 2RP-4891

* Attach Additional Sheets If Necessary

Operator/Responsible Party,

The OCD has received the form C-141 you provided on ___07/30/18_____ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2RP-4891 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

> *The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC.* [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District _2__ office in Artesia_ on or before _08/30/18_____. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.

- Nominal detection limits for field and laboratory analyses must be provided.

- Composite sampling is not generally allowed.

- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

•Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

• If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

• Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold
OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us

Appendix B: Confirmation Sampling Notification

From: Watson, Debbie
To: Bratcher, Mike, EMNRD; Venegas, Victoria, EMNRD; Hamlet, Robert, EMNRD; Billings, Bradford, EMNRD
Cc: Raup, Bob; Kevin Smith; Natalie Gordon
Subject: LVP SWD #1 (2RP-4891)
Date: Monday, February 25, 2019 6:56:19 AM
Attachments: LVP SWD Sampling Plan -Tank Battery.pdf

Good Morning,

This email serves as notification of confirmation sampling for a section of the LVP SWD #1 (2RP-4891). Confirmation sampling will begin on Wednesday morning, February 27, 2019 at approximately 8:00 AM. Sampling will be conducted by HRL Compliance Solutions. Sampling maps are included as an attachment to this email.

Sampling will begin in the area of the tank battery (North)-this area will be backfilled and construction of the new tank battery will begin once laboratory results reach or are reported below closure criteria. Receipt of results will be provided to NMOCD prior to backfill. WPX has crews on stand-by for construction of the new tank battery.

WPX will be submitting a variance request for sampling of the remaining portion of the pad.

Please contact me with any questions or comments.

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

From: Watson, Debbie
To: Billings, Bradford, EMNRD; Bratcher, Mike, EMNRD; Venegas, Victoria, EMNRD; Hamlet, Robert, EMNRD
Cc: Kevin Smith; Lori O"Brien
Subject: LVP SWD #1 (2RP-4891) Confirmation Sampling Notification
Date: Monday, June 24, 2019 6:10:59 AM

WPX is providing notification that a representative from HRL Compliance Solutions will be onsite Wednesday, June 26 at 8:30 AM to conduct confirmation sampling from within the final section of the excavation.

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

From: Watson, Debbie
To: Billings, Bradford, EMNRD
Cc: Bratcher, Mike, EMNRD; Venegas, Victoria, EMNRD; Hamlet, Robert, EMNRD; Watson, Debbie; Kevin Smith; Lori O"Brien
Subject: FW: LVP SWD #1 (2RP-4891) Confirmation Sampling Notification
Date: Monday, July 15, 2019 7:23:02 AM
Importance: High

Good Morning,

Three samples exceeded chloride closure standards following the recent sampling event. Resampling of SP344, SP355, and SW39 is scheduled for Wednesday, July 17 at 8:30 AM. These samples will be only analyzed for chloride.

Please contact me with any questions.

Thank you,

Debbie

From: Watson, Debbie
Sent: Tuesday, July 2, 2019 6:04 AM
To: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>
Cc: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Venegas, Victoria, EMNRD <Victoria.Venegas@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Watson, Debbie <deborah.watson@wpxenergy.com>
Subject: FW: LVP SWD #1 (2RP-4891) Confirmation Sampling Notification
Importance: High

The lab has added three more samples to the list for resample. See updated list below:

SP405, SP409, SP411, SP416, SP421, SP422, SP 429, SP431, SP433, SP434, SP436, SP439, SP443, SP448, SP449, SW36, SW31, SW32, SW33, SW35

Sampling is scheduled for this morning around 8:30 am.

Thank you,

Debbie

From: Watson, Debbie
Sent: Friday, June 28, 2019 5:19 PM
To: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>
Cc: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Venegas, Victoria, EMNRD <Victoria.Venegas@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Watson, Debbie <deborah.watson@wpxenergy.com>
Subject: FW: LVP SWD #1 (2RP-4891) Confirmation Sampling Notification

Importance: High

Good Afternoon Mr. Billings,

As I mentioned in my voicemail (@4:30 PM), we had 17 samples impacted by cooler water during travel to the laboratory. HRL Compliance will be at the LVP SWD #1 to conduct resampling on Tuesday, July 2 at 8:30 am.

The following samples were impacted by cooler water and will be resampled on Tuesday, July 2:

SP416, SP421, SP422, SP 429, SP431, SP433, SP434, SP436, SP439, SP443, SP448, SP449, SW36, SW31, SW32, SW33, SW35

If you have any questions or would like me to change the date, please let me know. Thank you.

Have a great weekend,

Debbie

From: Watson, Debbie
Sent: Thursday, June 27, 2019 8:24 AM
To: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Venegas, Victoria, EMNRD <Victoria.Venegas@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>
Cc: Watson, Debbie <deborah.watson@wpxenergy.com>
Subject: LVP SWD #1 (2RP-4891) Confirmation Sampling Notification

Good Morning,

HRL was unable to finish sampling yesterday at the LVP SWD #1. The remaining samples will be collected today.

Thank you,

Debbie

From: Watson, Debbie
Sent: Monday, June 24, 2019 6:11 AM
To: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Venegas, Victoria, EMNRD <Victoria.Venegas@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>
Cc: Kevin Smith <ksmith@hrlcomp.com>; Lori O'Brien <lobrien@hrlcomp.com>
Subject: LVP SWD #1 (2RP-4891) Confirmation Sampling Notification

WPX is providing notification that a representative from HRL Compliance Solutions will be onsite Wednesday, June 26 at 8:30 AM to conduct confirmation sampling from within the final section of the excavation.

Please contact me with any questions.

Thank you,

From: Watson, Debbie
To: Billings, Bradford, EMNRD; Bratcher, Mike, EMNRD; Venegas, Victoria, EMNRD; Hamlet, Robert, EMNRD
Cc: Kevin Smith; Lori O"Brien
Subject: LVP SWD #1 (2RP-4891) Confirmation Sampling Notification
Date: Monday, June 24, 2019 6:10:59 AM

WPX is providing notification that a representative from HRL Compliance Solutions will be onsite Wednesday, June 26 at 8:30 AM to conduct confirmation sampling from within the final section of the excavation.

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

Appendix C:
Site Photos

Excavation Area

January 24, 2019

WPX Energy Permian, LLC |LVP SWD #1

Excavation Area

January 24, 2019

WPX Energy Permian, LLC |LVP SWD #1

Excavation Area

January 24, 2019

WPX Energy Permian, LLC |LVP SWD #1

Excavation Area

January 24, 2019

WPX Energy Permian, LLC |LVP SWD #1

Excavation Area

January 24, 2019

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Excavation Area

January 24, 2019

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Excavation Area

January 24, 2019

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Excavation Area

January 24, 2019

WPX Energy Permian, LLC |LVP SWD #1

Excavation Area

January 24, 2019

WPX Energy Permian, LLC |LVP SWD #1

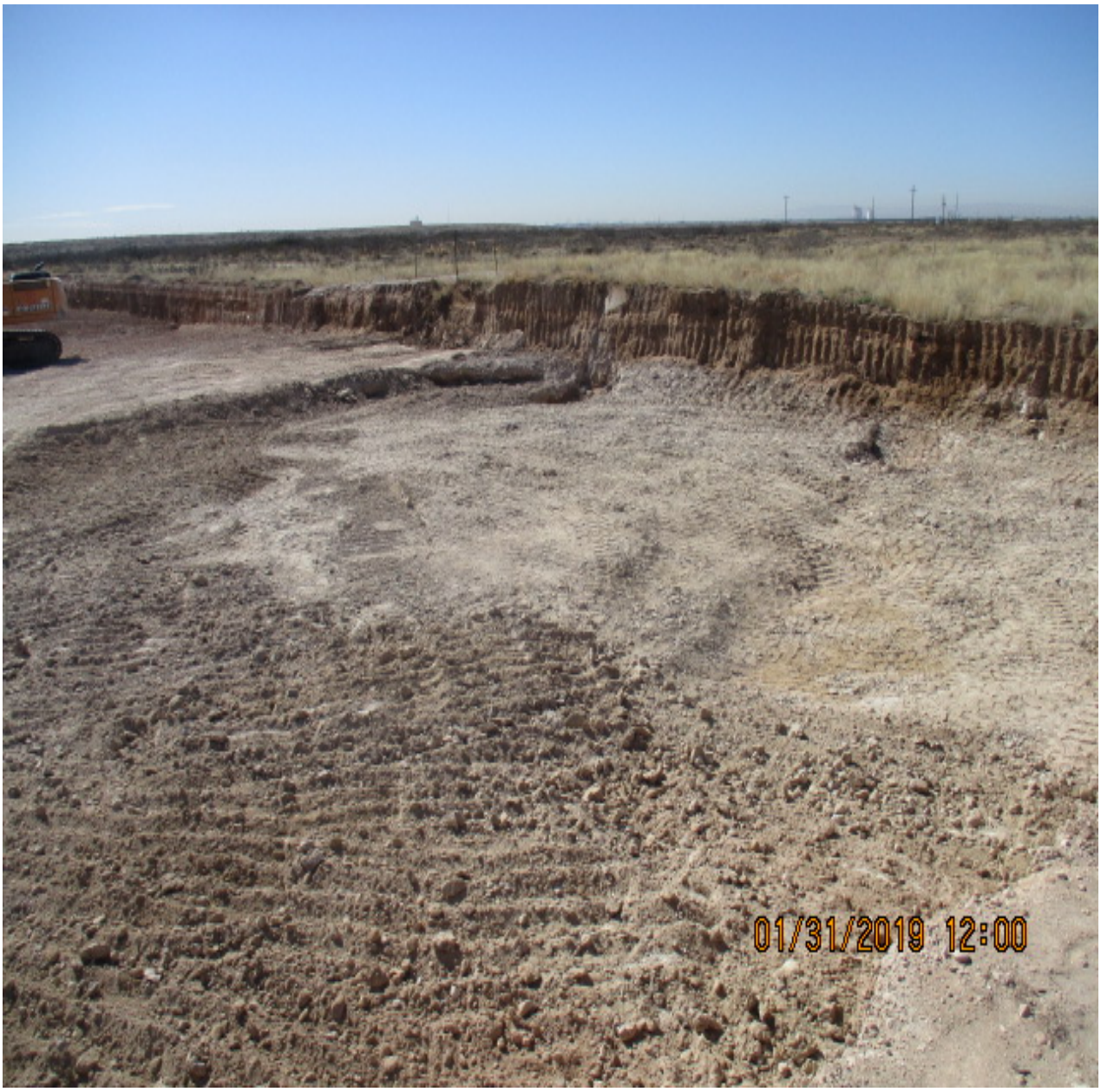
Excavation Area

January 24, 2019

WPX Energy Permian, LLC |LVP SWD #1

Excavation Area

January 31, 2019



WPX Energy Permian, LLC |LVP SWD #1

Excavation Area

January 31, 2019

WPX Energy Permian, LLC |LVP SWD #1

Excavation Area

January 31, 2019

WPX Energy Permian, LLC |LVP SWD #1

Excavation Area

January 31, 2019

WPX Energy Permian, LLC |LVP SWD #1

Excavation Area

January 31, 2019

WPX Energy Permian, LLC |LVP SWD #1

Excavation Area

January 31, 2019

WPX Energy Permian, LLC |LVP SWD #1

Excavation Area

January 31, 2019

WPX Energy Permian, LLC |LVP SWD #1

Excavation Area

February 15, 2019

WPX Energy Permian, LLC |LVP SWD #1

Excavation Area

February 15, 2019

WPX Energy Permian, LLC |LVP SWD #1

Excavation Area

February 15, 2019

WPX Energy Permian, LLC |LVP SWD #1

Excavation Area

February 15, 2019

WPX Energy Permian, LLC |LVP SWD #1

Excavation Area

February 15, 2019

WPX Energy Permian, LLC |LVP SWD #1

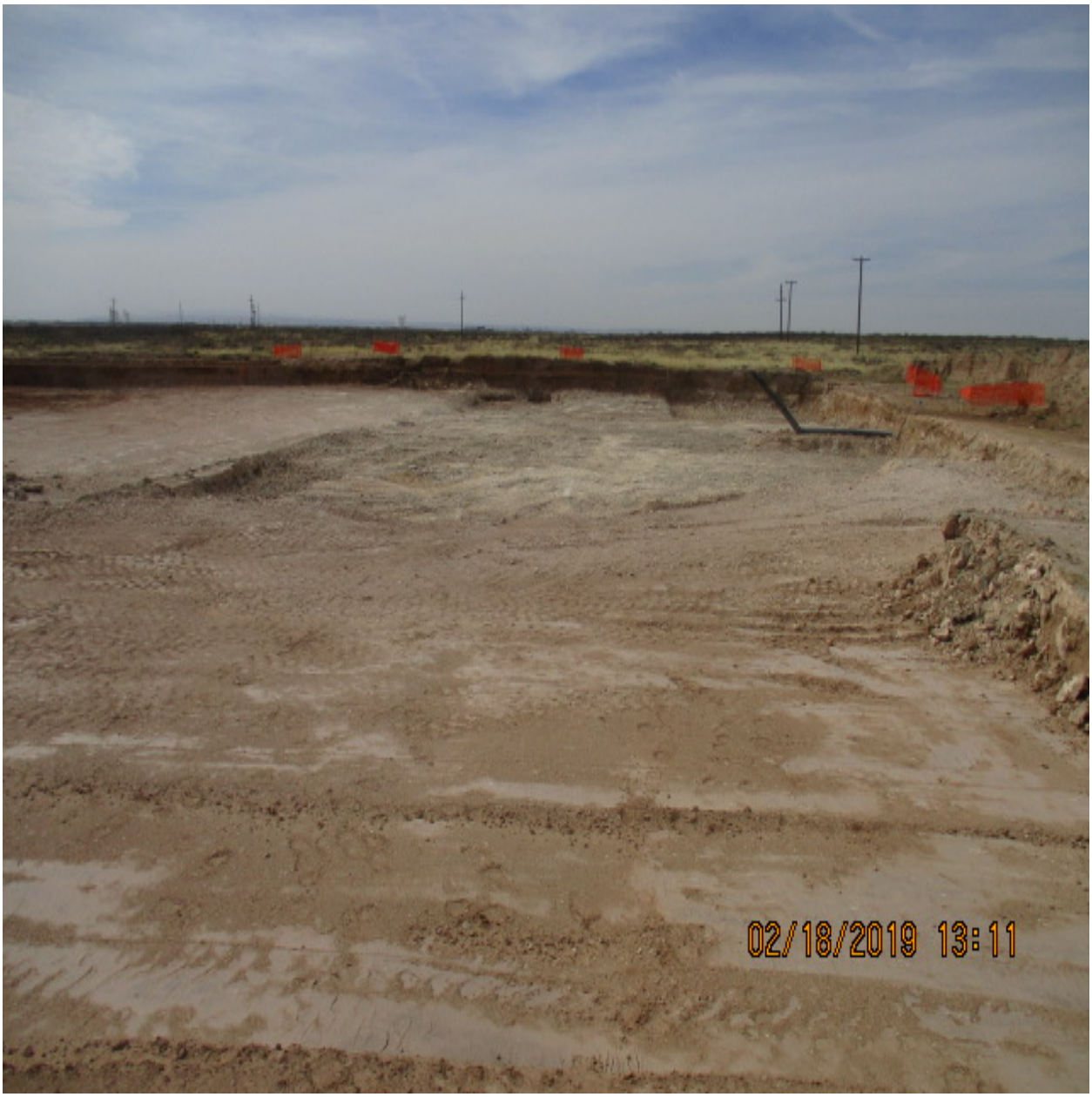
Excavation Area

February 15, 2019

WPX Energy Permian, LLC |LVP SWD #1

Excavation Area

February 18, 2019



WPX Energy Permian, LLC |LVP SWD #1

Excavation Area

February 18, 2019

WPX Energy Permian, LLC |LVP SWD #1

Excavation Area

February 18, 2019

WPX Energy Permian, LLC |LVP SWD #1

Excavation Area

June 27, 2019

WPX Energy Permian, LLC |LVP SWD #1

Excavation Area

June 27, 2019

WPX Energy Permian, LLC |LVP SWD #1

Excavation Area

June 27, 2019

WPX Energy Permian, LLC |LVP SWD #1

Appendix D:
Laboratory Analytical Results

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

March 05, 2019

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

RE: LVP SWD OrderNo.: 1902B92

Dear Kris Rowe:

Hall Environmental Analysis Laboratory received 45 sample(s) on 2/28/2019 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP1
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-001
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	3/1/2019 6:42:16 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/1/2019 6:42:16 PM
Surr: DNOP	91.7	70-130		%Rec	1	3/1/2019 6:42:16 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/1/2019 11:15:47 AM
Surr: BFB	93.5	73.8-119		%Rec	1	3/1/2019 11:15:47 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/1/2019 11:15:47 AM
Toluene	ND	0.049		mg/Kg	1	3/1/2019 11:15:47 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/1/2019 11:15:47 AM
Xylenes, Total	ND	0.098		mg/Kg	1	3/1/2019 11:15:47 AM
Surr: 4-Bromofluorobenzene	89.3	80-120		%Rec	1	3/1/2019 11:15:47 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	ND	60		mg/Kg	20	3/1/2019 2:45:22 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP2
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-002
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	150	9.6		mg/Kg	1	3/1/2019 7:06:28 PM
Motor Oil Range Organics (MRO)	75	48		mg/Kg	1	3/1/2019 7:06:28 PM
Surr: DNOP	120	70-130		%Rec	1	3/1/2019 7:06:28 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/1/2019 12:25:57 PM
Surr: BFB	95.3	73.8-119		%Rec	1	3/1/2019 12:25:57 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/1/2019 12:25:57 PM
Toluene	ND	0.050		mg/Kg	1	3/1/2019 12:25:57 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/1/2019 12:25:57 PM
Xylenes, Total	ND	0.10		mg/Kg	1	3/1/2019 12:25:57 PM
Surr: 4-Bromofluorobenzene	90.8	80-120		%Rec	1	3/1/2019 12:25:57 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	74	60		mg/Kg	20	3/1/2019 3:47:26 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP3
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-003
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/1/2019 7:30:52 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/1/2019 7:30:52 PM
Surr: DNOP	123	70-130		%Rec	1	3/1/2019 7:30:52 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/1/2019 1:36:13 PM
Surr: BFB	95.8	73.8-119		%Rec	1	3/1/2019 1:36:13 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/1/2019 1:36:13 PM
Toluene	ND	0.048		mg/Kg	1	3/1/2019 1:36:13 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/1/2019 1:36:13 PM
Xylenes, Total	ND	0.097		mg/Kg	1	3/1/2019 1:36:13 PM
Surr: 4-Bromofluorobenzene	91.1	80-120		%Rec	1	3/1/2019 1:36:13 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	120	60		mg/Kg	20	3/1/2019 3:59:50 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1902B92-004 **Matrix:** SOIL

Client Sample ID: SP4
Collection Date: 2/27/2019
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/1/2019 7:55:11 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/1/2019 7:55:11 PM
Surr: DNOP	125	70-130		%Rec	1	3/1/2019 7:55:11 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/1/2019 1:59:51 PM
Surr: BFB	95.8	73.8-119		%Rec	1	3/1/2019 1:59:51 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/1/2019 1:59:51 PM
Toluene	ND	0.048		mg/Kg	1	3/1/2019 1:59:51 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/1/2019 1:59:51 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/1/2019 1:59:51 PM
Surr: 4-Bromofluorobenzene	90.9	80-120		%Rec	1	3/1/2019 1:59:51 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	100	60		mg/Kg	20	3/1/2019 4:12:15 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP5
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-005
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/1/2019 11:53:31 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/1/2019 11:53:31 AM
Surr: DNOP	125	70-130		%Rec	1	3/1/2019 11:53:31 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/1/2019 2:23:27 PM
Surr: BFB	93.5	73.8-119		%Rec	1	3/1/2019 2:23:27 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/1/2019 2:23:27 PM
Toluene	ND	0.047		mg/Kg	1	3/1/2019 2:23:27 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/1/2019 2:23:27 PM
Xylenes, Total	ND	0.095		mg/Kg	1	3/1/2019 2:23:27 PM
Surr: 4-Bromofluorobenzene	87.8	80-120		%Rec	1	3/1/2019 2:23:27 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	220	60		mg/Kg	20	3/1/2019 4:24:39 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP6
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-006
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/1/2019 1:05:51 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/1/2019 1:05:51 PM
Surr: DNOP	113	70-130		%Rec	1	3/1/2019 1:05:51 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/1/2019 2:46:55 PM
Surr: BFB	93.1	73.8-119		%Rec	1	3/1/2019 2:46:55 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/1/2019 2:46:55 PM
Toluene	ND	0.048		mg/Kg	1	3/1/2019 2:46:55 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/1/2019 2:46:55 PM
Xylenes, Total	ND	0.095		mg/Kg	1	3/1/2019 2:46:55 PM
Surr: 4-Bromofluorobenzene	87.9	80-120		%Rec	1	3/1/2019 2:46:55 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	260	60		mg/Kg	20	3/1/2019 8:20:24 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP7
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-007
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/1/2019 1:29:52 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/1/2019 1:29:52 PM
Surr: DNOP	95.1	70-130		%Rec	1	3/1/2019 1:29:52 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/1/2019 3:10:18 PM
Surr: BFB	92.9	73.8-119		%Rec	1	3/1/2019 3:10:18 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/1/2019 3:10:18 PM
Toluene	ND	0.050		mg/Kg	1	3/1/2019 3:10:18 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/1/2019 3:10:18 PM
Xylenes, Total	ND	0.10		mg/Kg	1	3/1/2019 3:10:18 PM
Surr: 4-Bromofluorobenzene	88.2	80-120		%Rec	1	3/1/2019 3:10:18 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	ND	60		mg/Kg	20	3/1/2019 8:57:39 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP8
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-008
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	14	9.7		mg/Kg	1	3/1/2019 1:54:01 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/1/2019 1:54:01 PM
Surr: DNOP	122	70-130		%Rec	1	3/1/2019 1:54:01 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/1/2019 7:27:22 PM
Surr: BFB	92.2	73.8-119		%Rec	1	3/1/2019 7:27:22 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/1/2019 7:27:22 PM
Toluene	ND	0.050		mg/Kg	1	3/1/2019 7:27:22 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/1/2019 7:27:22 PM
Xylenes, Total	ND	0.10		mg/Kg	1	3/1/2019 7:27:22 PM
Surr: 4-Bromofluorobenzene	87.1	80-120		%Rec	1	3/1/2019 7:27:22 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	300	60		mg/Kg	20	3/1/2019 9:10:03 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP9
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-009
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/1/2019 2:18:10 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/1/2019 2:18:10 PM
Surr: DNOP	122	70-130		%Rec	1	3/1/2019 2:18:10 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/1/2019 7:50:58 PM
Surr: BFB	92.1	73.8-119		%Rec	1	3/1/2019 7:50:58 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/1/2019 7:50:58 PM
Toluene	ND	0.046		mg/Kg	1	3/1/2019 7:50:58 PM
Ethylbenzene	ND	0.046		mg/Kg	1	3/1/2019 7:50:58 PM
Xylenes, Total	ND	0.092		mg/Kg	1	3/1/2019 7:50:58 PM
Surr: 4-Bromofluorobenzene	87.0	80-120		%Rec	1	3/1/2019 7:50:58 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	ND	60		mg/Kg	20	3/1/2019 9:22:28 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP10
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-010
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/1/2019 2:42:17 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/1/2019 2:42:17 PM
Surr: DNOP	94.5	70-130		%Rec	1	3/1/2019 2:42:17 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/1/2019 8:14:29 PM
Surr: BFB	93.0	73.8-119		%Rec	1	3/1/2019 8:14:29 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/1/2019 8:14:29 PM
Toluene	ND	0.047		mg/Kg	1	3/1/2019 8:14:29 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/1/2019 8:14:29 PM
Xylenes, Total	ND	0.093		mg/Kg	1	3/1/2019 8:14:29 PM
Surr: 4-Bromofluorobenzene	87.5	80-120		%Rec	1	3/1/2019 8:14:29 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	ND	60		mg/Kg	20	3/1/2019 9:34:53 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1902B92-011 **Matrix:** SOIL

Client Sample ID: SP11
Collection Date: 2/27/2019
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	11	9.9		mg/Kg	1	3/1/2019 3:06:26 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/1/2019 3:06:26 PM
Surr: DNOP	119	70-130		%Rec	1	3/1/2019 3:06:26 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/1/2019 8:38:02 PM
Surr: BFB	94.2	73.8-119		%Rec	1	3/1/2019 8:38:02 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/1/2019 8:38:02 PM
Toluene	ND	0.047		mg/Kg	1	3/1/2019 8:38:02 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/1/2019 8:38:02 PM
Xylenes, Total	ND	0.094		mg/Kg	1	3/1/2019 8:38:02 PM
Surr: 4-Bromofluorobenzene	88.4	80-120		%Rec	1	3/1/2019 8:38:02 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	150	60		mg/Kg	20	3/1/2019 9:47:17 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP12
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-012
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	12	9.9		mg/Kg	1	3/1/2019 3:30:30 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/1/2019 3:30:30 PM
Surr: DNOP	119	70-130		%Rec	1	3/1/2019 3:30:30 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/1/2019 9:01:35 PM
Surr: BFB	92.8	73.8-119		%Rec	1	3/1/2019 9:01:35 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/1/2019 9:01:35 PM
Toluene	ND	0.047		mg/Kg	1	3/1/2019 9:01:35 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/1/2019 9:01:35 PM
Xylenes, Total	ND	0.094		mg/Kg	1	3/1/2019 9:01:35 PM
Surr: 4-Bromofluorobenzene	88.2	80-120		%Rec	1	3/1/2019 9:01:35 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	310	60		mg/Kg	20	3/1/2019 9:59:42 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1902B92-013 **Matrix:** SOIL

Client Sample ID: SP13
Collection Date: 2/27/2019
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	3/1/2019 3:54:36 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/1/2019 3:54:36 PM
Surr: DNOP	97.3	70-130		%Rec	1	3/1/2019 3:54:36 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/1/2019 9:25:18 PM
Surr: BFB	91.7	73.8-119		%Rec	1	3/1/2019 9:25:18 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/1/2019 9:25:18 PM
Toluene	ND	0.050		mg/Kg	1	3/1/2019 9:25:18 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/1/2019 9:25:18 PM
Xylenes, Total	ND	0.10		mg/Kg	1	3/1/2019 9:25:18 PM
Surr: 4-Bromofluorobenzene	86.8	80-120		%Rec	1	3/1/2019 9:25:18 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	ND	60		mg/Kg	20	3/1/2019 10:36:56 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1902B92-014 **Matrix:** SOIL

Client Sample ID: SP14
Collection Date: 2/27/2019
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/1/2019 4:18:39 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/1/2019 4:18:39 PM
Surr: DNOP	104	70-130		%Rec	1	3/1/2019 4:18:39 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/1/2019 9:48:51 PM
Surr: BFB	92.8	73.8-119		%Rec	1	3/1/2019 9:48:51 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/1/2019 9:48:51 PM
Toluene	ND	0.049		mg/Kg	1	3/1/2019 9:48:51 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/1/2019 9:48:51 PM
Xylenes, Total	ND	0.097		mg/Kg	1	3/1/2019 9:48:51 PM
Surr: 4-Bromofluorobenzene	87.0	80-120		%Rec	1	3/1/2019 9:48:51 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	320	60		mg/Kg	20	3/1/2019 10:49:20 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP15
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-015
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/1/2019 4:42:42 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/1/2019 4:42:42 PM
Surr: DNOP	125	70-130		%Rec	1	3/1/2019 4:42:42 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/1/2019 10:12:20 PM
Surr: BFB	94.0	73.8-119		%Rec	1	3/1/2019 10:12:20 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/1/2019 10:12:20 PM
Toluene	ND	0.047		mg/Kg	1	3/1/2019 10:12:20 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/1/2019 10:12:20 PM
Xylenes, Total	ND	0.095		mg/Kg	1	3/1/2019 10:12:20 PM
Surr: 4-Bromofluorobenzene	88.3	80-120		%Rec	1	3/1/2019 10:12:20 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	470	60		mg/Kg	20	3/1/2019 11:01:44 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP16
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-016
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	3/1/2019 5:06:43 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/1/2019 5:06:43 PM
Surr: DNOP	133	70-130	S	%Rec	1	3/1/2019 5:06:43 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/1/2019 10:36:00 PM
Surr: BFB	95.2	73.8-119		%Rec	1	3/1/2019 10:36:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/1/2019 10:36:00 PM
Toluene	ND	0.046		mg/Kg	1	3/1/2019 10:36:00 PM
Ethylbenzene	ND	0.046		mg/Kg	1	3/1/2019 10:36:00 PM
Xylenes, Total	ND	0.092		mg/Kg	1	3/1/2019 10:36:00 PM
Surr: 4-Bromofluorobenzene	89.4	80-120		%Rec	1	3/1/2019 10:36:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	84	61		mg/Kg	20	3/1/2019 7:49:14 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP17
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-017
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	350	9.7		mg/Kg	1	3/1/2019 5:30:48 PM
Motor Oil Range Organics (MRO)	170	48		mg/Kg	1	3/1/2019 5:30:48 PM
Surr: DNOP	108	70-130		%Rec	1	3/1/2019 5:30:48 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/1/2019 10:59:36 PM
Surr: BFB	94.6	73.8-119		%Rec	1	3/1/2019 10:59:36 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/1/2019 10:59:36 PM
Toluene	ND	0.047		mg/Kg	1	3/1/2019 10:59:36 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/1/2019 10:59:36 PM
Xylenes, Total	ND	0.094		mg/Kg	1	3/1/2019 10:59:36 PM
Surr: 4-Bromofluorobenzene	89.4	80-120		%Rec	1	3/1/2019 10:59:36 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	83	60		mg/Kg	20	3/1/2019 8:51:19 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP18
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-018
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	68	10		mg/Kg	1	3/4/2019 11:11:38 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/4/2019 11:11:38 AM
Surr: DNOP	106	70-130		%Rec	1	3/4/2019 11:11:38 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/2/2019 12:33:35 AM
Surr: BFB	94.9	73.8-119		%Rec	1	3/2/2019 12:33:35 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/2/2019 12:33:35 AM
Toluene	ND	0.049		mg/Kg	1	3/2/2019 12:33:35 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/2/2019 12:33:35 AM
Xylenes, Total	ND	0.098		mg/Kg	1	3/2/2019 12:33:35 AM
Surr: 4-Bromofluorobenzene	89.6	80-120		%Rec	1	3/2/2019 12:33:35 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	140	60		mg/Kg	20	3/1/2019 9:03:43 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP19
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-019
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	17	9.8		mg/Kg	1	3/1/2019 6:19:13 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/1/2019 6:19:13 PM
Surr: DNOP	127	70-130		%Rec	1	3/1/2019 6:19:13 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/2/2019 12:57:08 AM
Surr: BFB	92.6	73.8-119		%Rec	1	3/2/2019 12:57:08 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/2/2019 12:57:08 AM
Toluene	ND	0.048		mg/Kg	1	3/2/2019 12:57:08 AM
Ethylbenzene	ND	0.048		mg/Kg	1	3/2/2019 12:57:08 AM
Xylenes, Total	ND	0.096		mg/Kg	1	3/2/2019 12:57:08 AM
Surr: 4-Bromofluorobenzene	88.3	80-120		%Rec	1	3/2/2019 12:57:08 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	310	60		mg/Kg	20	3/1/2019 9:16:07 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1902B92-020 **Matrix:** SOIL

Client Sample ID: SP20
Collection Date: 2/27/2019
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/1/2019 6:43:19 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/1/2019 6:43:19 PM
Surr: DNOP	121	70-130		%Rec	1	3/1/2019 6:43:19 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/1/2019 3:33:34 PM
Surr: BFB	94.3	73.8-119		%Rec	1	3/1/2019 3:33:34 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/1/2019 3:33:34 PM
Toluene	ND	0.046		mg/Kg	1	3/1/2019 3:33:34 PM
Ethylbenzene	ND	0.046		mg/Kg	1	3/1/2019 3:33:34 PM
Xylenes, Total	ND	0.093		mg/Kg	1	3/1/2019 3:33:34 PM
Surr: 4-Bromofluorobenzene	88.2	80-120		%Rec	1	3/1/2019 3:33:34 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	ND	60		mg/Kg	20	3/1/2019 9:28:32 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP21
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-021
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	14	9.9		mg/Kg	1	3/1/2019 7:07:23 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/1/2019 7:07:23 PM
Surr: DNOP	115	70-130		%Rec	1	3/1/2019 7:07:23 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/1/2019 4:43:23 PM
Surr: BFB	94.3	73.8-119		%Rec	1	3/1/2019 4:43:23 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/1/2019 4:43:23 PM
Toluene	ND	0.049		mg/Kg	1	3/1/2019 4:43:23 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/1/2019 4:43:23 PM
Xylenes, Total	ND	0.097		mg/Kg	1	3/1/2019 4:43:23 PM
Surr: 4-Bromofluorobenzene	89.1	80-120		%Rec	1	3/1/2019 4:43:23 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	100	60		mg/Kg	20	3/1/2019 9:40:57 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP22
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-022
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/1/2019 7:31:25 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/1/2019 7:31:25 PM
Surr: DNOP	103	70-130		%Rec	1	3/1/2019 7:31:25 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/2/2019 1:20:41 AM
Surr: BFB	96.0	73.8-119		%Rec	1	3/2/2019 1:20:41 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/2/2019 1:20:41 AM
Toluene	ND	0.049		mg/Kg	1	3/2/2019 1:20:41 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/2/2019 1:20:41 AM
Xylenes, Total	ND	0.098		mg/Kg	1	3/2/2019 1:20:41 AM
Surr: 4-Bromofluorobenzene	90.3	80-120		%Rec	1	3/2/2019 1:20:41 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	85	60		mg/Kg	20	3/1/2019 9:53:21 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP23
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-023
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/1/2019 7:55:28 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/1/2019 7:55:28 PM
Surr: DNOP	113	70-130		%Rec	1	3/1/2019 7:55:28 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/2/2019 1:44:12 AM
Surr: BFB	95.1	73.8-119		%Rec	1	3/2/2019 1:44:12 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/2/2019 1:44:12 AM
Toluene	ND	0.049		mg/Kg	1	3/2/2019 1:44:12 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/2/2019 1:44:12 AM
Xylenes, Total	ND	0.098		mg/Kg	1	3/2/2019 1:44:12 AM
Surr: 4-Bromofluorobenzene	89.5	80-120		%Rec	1	3/2/2019 1:44:12 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	560	60		mg/Kg	20	3/1/2019 10:55:24 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP24
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-024
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/1/2019 8:19:24 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/1/2019 8:19:24 PM
Surr: DNOP	92.6	70-130		%Rec	1	3/1/2019 8:19:24 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/2/2019 2:07:44 AM
Surr: BFB	94.5	73.8-119		%Rec	1	3/2/2019 2:07:44 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/2/2019 2:07:44 AM
Toluene	ND	0.049		mg/Kg	1	3/2/2019 2:07:44 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/2/2019 2:07:44 AM
Xylenes, Total	ND	0.098		mg/Kg	1	3/2/2019 2:07:44 AM
Surr: 4-Bromofluorobenzene	89.1	80-120		%Rec	1	3/2/2019 2:07:44 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	520	59		mg/Kg	20	3/1/2019 11:07:49 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP25
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-025
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/1/2019 9:07:14 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/1/2019 9:07:14 PM
Surr: DNOP	106	70-130		%Rec	1	3/1/2019 9:07:14 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/2/2019 2:31:17 AM
Surr: BFB	95.5	73.8-119		%Rec	1	3/2/2019 2:31:17 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/2/2019 2:31:17 AM
Toluene	ND	0.048		mg/Kg	1	3/2/2019 2:31:17 AM
Ethylbenzene	ND	0.048		mg/Kg	1	3/2/2019 2:31:17 AM
Xylenes, Total	ND	0.096		mg/Kg	1	3/2/2019 2:31:17 AM
Surr: 4-Bromofluorobenzene	90.0	80-120		%Rec	1	3/2/2019 2:31:17 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	500	61		mg/Kg	20	3/1/2019 11:20:14 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1902B92-026 **Matrix:** SOIL

Client Sample ID: SP26
Collection Date: 2/27/2019
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/1/2019 10:18:49 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/1/2019 10:18:49 PM
Surr: DNOP	91.8	70-130		%Rec	1	3/1/2019 10:18:49 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/2/2019 2:54:47 AM
Surr: BFB	93.1	73.8-119		%Rec	1	3/2/2019 2:54:47 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/2/2019 2:54:47 AM
Toluene	ND	0.048		mg/Kg	1	3/2/2019 2:54:47 AM
Ethylbenzene	ND	0.048		mg/Kg	1	3/2/2019 2:54:47 AM
Xylenes, Total	ND	0.096		mg/Kg	1	3/2/2019 2:54:47 AM
Surr: 4-Bromofluorobenzene	87.7	80-120		%Rec	1	3/2/2019 2:54:47 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	580	60		mg/Kg	20	3/1/2019 11:32:39 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP27
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-027
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/1/2019 10:42:40 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/1/2019 10:42:40 PM
Surr: DNOP	109	70-130		%Rec	1	3/1/2019 10:42:40 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/2/2019 3:18:18 AM
Surr: BFB	93.4	73.8-119		%Rec	1	3/2/2019 3:18:18 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/2/2019 3:18:18 AM
Toluene	ND	0.049		mg/Kg	1	3/2/2019 3:18:18 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/2/2019 3:18:18 AM
Xylenes, Total	ND	0.098		mg/Kg	1	3/2/2019 3:18:18 AM
Surr: 4-Bromofluorobenzene	87.2	80-120		%Rec	1	3/2/2019 3:18:18 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	110	60		mg/Kg	20	3/1/2019 11:45:03 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP28
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-028
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	3/1/2019 11:06:29 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/1/2019 11:06:29 PM
Surr: DNOP	106	70-130		%Rec	1	3/1/2019 11:06:29 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/2/2019 3:41:53 AM
Surr: BFB	95.7	73.8-119		%Rec	1	3/2/2019 3:41:53 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/2/2019 3:41:53 AM
Toluene	ND	0.049		mg/Kg	1	3/2/2019 3:41:53 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/2/2019 3:41:53 AM
Xylenes, Total	ND	0.099		mg/Kg	1	3/2/2019 3:41:53 AM
Surr: 4-Bromofluorobenzene	90.2	80-120		%Rec	1	3/2/2019 3:41:53 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	660	60		mg/Kg	20	3/1/2019 11:57:28 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP29
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-029
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/1/2019 11:30:18 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/1/2019 11:30:18 PM
Surr: DNOP	134	70-130	S	%Rec	1	3/1/2019 11:30:18 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/2/2019 4:05:23 AM
Surr: BFB	93.5	73.8-119		%Rec	1	3/2/2019 4:05:23 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/2/2019 4:05:23 AM
Toluene	ND	0.050		mg/Kg	1	3/2/2019 4:05:23 AM
Ethylbenzene	ND	0.050		mg/Kg	1	3/2/2019 4:05:23 AM
Xylenes, Total	ND	0.10		mg/Kg	1	3/2/2019 4:05:23 AM
Surr: 4-Bromofluorobenzene	87.7	80-120		%Rec	1	3/2/2019 4:05:23 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	71	60		mg/Kg	20	3/2/2019 12:09:52 AM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1902B92-030 **Matrix:** SOIL

Client Sample ID: SP30
Collection Date: 2/27/2019
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/1/2019 11:54:05 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/1/2019 11:54:05 PM
Surr: DNOP	99.3	70-130		%Rec	1	3/1/2019 11:54:05 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/2/2019 5:02:32 PM
Surr: BFB	96.3	73.8-119		%Rec	1	3/2/2019 5:02:32 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/2/2019 5:02:32 PM
Toluene	ND	0.048		mg/Kg	1	3/2/2019 5:02:32 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/2/2019 5:02:32 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/2/2019 5:02:32 PM
Surr: 4-Bromofluorobenzene	89.3	80-120		%Rec	1	3/2/2019 5:02:32 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	400	60		mg/Kg	20	3/2/2019 12:22:17 AM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP31
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-031
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/2/2019 12:17:50 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/2/2019 12:17:50 AM
Surr: DNOP	109	70-130		%Rec	1	3/2/2019 12:17:50 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/2/2019 5:25:49 PM
Surr: BFB	94.8	73.8-119		%Rec	1	3/2/2019 5:25:49 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/2/2019 5:25:49 PM
Toluene	ND	0.050		mg/Kg	1	3/2/2019 5:25:49 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/2/2019 5:25:49 PM
Xylenes, Total	ND	0.10		mg/Kg	1	3/2/2019 5:25:49 PM
Surr: 4-Bromofluorobenzene	88.1	80-120		%Rec	1	3/2/2019 5:25:49 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	390	61		mg/Kg	20	3/2/2019 12:34:42 AM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1902B92-032 **Matrix:** SOIL

Client Sample ID: SP32
Collection Date: 2/27/2019
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/2/2019 12:41:35 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/2/2019 12:41:35 AM
Surr: DNOP	105	70-130		%Rec	1	3/2/2019 12:41:35 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/2/2019 5:49:11 PM
Surr: BFB	94.6	73.8-119		%Rec	1	3/2/2019 5:49:11 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/2/2019 5:49:11 PM
Toluene	ND	0.049		mg/Kg	1	3/2/2019 5:49:11 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/2/2019 5:49:11 PM
Xylenes, Total	ND	0.098		mg/Kg	1	3/2/2019 5:49:11 PM
Surr: 4-Bromofluorobenzene	88.7	80-120		%Rec	1	3/2/2019 5:49:11 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	440	60		mg/Kg	20	3/2/2019 12:47:07 AM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP33
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-033
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/2/2019 1:05:19 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/2/2019 1:05:19 AM
Surr: DNOP	138	70-130	S	%Rec	1	3/2/2019 1:05:19 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/2/2019 6:12:37 PM
Surr: BFB	93.8	73.8-119		%Rec	1	3/2/2019 6:12:37 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/2/2019 6:12:37 PM
Toluene	ND	0.049		mg/Kg	1	3/2/2019 6:12:37 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/2/2019 6:12:37 PM
Xylenes, Total	ND	0.097		mg/Kg	1	3/2/2019 6:12:37 PM
Surr: 4-Bromofluorobenzene	87.6	80-120		%Rec	1	3/2/2019 6:12:37 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	ND	60		mg/Kg	20	3/2/2019 1:24:21 AM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP34
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-034
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/2/2019 1:29:04 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/2/2019 1:29:04 AM
Surr: DNOP	110	70-130		%Rec	1	3/2/2019 1:29:04 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/2/2019 6:36:02 PM
Surr: BFB	94.0	73.8-119		%Rec	1	3/2/2019 6:36:02 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/2/2019 6:36:02 PM
Toluene	ND	0.047		mg/Kg	1	3/2/2019 6:36:02 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/2/2019 6:36:02 PM
Xylenes, Total	ND	0.093		mg/Kg	1	3/2/2019 6:36:02 PM
Surr: 4-Bromofluorobenzene	88.0	80-120		%Rec	1	3/2/2019 6:36:02 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	ND	60		mg/Kg	20	3/2/2019 1:36:45 AM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP35
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-035
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/2/2019 1:52:49 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/2/2019 1:52:49 AM
Surr: DNOP	133	70-130	S	%Rec	1	3/2/2019 1:52:49 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/2/2019 6:59:22 PM
Surr: BFB	95.0	73.8-119		%Rec	1	3/2/2019 6:59:22 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/2/2019 6:59:22 PM
Toluene	ND	0.047		mg/Kg	1	3/2/2019 6:59:22 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/2/2019 6:59:22 PM
Xylenes, Total	ND	0.095		mg/Kg	1	3/2/2019 6:59:22 PM
Surr: 4-Bromofluorobenzene	88.6	80-120		%Rec	1	3/2/2019 6:59:22 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	130	60		mg/Kg	20	3/2/2019 1:49:09 AM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1902B92-036 **Matrix:** SOIL

Client Sample ID: SP36
Collection Date: 2/27/2019
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	44	9.8		mg/Kg	1	3/2/2019 2:16:31 AM
Motor Oil Range Organics (MRO)	110	49		mg/Kg	1	3/2/2019 2:16:31 AM
Surr: DNOP	120	70-130		%Rec	1	3/2/2019 2:16:31 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/2/2019 7:22:48 PM
Surr: BFB	95.0	73.8-119		%Rec	1	3/2/2019 7:22:48 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/2/2019 7:22:48 PM
Toluene	ND	0.050		mg/Kg	1	3/2/2019 7:22:48 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/2/2019 7:22:48 PM
Xylenes, Total	ND	0.10		mg/Kg	1	3/2/2019 7:22:48 PM
Surr: 4-Bromofluorobenzene	89.9	80-120		%Rec	1	3/2/2019 7:22:48 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	530	60		mg/Kg	20	3/1/2019 11:38:59 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP37
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-037
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	3/2/2019 2:40:15 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/2/2019 2:40:15 AM
Surr: DNOP	98.9	70-130		%Rec	1	3/2/2019 2:40:15 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/2/2019 7:46:10 PM
Surr: BFB	96.7	73.8-119		%Rec	1	3/2/2019 7:46:10 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/2/2019 7:46:10 PM
Toluene	ND	0.048		mg/Kg	1	3/2/2019 7:46:10 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/2/2019 7:46:10 PM
Xylenes, Total	ND	0.097		mg/Kg	1	3/2/2019 7:46:10 PM
Surr: 4-Bromofluorobenzene	91.2	80-120		%Rec	1	3/2/2019 7:46:10 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	90	60		mg/Kg	20	3/2/2019 12:16:13 AM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP38
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-038
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	3/2/2019 3:03:56 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/2/2019 3:03:56 AM
Surr: DNOP	93.3	70-130		%Rec	1	3/2/2019 3:03:56 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/2/2019 9:43:25 PM
Surr: BFB	97.0	73.8-119		%Rec	1	3/2/2019 9:43:25 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/2/2019 9:43:25 PM
Toluene	ND	0.049		mg/Kg	1	3/2/2019 9:43:25 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/2/2019 9:43:25 PM
Xylenes, Total	ND	0.098		mg/Kg	1	3/2/2019 9:43:25 PM
Surr: 4-Bromofluorobenzene	91.1	80-120		%Rec	1	3/2/2019 9:43:25 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	270	60		mg/Kg	20	3/2/2019 12:28:37 AM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP39
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-039
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/2/2019 3:27:38 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/2/2019 3:27:38 AM
Surr: DNOP	100	70-130		%Rec	1	3/2/2019 3:27:38 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/2/2019 10:07:02 PM
Surr: BFB	93.4	73.8-119		%Rec	1	3/2/2019 10:07:02 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/2/2019 10:07:02 PM
Toluene	ND	0.048		mg/Kg	1	3/2/2019 10:07:02 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/2/2019 10:07:02 PM
Xylenes, Total	ND	0.097		mg/Kg	1	3/2/2019 10:07:02 PM
Surr: 4-Bromofluorobenzene	87.6	80-120		%Rec	1	3/2/2019 10:07:02 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	360	60		mg/Kg	20	3/2/2019 1:05:52 AM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1902B92-040 **Matrix:** SOIL

Client Sample ID: SP40
Collection Date: 2/27/2019
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/2/2019 3:51:20 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/2/2019 3:51:20 AM
Surr: DNOP	125	70-130		%Rec	1	3/2/2019 3:51:20 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/1/2019 5:14:20 PM
Surr: BFB	92.5	73.8-119		%Rec	1	3/1/2019 5:14:20 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/1/2019 5:14:20 PM
Toluene	ND	0.050		mg/Kg	1	3/1/2019 5:14:20 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/1/2019 5:14:20 PM
Xylenes, Total	ND	0.099		mg/Kg	1	3/1/2019 5:14:20 PM
Surr: 4-Bromofluorobenzene	99.2	80-120		%Rec	1	3/1/2019 5:14:20 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	750	60		mg/Kg	20	3/2/2019 1:18:16 AM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1902B92-041 **Matrix:** SOIL

Client Sample ID: SP41
Collection Date: 2/27/2019
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	3/2/2019 4:15:01 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/2/2019 4:15:01 AM
Surr: DNOP	104	70-130		%Rec	1	3/2/2019 4:15:01 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/1/2019 6:23:02 PM
Surr: BFB	90.1	73.8-119		%Rec	1	3/1/2019 6:23:02 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/1/2019 6:23:02 PM
Toluene	ND	0.048		mg/Kg	1	3/1/2019 6:23:02 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/1/2019 6:23:02 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/1/2019 6:23:02 PM
Surr: 4-Bromofluorobenzene	96.5	80-120		%Rec	1	3/1/2019 6:23:02 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	98	60		mg/Kg	20	3/2/2019 1:30:41 AM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP42
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-042
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/2/2019 4:38:42 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/2/2019 4:38:42 AM
Surr: DNOP	106	70-130		%Rec	1	3/2/2019 4:38:42 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/1/2019 11:42:17 PM
Surr: BFB	89.9	73.8-119		%Rec	1	3/1/2019 11:42:17 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/1/2019 11:42:17 PM
Toluene	ND	0.047		mg/Kg	1	3/1/2019 11:42:17 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/1/2019 11:42:17 PM
Xylenes, Total	ND	0.093		mg/Kg	1	3/1/2019 11:42:17 PM
Surr: 4-Bromofluorobenzene	94.2	80-120		%Rec	1	3/1/2019 11:42:17 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	77	60		mg/Kg	20	3/2/2019 1:43:06 AM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP43
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-043
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/2/2019 5:02:24 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/2/2019 5:02:24 AM
Surr: DNOP	122	70-130		%Rec	1	3/2/2019 5:02:24 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/2/2019 12:05:04 AM
Surr: BFB	92.9	73.8-119		%Rec	1	3/2/2019 12:05:04 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/2/2019 12:05:04 AM
Toluene	ND	0.046		mg/Kg	1	3/2/2019 12:05:04 AM
Ethylbenzene	ND	0.046		mg/Kg	1	3/2/2019 12:05:04 AM
Xylenes, Total	ND	0.093		mg/Kg	1	3/2/2019 12:05:04 AM
Surr: 4-Bromofluorobenzene	96.8	80-120		%Rec	1	3/2/2019 12:05:04 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	130	61		mg/Kg	20	3/2/2019 1:55:30 AM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP44
Project: LVP SWD
Collection Date: 2/27/2019
Lab ID: 1902B92-044
Matrix: SOIL
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/2/2019 5:26:06 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/2/2019 5:26:06 AM
Surr: DNOP	96.5	70-130		%Rec	1	3/2/2019 5:26:06 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/2/2019 12:27:49 AM
Surr: BFB	93.8	73.8-119		%Rec	1	3/2/2019 12:27:49 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/2/2019 12:27:49 AM
Toluene	ND	0.046		mg/Kg	1	3/2/2019 12:27:49 AM
Ethylbenzene	ND	0.046		mg/Kg	1	3/2/2019 12:27:49 AM
Xylenes, Total	ND	0.093		mg/Kg	1	3/2/2019 12:27:49 AM
Surr: 4-Bromofluorobenzene	97.8	80-120		%Rec	1	3/2/2019 12:27:49 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	63	60		mg/Kg	20	3/2/2019 2:07:55 AM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1902B92**
Date Reported: **3/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1902B92-045 **Matrix:** SOIL

Client Sample ID: SP45
Collection Date: 2/27/2019
Received Date: 2/28/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/1/2019 9:56:13 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/1/2019 9:56:13 PM
Surr: DNOP	95.0	70-130		%Rec	1	3/1/2019 9:56:13 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/2/2019 1:58:56 AM
Surr: BFB	94.9	73.8-119		%Rec	1	3/2/2019 1:58:56 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/2/2019 1:58:56 AM
Toluene	ND	0.048		mg/Kg	1	3/2/2019 1:58:56 AM
Ethylbenzene	ND	0.048		mg/Kg	1	3/2/2019 1:58:56 AM
Xylenes, Total	ND	0.097		mg/Kg	1	3/2/2019 1:58:56 AM
Surr: 4-Bromofluorobenzene	98.2	80-120		%Rec	1	3/2/2019 1:58:56 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	130	60		mg/Kg	20	3/2/2019 2:20:19 AM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1902B92**
05-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-43454** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **43454** RunNo: **58059**
Prep Date: **3/1/2019** Analysis Date: **3/1/2019** SeqNo: **1945532** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-43454** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **43454** RunNo: **58059**
Prep Date: **3/1/2019** Analysis Date: **3/1/2019** SeqNo: **1945533** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.8	90	110			

Sample ID: **MB-43441** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **43441** RunNo: **58054**
Prep Date: **3/1/2019** Analysis Date: **3/1/2019** SeqNo: **1945592** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-43441** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **43441** RunNo: **58054**
Prep Date: **3/1/2019** Analysis Date: **3/1/2019** SeqNo: **1945593** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.8	90	110			

Sample ID: **MB-43449** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **43449** RunNo: **58054**
Prep Date: **3/1/2019** Analysis Date: **3/1/2019** SeqNo: **1945622** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-43449** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **43449** RunNo: **58054**
Prep Date: **3/1/2019** Analysis Date: **3/1/2019** SeqNo: **1945623** 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			

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1902B92**
05-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-43456** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **43456** RunNo: **58054**
Prep Date: **3/1/2019** Analysis Date: **3/1/2019** SeqNo: **1945654** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-43456** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **43456** RunNo: **58054**
Prep Date: **3/1/2019** Analysis Date: **3/1/2019** SeqNo: **1945655** 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.	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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1902B92**
05-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **LCS-43407** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **43407** RunNo: **58029**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1944671** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	105	63.9	124			
Surr: DNOP	5.1		5.000		102	70	130			

Sample ID: **MB-43407** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **43407** RunNo: **58029**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1944672** 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		120	70	130			

Sample ID: **MB-43435** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **43435** RunNo: **58029**
Prep Date: **3/1/2019** Analysis Date: **3/1/2019** SeqNo: **1944687** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.1		10.00		91.4	70	130			

Sample ID: **LCS-43405** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **43405** RunNo: **58030**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945112** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	92.0	63.9	124			
Surr: DNOP	4.9		5.000		97.4	70	130			

Sample ID: **MB-43405** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **43405** RunNo: **58030**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945113** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		113	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1902B92**
05-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **LCS-43435** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **43435** RunNo: **58029**
Prep Date: **3/1/2019** Analysis Date: **3/1/2019** SeqNo: **1945196** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.5		5.000		89.8	70	130			

Sample ID: **1902B92-004AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP4** Batch ID: **43405** RunNo: **58030**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1946261** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	56	9.7	48.64	4.629	105	53.5	126			
Surr: DNOP	5.4		4.864		112	70	130			

Sample ID: **1902B92-004AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP4** Batch ID: **43405** RunNo: **58030**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1946262** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	49.80	4.629	96.3	53.5	126	5.79	21.7	
Surr: DNOP	5.2		4.980		105	70	130	0	0	

Sample ID: **1902B92-045AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP45** Batch ID: **43408** RunNo: **58030**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1946277** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	9.5	47.66	3.286	89.2	53.5	126			
Surr: DNOP	4.5		4.766		94.1	70	130			

Sample ID: **1902B92-045AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP45** Batch ID: **43408** RunNo: **58030**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1946278** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	9.5	47.39	3.286	84.4	53.5	126	5.67	21.7	
Surr: DNOP	4.4		4.739		93.1	70	130	0	0	

Sample ID: **LCS-43408** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **43408** RunNo: **58030**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1946279** 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	108	63.9	124			

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1902B92**
05-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **LCS-43408** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **43408** RunNo: **58030**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1946279** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.5		5.000		111	70	130			

Sample ID: **MB-43408** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **43408** RunNo: **58030**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1946280** 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		118	70	130			

Sample ID: **MB-43406** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **43406** RunNo: **58083**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1947125** 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		119	70	130			

Sample ID: **LCS-43406** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **43406** RunNo: **58083**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1947143** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	61	10	50.00	0	123	63.9	124			
Surr: DNOP	6.2		5.000		124	70	130			

Sample ID: **1902B92-005AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP5** Batch ID: **43406** RunNo: **58083**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1947244** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	55	9.9	49.41	2.951	105	53.5	126			
Surr: DNOP	5.6		4.941		114	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1902B92**
05-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **1902B92-005AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP5** Batch ID: **43406** RunNo: **58083**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1947245** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	9.9	49.36	2.951	97.9	53.5	126	6.82	21.7	
Surr: DNOP	5.6		4.936		113	70	130	0	0	

Sample ID: **1902B92-025AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP25** Batch ID: **43407** RunNo: **58083**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1947246** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	64	9.1	45.62	2.598	136	53.5	126			S
Surr: DNOP	6.5		4.562		142	70	130			S

Sample ID: **1902B92-025AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP25** Batch ID: **43407** RunNo: **58083**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1947247** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.7	48.40	2.598	88.0	53.5	126	35.2	21.7	R
Surr: DNOP	4.6		4.840		94.6	70	130	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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1902B92**
05-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-43403** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **43403** RunNo: **58044**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945345** 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		92.6	73.8	119			

Sample ID: **LCS-43403** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **43403** RunNo: **58044**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945346** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	100	80.1	123			
Surr: BFB	1100		1000		112	73.8	119			

Sample ID: **1902B92-040AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP40** Batch ID: **43403** RunNo: **58044**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945357** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	24.95	0	101	69.1	142			
Surr: BFB	1100		998.0		109	73.8	119			

Sample ID: **1902B92-040AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP40** Batch ID: **43403** RunNo: **58044**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945358** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.8	23.99	0	107	69.1	142	1.94	20	
Surr: BFB	1000		959.7		108	73.8	119	0	0	

Sample ID: **MB-43401** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **43401** RunNo: **58043**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945398** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	980		1000		98.0	73.8	119			

Sample ID: **LCS-43401** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **43401** RunNo: **58043**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945399** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1902B92**
05-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **LCS-43401** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **43401** RunNo: **58043**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945399** 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	104	80.1	123			
Surr: BFB	1100		1000		108	73.8	119			

Sample ID: **1902B92-001AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP1** Batch ID: **43401** RunNo: **58043**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945401** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.9	24.56	0	107	69.1	142			
Surr: BFB	1000		982.3		106	73.8	119			

Sample ID: **1902B92-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP1** Batch ID: **43401** RunNo: **58043**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945402** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.7	23.72	0	115	69.1	142	3.36	20	
Surr: BFB	1000		948.8		110	73.8	119	0	0	

Sample ID: **MB-43402** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **43402** RunNo: **58043**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945421** 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		95.4	73.8	119			

Sample ID: **LCS-43402** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **43402** RunNo: **58043**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945422** 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	105	80.1	123			
Surr: BFB	1200		1000		115	73.8	119			

Sample ID: **1902B92-020AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP20** Batch ID: **43402** RunNo: **58043**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945424** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1902B92**
05-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **1902B92-020AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP20** Batch ID: **43402** RunNo: **58043**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945424** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	4.8	24.11	0	118	69.1	142			
Surr: BFB	1000		964.3		109	73.8	119			

Sample ID: **1902B92-020AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP20** Batch ID: **43402** RunNo: **58043**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945425** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.8	24.13	0	112	69.1	142	4.76	20	
Surr: BFB	1100		965.3		110	73.8	119	0	0	

Sample ID: **MB-43429** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **43429** RunNo: **58062**
Prep Date: **3/1/2019** Analysis Date: **3/2/2019** SeqNo: **1945851** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	950		1000		95.4	73.8	119			

Sample ID: **LCS-43429** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **43429** RunNo: **58062**
Prep Date: **3/1/2019** Analysis Date: **3/2/2019** SeqNo: **1945852** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1200		1000		115	73.8	119			

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1902B92**
05-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-43403** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **43403** RunNo: **58044**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945376** 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		99.1	80	120			

Sample ID: **LCS-43403** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **43403** RunNo: **58044**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945377** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.025	1.000	0	84.6	80	120			
Toluene	0.98	0.050	1.000	0	97.9	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.1	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

Sample ID: **1902B92-041AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP41** Batch ID: **43403** RunNo: **58044**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945389** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.024	0.9488	0	89.1	63.9	127			
Toluene	0.99	0.047	0.9488	0.007759	104	69.9	131			
Ethylbenzene	1.0	0.047	0.9488	0	109	71	132			
Xylenes, Total	3.1	0.095	2.846	0	108	71.8	131			
Surr: 4-Bromofluorobenzene	1.0		0.9488		107	80	120			

Sample ID: **1902B92-041AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP41** Batch ID: **43403** RunNo: **58044**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945390** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.024	0.9470	0	87.4	63.9	127	2.11	20	
Toluene	0.97	0.047	0.9470	0.007759	102	69.9	131	1.91	20	
Ethylbenzene	1.0	0.047	0.9470	0	107	71	132	1.95	20	
Xylenes, Total	3.0	0.095	2.841	0	106	71.8	131	2.68	20	
Surr: 4-Bromofluorobenzene	1.0		0.9470		106	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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1902B92**
05-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-43401** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **43401** RunNo: **58043**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945439** 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		92.2	80	120			

Sample ID: **LCS-43401** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **43401** RunNo: **58043**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945440** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.025	1.000	0	87.9	80	120			
Toluene	0.91	0.050	1.000	0	91.5	80	120			
Ethylbenzene	0.92	0.050	1.000	0	92.1	80	120			
Xylenes, Total	2.8	0.10	3.000	0	93.2	80	120			
Surr: 4-Bromofluorobenzene	0.93		1.000		93.3	80	120			

Sample ID: **1902B92-002AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP2** Batch ID: **43401** RunNo: **58043**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945443** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.024	0.9737	0	97.3	63.9	127			
Toluene	0.99	0.049	0.9737	0	102	69.9	131			
Ethylbenzene	1.0	0.049	0.9737	0	104	71	132			
Xylenes, Total	3.1	0.097	2.921	0	105	71.8	131			
Surr: 4-Bromofluorobenzene	0.89		0.9737		91.7	80	120			

Sample ID: **1902B92-002AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP2** Batch ID: **43401** RunNo: **58043**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945444** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	0.9911	0	93.5	63.9	127	2.22	20	
Toluene	0.96	0.050	0.9911	0	97.2	69.9	131	2.66	20	
Ethylbenzene	0.99	0.050	0.9911	0	99.5	71	132	2.37	20	
Xylenes, Total	3.0	0.099	2.973	0	100	71.8	131	3.47	20	
Surr: 4-Bromofluorobenzene	0.91		0.9911		92.1	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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1902B92**
05-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-43402** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **43402** RunNo: **58043**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945462** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.90		1.000		90.0	80	120			

Sample ID: **LCS-43402** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **43402** RunNo: **58043**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945463** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.025	1.000	0	86.4	80	120			
Toluene	0.90	0.050	1.000	0	90.4	80	120			
Ethylbenzene	0.91	0.050	1.000	0	90.8	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.3	80	120			
Surr: 4-Bromofluorobenzene	0.92		1.000		91.8	80	120			

Sample ID: **1902B92-021AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP21** Batch ID: **43402** RunNo: **58043**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945466** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	0.9833	0	91.6	63.9	127			
Toluene	0.94	0.049	0.9833	0	96.1	69.9	131			
Ethylbenzene	0.96	0.049	0.9833	0	97.6	71	132			
Xylenes, Total	2.9	0.098	2.950	0	99.3	71.8	131			
Surr: 4-Bromofluorobenzene	0.90		0.9833		91.4	80	120			

Sample ID: **1902B92-021AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP21** Batch ID: **43402** RunNo: **58043**
Prep Date: **2/28/2019** Analysis Date: **3/1/2019** SeqNo: **1945467** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	0.9901	0	91.2	63.9	127	0.297	20	
Toluene	0.95	0.050	0.9901	0	96.3	69.9	131	0.951	20	
Ethylbenzene	0.97	0.050	0.9901	0	97.8	71	132	0.977	20	
Xylenes, Total	2.9	0.099	2.970	0	98.7	71.8	131	0.00297	20	
Surr: 4-Bromofluorobenzene	0.90		0.9901		90.4	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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **1902B92** RcptNo: **1**

Received By: **Thom Maybee** **2/28/2019 8:55:00 AM**

Completed By: **Leah Baca** **2/28/2019 9:08:26 AM** Leah Baca

Reviewed By: LB 2/28

Labeled by DAD 2/28/19

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° 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 2/28/19

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	5.1	Good	Yes			

Chain-of-Custody Record

Client: WPX Carlsbad

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Turn-Around Time: 5 day Turn
☒ Standard ☐ Rush _____

Project Name: LWP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature: 5.1 °C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1902B92	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
2/27/19		soil	~~SP1~~	4oz 1	ice		X		X					X								
			SP1			-001																
			SP2			-002																
			SP3			-003																
			SP4			-004																
			SP5			-005																
			SP6			-006																
			SP7			-007																
			SP8			-008																
			SP9			-009																
			SP10			-010																
			SP11			-011																

Date	Time	Relinquished by	Received by	Date	Time
2/27/2019	3:45	Kevin Smith	[signature]	2/27/19	1545
2/27/19	1900	[signature]	Courier [signature]	2-28-	8.55

Remarks: Report To. Kris Rowe
Natalie Gordon
Kevin Smith
Debbie

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

Chain-of-Custody Record

Client: WPX Carlsbad

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day Turn
☒ Standard ☐ Rush

Project Name: LNP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature: 5.1°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1902B92	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
2/27/19		Soil		4oz 1	ice		X		X					X								
			SP12			-012																
			SP13			-013																
			SP14			-014																
			SP15			-015																
			SP16			-016																
			SP17			-017																
			SP18			-018																
			SP19			-019																
			SP20			-020																
			SP21			-021																
			SP22			-022																

Date:	Time:	Relinquished by:	Received by:	Date	Time
2/27/2019	3:45	Kevin Smith	[signature]	2/27/2019	1545
2/27/19	1900	[signature]	Received by: courier [signature]	2-28-19	8.55

Remarks:

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

-of-Custody Record

WPX Carlsbad

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day Turn
☒ Standard ☐ Rush

Project Name: LVP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☐ Yes ☐ No

Sample Temperature:

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1902B92	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
2/27/19		soil		4oz 1	ice		X		X					X							
			SP23			-023															
			SP24			-024															
			SP25			-025															
			SP26			-026															
			SP27			-027															
			SP28			-028															
			SP29			-029															
			SP30			-030															
			SP31			-031															
			SP32			-032															
			SP33			-033															

Date:	Time:	Relinquished by:	Received by:	Date	Time
2/27/2019	3:50	Kevin Smith	Carlos	2/27/19	1550
2/27/19	1900			2-28-19	8:55

Remarks:

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

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Client: WPX Carlsbad

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day Turn
☒ Standard ☐ Rush

Project Name: LVP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☐ Yes ☐ No

Sample Temperature:

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1902 B92	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
2/27/19		Soil		4oz g 1	ice		X		X					X								
			SP34			-034																
			SP35			-035																
			SP36			-036																
			SP37			-037																
			SP38			-038																
			SP39			-039																
			SP40			-040																
			SP41			-041																
			SP42			-042																
			SP43			-043																
			SP44			-044																
			SP45			-045																

Date:	Time:	Relinquished by:	Received by:	Date	Time
2/27/2019	3:50	Kevin Smith		2/28/19	1550
2/28/19	1900		Carrier	2-28-19	8.55

Remarks:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

March 08, 2019

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

RE: LVP SWD OrderNo.: 1903003

Dear Kris Rowe:

Hall Environmental Analysis Laboratory received 86 sample(s) on 3/1/2019 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 46
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-001
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/4/2019 12:09:20 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/4/2019 12:09:20 PM
Surr: DNOP	87.8	70-130		%Rec	1	3/4/2019 12:09:20 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/2/2019 10:47:41 AM
Surr: BFB	94.6	73.8-119		%Rec	1	3/2/2019 10:47:41 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/2/2019 10:47:41 AM
Toluene	ND	0.046		mg/Kg	1	3/2/2019 10:47:41 AM
Ethylbenzene	ND	0.046		mg/Kg	1	3/2/2019 10:47:41 AM
Xylenes, Total	ND	0.092		mg/Kg	1	3/2/2019 10:47:41 AM
Surr: 4-Bromofluorobenzene	89.1	80-120		%Rec	1	3/2/2019 10:47:41 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	460	60		mg/Kg	20	3/5/2019 5:15:25 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 47
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-002
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/4/2019 1:15:26 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/4/2019 1:15:26 PM
Surr: DNOP	91.5	70-130		%Rec	1	3/4/2019 1:15:26 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/2/2019 11:58:29 AM
Surr: BFB	97.7	73.8-119		%Rec	1	3/2/2019 11:58:29 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/2/2019 11:58:29 AM
Toluene	ND	0.050		mg/Kg	1	3/2/2019 11:58:29 AM
Ethylbenzene	ND	0.050		mg/Kg	1	3/2/2019 11:58:29 AM
Xylenes, Total	ND	0.099		mg/Kg	1	3/2/2019 11:58:29 AM
Surr: 4-Bromofluorobenzene	91.9	80-120		%Rec	1	3/2/2019 11:58:29 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	320	60		mg/Kg	20	3/5/2019 5:27:50 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 48
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-003
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/4/2019 1:37:38 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/4/2019 1:37:38 PM
Surr: DNOP	94.0	70-130		%Rec	1	3/4/2019 1:37:38 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/2/2019 10:30:37 PM
Surr: BFB	94.5	73.8-119		%Rec	1	3/2/2019 10:30:37 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/2/2019 10:30:37 PM
Toluene	ND	0.050		mg/Kg	1	3/2/2019 10:30:37 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/2/2019 10:30:37 PM
Xylenes, Total	ND	0.10		mg/Kg	1	3/2/2019 10:30:37 PM
Surr: 4-Bromofluorobenzene	88.5	80-120		%Rec	1	3/2/2019 10:30:37 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	670	60		mg/Kg	20	3/5/2019 5:40:14 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 49
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-004
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/4/2019 2:22:04 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/4/2019 2:22:04 PM
Surr: DNOP	99.0	70-130		%Rec	1	3/4/2019 2:22:04 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/2/2019 10:54:14 PM
Surr: BFB	96.5	73.8-119		%Rec	1	3/2/2019 10:54:14 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/2/2019 10:54:14 PM
Toluene	ND	0.046		mg/Kg	1	3/2/2019 10:54:14 PM
Ethylbenzene	ND	0.046		mg/Kg	1	3/2/2019 10:54:14 PM
Xylenes, Total	ND	0.091		mg/Kg	1	3/2/2019 10:54:14 PM
Surr: 4-Bromofluorobenzene	90.3	80-120		%Rec	1	3/2/2019 10:54:14 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	390	60		mg/Kg	20	3/5/2019 5:52:39 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-005 **Matrix:** SOIL

Client Sample ID: SP 50
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/4/2019 2:44:10 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/4/2019 2:44:10 PM
Surr: DNOP	96.8	70-130		%Rec	1	3/4/2019 2:44:10 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/2/2019 11:17:38 PM
Surr: BFB	94.4	73.8-119		%Rec	1	3/2/2019 11:17:38 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/2/2019 11:17:38 PM
Toluene	ND	0.049		mg/Kg	1	3/2/2019 11:17:38 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/2/2019 11:17:38 PM
Xylenes, Total	ND	0.099		mg/Kg	1	3/2/2019 11:17:38 PM
Surr: 4-Bromofluorobenzene	88.5	80-120		%Rec	1	3/2/2019 11:17:38 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	350	60		mg/Kg	20	3/5/2019 6:29:52 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 51
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-006
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	3/4/2019 3:06:26 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/4/2019 3:06:26 PM
Surr: DNOP	99.8	70-130		%Rec	1	3/4/2019 3:06:26 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/2/2019 11:41:12 PM
Surr: BFB	95.6	73.8-119		%Rec	1	3/2/2019 11:41:12 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/2/2019 11:41:12 PM
Toluene	ND	0.048		mg/Kg	1	3/2/2019 11:41:12 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/2/2019 11:41:12 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/2/2019 11:41:12 PM
Surr: 4-Bromofluorobenzene	89.6	80-120		%Rec	1	3/2/2019 11:41:12 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	350	60		mg/Kg	20	3/5/2019 6:42:17 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-007 **Matrix:** SOIL

Client Sample ID: SP 52
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/6/2019 1:54:52 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/6/2019 1:54:52 PM
Surr: DNOP	102	70-130		%Rec	1	3/6/2019 1:54:52 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/3/2019 12:04:49 AM
Surr: BFB	94.2	73.8-119		%Rec	1	3/3/2019 12:04:49 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 12:04:49 AM
Toluene	ND	0.047		mg/Kg	1	3/3/2019 12:04:49 AM
Ethylbenzene	ND	0.047		mg/Kg	1	3/3/2019 12:04:49 AM
Xylenes, Total	ND	0.095		mg/Kg	1	3/3/2019 12:04:49 AM
Surr: 4-Bromofluorobenzene	87.9	80-120		%Rec	1	3/3/2019 12:04:49 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	120	60		mg/Kg	20	3/5/2019 6:54:41 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-008 **Matrix:** SOIL

Client Sample ID: SP 53
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/6/2019 2:19:02 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/6/2019 2:19:02 PM
Surr: DNOP	100	70-130		%Rec	1	3/6/2019 2:19:02 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/3/2019 12:28:22 AM
Surr: BFB	93.6	73.8-119		%Rec	1	3/3/2019 12:28:22 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 12:28:22 AM
Toluene	ND	0.047		mg/Kg	1	3/3/2019 12:28:22 AM
Ethylbenzene	ND	0.047		mg/Kg	1	3/3/2019 12:28:22 AM
Xylenes, Total	ND	0.095		mg/Kg	1	3/3/2019 12:28:22 AM
Surr: 4-Bromofluorobenzene	88.1	80-120		%Rec	1	3/3/2019 12:28:22 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	290	60		mg/Kg	20	3/5/2019 7:31:55 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-009 **Matrix:** SOIL

Client Sample ID: SP 54
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/6/2019 2:43:14 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/6/2019 2:43:14 PM
Surr: DNOP	103	70-130		%Rec	1	3/6/2019 2:43:14 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/3/2019 12:51:54 AM
Surr: BFB	96.1	73.8-119		%Rec	1	3/3/2019 12:51:54 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 12:51:54 AM
Toluene	ND	0.049		mg/Kg	1	3/3/2019 12:51:54 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2019 12:51:54 AM
Xylenes, Total	ND	0.097		mg/Kg	1	3/3/2019 12:51:54 AM
Surr: 4-Bromofluorobenzene	89.2	80-120		%Rec	1	3/3/2019 12:51:54 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	130	60		mg/Kg	20	3/5/2019 8:09:08 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-010 **Matrix:** SOIL

Client Sample ID: SP 55
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/6/2019 3:07:26 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/6/2019 3:07:26 PM
Surr: DNOP	102	70-130		%Rec	1	3/6/2019 3:07:26 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/3/2019 1:15:25 AM
Surr: BFB	95.9	73.8-119		%Rec	1	3/3/2019 1:15:25 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/3/2019 1:15:25 AM
Toluene	ND	0.049		mg/Kg	1	3/3/2019 1:15:25 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2019 1:15:25 AM
Xylenes, Total	ND	0.099		mg/Kg	1	3/3/2019 1:15:25 AM
Surr: 4-Bromofluorobenzene	89.2	80-120		%Rec	1	3/3/2019 1:15:25 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	220	60		mg/Kg	20	3/5/2019 8:21:33 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-011 **Matrix:** SOIL

Client Sample ID: SP 56
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	3/6/2019 3:31:38 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/6/2019 3:31:38 PM
Surr: DNOP	100	70-130		%Rec	1	3/6/2019 3:31:38 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/3/2019 2:49:22 AM
Surr: BFB	95.0	73.8-119		%Rec	1	3/3/2019 2:49:22 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 2:49:22 AM
Toluene	ND	0.049		mg/Kg	1	3/3/2019 2:49:22 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2019 2:49:22 AM
Xylenes, Total	ND	0.098		mg/Kg	1	3/3/2019 2:49:22 AM
Surr: 4-Bromofluorobenzene	89.3	80-120		%Rec	1	3/3/2019 2:49:22 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	230	60		mg/Kg	20	3/5/2019 8:58:47 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-012 **Matrix:** SOIL

Client Sample ID: SP 57
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	3/6/2019 3:55:47 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/6/2019 3:55:47 PM
Surr: DNOP	103	70-130		%Rec	1	3/6/2019 3:55:47 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2019 3:12:51 AM
Surr: BFB	93.0	73.8-119		%Rec	1	3/3/2019 3:12:51 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 3:12:51 AM
Toluene	ND	0.048		mg/Kg	1	3/3/2019 3:12:51 AM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2019 3:12:51 AM
Xylenes, Total	ND	0.097		mg/Kg	1	3/3/2019 3:12:51 AM
Surr: 4-Bromofluorobenzene	88.4	80-120		%Rec	1	3/3/2019 3:12:51 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	330	60		mg/Kg	20	3/5/2019 9:11:12 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-013 **Matrix:** SOIL

Client Sample ID: SP 58
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/6/2019 4:20:01 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/6/2019 4:20:01 PM
Surr: DNOP	102	70-130		%Rec	1	3/6/2019 4:20:01 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2019 3:36:22 AM
Surr: BFB	93.8	73.8-119		%Rec	1	3/3/2019 3:36:22 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 3:36:22 AM
Toluene	ND	0.048		mg/Kg	1	3/3/2019 3:36:22 AM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2019 3:36:22 AM
Xylenes, Total	ND	0.096		mg/Kg	1	3/3/2019 3:36:22 AM
Surr: 4-Bromofluorobenzene	88.0	80-120		%Rec	1	3/3/2019 3:36:22 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	410	60		mg/Kg	20	3/5/2019 9:23:37 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-014 **Matrix:** SOIL

Client Sample ID: SP 59
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/6/2019 4:44:17 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/6/2019 4:44:17 PM
Surr: DNOP	105	70-130		%Rec	1	3/6/2019 4:44:17 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/3/2019 3:59:54 AM
Surr: BFB	95.3	73.8-119		%Rec	1	3/3/2019 3:59:54 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 3:59:54 AM
Toluene	ND	0.047		mg/Kg	1	3/3/2019 3:59:54 AM
Ethylbenzene	ND	0.047		mg/Kg	1	3/3/2019 3:59:54 AM
Xylenes, Total	ND	0.095		mg/Kg	1	3/3/2019 3:59:54 AM
Surr: 4-Bromofluorobenzene	89.2	80-120		%Rec	1	3/3/2019 3:59:54 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	290	60		mg/Kg	20	3/5/2019 9:36:01 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-015 **Matrix:** SOIL

Client Sample ID: SP 60
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/6/2019 5:08:28 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/6/2019 5:08:28 PM
Surr: DNOP	104	70-130		%Rec	1	3/6/2019 5:08:28 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2019 4:23:09 AM
Surr: BFB	94.5	73.8-119		%Rec	1	3/3/2019 4:23:09 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 4:23:09 AM
Toluene	ND	0.048		mg/Kg	1	3/3/2019 4:23:09 AM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2019 4:23:09 AM
Xylenes, Total	ND	0.096		mg/Kg	1	3/3/2019 4:23:09 AM
Surr: 4-Bromofluorobenzene	88.5	80-120		%Rec	1	3/3/2019 4:23:09 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	180	60		mg/Kg	20	3/5/2019 9:48:25 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-016 **Matrix:** SOIL

Client Sample ID: SP 61
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/6/2019 5:32:45 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/6/2019 5:32:45 PM
Surr: DNOP	101	70-130		%Rec	1	3/6/2019 5:32:45 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/3/2019 4:46:39 AM
Surr: BFB	94.1	73.8-119		%Rec	1	3/3/2019 4:46:39 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/3/2019 4:46:39 AM
Toluene	ND	0.049		mg/Kg	1	3/3/2019 4:46:39 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2019 4:46:39 AM
Xylenes, Total	ND	0.099		mg/Kg	1	3/3/2019 4:46:39 AM
Surr: 4-Bromofluorobenzene	88.6	80-120		%Rec	1	3/3/2019 4:46:39 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	260	60		mg/Kg	20	3/5/2019 10:00:50 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-017 **Matrix:** SOIL

Client Sample ID: SP 62
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/6/2019 5:57:04 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/6/2019 5:57:04 PM
Surr: DNOP	95.5	70-130		%Rec	1	3/6/2019 5:57:04 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/3/2019 5:10:09 AM
Surr: BFB	95.3	73.8-119		%Rec	1	3/3/2019 5:10:09 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 5:10:09 AM
Toluene	ND	0.049		mg/Kg	1	3/3/2019 5:10:09 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2019 5:10:09 AM
Xylenes, Total	ND	0.097		mg/Kg	1	3/3/2019 5:10:09 AM
Surr: 4-Bromofluorobenzene	89.4	80-120		%Rec	1	3/3/2019 5:10:09 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	240	60		mg/Kg	20	3/5/2019 10:13:15 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-018 **Matrix:** SOIL

Client Sample ID: SP 63
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/6/2019 6:21:19 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/6/2019 6:21:19 PM
Surr: DNOP	101	70-130		%Rec	1	3/6/2019 6:21:19 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2019 5:33:41 AM
Surr: BFB	91.3	73.8-119		%Rec	1	3/3/2019 5:33:41 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 5:33:41 AM
Toluene	ND	0.048		mg/Kg	1	3/3/2019 5:33:41 AM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2019 5:33:41 AM
Xylenes, Total	ND	0.095		mg/Kg	1	3/3/2019 5:33:41 AM
Surr: 4-Bromofluorobenzene	85.2	80-120		%Rec	1	3/3/2019 5:33:41 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	88	60		mg/Kg	20	3/5/2019 10:25:39 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-019 **Matrix:** SOIL

Client Sample ID: SP 64
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	3/6/2019 6:45:37 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/6/2019 6:45:37 PM
Surr: DNOP	99.0	70-130		%Rec	1	3/6/2019 6:45:37 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2019 5:57:07 AM
Surr: BFB	90.6	73.8-119		%Rec	1	3/3/2019 5:57:07 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 5:57:07 AM
Toluene	ND	0.048		mg/Kg	1	3/3/2019 5:57:07 AM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2019 5:57:07 AM
Xylenes, Total	ND	0.095		mg/Kg	1	3/3/2019 5:57:07 AM
Surr: 4-Bromofluorobenzene	84.5	80-120		%Rec	1	3/3/2019 5:57:07 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	310	60		mg/Kg	20	3/5/2019 10:38:04 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-020 **Matrix:** SOIL

Client Sample ID: SP 65
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/6/2019 7:09:50 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/6/2019 7:09:50 PM
Surr: DNOP	100	70-130		%Rec	1	3/6/2019 7:09:50 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/3/2019 6:20:36 AM
Surr: BFB	92.0	73.8-119		%Rec	1	3/3/2019 6:20:36 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/3/2019 6:20:36 AM
Toluene	ND	0.046		mg/Kg	1	3/3/2019 6:20:36 AM
Ethylbenzene	ND	0.046		mg/Kg	1	3/3/2019 6:20:36 AM
Xylenes, Total	ND	0.092		mg/Kg	1	3/3/2019 6:20:36 AM
Surr: 4-Bromofluorobenzene	85.9	80-120		%Rec	1	3/3/2019 6:20:36 AM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	270	60		mg/Kg	20	3/5/2019 10:50:29 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 66
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-021
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/4/2019 12:24:32 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/4/2019 12:24:32 PM
Surr: DNOP	88.4	70-130		%Rec	1	3/4/2019 12:24:32 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/2/2019 4:48:37 PM
Surr: BFB	92.4	73.8-119		%Rec	1	3/2/2019 4:48:37 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/2/2019 4:48:37 PM
Toluene	ND	0.050		mg/Kg	1	3/2/2019 4:48:37 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/2/2019 4:48:37 PM
Xylenes, Total	ND	0.10		mg/Kg	1	3/2/2019 4:48:37 PM
Surr: 4-Bromofluorobenzene	95.8	80-120		%Rec	1	3/2/2019 4:48:37 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	220	60		mg/Kg	20	3/5/2019 11:27:42 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 67
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-022
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/4/2019 1:37:38 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/4/2019 1:37:38 PM
Surr: DNOP	78.9	70-130		%Rec	1	3/4/2019 1:37:38 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/2/2019 5:57:11 PM
Surr: BFB	91.6	73.8-119		%Rec	1	3/2/2019 5:57:11 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/2/2019 5:57:11 PM
Toluene	ND	0.047		mg/Kg	1	3/2/2019 5:57:11 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/2/2019 5:57:11 PM
Xylenes, Total	ND	0.093		mg/Kg	1	3/2/2019 5:57:11 PM
Surr: 4-Bromofluorobenzene	96.7	80-120		%Rec	1	3/2/2019 5:57:11 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	370	60		mg/Kg	20	3/5/2019 11:40:07 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 68
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-023
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/4/2019 2:02:08 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/4/2019 2:02:08 PM
Surr: DNOP	76.1	70-130		%Rec	1	3/4/2019 2:02:08 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/2/2019 7:05:46 PM
Surr: BFB	87.3	73.8-119		%Rec	1	3/2/2019 7:05:46 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/2/2019 7:05:46 PM
Toluene	ND	0.047		mg/Kg	1	3/2/2019 7:05:46 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/2/2019 7:05:46 PM
Xylenes, Total	ND	0.094		mg/Kg	1	3/2/2019 7:05:46 PM
Surr: 4-Bromofluorobenzene	89.1	80-120		%Rec	1	3/2/2019 7:05:46 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	320	60		mg/Kg	20	3/5/2019 11:52:32 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 69
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-024
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/4/2019 2:26:36 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/4/2019 2:26:36 PM
Surr: DNOP	83.8	70-130		%Rec	1	3/4/2019 2:26:36 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/2/2019 7:28:36 PM
Surr: BFB	91.5	73.8-119		%Rec	1	3/2/2019 7:28:36 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/2/2019 7:28:36 PM
Toluene	ND	0.047		mg/Kg	1	3/2/2019 7:28:36 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/2/2019 7:28:36 PM
Xylenes, Total	ND	0.094		mg/Kg	1	3/2/2019 7:28:36 PM
Surr: 4-Bromofluorobenzene	93.0	80-120		%Rec	1	3/2/2019 7:28:36 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	320	60		mg/Kg	20	3/6/2019 12:04:57 AM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-025 **Matrix:** SOIL

Client Sample ID: SP 70
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/4/2019 3:40:59 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/4/2019 3:40:59 PM
Surr: DNOP	84.8	70-130		%Rec	1	3/4/2019 3:40:59 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/2/2019 9:45:06 PM
Surr: BFB	96.1	73.8-119		%Rec	1	3/2/2019 9:45:06 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/2/2019 9:45:06 PM
Toluene	ND	0.047		mg/Kg	1	3/2/2019 9:45:06 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/2/2019 9:45:06 PM
Xylenes, Total	ND	0.095		mg/Kg	1	3/2/2019 9:45:06 PM
Surr: 4-Bromofluorobenzene	99.1	80-120		%Rec	1	3/2/2019 9:45:06 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	280	60		mg/Kg	20	3/6/2019 12:17:21 AM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 71
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-026
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/4/2019 4:05:27 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/4/2019 4:05:27 PM
Surr: DNOP	84.7	70-130		%Rec	1	3/4/2019 4:05:27 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/2/2019 10:07:57 PM
Surr: BFB	92.9	73.8-119		%Rec	1	3/2/2019 10:07:57 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/2/2019 10:07:57 PM
Toluene	ND	0.047		mg/Kg	1	3/2/2019 10:07:57 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/2/2019 10:07:57 PM
Xylenes, Total	ND	0.095		mg/Kg	1	3/2/2019 10:07:57 PM
Surr: 4-Bromofluorobenzene	95.3	80-120		%Rec	1	3/2/2019 10:07:57 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	230	60		mg/Kg	20	3/6/2019 12:29:46 AM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 72
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-027
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/4/2019 4:29:55 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/4/2019 4:29:55 PM
Surr: DNOP	77.6	70-130		%Rec	1	3/4/2019 4:29:55 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/2/2019 10:30:43 PM
Surr: BFB	92.1	73.8-119		%Rec	1	3/2/2019 10:30:43 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/2/2019 10:30:43 PM
Toluene	ND	0.049		mg/Kg	1	3/2/2019 10:30:43 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/2/2019 10:30:43 PM
Xylenes, Total	ND	0.098		mg/Kg	1	3/2/2019 10:30:43 PM
Surr: 4-Bromofluorobenzene	94.3	80-120		%Rec	1	3/2/2019 10:30:43 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	300	60		mg/Kg	20	3/6/2019 12:42:10 AM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-028 **Matrix:** SOIL

Client Sample ID: SP 73
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/4/2019 4:54:21 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/4/2019 4:54:21 PM
Surr: DNOP	75.1	70-130		%Rec	1	3/4/2019 4:54:21 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/2/2019 10:53:30 PM
Surr: BFB	89.0	73.8-119		%Rec	1	3/2/2019 10:53:30 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/2/2019 10:53:30 PM
Toluene	ND	0.048		mg/Kg	1	3/2/2019 10:53:30 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/2/2019 10:53:30 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/2/2019 10:53:30 PM
Surr: 4-Bromofluorobenzene	91.0	80-120		%Rec	1	3/2/2019 10:53:30 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	110	60		mg/Kg	20	3/6/2019 10:12:42 AM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-029 **Matrix:** SOIL

Client Sample ID: SP 74
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/5/2019 8:59:12 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/5/2019 8:59:12 AM
Surr: DNOP	84.8	70-130		%Rec	1	3/5/2019 8:59:12 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/2/2019 11:16:07 PM
Surr: BFB	91.9	73.8-119		%Rec	1	3/2/2019 11:16:07 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/2/2019 11:16:07 PM
Toluene	ND	0.048		mg/Kg	1	3/2/2019 11:16:07 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/2/2019 11:16:07 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/2/2019 11:16:07 PM
Surr: 4-Bromofluorobenzene	94.8	80-120		%Rec	1	3/2/2019 11:16:07 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	180	60		mg/Kg	20	3/6/2019 10:25:07 AM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 75
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-030
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/5/2019 9:26:47 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/5/2019 9:26:47 AM
Surr: DNOP	81.5	70-130		%Rec	1	3/5/2019 9:26:47 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/2/2019 11:38:56 PM
Surr: BFB	90.8	73.8-119		%Rec	1	3/2/2019 11:38:56 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/2/2019 11:38:56 PM
Toluene	ND	0.048		mg/Kg	1	3/2/2019 11:38:56 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/2/2019 11:38:56 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/2/2019 11:38:56 PM
Surr: 4-Bromofluorobenzene	93.0	80-120		%Rec	1	3/2/2019 11:38:56 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	ND	60		mg/Kg	20	3/6/2019 11:02:21 AM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 76
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-031
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/4/2019 6:07:56 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/4/2019 6:07:56 PM
Surr: DNOP	74.4	70-130		%Rec	1	3/4/2019 6:07:56 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/3/2019 12:01:44 AM
Surr: BFB	93.4	73.8-119		%Rec	1	3/3/2019 12:01:44 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/3/2019 12:01:44 AM
Toluene	ND	0.049		mg/Kg	1	3/3/2019 12:01:44 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2019 12:01:44 AM
Xylenes, Total	ND	0.099		mg/Kg	1	3/3/2019 12:01:44 AM
Surr: 4-Bromofluorobenzene	95.3	80-120		%Rec	1	3/3/2019 12:01:44 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	ND	60		mg/Kg	20	3/6/2019 11:14:46 AM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 77
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-032
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/4/2019 6:32:16 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/4/2019 6:32:16 PM
Surr: DNOP	72.0	70-130		%Rec	1	3/4/2019 6:32:16 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/3/2019 12:24:32 AM
Surr: BFB	91.5	73.8-119		%Rec	1	3/3/2019 12:24:32 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/3/2019 12:24:32 AM
Toluene	ND	0.046		mg/Kg	1	3/3/2019 12:24:32 AM
Ethylbenzene	ND	0.046		mg/Kg	1	3/3/2019 12:24:32 AM
Xylenes, Total	ND	0.093		mg/Kg	1	3/3/2019 12:24:32 AM
Surr: 4-Bromofluorobenzene	94.0	80-120		%Rec	1	3/3/2019 12:24:32 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	69	60		mg/Kg	20	3/6/2019 11:27:11 AM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 78
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-033
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/4/2019 6:56:43 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/4/2019 6:56:43 PM
Surr: DNOP	74.0	70-130		%Rec	1	3/4/2019 6:56:43 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2019 12:47:19 AM
Surr: BFB	94.1	73.8-119		%Rec	1	3/3/2019 12:47:19 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 12:47:19 AM
Toluene	ND	0.048		mg/Kg	1	3/3/2019 12:47:19 AM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2019 12:47:19 AM
Xylenes, Total	ND	0.096		mg/Kg	1	3/3/2019 12:47:19 AM
Surr: 4-Bromofluorobenzene	96.5	80-120		%Rec	1	3/3/2019 12:47:19 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	200	60		mg/Kg	20	3/6/2019 11:39:36 AM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 79
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-034
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/5/2019 9:50:56 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/5/2019 9:50:56 AM
Surr: DNOP	70.7	70-130		%Rec	1	3/5/2019 9:50:56 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/3/2019 1:10:08 AM
Surr: BFB	92.9	73.8-119		%Rec	1	3/3/2019 1:10:08 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 1:10:08 AM
Toluene	ND	0.047		mg/Kg	1	3/3/2019 1:10:08 AM
Ethylbenzene	ND	0.047		mg/Kg	1	3/3/2019 1:10:08 AM
Xylenes, Total	ND	0.095		mg/Kg	1	3/3/2019 1:10:08 AM
Surr: 4-Bromofluorobenzene	95.1	80-120		%Rec	1	3/3/2019 1:10:08 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	ND	60		mg/Kg	20	3/6/2019 12:16:49 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 80
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-035
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/4/2019 7:45:32 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/4/2019 7:45:32 PM
Surr: DNOP	78.1	70-130		%Rec	1	3/4/2019 7:45:32 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/3/2019 2:41:11 AM
Surr: BFB	94.5	73.8-119		%Rec	1	3/3/2019 2:41:11 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/3/2019 2:41:11 AM
Toluene	ND	0.049		mg/Kg	1	3/3/2019 2:41:11 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2019 2:41:11 AM
Xylenes, Total	ND	0.098		mg/Kg	1	3/3/2019 2:41:11 AM
Surr: 4-Bromofluorobenzene	96.0	80-120		%Rec	1	3/3/2019 2:41:11 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	150	60		mg/Kg	20	3/6/2019 12:29:14 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 81
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-036
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/4/2019 8:09:47 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/4/2019 8:09:47 PM
Surr: DNOP	71.8	70-130		%Rec	1	3/4/2019 8:09:47 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/3/2019 3:03:55 AM
Surr: BFB	95.2	73.8-119		%Rec	1	3/3/2019 3:03:55 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/3/2019 3:03:55 AM
Toluene	ND	0.050		mg/Kg	1	3/3/2019 3:03:55 AM
Ethylbenzene	ND	0.050		mg/Kg	1	3/3/2019 3:03:55 AM
Xylenes, Total	ND	0.10		mg/Kg	1	3/3/2019 3:03:55 AM
Surr: 4-Bromofluorobenzene	97.1	80-120		%Rec	1	3/3/2019 3:03:55 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	310	60		mg/Kg	20	3/6/2019 1:06:28 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 82
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-037
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/5/2019 1:39:41 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/5/2019 1:39:41 PM
Surr: DNOP	82.6	70-130		%Rec	1	3/5/2019 1:39:41 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/3/2019 3:26:44 AM
Surr: BFB	92.9	73.8-119		%Rec	1	3/3/2019 3:26:44 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/3/2019 3:26:44 AM
Toluene	ND	0.046		mg/Kg	1	3/3/2019 3:26:44 AM
Ethylbenzene	ND	0.046		mg/Kg	1	3/3/2019 3:26:44 AM
Xylenes, Total	ND	0.092		mg/Kg	1	3/3/2019 3:26:44 AM
Surr: 4-Bromofluorobenzene	94.4	80-120		%Rec	1	3/3/2019 3:26:44 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	ND	60		mg/Kg	20	3/6/2019 1:18:52 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 83
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-038
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/5/2019 2:04:02 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/5/2019 2:04:02 PM
Surr: DNOP	82.2	70-130		%Rec	1	3/5/2019 2:04:02 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2019 3:49:35 AM
Surr: BFB	94.9	73.8-119		%Rec	1	3/3/2019 3:49:35 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 3:49:35 AM
Toluene	ND	0.048		mg/Kg	1	3/3/2019 3:49:35 AM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2019 3:49:35 AM
Xylenes, Total	ND	0.097		mg/Kg	1	3/3/2019 3:49:35 AM
Surr: 4-Bromofluorobenzene	97.3	80-120		%Rec	1	3/3/2019 3:49:35 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	700	60		mg/Kg	20	3/6/2019 1:31:17 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 84
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-039
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/5/2019 2:28:32 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/5/2019 2:28:32 PM
Surr: DNOP	79.5	70-130		%Rec	1	3/5/2019 2:28:32 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/3/2019 4:12:24 AM
Surr: BFB	95.0	73.8-119		%Rec	1	3/3/2019 4:12:24 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/3/2019 4:12:24 AM
Toluene	ND	0.050		mg/Kg	1	3/3/2019 4:12:24 AM
Ethylbenzene	ND	0.050		mg/Kg	1	3/3/2019 4:12:24 AM
Xylenes, Total	ND	0.10		mg/Kg	1	3/3/2019 4:12:24 AM
Surr: 4-Bromofluorobenzene	98.0	80-120		%Rec	1	3/3/2019 4:12:24 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	110	60		mg/Kg	20	3/6/2019 1:43:41 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 85
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-040
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/5/2019 2:53:02 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/5/2019 2:53:02 PM
Surr: DNOP	74.7	70-130		%Rec	1	3/5/2019 2:53:02 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/3/2019 4:35:12 AM
Surr: BFB	89.2	73.8-119		%Rec	1	3/3/2019 4:35:12 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 4:35:12 AM
Toluene	ND	0.047		mg/Kg	1	3/3/2019 4:35:12 AM
Ethylbenzene	ND	0.047		mg/Kg	1	3/3/2019 4:35:12 AM
Xylenes, Total	ND	0.094		mg/Kg	1	3/3/2019 4:35:12 AM
Surr: 4-Bromofluorobenzene	91.2	80-120		%Rec	1	3/3/2019 4:35:12 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	210	60		mg/Kg	20	3/6/2019 1:56:06 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 86
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-041
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/4/2019 2:49:34 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/4/2019 2:49:34 PM
Surr: DNOP	98.1	70-130		%Rec	1	3/4/2019 2:49:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2019 11:35:49 AM
Surr: BFB	95.2	73.8-119		%Rec	1	3/3/2019 11:35:49 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 11:35:49 AM
Toluene	ND	0.048		mg/Kg	1	3/3/2019 11:35:49 AM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2019 11:35:49 AM
Xylenes, Total	ND	0.095		mg/Kg	1	3/3/2019 11:35:49 AM
Surr: 4-Bromofluorobenzene	89.3	80-120		%Rec	1	3/3/2019 11:35:49 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	120	60		mg/Kg	20	3/6/2019 2:08:30 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 87
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-042
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	3/4/2019 4:02:23 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/4/2019 4:02:23 PM
Surr: DNOP	97.5	70-130		%Rec	1	3/4/2019 4:02:23 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/3/2019 12:46:34 PM
Surr: BFB	96.2	73.8-119		%Rec	1	3/3/2019 12:46:34 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/3/2019 12:46:34 PM
Toluene	ND	0.047		mg/Kg	1	3/3/2019 12:46:34 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/3/2019 12:46:34 PM
Xylenes, Total	ND	0.093		mg/Kg	1	3/3/2019 12:46:34 PM
Surr: 4-Bromofluorobenzene	89.4	80-120		%Rec	1	3/3/2019 12:46:34 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	250	60		mg/Kg	20	3/6/2019 2:45:44 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 88
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-043
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	3/4/2019 4:26:41 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/4/2019 4:26:41 PM
Surr: DNOP	95.6	70-130		%Rec	1	3/4/2019 4:26:41 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/3/2019 1:56:29 PM
Surr: BFB	94.2	73.8-119		%Rec	1	3/3/2019 1:56:29 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/3/2019 1:56:29 PM
Toluene	ND	0.046		mg/Kg	1	3/3/2019 1:56:29 PM
Ethylbenzene	ND	0.046		mg/Kg	1	3/3/2019 1:56:29 PM
Xylenes, Total	ND	0.093		mg/Kg	1	3/3/2019 1:56:29 PM
Surr: 4-Bromofluorobenzene	87.3	80-120		%Rec	1	3/3/2019 1:56:29 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	280	59		mg/Kg	20	3/6/2019 2:58:09 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 89
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-044
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/4/2019 4:51:00 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/4/2019 4:51:00 PM
Surr: DNOP	102	70-130		%Rec	1	3/4/2019 4:51:00 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/3/2019 2:19:47 PM
Surr: BFB	97.4	73.8-119		%Rec	1	3/3/2019 2:19:47 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/3/2019 2:19:47 PM
Toluene	ND	0.049		mg/Kg	1	3/3/2019 2:19:47 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2019 2:19:47 PM
Xylenes, Total	ND	0.099		mg/Kg	1	3/3/2019 2:19:47 PM
Surr: 4-Bromofluorobenzene	90.8	80-120		%Rec	1	3/3/2019 2:19:47 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	260	60		mg/Kg	20	3/6/2019 3:10:33 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 90
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-045
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	3/4/2019 5:15:20 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/4/2019 5:15:20 PM
Surr: DNOP	102	70-130		%Rec	1	3/4/2019 5:15:20 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2019 2:43:05 PM
Surr: BFB	96.1	73.8-119		%Rec	1	3/3/2019 2:43:05 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 2:43:05 PM
Toluene	ND	0.048		mg/Kg	1	3/3/2019 2:43:05 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2019 2:43:05 PM
Xylenes, Total	ND	0.097		mg/Kg	1	3/3/2019 2:43:05 PM
Surr: 4-Bromofluorobenzene	89.6	80-120		%Rec	1	3/3/2019 2:43:05 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	450	60		mg/Kg	20	3/6/2019 3:22:57 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 91
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-046
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/4/2019 5:39:35 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/4/2019 5:39:35 PM
Surr: DNOP	104	70-130		%Rec	1	3/4/2019 5:39:35 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/3/2019 3:06:26 PM
Surr: BFB	96.9	73.8-119		%Rec	1	3/3/2019 3:06:26 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 3:06:26 PM
Toluene	ND	0.049		mg/Kg	1	3/3/2019 3:06:26 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2019 3:06:26 PM
Xylenes, Total	ND	0.098		mg/Kg	1	3/3/2019 3:06:26 PM
Surr: 4-Bromofluorobenzene	90.5	80-120		%Rec	1	3/3/2019 3:06:26 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	320	60		mg/Kg	20	3/6/2019 3:35:22 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 92
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-047
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	51	10		mg/Kg	1	3/4/2019 6:03:52 PM
Motor Oil Range Organics (MRO)	130	50		mg/Kg	1	3/4/2019 6:03:52 PM
Surr: DNOP	103	70-130		%Rec	1	3/4/2019 6:03:52 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2019 3:29:46 PM
Surr: BFB	97.6	73.8-119		%Rec	1	3/3/2019 3:29:46 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 3:29:46 PM
Toluene	ND	0.048		mg/Kg	1	3/3/2019 3:29:46 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2019 3:29:46 PM
Xylenes, Total	ND	0.097		mg/Kg	1	3/3/2019 3:29:46 PM
Surr: 4-Bromofluorobenzene	90.9	80-120		%Rec	1	3/3/2019 3:29:46 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	320	60		mg/Kg	20	3/6/2019 3:47:46 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-048 **Matrix:** SOIL

Client Sample ID: SP 93
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	3/4/2019 6:28:07 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/4/2019 6:28:07 PM
Surr: DNOP	102	70-130		%Rec	1	3/4/2019 6:28:07 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2019 3:53:04 PM
Surr: BFB	95.7	73.8-119		%Rec	1	3/3/2019 3:53:04 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 3:53:04 PM
Toluene	ND	0.048		mg/Kg	1	3/3/2019 3:53:04 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2019 3:53:04 PM
Xylenes, Total	ND	0.097		mg/Kg	1	3/3/2019 3:53:04 PM
Surr: 4-Bromofluorobenzene	89.3	80-120		%Rec	1	3/3/2019 3:53:04 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	290	60		mg/Kg	20	3/6/2019 4:24:59 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 94
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-049
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/4/2019 7:16:23 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/4/2019 7:16:23 PM
Surr: DNOP	106	70-130		%Rec	1	3/4/2019 7:16:23 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/3/2019 4:16:21 PM
Surr: BFB	97.3	73.8-119		%Rec	1	3/3/2019 4:16:21 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/3/2019 4:16:21 PM
Toluene	ND	0.046		mg/Kg	1	3/3/2019 4:16:21 PM
Ethylbenzene	ND	0.046		mg/Kg	1	3/3/2019 4:16:21 PM
Xylenes, Total	ND	0.092		mg/Kg	1	3/3/2019 4:16:21 PM
Surr: 4-Bromofluorobenzene	90.7	80-120		%Rec	1	3/3/2019 4:16:21 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	360	60		mg/Kg	20	3/6/2019 4:37:24 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 95
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-050
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	3/4/2019 7:40:27 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/4/2019 7:40:27 PM
Surr: DNOP	94.2	70-130		%Rec	1	3/4/2019 7:40:27 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/3/2019 4:39:39 PM
Surr: BFB	97.3	73.8-119		%Rec	1	3/3/2019 4:39:39 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/3/2019 4:39:39 PM
Toluene	ND	0.046		mg/Kg	1	3/3/2019 4:39:39 PM
Ethylbenzene	ND	0.046		mg/Kg	1	3/3/2019 4:39:39 PM
Xylenes, Total	ND	0.092		mg/Kg	1	3/3/2019 4:39:39 PM
Surr: 4-Bromofluorobenzene	90.1	80-120		%Rec	1	3/3/2019 4:39:39 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	330	60		mg/Kg	20	3/6/2019 5:39:26 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 96
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-051
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/4/2019 8:04:27 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/4/2019 8:04:27 PM
Surr: DNOP	95.7	70-130		%Rec	1	3/4/2019 8:04:27 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2019 6:36:23 PM
Surr: BFB	95.8	73.8-119		%Rec	1	3/3/2019 6:36:23 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 6:36:23 PM
Toluene	ND	0.048		mg/Kg	1	3/3/2019 6:36:23 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2019 6:36:23 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/3/2019 6:36:23 PM
Surr: 4-Bromofluorobenzene	89.3	80-120		%Rec	1	3/3/2019 6:36:23 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	430	60		mg/Kg	20	3/6/2019 5:51:51 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 97
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-052
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	3/4/2019 8:28:24 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/4/2019 8:28:24 PM
Surr: DNOP	95.0	70-130		%Rec	1	3/4/2019 8:28:24 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/3/2019 6:59:49 PM
Surr: BFB	92.7	73.8-119		%Rec	1	3/3/2019 6:59:49 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 6:59:49 PM
Toluene	ND	0.047		mg/Kg	1	3/3/2019 6:59:49 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/3/2019 6:59:49 PM
Xylenes, Total	ND	0.094		mg/Kg	1	3/3/2019 6:59:49 PM
Surr: 4-Bromofluorobenzene	86.3	80-120		%Rec	1	3/3/2019 6:59:49 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	390	60		mg/Kg	20	3/6/2019 6:04:15 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-053 **Matrix:** SOIL

Client Sample ID: SP 98
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/4/2019 8:52:19 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/4/2019 8:52:19 PM
Surr: DNOP	96.3	70-130		%Rec	1	3/4/2019 8:52:19 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2019 7:23:18 PM
Surr: BFB	94.0	73.8-119		%Rec	1	3/3/2019 7:23:18 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 7:23:18 PM
Toluene	ND	0.048		mg/Kg	1	3/3/2019 7:23:18 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2019 7:23:18 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/3/2019 7:23:18 PM
Surr: 4-Bromofluorobenzene	86.8	80-120		%Rec	1	3/3/2019 7:23:18 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	390	60		mg/Kg	20	3/6/2019 6:16:40 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 99
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-054
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	3/4/2019 9:16:11 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/4/2019 9:16:11 PM
Surr: DNOP	97.3	70-130		%Rec	1	3/4/2019 9:16:11 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2019 7:46:42 PM
Surr: BFB	93.0	73.8-119		%Rec	1	3/3/2019 7:46:42 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 7:46:42 PM
Toluene	ND	0.048		mg/Kg	1	3/3/2019 7:46:42 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2019 7:46:42 PM
Xylenes, Total	ND	0.097		mg/Kg	1	3/3/2019 7:46:42 PM
Surr: 4-Bromofluorobenzene	86.6	80-120		%Rec	1	3/3/2019 7:46:42 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	1300	60		mg/Kg	20	3/6/2019 6:29:04 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-055 **Matrix:** SOIL

Client Sample ID: SP 100
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	3/4/2019 9:40:04 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/4/2019 9:40:04 PM
Surr: DNOP	100	70-130		%Rec	1	3/4/2019 9:40:04 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/3/2019 8:10:09 PM
Surr: BFB	91.9	73.8-119		%Rec	1	3/3/2019 8:10:09 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/3/2019 8:10:09 PM
Toluene	ND	0.047		mg/Kg	1	3/3/2019 8:10:09 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/3/2019 8:10:09 PM
Xylenes, Total	ND	0.093		mg/Kg	1	3/3/2019 8:10:09 PM
Surr: 4-Bromofluorobenzene	85.0	80-120		%Rec	1	3/3/2019 8:10:09 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	320	60		mg/Kg	20	3/6/2019 6:41:29 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 101
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-056
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	3/4/2019 10:03:50 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/4/2019 10:03:50 PM
Surr: DNOP	101	70-130		%Rec	1	3/4/2019 10:03:50 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/3/2019 8:33:27 PM
Surr: BFB	92.5	73.8-119		%Rec	1	3/3/2019 8:33:27 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/3/2019 8:33:27 PM
Toluene	ND	0.049		mg/Kg	1	3/3/2019 8:33:27 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2019 8:33:27 PM
Xylenes, Total	ND	0.098		mg/Kg	1	3/3/2019 8:33:27 PM
Surr: 4-Bromofluorobenzene	86.1	80-120		%Rec	1	3/3/2019 8:33:27 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	690	60		mg/Kg	20	3/6/2019 6:53:54 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 102
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-057
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	3/4/2019 10:27:37 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/4/2019 10:27:37 PM
Surr: DNOP	94.3	70-130		%Rec	1	3/4/2019 10:27:37 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/3/2019 8:56:45 PM
Surr: BFB	91.6	73.8-119		%Rec	1	3/3/2019 8:56:45 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 8:56:45 PM
Toluene	ND	0.047		mg/Kg	1	3/3/2019 8:56:45 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/3/2019 8:56:45 PM
Xylenes, Total	ND	0.095		mg/Kg	1	3/3/2019 8:56:45 PM
Surr: 4-Bromofluorobenzene	84.9	80-120		%Rec	1	3/3/2019 8:56:45 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	460	60		mg/Kg	20	3/6/2019 7:06:19 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-058 **Matrix:** SOIL

Client Sample ID: SP 103
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/4/2019 10:51:19 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/4/2019 10:51:19 PM
Surr: DNOP	101	70-130		%Rec	1	3/4/2019 10:51:19 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/3/2019 9:20:19 PM
Surr: BFB	89.4	73.8-119		%Rec	1	3/3/2019 9:20:19 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/3/2019 9:20:19 PM
Toluene	ND	0.046		mg/Kg	1	3/3/2019 9:20:19 PM
Ethylbenzene	ND	0.046		mg/Kg	1	3/3/2019 9:20:19 PM
Xylenes, Total	ND	0.093		mg/Kg	1	3/3/2019 9:20:19 PM
Surr: 4-Bromofluorobenzene	82.9	80-120		%Rec	1	3/3/2019 9:20:19 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	130	60		mg/Kg	20	3/6/2019 7:43:32 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-059 **Matrix:** SOIL

Client Sample ID: SP 104
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/4/2019 11:15:02 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/4/2019 11:15:02 PM
Surr: DNOP	98.1	70-130		%Rec	1	3/4/2019 11:15:02 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/3/2019 9:43:50 PM
Surr: BFB	92.4	73.8-119		%Rec	1	3/3/2019 9:43:50 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/3/2019 9:43:50 PM
Toluene	ND	0.047		mg/Kg	1	3/3/2019 9:43:50 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/3/2019 9:43:50 PM
Xylenes, Total	ND	0.094		mg/Kg	1	3/3/2019 9:43:50 PM
Surr: 4-Bromofluorobenzene	85.7	80-120		%Rec	1	3/3/2019 9:43:50 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	240	60		mg/Kg	20	3/6/2019 8:20:46 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 105
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-060
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/4/2019 11:38:46 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/4/2019 11:38:46 PM
Surr: DNOP	98.5	70-130		%Rec	1	3/4/2019 11:38:46 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/3/2019 10:07:21 PM
Surr: BFB	93.9	73.8-119		%Rec	1	3/3/2019 10:07:21 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 10:07:21 PM
Toluene	ND	0.047		mg/Kg	1	3/3/2019 10:07:21 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/3/2019 10:07:21 PM
Xylenes, Total	ND	0.095		mg/Kg	1	3/3/2019 10:07:21 PM
Surr: 4-Bromofluorobenzene	87.2	80-120		%Rec	1	3/3/2019 10:07:21 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	300	60		mg/Kg	20	3/6/2019 8:33:11 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 106
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-061
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/5/2019 4:13:25 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/5/2019 4:13:25 PM
Surr: DNOP	74.2	70-130		%Rec	1	3/5/2019 4:13:25 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/3/2019 10:43:44 AM
Surr: BFB	90.4	73.8-119		%Rec	1	3/3/2019 10:43:44 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/3/2019 10:43:44 AM
Toluene	ND	0.049		mg/Kg	1	3/3/2019 10:43:44 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2019 10:43:44 AM
Xylenes, Total	ND	0.099		mg/Kg	1	3/3/2019 10:43:44 AM
Surr: 4-Bromofluorobenzene	92.9	80-120		%Rec	1	3/3/2019 10:43:44 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	280	60		mg/Kg	20	3/6/2019 8:45:36 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 107
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-062
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/5/2019 5:26:33 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/5/2019 5:26:33 PM
Surr: DNOP	77.8	70-130		%Rec	1	3/5/2019 5:26:33 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/3/2019 11:52:10 AM
Surr: BFB	93.5	73.8-119		%Rec	1	3/3/2019 11:52:10 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/3/2019 11:52:10 AM
Toluene	ND	0.047		mg/Kg	1	3/3/2019 11:52:10 AM
Ethylbenzene	ND	0.047		mg/Kg	1	3/3/2019 11:52:10 AM
Xylenes, Total	ND	0.093		mg/Kg	1	3/3/2019 11:52:10 AM
Surr: 4-Bromofluorobenzene	98.0	80-120		%Rec	1	3/3/2019 11:52:10 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	330	60		mg/Kg	20	3/6/2019 8:58:00 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 108
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-063
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/5/2019 5:51:03 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/5/2019 5:51:03 PM
Surr: DNOP	72.7	70-130		%Rec	1	3/5/2019 5:51:03 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2019 1:00:44 PM
Surr: BFB	92.7	73.8-119		%Rec	1	3/3/2019 1:00:44 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 1:00:44 PM
Toluene	ND	0.048		mg/Kg	1	3/3/2019 1:00:44 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2019 1:00:44 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/3/2019 1:00:44 PM
Surr: 4-Bromofluorobenzene	95.3	80-120		%Rec	1	3/3/2019 1:00:44 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	230	60		mg/Kg	20	3/6/2019 9:10:25 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 109
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-064
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/5/2019 6:39:52 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/5/2019 6:39:52 PM
Surr: DNOP	80.3	70-130		%Rec	1	3/5/2019 6:39:52 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/3/2019 1:23:39 PM
Surr: BFB	93.1	73.8-119		%Rec	1	3/3/2019 1:23:39 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/3/2019 1:23:39 PM
Toluene	ND	0.050		mg/Kg	1	3/3/2019 1:23:39 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/3/2019 1:23:39 PM
Xylenes, Total	ND	0.10		mg/Kg	1	3/3/2019 1:23:39 PM
Surr: 4-Bromofluorobenzene	95.4	80-120		%Rec	1	3/3/2019 1:23:39 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	270	60		mg/Kg	20	3/6/2019 9:22:49 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 110
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-065
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/5/2019 7:04:15 PM
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	3/5/2019 7:04:15 PM
Surr: DNOP	78.9	70-130		%Rec	1	3/5/2019 7:04:15 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2019 1:46:33 PM
Surr: BFB	91.9	73.8-119		%Rec	1	3/3/2019 1:46:33 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 1:46:33 PM
Toluene	ND	0.048		mg/Kg	1	3/3/2019 1:46:33 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2019 1:46:33 PM
Xylenes, Total	ND	0.097		mg/Kg	1	3/3/2019 1:46:33 PM
Surr: 4-Bromofluorobenzene	94.4	80-120		%Rec	1	3/3/2019 1:46:33 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	260	60		mg/Kg	20	3/6/2019 9:35:14 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 111
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-066
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/5/2019 7:28:38 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/5/2019 7:28:38 PM
Surr: DNOP	79.9	70-130		%Rec	1	3/5/2019 7:28:38 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2019 2:09:28 PM
Surr: BFB	92.2	73.8-119		%Rec	1	3/3/2019 2:09:28 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 2:09:28 PM
Toluene	ND	0.048		mg/Kg	1	3/3/2019 2:09:28 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2019 2:09:28 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/3/2019 2:09:28 PM
Surr: 4-Bromofluorobenzene	93.9	80-120		%Rec	1	3/3/2019 2:09:28 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	290	60		mg/Kg	20	3/6/2019 10:12:29 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 112
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-067
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/6/2019 9:44:04 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/6/2019 9:44:04 AM
Surr: DNOP	77.0	70-130		%Rec	1	3/6/2019 9:44:04 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/3/2019 2:32:21 PM
Surr: BFB	90.8	73.8-119		%Rec	1	3/3/2019 2:32:21 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/3/2019 2:32:21 PM
Toluene	ND	0.049		mg/Kg	1	3/3/2019 2:32:21 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2019 2:32:21 PM
Xylenes, Total	ND	0.098		mg/Kg	1	3/3/2019 2:32:21 PM
Surr: 4-Bromofluorobenzene	92.9	80-120		%Rec	1	3/3/2019 2:32:21 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	270	60		mg/Kg	20	3/6/2019 10:24:54 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 113
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-068
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/6/2019 7:58:13 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/6/2019 7:58:13 PM
Surr: DNOP	87.8	70-130		%Rec	1	3/6/2019 7:58:13 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2019 2:55:13 PM
Surr: BFB	93.7	73.8-119		%Rec	1	3/3/2019 2:55:13 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 2:55:13 PM
Toluene	ND	0.048		mg/Kg	1	3/3/2019 2:55:13 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2019 2:55:13 PM
Xylenes, Total	ND	0.097		mg/Kg	1	3/3/2019 2:55:13 PM
Surr: 4-Bromofluorobenzene	94.4	80-120		%Rec	1	3/3/2019 2:55:13 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	340	60		mg/Kg	20	3/7/2019 12:29:48 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-069 **Matrix:** SOIL

Client Sample ID: SP 114
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/6/2019 8:22:20 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/6/2019 8:22:20 PM
Surr: DNOP	89.6	70-130		%Rec	1	3/6/2019 8:22:20 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/3/2019 3:18:05 PM
Surr: BFB	92.5	73.8-119		%Rec	1	3/3/2019 3:18:05 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/3/2019 3:18:05 PM
Toluene	ND	0.047		mg/Kg	1	3/3/2019 3:18:05 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/3/2019 3:18:05 PM
Xylenes, Total	ND	0.093		mg/Kg	1	3/3/2019 3:18:05 PM
Surr: 4-Bromofluorobenzene	94.2	80-120		%Rec	1	3/3/2019 3:18:05 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	390	60		mg/Kg	20	3/7/2019 1:07:02 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 115
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-070
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/6/2019 8:46:25 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/6/2019 8:46:25 PM
Surr: DNOP	86.3	70-130		%Rec	1	3/6/2019 8:46:25 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/3/2019 3:40:56 PM
Surr: BFB	92.0	73.8-119		%Rec	1	3/3/2019 3:40:56 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/3/2019 3:40:56 PM
Toluene	ND	0.046		mg/Kg	1	3/3/2019 3:40:56 PM
Ethylbenzene	ND	0.046		mg/Kg	1	3/3/2019 3:40:56 PM
Xylenes, Total	ND	0.092		mg/Kg	1	3/3/2019 3:40:56 PM
Surr: 4-Bromofluorobenzene	94.0	80-120		%Rec	1	3/3/2019 3:40:56 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	310	60		mg/Kg	20	3/7/2019 1:19:26 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-071 **Matrix:** SOIL

Client Sample ID: SP 116
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/6/2019 9:10:29 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/6/2019 9:10:29 PM
Surr: DNOP	90.9	70-130		%Rec	1	3/6/2019 9:10:29 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/3/2019 5:35:17 PM
Surr: BFB	92.3	73.8-119		%Rec	1	3/3/2019 5:35:17 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/3/2019 5:35:17 PM
Toluene	ND	0.050		mg/Kg	1	3/3/2019 5:35:17 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/3/2019 5:35:17 PM
Xylenes, Total	ND	0.099		mg/Kg	1	3/3/2019 5:35:17 PM
Surr: 4-Bromofluorobenzene	94.6	80-120		%Rec	1	3/3/2019 5:35:17 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	300	60		mg/Kg	20	3/7/2019 1:31:51 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 117
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-072
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/5/2019 9:54:12 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/5/2019 9:54:12 PM
Surr: DNOP	73.0	70-130		%Rec	1	3/5/2019 9:54:12 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/3/2019 5:58:10 PM
Surr: BFB	89.7	73.8-119		%Rec	1	3/3/2019 5:58:10 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/3/2019 5:58:10 PM
Toluene	ND	0.049		mg/Kg	1	3/3/2019 5:58:10 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2019 5:58:10 PM
Xylenes, Total	ND	0.098		mg/Kg	1	3/3/2019 5:58:10 PM
Surr: 4-Bromofluorobenzene	91.9	80-120		%Rec	1	3/3/2019 5:58:10 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	170	60		mg/Kg	20	3/7/2019 1:44:16 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-073 **Matrix:** SOIL

Client Sample ID: SP 118
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/6/2019 9:34:33 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/6/2019 9:34:33 PM
Surr: DNOP	84.0	70-130		%Rec	1	3/6/2019 9:34:33 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/3/2019 6:21:02 PM
Surr: BFB	90.7	73.8-119		%Rec	1	3/3/2019 6:21:02 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/3/2019 6:21:02 PM
Toluene	ND	0.046		mg/Kg	1	3/3/2019 6:21:02 PM
Ethylbenzene	ND	0.046		mg/Kg	1	3/3/2019 6:21:02 PM
Xylenes, Total	ND	0.093		mg/Kg	1	3/3/2019 6:21:02 PM
Surr: 4-Bromofluorobenzene	92.1	80-120		%Rec	1	3/3/2019 6:21:02 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	300	60		mg/Kg	20	3/7/2019 2:21:30 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-074 **Matrix:** SOIL

Client Sample ID: SP 119
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/6/2019 9:58:33 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/6/2019 9:58:33 PM
Surr: DNOP	88.7	70-130		%Rec	1	3/6/2019 9:58:33 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2019 6:43:54 PM
Surr: BFB	89.6	73.8-119		%Rec	1	3/3/2019 6:43:54 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 6:43:54 PM
Toluene	ND	0.048		mg/Kg	1	3/3/2019 6:43:54 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2019 6:43:54 PM
Xylenes, Total	ND	0.095		mg/Kg	1	3/3/2019 6:43:54 PM
Surr: 4-Bromofluorobenzene	91.9	80-120		%Rec	1	3/3/2019 6:43:54 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	480	59		mg/Kg	20	3/7/2019 2:33:55 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-075 **Matrix:** SOIL

Client Sample ID: SP 120
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/6/2019 10:22:32 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/6/2019 10:22:32 PM
Surr: DNOP	95.4	70-130		%Rec	1	3/6/2019 10:22:32 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/3/2019 7:06:44 PM
Surr: BFB	91.4	73.8-119		%Rec	1	3/3/2019 7:06:44 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/3/2019 7:06:44 PM
Toluene	ND	0.050		mg/Kg	1	3/3/2019 7:06:44 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/3/2019 7:06:44 PM
Xylenes, Total	ND	0.10		mg/Kg	1	3/3/2019 7:06:44 PM
Surr: 4-Bromofluorobenzene	93.4	80-120		%Rec	1	3/3/2019 7:06:44 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	590	59		mg/Kg	20	3/7/2019 2:46:20 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP 121
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-076
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	3/6/2019 10:46:30 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/6/2019 10:46:30 PM
Surr: DNOP	95.9	70-130		%Rec	1	3/6/2019 10:46:30 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/3/2019 7:29:37 PM
Surr: BFB	90.5	73.8-119		%Rec	1	3/3/2019 7:29:37 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/3/2019 7:29:37 PM
Toluene	ND	0.046		mg/Kg	1	3/3/2019 7:29:37 PM
Ethylbenzene	ND	0.046		mg/Kg	1	3/3/2019 7:29:37 PM
Xylenes, Total	ND	0.093		mg/Kg	1	3/3/2019 7:29:37 PM
Surr: 4-Bromofluorobenzene	92.8	80-120		%Rec	1	3/3/2019 7:29:37 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	290	60		mg/Kg	20	3/7/2019 2:58:44 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-077 **Matrix:** SOIL

Client Sample ID: SP 122
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/6/2019 11:10:26 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/6/2019 11:10:26 PM
Surr: DNOP	91.1	70-130		%Rec	1	3/6/2019 11:10:26 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2019 7:52:30 PM
Surr: BFB	92.4	73.8-119		%Rec	1	3/3/2019 7:52:30 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 7:52:30 PM
Toluene	ND	0.048		mg/Kg	1	3/3/2019 7:52:30 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2019 7:52:30 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/3/2019 7:52:30 PM
Surr: 4-Bromofluorobenzene	94.4	80-120		%Rec	1	3/3/2019 7:52:30 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	440	60		mg/Kg	20	3/7/2019 3:11:08 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-078 **Matrix:** SOIL

Client Sample ID: SP 123
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/6/2019 11:34:22 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/6/2019 11:34:22 PM
Surr: DNOP	82.6	70-130		%Rec	1	3/6/2019 11:34:22 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/3/2019 8:15:19 PM
Surr: BFB	92.5	73.8-119		%Rec	1	3/3/2019 8:15:19 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 8:15:19 PM
Toluene	ND	0.049		mg/Kg	1	3/3/2019 8:15:19 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2019 8:15:19 PM
Xylenes, Total	ND	0.098		mg/Kg	1	3/3/2019 8:15:19 PM
Surr: 4-Bromofluorobenzene	93.9	80-120		%Rec	1	3/3/2019 8:15:19 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	230	60		mg/Kg	20	3/7/2019 3:23:33 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SW 1
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-079
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/6/2019 11:58:15 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/6/2019 11:58:15 PM
Surr: DNOP	99.5	70-130		%Rec	1	3/6/2019 11:58:15 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/3/2019 8:38:07 PM
Surr: BFB	93.1	73.8-119		%Rec	1	3/3/2019 8:38:07 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/3/2019 8:38:07 PM
Toluene	ND	0.046		mg/Kg	1	3/3/2019 8:38:07 PM
Ethylbenzene	ND	0.046		mg/Kg	1	3/3/2019 8:38:07 PM
Xylenes, Total	ND	0.093		mg/Kg	1	3/3/2019 8:38:07 PM
Surr: 4-Bromofluorobenzene	94.5	80-120		%Rec	1	3/3/2019 8:38:07 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	70	60		mg/Kg	20	3/7/2019 3:35:58 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-080 **Matrix:** SOIL

Client Sample ID: SW 2
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/7/2019 12:22:06 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/7/2019 12:22:06 AM
Surr: DNOP	99.1	70-130		%Rec	1	3/7/2019 12:22:06 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2019 9:00:46 PM
Surr: BFB	94.2	73.8-119		%Rec	1	3/3/2019 9:00:46 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2019 9:00:46 PM
Toluene	ND	0.048		mg/Kg	1	3/3/2019 9:00:46 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2019 9:00:46 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/3/2019 9:00:46 PM
Surr: 4-Bromofluorobenzene	96.4	80-120		%Rec	1	3/3/2019 9:00:46 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	72	59		mg/Kg	20	3/7/2019 3:48:22 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-081 **Matrix:** SOIL

Client Sample ID: SW 3
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/6/2019 11:12:56 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/6/2019 11:12:56 AM
Surr: DNOP	76.8	70-130		%Rec	1	3/6/2019 11:12:56 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/4/2019 2:18:34 PM
Surr: BFB	94.3	73.8-119		%Rec	1	3/4/2019 2:18:34 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/4/2019 2:18:34 PM
Toluene	ND	0.048		mg/Kg	1	3/4/2019 2:18:34 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/4/2019 2:18:34 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/4/2019 2:18:34 PM
Surr: 4-Bromofluorobenzene	87.6	80-120		%Rec	1	3/4/2019 2:18:34 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	550	60		mg/Kg	20	3/7/2019 4:00:47 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903003-082 **Matrix:** SOIL

Client Sample ID: SW 4
Collection Date: 2/28/2019
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/5/2019 8:48:19 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/5/2019 8:48:19 PM
Surr: DNOP	84.5	70-130		%Rec	1	3/5/2019 8:48:19 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/4/2019 2:41:56 PM
Surr: BFB	93.5	73.8-119		%Rec	1	3/4/2019 2:41:56 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/4/2019 2:41:56 PM
Toluene	ND	0.048		mg/Kg	1	3/4/2019 2:41:56 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/4/2019 2:41:56 PM
Xylenes, Total	ND	0.095		mg/Kg	1	3/4/2019 2:41:56 PM
Surr: 4-Bromofluorobenzene	86.6	80-120		%Rec	1	3/4/2019 2:41:56 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	560	59		mg/Kg	20	3/7/2019 4:13:11 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SW 5
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-083
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/5/2019 9:10:15 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/5/2019 9:10:15 PM
Surr: DNOP	78.5	70-130		%Rec	1	3/5/2019 9:10:15 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/4/2019 3:05:19 PM
Surr: BFB	93.4	73.8-119		%Rec	1	3/4/2019 3:05:19 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/4/2019 3:05:19 PM
Toluene	ND	0.049		mg/Kg	1	3/4/2019 3:05:19 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/4/2019 3:05:19 PM
Xylenes, Total	ND	0.097		mg/Kg	1	3/4/2019 3:05:19 PM
Surr: 4-Bromofluorobenzene	87.7	80-120		%Rec	1	3/4/2019 3:05:19 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	600	60		mg/Kg	20	3/7/2019 4:50:25 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SW 6
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-084
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/5/2019 9:32:27 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/5/2019 9:32:27 PM
Surr: DNOP	86.3	70-130		%Rec	1	3/5/2019 9:32:27 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/4/2019 3:28:38 PM
Surr: BFB	93.2	73.8-119		%Rec	1	3/4/2019 3:28:38 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/4/2019 3:28:38 PM
Toluene	ND	0.050		mg/Kg	1	3/4/2019 3:28:38 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/4/2019 3:28:38 PM
Xylenes, Total	ND	0.10		mg/Kg	1	3/4/2019 3:28:38 PM
Surr: 4-Bromofluorobenzene	86.7	80-120		%Rec	1	3/4/2019 3:28:38 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	850	60		mg/Kg	20	3/7/2019 5:02:50 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SW 7
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-085
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/5/2019 9:54:21 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/5/2019 9:54:21 PM
Surr: DNOP	80.3	70-130		%Rec	1	3/5/2019 9:54:21 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/4/2019 3:51:53 PM
Surr: BFB	92.9	73.8-119		%Rec	1	3/4/2019 3:51:53 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/4/2019 3:51:53 PM
Toluene	ND	0.047		mg/Kg	1	3/4/2019 3:51:53 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/4/2019 3:51:53 PM
Xylenes, Total	ND	0.094		mg/Kg	1	3/4/2019 3:51:53 PM
Surr: 4-Bromofluorobenzene	86.8	80-120		%Rec	1	3/4/2019 3:51:53 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	570	60		mg/Kg	20	3/7/2019 5:15:14 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903003**
Date Reported: **3/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SW 8
Project: LVP SWD
Collection Date: 2/28/2019
Lab ID: 1903003-086
Matrix: SOIL
Received Date: 3/1/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/5/2019 10:16:23 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/5/2019 10:16:23 PM
Surr: DNOP	77.4	70-130		%Rec	1	3/5/2019 10:16:23 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/4/2019 5:48:12 PM
Surr: BFB	89.8	73.8-119		%Rec	1	3/4/2019 5:48:12 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/4/2019 5:48:12 PM
Toluene	ND	0.049		mg/Kg	1	3/4/2019 5:48:12 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/4/2019 5:48:12 PM
Xylenes, Total	ND	0.097		mg/Kg	1	3/4/2019 5:48:12 PM
Surr: 4-Bromofluorobenzene	84.1	80-120		%Rec	1	3/4/2019 5:48:12 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	490	60		mg/Kg	20	3/7/2019 5:27:39 PM

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903003**
08-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-43497** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **43497** RunNo: **58116**
Prep Date: **3/5/2019** Analysis Date: **3/5/2019** SeqNo: **1949532** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-43497** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **43497** RunNo: **58116**
Prep Date: **3/5/2019** Analysis Date: **3/5/2019** SeqNo: **1949533** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.1	90	110			

Sample ID: **MB-43521** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **43521** RunNo: **58116**
Prep Date: **3/5/2019** Analysis Date: **3/5/2019** SeqNo: **1949571** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-43521** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **43521** RunNo: **58116**
Prep Date: **3/5/2019** Analysis Date: **3/5/2019** SeqNo: **1949572** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.8	90	110			

Sample ID: **MB-43527** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **43527** RunNo: **58179**
Prep Date: **3/6/2019** Analysis Date: **3/6/2019** SeqNo: **1951094** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-43527** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **43527** RunNo: **58179**
Prep Date: **3/6/2019** Analysis Date: **3/6/2019** SeqNo: **1951095** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.3	90	110			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903003**
08-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-43532** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **43532** RunNo: **58179**
Prep Date: **3/6/2019** Analysis Date: **3/6/2019** SeqNo: **1951124** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-43532** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **43532** RunNo: **58179**
Prep Date: **3/6/2019** Analysis Date: **3/6/2019** SeqNo: **1951125** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.1	90	110			

Sample ID: **MB-43555** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **43555** RunNo: **58187**
Prep Date: **3/7/2019** Analysis Date: **3/7/2019** SeqNo: **1952520** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-43555** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **43555** RunNo: **58187**
Prep Date: **3/7/2019** Analysis Date: **3/7/2019** SeqNo: **1952521** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.0	90	110			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903003**
08-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **LCS-43436** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **43436** RunNo: **58076**
Prep Date: **3/1/2019** Analysis Date: **3/4/2019** SeqNo: **1947282** 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	93.4	63.9	124			
Surr: DNOP	4.2		5.000		83.7	70	130			

Sample ID: **MB-43436** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **43436** RunNo: **58076**
Prep Date: **3/1/2019** Analysis Date: **3/4/2019** SeqNo: **1947283** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.4		10.00		93.5	70	130			

Sample ID: **1903003-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP 46** Batch ID: **43436** RunNo: **58076**
Prep Date: **3/1/2019** Analysis Date: **3/4/2019** SeqNo: **1947285** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	9.8	49.16	0	101	53.5	126			
Surr: DNOP	5.3		4.916		108	70	130			

Sample ID: **1903003-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP 46** Batch ID: **43436** RunNo: **58076**
Prep Date: **3/1/2019** Analysis Date: **3/4/2019** SeqNo: **1947286** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	9.8	48.78	0	90.9	53.5	126	11.4	21.7	
Surr: DNOP	4.3		4.878		88.2	70	130	0	0	

Sample ID: **LCS-43437** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **43437** RunNo: **58090**
Prep Date: **3/1/2019** Analysis Date: **3/4/2019** SeqNo: **1947500** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	92.3	63.9	124			
Surr: DNOP	4.2		5.000		84.2	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903003**
08-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-43437** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **43437** RunNo: **58090**
Prep Date: **3/1/2019** Analysis Date: **3/4/2019** SeqNo: **1947501** 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	8.5		10.00		84.5	70	130			

Sample ID: **1903003-021AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP 66** Batch ID: **43437** RunNo: **58090**
Prep Date: **3/1/2019** Analysis Date: **3/4/2019** SeqNo: **1947503** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	9.2	45.96	5.984	82.0	53.5	126			
Surr: DNOP	3.7		4.596		79.8	70	130			

Sample ID: **1903003-021AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP 66** Batch ID: **43437** RunNo: **58090**
Prep Date: **3/1/2019** Analysis Date: **3/4/2019** SeqNo: **1947504** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	9.4	47.13	5.984	77.0	53.5	126	3.27	21.7	
Surr: DNOP	3.5		4.713		75.3	70	130	0	0	

Sample ID: **MB-43438** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **43438** RunNo: **58124**
Prep Date: **3/1/2019** Analysis Date: **3/4/2019** SeqNo: **1949046** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.1		10.00		91.3	70	130			

Sample ID: **LCS-43438** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **43438** RunNo: **58124**
Prep Date: **3/1/2019** Analysis Date: **3/4/2019** SeqNo: **1949047** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	92.1	63.9	124			
Surr: DNOP	4.6		5.000		92.1	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903003**
08-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **1903003-041AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP 86** Batch ID: **43438** RunNo: **58124**
Prep Date: **3/1/2019** Analysis Date: **3/4/2019** SeqNo: **1949049** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	9.7	48.26	0	85.3	53.5	126			
Surr: DNOP	4.6		4.826		95.0	70	130			

Sample ID: **1903003-041AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP 86** Batch ID: **43438** RunNo: **58124**
Prep Date: **3/1/2019** Analysis Date: **3/4/2019** SeqNo: **1949050** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	9.5	47.53	0	89.1	53.5	126	2.75	21.7	
Surr: DNOP	4.6		4.753		96.0	70	130	0	0	

Sample ID: **LCS-43439** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **43439** RunNo: **58108**
Prep Date: **3/1/2019** Analysis Date: **3/5/2019** SeqNo: **1949467** 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	88.9	63.9	124			
Surr: DNOP	3.0		5.000		60.8	70	130			S

Sample ID: **MB-43439** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **43439** RunNo: **58108**
Prep Date: **3/1/2019** Analysis Date: **3/5/2019** SeqNo: **1949468** 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	7.5		10.00		74.8	70	130			

Sample ID: **1903003-061AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP 106** Batch ID: **43439** RunNo: **58108**
Prep Date: **3/1/2019** Analysis Date: **3/5/2019** SeqNo: **1949471** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	9.9	49.65	3.521	98.8	53.5	126			
Surr: DNOP	4.4		4.965		89.5	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903003**
08-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **1903003-061AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP 106** Batch ID: **43439** RunNo: **58108**
Prep Date: **3/1/2019** Analysis Date: **3/5/2019** SeqNo: **1949472** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	9.5	47.30	3.521	81.7	53.5	126	22.0	21.7	R
Surr: DNOP	3.3		4.730		69.7	70	130	0	0	S

Sample ID: **LCS-43440** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **43440** RunNo: **58110**
Prep Date: **3/1/2019** Analysis Date: **3/5/2019** SeqNo: **1949927** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	102	63.9	124			
Surr: DNOP	4.3		5.000		85.7	70	130			

Sample ID: **MB-43440** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **43440** RunNo: **58110**
Prep Date: **3/1/2019** Analysis Date: **3/5/2019** SeqNo: **1949928** 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: **1903003-081AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SW 3** Batch ID: **43440** RunNo: **58110**
Prep Date: **3/4/2019** Analysis Date: **3/5/2019** SeqNo: **1950144** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	90.7	53.5	126			
Surr: DNOP	3.3		5.000		66.4	70	130			S

Sample ID: **1903003-081AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SW 3** Batch ID: **43440** RunNo: **58110**
Prep Date: **3/4/2019** Analysis Date: **3/5/2019** SeqNo: **1950145** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	49.80	0	92.6	53.5	126	1.63	21.7	
Surr: DNOP	3.5		4.980		70.1	70	130	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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903003**
08-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-43430** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **43430** RunNo: **58061**
Prep Date: **3/1/2019** Analysis Date: **3/2/2019** SeqNo: **1945780** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		99.5	73.8	119			

Sample ID: **LCS-43430** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **43430** RunNo: **58061**
Prep Date: **3/1/2019** Analysis Date: **3/2/2019** SeqNo: **1945781** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	111	80.1	123			
Surr: BFB	1100		1000		108	73.8	119			

Sample ID: **1903003-001AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP 46** Batch ID: **43430** RunNo: **58061**
Prep Date: **3/1/2019** Analysis Date: **3/2/2019** SeqNo: **1945783** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	30	4.8	24.18	0	122	69.1	142			
Surr: BFB	1100		967.1		112	73.8	119			

Sample ID: **1903003-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP 46** Batch ID: **43430** RunNo: **58061**
Prep Date: **3/1/2019** Analysis Date: **3/2/2019** SeqNo: **1945784** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	4.8	23.85	0	120	69.1	142	2.93	20	
Surr: BFB	1100		954.2		111	73.8	119	0	0	

Sample ID: **MB-43431** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **43431** RunNo: **58062**
Prep Date: **3/1/2019** Analysis Date: **3/2/2019** SeqNo: **1945862** 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		97.0	73.8	119			

Sample ID: **LCS-43431** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **43431** RunNo: **58062**
Prep Date: **3/1/2019** Analysis Date: **3/2/2019** SeqNo: **1945863** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903003**
08-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **LCS-43431** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **43431** RunNo: **58062**
Prep Date: **3/1/2019** Analysis Date: **3/2/2019** SeqNo: **1945863** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	110	80.1	123			
Surr: BFB	1100		1000		113	73.8	119			

Sample ID: **1903003-021AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP 66** Batch ID: **43431** RunNo: **58062**
Prep Date: **3/1/2019** Analysis Date: **3/2/2019** SeqNo: **1945865** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	4.8	23.85	0	116	69.1	142			
Surr: BFB	1100		954.2		112	73.8	119			

Sample ID: **1903003-021AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP 66** Batch ID: **43431** RunNo: **58062**
Prep Date: **3/1/2019** Analysis Date: **3/2/2019** SeqNo: **1945866** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.9	24.68	0	109	69.1	142	2.44	20	
Surr: BFB	1100		987.2		112	73.8	119	0	0	

Sample ID: **MB-43433** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **43433** RunNo: **58068**
Prep Date: **3/1/2019** Analysis Date: **3/3/2019** SeqNo: **1946027** 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		93.4	73.8	119			

Sample ID: **LCS-43433** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **43433** RunNo: **58068**
Prep Date: **3/1/2019** Analysis Date: **3/3/2019** SeqNo: **1946028** 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	105	80.1	123			
Surr: BFB	1100		1000		113	73.8	119			

Sample ID: **1903003-061AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP 106** Batch ID: **43433** RunNo: **58068**
Prep Date: **3/1/2019** Analysis Date: **3/3/2019** SeqNo: **1946030** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903003**
08-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **1903003-061AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP 106** Batch ID: **43433** RunNo: **58068**
Prep Date: **3/1/2019** Analysis Date: **3/3/2019** SeqNo: **1946030** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	24.90	0	103	69.1	142			
Surr: BFB	1200		996.0		119	73.8	119			S

Sample ID: **1903003-061AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP 106** Batch ID: **43433** RunNo: **58068**
Prep Date: **3/1/2019** Analysis Date: **3/3/2019** SeqNo: **1946031** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.8	23.95	0	105	69.1	142	1.52	20	
Surr: BFB	1100		957.9		113	73.8	119	0	0	

Sample ID: **MB-43432** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **43432** RunNo: **58067**
Prep Date: **3/1/2019** Analysis Date: **3/3/2019** SeqNo: **1946081** 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	960		1000		95.6	73.8	119			

Sample ID: **LCS-43432** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **43432** RunNo: **58067**
Prep Date: **3/1/2019** Analysis Date: **3/3/2019** SeqNo: **1946082** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	109	80.1	123			
Surr: BFB	1100		1000		107	73.8	119			

Sample ID: **1903003-041AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP 86** Batch ID: **43432** RunNo: **58067**
Prep Date: **3/1/2019** Analysis Date: **3/3/2019** SeqNo: **1946084** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	4.7	23.70	0	82.8	69.1	142			
Surr: BFB	1000		947.9		108	73.8	119			

Sample ID: **1903003-041AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP 86** Batch ID: **43432** RunNo: **58067**
Prep Date: **3/1/2019** Analysis Date: **3/3/2019** SeqNo: **1946085** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903003**
08-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **1903003-041AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP 86** Batch ID: **43432** RunNo: **58067**
Prep Date: **3/1/2019** Analysis Date: **3/3/2019** SeqNo: **1946085** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.8	24.02	0	94.4	69.1	142	14.4	20	
Surr: BFB	1100		960.6		110	73.8	119	0	0	

Sample ID: **MB-43434** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **43434** RunNo: **58093**
Prep Date: **3/1/2019** Analysis Date: **3/4/2019** SeqNo: **1947558** 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		95.4	73.8	119			

Sample ID: **LCS-43434** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **43434** RunNo: **58093**
Prep Date: **3/1/2019** Analysis Date: **3/4/2019** SeqNo: **1947559** 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	106	80.1	123			
Surr: BFB	1000		1000		105	73.8	119			

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903003**
08-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-43430** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **43430** RunNo: **58061**
Prep Date: **3/1/2019** Analysis Date: **3/2/2019** SeqNo: **1945818** 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	0.94		1.000		94.2	80	120			

Sample ID: **LCS-43430** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **43430** RunNo: **58061**
Prep Date: **3/1/2019** Analysis Date: **3/2/2019** SeqNo: **1945819** 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	86.6	80	120			
Toluene	0.90	0.050	1.000	0	90.0	80	120			
Ethylbenzene	0.91	0.050	1.000	0	91.4	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.3	80	120			
Surr: 4-Bromofluorobenzene	0.92		1.000		92.2	80	120			

Sample ID: **1903003-002AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP 47** Batch ID: **43430** RunNo: **58061**
Prep Date: **3/1/2019** Analysis Date: **3/2/2019** SeqNo: **1945822** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.024	0.9542	0	92.9	63.9	127			
Toluene	0.94	0.048	0.9542	0.01228	97.1	69.9	131			
Ethylbenzene	0.95	0.048	0.9542	0	100	71	132			
Xylenes, Total	2.9	0.095	2.863	0.01624	101	71.8	131			
Surr: 4-Bromofluorobenzene	0.88		0.9542		91.7	80	120			

Sample ID: **1903003-002AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP 47** Batch ID: **43430** RunNo: **58061**
Prep Date: **3/1/2019** Analysis Date: **3/2/2019** SeqNo: **1945823** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.024	0.9634	0	90.3	63.9	127	1.86	20	
Toluene	0.91	0.048	0.9634	0.01228	93.7	69.9	131	2.60	20	
Ethylbenzene	0.93	0.048	0.9634	0	96.5	71	132	2.66	20	
Xylenes, Total	2.8	0.096	2.890	0.01624	97.7	71.8	131	2.25	20	
Surr: 4-Bromofluorobenzene	0.87		0.9634		90.8	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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903003**
08-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-43431** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **43431** RunNo: **58062**
Prep Date: **3/1/2019** Analysis Date: **3/2/2019** SeqNo: **1945891** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Sample ID: **LCS-43431** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **43431** RunNo: **58062**
Prep Date: **3/1/2019** Analysis Date: **3/2/2019** SeqNo: **1945892** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.82	0.025	1.000	0	82.3	80	120			
Toluene	0.98	0.050	1.000	0	98.4	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

Sample ID: **1903003-022AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP 67** Batch ID: **43431** RunNo: **58062**
Prep Date: **3/1/2019** Analysis Date: **3/2/2019** SeqNo: **1945895** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.80	0.023	0.9320	0	85.8	63.9	127			
Toluene	0.94	0.047	0.9320	0.007556	100	69.9	131			
Ethylbenzene	0.97	0.047	0.9320	0	104	71	132			
Xylenes, Total	2.9	0.093	2.796	0	103	71.8	131			
Surr: 4-Bromofluorobenzene	0.98		0.9320		105	80	120			

Sample ID: **1903003-022AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP 67** Batch ID: **43431** RunNo: **58062**
Prep Date: **3/1/2019** Analysis Date: **3/2/2019** SeqNo: **1945896** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.80	0.023	0.9311	0	86.4	63.9	127	0.668	20	
Toluene	0.94	0.047	0.9311	0.007556	100	69.9	131	0.0684	20	
Ethylbenzene	0.97	0.047	0.9311	0	104	71	132	0.118	20	
Xylenes, Total	2.9	0.093	2.793	0	102	71.8	131	0.830	20	
Surr: 4-Bromofluorobenzene	0.96		0.9311		103	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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903003**
08-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-43433** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **43433** RunNo: **58068**
Prep Date: **3/1/2019** Analysis Date: **3/3/2019** SeqNo: **1946054** 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		96.2	80	120			

Sample ID: **LCS-43433** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **43433** RunNo: **58068**
Prep Date: **3/1/2019** Analysis Date: **3/3/2019** SeqNo: **1946055** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.81	0.025	1.000	0	80.6	80	120			
Toluene	0.94	0.050	1.000	0	93.8	80	120			
Ethylbenzene	0.97	0.050	1.000	0	96.6	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.7	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Sample ID: **1903003-062AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP 107** Batch ID: **43433** RunNo: **58068**
Prep Date: **3/1/2019** Analysis Date: **3/3/2019** SeqNo: **1946058** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.76	0.024	0.9425	0	80.4	63.9	127			
Toluene	0.90	0.047	0.9425	0.007912	95.1	69.9	131			
Ethylbenzene	0.93	0.047	0.9425	0	98.9	71	132			
Xylenes, Total	2.8	0.094	2.828	0	97.5	71.8	131			
Surr: 4-Bromofluorobenzene	1.0		0.9425		107	80	120			

Sample ID: **1903003-062AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP 107** Batch ID: **43433** RunNo: **58068**
Prep Date: **3/1/2019** Analysis Date: **3/3/2019** SeqNo: **1946059** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.74	0.023	0.9285	0	79.9	63.9	127	2.09	20	
Toluene	0.88	0.046	0.9285	0.007912	94.3	69.9	131	2.40	20	
Ethylbenzene	0.90	0.046	0.9285	0	97.3	71	132	3.17	20	
Xylenes, Total	2.7	0.093	2.786	0	95.8	71.8	131	3.27	20	
Surr: 4-Bromofluorobenzene	0.97		0.9285		104	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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903003**
08-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-43432** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **43432** RunNo: **58067**
Prep Date: **3/1/2019** Analysis Date: **3/3/2019** SeqNo: **1946108** 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	0.89		1.000		89.4	80	120			

Sample ID: **LCS-43432** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **43432** RunNo: **58067**
Prep Date: **3/1/2019** Analysis Date: **3/3/2019** SeqNo: **1946109** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.025	1.000	0	83.1	80	120			
Toluene	0.87	0.050	1.000	0	86.6	80	120			
Ethylbenzene	0.88	0.050	1.000	0	87.8	80	120			
Xylenes, Total	2.7	0.10	3.000	0	88.5	80	120			
Surr: 4-Bromofluorobenzene	0.93		1.000		93.0	80	120			

Sample ID: **1903003-042AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP 87** Batch ID: **43432** RunNo: **58067**
Prep Date: **3/1/2019** Analysis Date: **3/3/2019** SeqNo: **1946112** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.84	0.025	0.9891	0	84.6	63.9	127			
Toluene	0.89	0.049	0.9891	0.009346	89.4	69.9	131			
Ethylbenzene	0.91	0.049	0.9891	0	92.0	71	132			
Xylenes, Total	2.8	0.099	2.967	0	92.8	71.8	131			
Surr: 4-Bromofluorobenzene	0.90		0.9891		91.0	80	120			

Sample ID: **1903003-042AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP 87** Batch ID: **43432** RunNo: **58067**
Prep Date: **3/1/2019** Analysis Date: **3/3/2019** SeqNo: **1946113** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.81	0.024	0.9737	0	83.3	63.9	127	3.08	20	
Toluene	0.86	0.049	0.9737	0.009346	87.6	69.9	131	3.58	20	
Ethylbenzene	0.88	0.049	0.9737	0	90.2	71	132	3.49	20	
Xylenes, Total	2.7	0.097	2.921	0	91.4	71.8	131	3.09	20	
Surr: 4-Bromofluorobenzene	0.89		0.9737		91.1	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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903003**
08-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-43434** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **43434** RunNo: **58093**
Prep Date: **3/1/2019** Analysis Date: **3/4/2019** SeqNo: **1947575** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.90		1.000		89.8	80	120			

Sample ID: **LCS-43434** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **43434** RunNo: **58093**
Prep Date: **3/1/2019** Analysis Date: **3/4/2019** SeqNo: **1947576** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.025	1.000	0	84.9	80	120			
Toluene	0.88	0.050	1.000	0	88.2	80	120			
Ethylbenzene	0.88	0.050	1.000	0	88.2	80	120			
Xylenes, Total	2.7	0.10	3.000	0	90.0	80	120			
Surr: 4-Bromofluorobenzene	0.87		1.000		87.4	80	120			

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: 1903003 RcptNo: 1

Received By: Leah Baca 3/1/2019 8:45:00 AM Leah Baca

Completed By: Leah Baca VVZ 3/1/19 3/1/2019 9:15:27 AM Leah Baca

Reviewed By: VVZ ~~21~~ 3/1/19

Labeled by DAD 3/1/19

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° 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 3/1/19

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	2.0	Good	Yes			
2	3.4	Good	Yes			

Chain-of-Custody Record

WPX Carlsbad

Turn-Around Time: 5 day turn

☒ Standard ☐ Rush

Project Name: LVP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.0, 3.4

Mailing Address: on file

Phone #:

email or Fax#:

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other

☐ EDD (Type)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1903003	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
2/28/2019		Soil		4oz glass	ice		X		X					X								
			SP 46			-001																
			SP 47			-002																
			SP 48			-003																
			SP 49			-004																
			SP 50			-005																
			SP 51			-006																
			SP 52			-007																
			SP 53			-008																
			SP 54			-009																
			SP 55			-010																
			SP 56			-011																

Date:	Time:	Relinquished by:	Received by:	Date	Time
2/28/2019	3:05	Kevin Smith	[signature]	2/28/19	1525
2/28/19	1900	[signature]	[signature]	3/1/19	0845

Remarks: Report to: Kris Rowe, Kevin Smith, Natalie Gordon, Debbie Watson

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

Chain-of-Custody Record

Client: WPX Carlsbad

Mailing Address: On file

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time: 5 day turn
☒ Standard ☐ Rush _____

Project Name: LVP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.0, 3.4

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1903003	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
2/28/2019		Soil		4 oz gl	ice		X		X					X							
			SP 57			-012															
			SP 58			-013															
			SP 59			-014															
			SP 60			-015															
			SP 61			-016															
			SP 62			-017															
			SP 63			-018															
			SP 64			-019															
			SP 65			-020															
			SP 66			-021															
			SP 67			-022															

Date	Time	Relinquished by	Received by	Date	Time
2/28/2019	3:00	Kevin Smith	[signature]	2/28/19	1500
2/28/19	1900	[signature]	[signature]	3/1/19	0845

Remarks:

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

Chain-of-Custody Record

Client: WPX Carlsbad

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day turn
☒ Standard ☐ Rush

Project Name: LVP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.0, 3.4

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1903003	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
2/28/2019		soil	SP 68	402 g 1	ice	-023	X		X					X								
			SP 69			-024																
			SP 70			-025																
			SP 71			-026																
			SP 72			-027																
			SP 73			-028																
			SP 74			-029																
			SP 75			-030																
			SP 76			-031																
			SP 77			-032																
			SP 78			-033																
			SP 79			-034																

Date:	Time:	Relinquished by:	Received by:	Date	Time
2/28/2019	3:00	Kevin Dunn	[signature]	2/28/19	1500
2/28/19	1900	[signature]	[signature]	3/1/19	0845

Remarks:

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

Chain-of-Custody Record

Client: WPX Carlsbad

Mailing Address: On file

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Turn-Around Time: 5 day turn
☒ Standard ☐ Rush _____

Project Name: LVP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.0, 3.4

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1903003	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
2/28/2019		Soil		4oz g (1)	ice		X		X					X							
			SP80			-035															
			SP81			-036															
			SP82			-037															
			SP83			-038															
			SP84			-039															
			SP85			-040															
			SP86			-041															
			SP87			-042															
			SP88			-043															
			SP89			-044															
			SP90			-045															

Date:	Time:	Relinquished by:	Received by:	Date	Time
2/28/2019	3:10	Kevin Smith	[signature]	2/28/19	1510
2/28/19	1910	[signature]	[signature]	3/1/19	0845

Remarks:

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

Chain-of-Custody Record

Client: WPX Carlsbad

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time: 5 day turn
☒ Standard ☐ Rush _____

Project Name: LVP SWD

Project #:

Project Manager: Iris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.0, 3.4

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1903003	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F^-, Cl^-, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
2/28/2019		Soil		4oz (1)	ice		X		X					X								
			SP 90			-																
			SP 91			-046																
			SP 92			-047																
			SP 93			-048																
			SP 94			-049																
			SP 95			-050																
			SP 96			-051																
			SP 97			-052																
			SP 98			-053																
			SP 99			-054																
			SP 100			-055																

Date	Time	Relinquished by	Received by	Date	Time
2/28/2019	3:12pm	Kevin Smith	[signature]	2/28/19	1512
2/28/19	1900	[signature]	[signature]	3/1/19	0845

Remarks:

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

Chain-of-Custody Record

Client: WPX Carlsbad

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time: 5 day turn
☒ Standard ☐ Rush _____

Project Name: LUP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.0, 3.4

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1903003	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
2/28/2019		Soil		4 oz (1)	ice		X		X					X							
			SP101			-056															
			SP102			-057															
			SP103			-058															
			SP104			-059															
			SP105			-060															
			SP106			-061															
			SP107			-062															
			SP108			-063															
			SP109			-064															
			SP110			-065															
			SP111			-066															

Date	Time	Relinquished by	Received by	Date	Time
2/28/2019	3:15	Kevin Smith	[signature]	2/28/19	1515
2/28/19	1900	[signature]	[signature]	3/1/19	0845

Remarks:

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

Chain-of-Custody Record

Client: WPX Carlsbad

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day turn
☒ Standard ☐ Rush

Project Name: LVP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.0, 3.4

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1903003	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
2/28/2019		Soil		4 oz (1)	ice		X		X					X								
			SP112			-067																
			SP113			-068																
			SP114			-069																
			SP115			-070																
			SP116			-071																
			SP117			-072																
			SP118			-073																
			SP119			-074																
			SP120			-075																
			SP121			-076																
			SP122			-077																

Date	Time	Relinquished by	Received by	Date	Time
2/28/2019	3:18	Kevin Smith		2/28/19	1518
2/28/19	1900			3/1/19	0845

Remarks:

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

Pg 8 of 8

Chain-of-Custody Record

Client: WPX Carlsbad

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Turn-Around Time: 5 day turn
☑ Standard ☐ Rush _____

Project Name: LVP Swd

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☑ Yes ☐ No

Sample Temperature: 2.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
2/28/2019		Soil		4oz(1)	ice		X		X					X							
			SW1			-079 ~~078~~															
			SW2			-080 ~~079~~															
			SW3			-081 ~~080~~															
			SW4			-082 ~~081~~															
			SW5			-083 ~~082~~															
			SW6			-084 ~~083~~															
			SW7			-085 ~~084~~															
			SW8			-086 ~~085~~															

Date:	Time:	Relinquished by:	Received by:	Date	Time
2/28/2019	3:20	Kevin Smith	[signature]	2/28/19	1520
2/28/19	1900	[signature]	[signature]	3/1/19	0845

Remarks:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

March 13, 2019

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

RE: LVP SWD OrderNo.: 1903503

Dear Kris Rowe:

Hall Environmental Analysis Laboratory received 11 sample(s) on 3/12/2019 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1903503**
Date Reported: **3/13/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903503-001 **Matrix:** SOIL

Client Sample ID: SP2R
Collection Date: 3/11/2019
Received Date: 3/12/2019 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/12/2019 11:21:47 AM	43624
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/12/2019 11:21:47 AM	43624
Surr: DNOP	99.1	70-130		%Rec	1	3/12/2019 11:21:47 AM	43624

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903503**
Date Reported: **3/13/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903503-002 **Matrix:** SOIL

Client Sample ID: SP17R
Collection Date: 3/11/2019
Received Date: 3/12/2019 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	3/12/2019 11:44:04 AM	43624
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/12/2019 11:44:04 AM	43624
Surr: DNOP	102	70-130		%Rec	1	3/12/2019 11:44:04 AM	43624

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903503**
Date Reported: **3/13/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903503-003 **Matrix:** SOIL

Client Sample ID: SP28R
Collection Date: 3/11/2019
Received Date: 3/12/2019 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	280	60		mg/Kg	20	3/12/2019 10:59:13 AM	43627

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903503**
Date Reported: **3/13/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903503-004 **Matrix:** SOIL

Client Sample ID: SP36R
Collection Date: 3/11/2019
Received Date: 3/12/2019 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/12/2019 12:06:38 PM	43624
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/12/2019 12:06:38 PM	43624
Surr: DNOP	97.1	70-130		%Rec	1	3/12/2019 12:06:38 PM	43624

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903503**
Date Reported: **3/13/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903503-005 **Matrix:** SOIL

Client Sample ID: SP40R
Collection Date: 3/11/2019
Received Date: 3/12/2019 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	130	60		mg/Kg	20	3/12/2019 11:11:37 AM	43627

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903503**
Date Reported: **3/13/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903503-006 **Matrix:** SOIL

Client Sample ID: SP48R
Collection Date: 3/11/2019
Received Date: 3/12/2019 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	130	59		mg/Kg	20	3/12/2019 11:24:02 AM	43627

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903503**
Date Reported: **3/13/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903503-007 **Matrix:** SOIL

Client Sample ID: SP83R
Collection Date: 3/11/2019
Received Date: 3/12/2019 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	160	60		mg/Kg	20	3/12/2019 11:36:27 AM	43627

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903503**
Date Reported: **3/13/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903503-008 **Matrix:** SOIL

Client Sample ID: SP92R
Collection Date: 3/11/2019
Received Date: 3/12/2019 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/12/2019 12:28:56 PM	43624
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/12/2019 12:28:56 PM	43624
Surr: DNOP	93.6	70-130		%Rec	1	3/12/2019 12:28:56 PM	43624

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903503**
Date Reported: **3/13/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903503-009 **Matrix:** SOIL

Client Sample ID: SP99R
Collection Date: 3/11/2019
Received Date: 3/12/2019 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	340	60		mg/Kg	20	3/12/2019 11:48:51 AM	43627

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903503**
Date Reported: **3/13/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903503-010 **Matrix:** SOIL

Client Sample ID: SP101R
Collection Date: 3/11/2019
Received Date: 3/12/2019 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	120	60		mg/Kg	20	3/12/2019 12:01:15 PM	43627

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 Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1903503**
Date Reported: **3/13/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1903503-011 **Matrix:** SOIL

Client Sample ID: SW6R
Collection Date: 3/11/2019
Received Date: 3/12/2019 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	220	60		mg/Kg	20	3/12/2019 12:13:40 PM	43627

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 Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903503**
13-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-43627** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **43627** RunNo: **58294**
Prep Date: **3/12/2019** Analysis Date: **3/12/2019** SeqNo: **1956139** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-43627** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **43627** RunNo: **58294**
Prep Date: **3/12/2019** Analysis Date: **3/12/2019** SeqNo: **1956140** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.8	90	110			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903503**
13-Mar-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **LCS-43624** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **43624** RunNo: **58283**
Prep Date: **3/12/2019** Analysis Date: **3/12/2019** SeqNo: **1955221** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	39	10	50.00	0	77.9	63.9	124			
Surr: DNOP	4.7		5.000		94.7	70	130			

Sample ID: **MB-43624** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **43624** RunNo: **58283**
Prep Date: **3/12/2019** Analysis Date: **3/12/2019** SeqNo: **1955222** 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		104	70	130			

Sample ID: **LCS-43617** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **43617** RunNo: **58283**
Prep Date: **3/11/2019** Analysis Date: **3/12/2019** SeqNo: **1955417** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.2		5.000		103	70	130			

Sample ID: **MB-43617** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **43617** RunNo: **58283**
Prep Date: **3/11/2019** Analysis Date: **3/12/2019** SeqNo: **1955418** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		109	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: 1903503 RcptNo: 1

Received By: Yazmine Garduno 3/12/2019 0835

Completed By: Leah Baca 3/12/2019 8:51:31 AM

Reviewed By: ENM 3/12/19

Labeled by YG 3/12/19

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° 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: YG 3/12/19

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	0.8	Good	Yes			
2	1.3	Good	Yes			

Chain-of-Custody Record

Client: WPX Carlsbad

Mailing Address: ON FILE

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☐ Standard ☒ Rush Same Day

Project Name: LVP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature: 0.8°, 3.1°

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1903503	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
3/11/2019		Soil		4oz	ICE																	
			SP2 R			-001			X													
			SP17 R			-002			X													
			SP28 R			-003								X								
			SP36 R			-004			X													
			SP40 R			-005								X								
			SP48R			-006								X								
			SP83R			-007			~~X~~ KS					X								
			SP92R			-008			X													
			SP99R			-009								X								
			SP101 R			-010								X								
			SW6R			-011								X								

Date:	Time:	Relinquished by:	Received by:	Date	Time
3/11/2019	3:41	Kevin Smith	[signature]	3/11/19	3:41
3/11/19	1900	[signature]	courier Jacqueline Valenzuela	3/12/19	8:35

Remarks: Report: Debbie Watson, Kris Rowe, Kevin Smith, Natalie Gordon

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

April 09, 2019

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

RE: LVP SWD OrderNo.: 1904160

Dear Kris Rowe:

Hall Environmental Analysis Laboratory received 41 sample(s) on 4/3/2019 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP124
Project: LVP SWD
Collection Date: 4/2/2019
Lab ID: 1904160-001
Matrix: SOIL
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	190	60		mg/Kg	20	4/6/2019 12:44:40 AM	44166
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/4/2019 12:31:24 PM	44071
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/4/2019 12:31:24 PM	44071
Surr: DNOP	90.8	70-130		%Rec	1	4/4/2019 12:31:24 PM	44071
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/4/2019 9:35:13 PM	44079
Surr: BFB	90.8	73.8-119		%Rec	1	4/4/2019 9:35:13 PM	44079
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/4/2019 9:35:13 PM	44079
Toluene	ND	0.047		mg/Kg	1	4/4/2019 9:35:13 PM	44079
Ethylbenzene	ND	0.047		mg/Kg	1	4/4/2019 9:35:13 PM	44079
Xylenes, Total	ND	0.093		mg/Kg	1	4/4/2019 9:35:13 PM	44079
Surr: 4-Bromofluorobenzene	91.8	80-120		%Rec	1	4/4/2019 9:35:13 PM	44079

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-002 **Matrix:** SOIL

Client Sample ID: SP125
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	170	60		mg/Kg	20	4/6/2019 1:21:55 AM	44166
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	4/4/2019 1:43:00 PM	44071
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/4/2019 1:43:00 PM	44071
Surr: DNOP	82.3	70-130		%Rec	1	4/4/2019 1:43:00 PM	44071
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/4/2019 10:46:00 PM	44079
Surr: BFB	91.2	73.8-119		%Rec	1	4/4/2019 10:46:00 PM	44079
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/4/2019 10:46:00 PM	44079
Toluene	ND	0.049		mg/Kg	1	4/4/2019 10:46:00 PM	44079
Ethylbenzene	ND	0.049		mg/Kg	1	4/4/2019 10:46:00 PM	44079
Xylenes, Total	ND	0.098		mg/Kg	1	4/4/2019 10:46:00 PM	44079
Surr: 4-Bromofluorobenzene	93.3	80-120		%Rec	1	4/4/2019 10:46:00 PM	44079

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-003 **Matrix:** SOIL

Client Sample ID: SP126
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	280	60		mg/Kg	20	4/6/2019 1:34:19 AM	44166
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	4/4/2019 2:06:56 PM	44071
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/4/2019 2:06:56 PM	44071
Surr: DNOP	87.9	70-130		%Rec	1	4/4/2019 2:06:56 PM	44071
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/4/2019 11:09:29 PM	44079
Surr: BFB	92.6	73.8-119		%Rec	1	4/4/2019 11:09:29 PM	44079
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/4/2019 11:09:29 PM	44079
Toluene	ND	0.047		mg/Kg	1	4/4/2019 11:09:29 PM	44079
Ethylbenzene	ND	0.047		mg/Kg	1	4/4/2019 11:09:29 PM	44079
Xylenes, Total	ND	0.093		mg/Kg	1	4/4/2019 11:09:29 PM	44079
Surr: 4-Bromofluorobenzene	93.9	80-120		%Rec	1	4/4/2019 11:09:29 PM	44079

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-004 **Matrix:** SOIL

Client Sample ID: SP127
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	200	60		mg/Kg	20	4/6/2019 1:46:44 AM	44166
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/4/2019 2:30:57 PM	44071
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/4/2019 2:30:57 PM	44071
Surr: DNOP	94.2	70-130		%Rec	1	4/4/2019 2:30:57 PM	44071
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/4/2019 11:33:00 PM	44079
Surr: BFB	91.6	73.8-119		%Rec	1	4/4/2019 11:33:00 PM	44079
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/4/2019 11:33:00 PM	44079
Toluene	ND	0.047		mg/Kg	1	4/4/2019 11:33:00 PM	44079
Ethylbenzene	ND	0.047		mg/Kg	1	4/4/2019 11:33:00 PM	44079
Xylenes, Total	ND	0.095		mg/Kg	1	4/4/2019 11:33:00 PM	44079
Surr: 4-Bromofluorobenzene	93.6	80-120		%Rec	1	4/4/2019 11:33:00 PM	44079

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-005 **Matrix:** SOIL

Client Sample ID: SP128
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	130	60		mg/Kg	20	4/6/2019 1:59:09 AM	44166
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/4/2019 3:19:04 PM	44071
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/4/2019 3:19:04 PM	44071
Surr: DNOP	88.0	70-130		%Rec	1	4/4/2019 3:19:04 PM	44071
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/4/2019 11:56:36 PM	44079
Surr: BFB	92.6	73.8-119		%Rec	1	4/4/2019 11:56:36 PM	44079
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/4/2019 11:56:36 PM	44079
Toluene	ND	0.047		mg/Kg	1	4/4/2019 11:56:36 PM	44079
Ethylbenzene	ND	0.047		mg/Kg	1	4/4/2019 11:56:36 PM	44079
Xylenes, Total	ND	0.094		mg/Kg	1	4/4/2019 11:56:36 PM	44079
Surr: 4-Bromofluorobenzene	93.9	80-120		%Rec	1	4/4/2019 11:56:36 PM	44079

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-006 **Matrix:** SOIL

Client Sample ID: SP129
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	150	60		mg/Kg	20	4/6/2019 2:11:34 AM	44166
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	4/4/2019 3:43:06 PM	44071
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/4/2019 3:43:06 PM	44071
Surr: DNOP	96.9	70-130		%Rec	1	4/4/2019 3:43:06 PM	44071
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/5/2019 12:20:11 AM	44079
Surr: BFB	91.0	73.8-119		%Rec	1	4/5/2019 12:20:11 AM	44079
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 12:20:11 AM	44079
Toluene	ND	0.048		mg/Kg	1	4/5/2019 12:20:11 AM	44079
Ethylbenzene	ND	0.048		mg/Kg	1	4/5/2019 12:20:11 AM	44079
Xylenes, Total	ND	0.096		mg/Kg	1	4/5/2019 12:20:11 AM	44079
Surr: 4-Bromofluorobenzene	93.3	80-120		%Rec	1	4/5/2019 12:20:11 AM	44079

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-007 **Matrix:** SOIL

Client Sample ID: SP130
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	240	60		mg/Kg	20	4/6/2019 2:23:59 AM	44166
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/4/2019 4:07:08 PM	44071
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/4/2019 4:07:08 PM	44071
Surr: DNOP	94.5	70-130		%Rec	1	4/4/2019 4:07:08 PM	44071
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/5/2019 12:43:42 AM	44079
Surr: BFB	92.0	73.8-119		%Rec	1	4/5/2019 12:43:42 AM	44079
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 12:43:42 AM	44079
Toluene	ND	0.048		mg/Kg	1	4/5/2019 12:43:42 AM	44079
Ethylbenzene	ND	0.048		mg/Kg	1	4/5/2019 12:43:42 AM	44079
Xylenes, Total	ND	0.097		mg/Kg	1	4/5/2019 12:43:42 AM	44079
Surr: 4-Bromofluorobenzene	92.9	80-120		%Rec	1	4/5/2019 12:43:42 AM	44079

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-008 **Matrix:** SOIL

Client Sample ID: SP131
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	220	60		mg/Kg	20	4/6/2019 2:36:24 AM	44166
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/4/2019 4:31:11 PM	44071
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/4/2019 4:31:11 PM	44071
Surr: DNOP	84.9	70-130		%Rec	1	4/4/2019 4:31:11 PM	44071
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/5/2019 1:07:11 AM	44079
Surr: BFB	88.5	73.8-119		%Rec	1	4/5/2019 1:07:11 AM	44079
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 1:07:11 AM	44079
Toluene	ND	0.048		mg/Kg	1	4/5/2019 1:07:11 AM	44079
Ethylbenzene	ND	0.048		mg/Kg	1	4/5/2019 1:07:11 AM	44079
Xylenes, Total	ND	0.096		mg/Kg	1	4/5/2019 1:07:11 AM	44079
Surr: 4-Bromofluorobenzene	88.4	80-120		%Rec	1	4/5/2019 1:07:11 AM	44079

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-009 **Matrix:** SOIL

Client Sample ID: SP132
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	130	60		mg/Kg	20	4/6/2019 3:13:37 AM	44166
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/4/2019 4:55:12 PM	44071
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/4/2019 4:55:12 PM	44071
Surr: DNOP	88.3	70-130		%Rec	1	4/4/2019 4:55:12 PM	44071
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/5/2019 1:30:27 AM	44079
Surr: BFB	90.6	73.8-119		%Rec	1	4/5/2019 1:30:27 AM	44079
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/5/2019 1:30:27 AM	44079
Toluene	ND	0.049		mg/Kg	1	4/5/2019 1:30:27 AM	44079
Ethylbenzene	ND	0.049		mg/Kg	1	4/5/2019 1:30:27 AM	44079
Xylenes, Total	ND	0.099		mg/Kg	1	4/5/2019 1:30:27 AM	44079
Surr: 4-Bromofluorobenzene	90.4	80-120		%Rec	1	4/5/2019 1:30:27 AM	44079

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-010 **Matrix:** SOIL

Client Sample ID: SP133
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	190	60		mg/Kg	20	4/6/2019 3:26:02 AM	44166
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/4/2019 5:19:16 PM	44071
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/4/2019 5:19:16 PM	44071
Surr: DNOP	81.2	70-130		%Rec	1	4/4/2019 5:19:16 PM	44071
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/5/2019 2:40:55 AM	44079
Surr: BFB	91.2	73.8-119		%Rec	1	4/5/2019 2:40:55 AM	44079
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 2:40:55 AM	44079
Toluene	ND	0.047		mg/Kg	1	4/5/2019 2:40:55 AM	44079
Ethylbenzene	ND	0.047		mg/Kg	1	4/5/2019 2:40:55 AM	44079
Xylenes, Total	ND	0.094		mg/Kg	1	4/5/2019 2:40:55 AM	44079
Surr: 4-Bromofluorobenzene	91.8	80-120		%Rec	1	4/5/2019 2:40:55 AM	44079

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-011 **Matrix:** SOIL

Client Sample ID: SP134
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	120	60		mg/Kg	20	4/6/2019 3:38:26 AM	44166
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/4/2019 5:43:24 PM	44071
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/4/2019 5:43:24 PM	44071
Surr: DNOP	90.6	70-130		%Rec	1	4/4/2019 5:43:24 PM	44071
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/5/2019 3:04:26 AM	44079
Surr: BFB	92.4	73.8-119		%Rec	1	4/5/2019 3:04:26 AM	44079
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 3:04:26 AM	44079
Toluene	ND	0.048		mg/Kg	1	4/5/2019 3:04:26 AM	44079
Ethylbenzene	ND	0.048		mg/Kg	1	4/5/2019 3:04:26 AM	44079
Xylenes, Total	ND	0.096		mg/Kg	1	4/5/2019 3:04:26 AM	44079
Surr: 4-Bromofluorobenzene	93.1	80-120		%Rec	1	4/5/2019 3:04:26 AM	44079

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-012 **Matrix:** SOIL

Client Sample ID: SP135
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	150	60		mg/Kg	20	4/6/2019 3:50:51 AM	44166
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/4/2019 6:07:35 PM	44071
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/4/2019 6:07:35 PM	44071
Surr: DNOP	75.5	70-130		%Rec	1	4/4/2019 6:07:35 PM	44071
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/5/2019 3:27:37 AM	44079
Surr: BFB	92.1	73.8-119		%Rec	1	4/5/2019 3:27:37 AM	44079
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 3:27:37 AM	44079
Toluene	ND	0.047		mg/Kg	1	4/5/2019 3:27:37 AM	44079
Ethylbenzene	ND	0.047		mg/Kg	1	4/5/2019 3:27:37 AM	44079
Xylenes, Total	ND	0.094		mg/Kg	1	4/5/2019 3:27:37 AM	44079
Surr: 4-Bromofluorobenzene	93.4	80-120		%Rec	1	4/5/2019 3:27:37 AM	44079

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-013 **Matrix:** SOIL

Client Sample ID: SP136
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	160	60		mg/Kg	20	4/6/2019 4:03:16 AM	44166
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	4/4/2019 6:31:52 PM	44071
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/4/2019 6:31:52 PM	44071
Surr: DNOP	78.1	70-130		%Rec	1	4/4/2019 6:31:52 PM	44071
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/5/2019 3:51:01 AM	44079
Surr: BFB	90.1	73.8-119		%Rec	1	4/5/2019 3:51:01 AM	44079
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 3:51:01 AM	44079
Toluene	ND	0.048		mg/Kg	1	4/5/2019 3:51:01 AM	44079
Ethylbenzene	ND	0.048		mg/Kg	1	4/5/2019 3:51:01 AM	44079
Xylenes, Total	ND	0.096		mg/Kg	1	4/5/2019 3:51:01 AM	44079
Surr: 4-Bromofluorobenzene	92.2	80-120		%Rec	1	4/5/2019 3:51:01 AM	44079

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-014 **Matrix:** SOIL

Client Sample ID: SP137
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	180	60		mg/Kg	20	4/6/2019 4:15:40 AM	44166
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	4/4/2019 6:56:07 PM	44071
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/4/2019 6:56:07 PM	44071
Surr: DNOP	90.6	70-130		%Rec	1	4/4/2019 6:56:07 PM	44071
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/5/2019 4:14:27 AM	44079
Surr: BFB	89.0	73.8-119		%Rec	1	4/5/2019 4:14:27 AM	44079
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 4:14:27 AM	44079
Toluene	ND	0.049		mg/Kg	1	4/5/2019 4:14:27 AM	44079
Ethylbenzene	ND	0.049		mg/Kg	1	4/5/2019 4:14:27 AM	44079
Xylenes, Total	ND	0.097		mg/Kg	1	4/5/2019 4:14:27 AM	44079
Surr: 4-Bromofluorobenzene	90.6	80-120		%Rec	1	4/5/2019 4:14:27 AM	44079

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-015 **Matrix:** SOIL

Client Sample ID: SP138
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	210	60		mg/Kg	20	4/6/2019 4:28:05 AM	44166
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/4/2019 7:20:21 PM	44071
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/4/2019 7:20:21 PM	44071
Surr: DNOP	77.4	70-130		%Rec	1	4/4/2019 7:20:21 PM	44071
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/5/2019 4:37:55 AM	44079
Surr: BFB	91.0	73.8-119		%Rec	1	4/5/2019 4:37:55 AM	44079
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 4:37:55 AM	44079
Toluene	ND	0.048		mg/Kg	1	4/5/2019 4:37:55 AM	44079
Ethylbenzene	ND	0.048		mg/Kg	1	4/5/2019 4:37:55 AM	44079
Xylenes, Total	ND	0.096		mg/Kg	1	4/5/2019 4:37:55 AM	44079
Surr: 4-Bromofluorobenzene	92.7	80-120		%Rec	1	4/5/2019 4:37:55 AM	44079

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-016 **Matrix:** SOIL

Client Sample ID: SP139
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	220	60		mg/Kg	20	4/6/2019 4:40:29 AM	44166
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/4/2019 7:44:35 PM	44071
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/4/2019 7:44:35 PM	44071
Surr: DNOP	84.4	70-130		%Rec	1	4/4/2019 7:44:35 PM	44071
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/5/2019 5:01:21 AM	44079
Surr: BFB	88.5	73.8-119		%Rec	1	4/5/2019 5:01:21 AM	44079
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 5:01:21 AM	44079
Toluene	ND	0.049		mg/Kg	1	4/5/2019 5:01:21 AM	44079
Ethylbenzene	ND	0.049		mg/Kg	1	4/5/2019 5:01:21 AM	44079
Xylenes, Total	ND	0.098		mg/Kg	1	4/5/2019 5:01:21 AM	44079
Surr: 4-Bromofluorobenzene	89.1	80-120		%Rec	1	4/5/2019 5:01:21 AM	44079

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-017 **Matrix:** SOIL

Client Sample ID: SP140
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	170	60		mg/Kg	20	4/6/2019 4:52:53 AM	44166
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/4/2019 8:08:54 PM	44071
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/4/2019 8:08:54 PM	44071
Surr: DNOP	90.4	70-130		%Rec	1	4/4/2019 8:08:54 PM	44071
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/5/2019 5:24:47 AM	44079
Surr: BFB	91.1	73.8-119		%Rec	1	4/5/2019 5:24:47 AM	44079
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 5:24:47 AM	44079
Toluene	ND	0.048		mg/Kg	1	4/5/2019 5:24:47 AM	44079
Ethylbenzene	ND	0.048		mg/Kg	1	4/5/2019 5:24:47 AM	44079
Xylenes, Total	ND	0.096		mg/Kg	1	4/5/2019 5:24:47 AM	44079
Surr: 4-Bromofluorobenzene	91.6	80-120		%Rec	1	4/5/2019 5:24:47 AM	44079

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-018 **Matrix:** SOIL

Client Sample ID: SP141
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	130	60		mg/Kg	20	4/6/2019 8:04:39 AM	44169
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/4/2019 8:33:14 PM	44071
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/4/2019 8:33:14 PM	44071
Surr: DNOP	85.9	70-130		%Rec	1	4/4/2019 8:33:14 PM	44071
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/5/2019 5:48:11 AM	44079
Surr: BFB	89.1	73.8-119		%Rec	1	4/5/2019 5:48:11 AM	44079
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/5/2019 5:48:11 AM	44079
Toluene	ND	0.050		mg/Kg	1	4/5/2019 5:48:11 AM	44079
Ethylbenzene	ND	0.050		mg/Kg	1	4/5/2019 5:48:11 AM	44079
Xylenes, Total	ND	0.10		mg/Kg	1	4/5/2019 5:48:11 AM	44079
Surr: 4-Bromofluorobenzene	89.1	80-120		%Rec	1	4/5/2019 5:48:11 AM	44079

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP142
Project: LVP SWD
Collection Date: 4/2/2019
Lab ID: 1904160-019
Matrix: SOIL
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	150	60		mg/Kg	20	4/6/2019 8:41:52 AM	44169
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/4/2019 8:57:32 PM	44071
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/4/2019 8:57:32 PM	44071
Surr: DNOP	88.1	70-130		%Rec	1	4/4/2019 8:57:32 PM	44071
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/5/2019 6:11:36 AM	44079
Surr: BFB	88.2	73.8-119		%Rec	1	4/5/2019 6:11:36 AM	44079
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 6:11:36 AM	44079
Toluene	ND	0.049		mg/Kg	1	4/5/2019 6:11:36 AM	44079
Ethylbenzene	ND	0.049		mg/Kg	1	4/5/2019 6:11:36 AM	44079
Xylenes, Total	ND	0.098		mg/Kg	1	4/5/2019 6:11:36 AM	44079
Surr: 4-Bromofluorobenzene	89.2	80-120		%Rec	1	4/5/2019 6:11:36 AM	44079

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-020 **Matrix:** SOIL

Client Sample ID: SP143
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	270	60		mg/Kg	20	4/6/2019 8:54:16 AM	44169
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/5/2019 7:42:35 PM	44072
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/5/2019 7:42:35 PM	44072
Surr: DNOP	49.5	70-130	S	%Rec	1	4/5/2019 7:42:35 PM	44072
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/5/2019 12:45:12 PM	44080
Surr: BFB	92.3	73.8-119		%Rec	1	4/5/2019 12:45:12 PM	44080
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 12:45:12 PM	44080
Toluene	ND	0.047		mg/Kg	1	4/5/2019 12:45:12 PM	44080
Ethylbenzene	ND	0.047		mg/Kg	1	4/5/2019 12:45:12 PM	44080
Xylenes, Total	ND	0.095		mg/Kg	1	4/5/2019 12:45:12 PM	44080
Surr: 4-Bromofluorobenzene	93.6	80-120		%Rec	1	4/5/2019 12:45:12 PM	44080

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-021 **Matrix:** SOIL

Client Sample ID: SP144
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	150	60		mg/Kg	20	4/6/2019 9:06:40 AM	44169
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/5/2019 8:55:31 PM	44072
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/5/2019 8:55:31 PM	44072
Surr: DNOP	44.7	70-130	S	%Rec	1	4/5/2019 8:55:31 PM	44072
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/5/2019 1:56:14 PM	44080
Surr: BFB	101	73.8-119		%Rec	1	4/5/2019 1:56:14 PM	44080
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 1:56:14 PM	44080
Toluene	ND	0.049		mg/Kg	1	4/5/2019 1:56:14 PM	44080
Ethylbenzene	ND	0.049		mg/Kg	1	4/5/2019 1:56:14 PM	44080
Xylenes, Total	ND	0.097		mg/Kg	1	4/5/2019 1:56:14 PM	44080
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	4/5/2019 1:56:14 PM	44080

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-022 **Matrix:** SOIL

Client Sample ID: SP145
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	73	60		mg/Kg	20	4/6/2019 9:19:04 AM	44169
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/5/2019 9:19:54 PM	44072
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/5/2019 9:19:54 PM	44072
Surr: DNOP	40.7	70-130	S	%Rec	1	4/5/2019 9:19:54 PM	44072
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/5/2019 3:06:31 PM	44080
Surr: BFB	93.9	73.8-119		%Rec	1	4/5/2019 3:06:31 PM	44080
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/5/2019 3:06:31 PM	44080
Toluene	ND	0.046		mg/Kg	1	4/5/2019 3:06:31 PM	44080
Ethylbenzene	ND	0.046		mg/Kg	1	4/5/2019 3:06:31 PM	44080
Xylenes, Total	ND	0.093		mg/Kg	1	4/5/2019 3:06:31 PM	44080
Surr: 4-Bromofluorobenzene	95.3	80-120		%Rec	1	4/5/2019 3:06:31 PM	44080

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-023 **Matrix:** SOIL

Client Sample ID: SP146
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	180	60		mg/Kg	20	4/6/2019 9:31:29 AM	44169
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/5/2019 9:44:06 PM	44072
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/5/2019 9:44:06 PM	44072
Surr: DNOP	32.1	70-130	S	%Rec	1	4/5/2019 9:44:06 PM	44072
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/5/2019 3:29:49 PM	44080
Surr: BFB	93.0	73.8-119		%Rec	1	4/5/2019 3:29:49 PM	44080
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 3:29:49 PM	44080
Toluene	ND	0.048		mg/Kg	1	4/5/2019 3:29:49 PM	44080
Ethylbenzene	ND	0.048		mg/Kg	1	4/5/2019 3:29:49 PM	44080
Xylenes, Total	ND	0.095		mg/Kg	1	4/5/2019 3:29:49 PM	44080
Surr: 4-Bromofluorobenzene	94.5	80-120		%Rec	1	4/5/2019 3:29:49 PM	44080

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-024 **Matrix:** SOIL

Client Sample ID: SP147
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	180	60		mg/Kg	20	4/6/2019 10:08:43 AM	44169
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/5/2019 10:08:27 PM	44072
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/5/2019 10:08:27 PM	44072
Surr: DNOP	32.2	70-130	S	%Rec	1	4/5/2019 10:08:27 PM	44072
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/5/2019 3:53:08 PM	44080
Surr: BFB	91.5	73.8-119		%Rec	1	4/5/2019 3:53:08 PM	44080
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/5/2019 3:53:08 PM	44080
Toluene	ND	0.047		mg/Kg	1	4/5/2019 3:53:08 PM	44080
Ethylbenzene	ND	0.047		mg/Kg	1	4/5/2019 3:53:08 PM	44080
Xylenes, Total	ND	0.093		mg/Kg	1	4/5/2019 3:53:08 PM	44080
Surr: 4-Bromofluorobenzene	92.6	80-120		%Rec	1	4/5/2019 3:53:08 PM	44080

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-025 **Matrix:** SOIL

Client Sample ID: SP148
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	150	60		mg/Kg	20	4/6/2019 10:21:07 AM	44169
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/5/2019 10:57:00 PM	44072
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/5/2019 10:57:00 PM	44072
Surr: DNOP	26.2	70-130	S	%Rec	1	4/5/2019 10:57:00 PM	44072
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/5/2019 4:16:29 PM	44080
Surr: BFB	91.8	73.8-119		%Rec	1	4/5/2019 4:16:29 PM	44080
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/5/2019 4:16:29 PM	44080
Toluene	ND	0.047		mg/Kg	1	4/5/2019 4:16:29 PM	44080
Ethylbenzene	ND	0.047		mg/Kg	1	4/5/2019 4:16:29 PM	44080
Xylenes, Total	ND	0.094		mg/Kg	1	4/5/2019 4:16:29 PM	44080
Surr: 4-Bromofluorobenzene	93.4	80-120		%Rec	1	4/5/2019 4:16:29 PM	44080

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-026 **Matrix:** SOIL

Client Sample ID: SP149
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	200	60		mg/Kg	20	4/6/2019 10:33:31 AM	44169
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/5/2019 11:21:11 PM	44072
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/5/2019 11:21:11 PM	44072
Surr: DNOP	27.3	70-130	S	%Rec	1	4/5/2019 11:21:11 PM	44072
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/5/2019 4:39:51 PM	44080
Surr: BFB	93.2	73.8-119		%Rec	1	4/5/2019 4:39:51 PM	44080
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/5/2019 4:39:51 PM	44080
Toluene	ND	0.046		mg/Kg	1	4/5/2019 4:39:51 PM	44080
Ethylbenzene	ND	0.046		mg/Kg	1	4/5/2019 4:39:51 PM	44080
Xylenes, Total	ND	0.093		mg/Kg	1	4/5/2019 4:39:51 PM	44080
Surr: 4-Bromofluorobenzene	94.7	80-120		%Rec	1	4/5/2019 4:39:51 PM	44080

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-027 **Matrix:** SOIL

Client Sample ID: SP150
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	220	60		mg/Kg	20	4/6/2019 10:45:55 AM	44169
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/5/2019 11:45:28 PM	44072
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/5/2019 11:45:28 PM	44072
Surr: DNOP	32.0	70-130	S	%Rec	1	4/5/2019 11:45:28 PM	44072
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/5/2019 5:03:04 PM	44080
Surr: BFB	93.8	73.8-119		%Rec	1	4/5/2019 5:03:04 PM	44080
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/5/2019 5:03:04 PM	44080
Toluene	ND	0.046		mg/Kg	1	4/5/2019 5:03:04 PM	44080
Ethylbenzene	ND	0.046		mg/Kg	1	4/5/2019 5:03:04 PM	44080
Xylenes, Total	ND	0.093		mg/Kg	1	4/5/2019 5:03:04 PM	44080
Surr: 4-Bromofluorobenzene	95.7	80-120		%Rec	1	4/5/2019 5:03:04 PM	44080

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-028 **Matrix:** SOIL

Client Sample ID: SP151
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	90	60		mg/Kg	20	4/6/2019 10:58:20 AM	44169
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/6/2019 12:09:34 AM	44072
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/6/2019 12:09:34 AM	44072
Surr: DNOP	26.1	70-130	S	%Rec	1	4/6/2019 12:09:34 AM	44072
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/5/2019 5:26:29 PM	44080
Surr: BFB	95.1	73.8-119		%Rec	1	4/5/2019 5:26:29 PM	44080
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 5:26:29 PM	44080
Toluene	ND	0.048		mg/Kg	1	4/5/2019 5:26:29 PM	44080
Ethylbenzene	ND	0.048		mg/Kg	1	4/5/2019 5:26:29 PM	44080
Xylenes, Total	ND	0.097		mg/Kg	1	4/5/2019 5:26:29 PM	44080
Surr: 4-Bromofluorobenzene	97.0	80-120		%Rec	1	4/5/2019 5:26:29 PM	44080

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-029 **Matrix:** SOIL

Client Sample ID: SP152
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	130	60		mg/Kg	20	4/6/2019 11:35:34 AM	44169
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/6/2019 12:33:46 AM	44072
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/6/2019 12:33:46 AM	44072
Surr: DNOP	25.9	70-130	S	%Rec	1	4/6/2019 12:33:46 AM	44072
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/5/2019 5:49:51 PM	44080
Surr: BFB	93.3	73.8-119		%Rec	1	4/5/2019 5:49:51 PM	44080
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 5:49:51 PM	44080
Toluene	ND	0.048		mg/Kg	1	4/5/2019 5:49:51 PM	44080
Ethylbenzene	ND	0.048		mg/Kg	1	4/5/2019 5:49:51 PM	44080
Xylenes, Total	ND	0.096		mg/Kg	1	4/5/2019 5:49:51 PM	44080
Surr: 4-Bromofluorobenzene	95.2	80-120		%Rec	1	4/5/2019 5:49:51 PM	44080

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-030 **Matrix:** SOIL

Client Sample ID: SP153
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	190	60		mg/Kg	20	4/6/2019 11:47:57 AM	44169
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/6/2019 12:57:52 AM	44072
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/6/2019 12:57:52 AM	44072
Surr: DNOP	20.8	70-130	S	%Rec	1	4/6/2019 12:57:52 AM	44072
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/5/2019 7:00:38 PM	44080
Surr: BFB	93.3	73.8-119		%Rec	1	4/5/2019 7:00:38 PM	44080
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/5/2019 7:00:38 PM	44080
Toluene	ND	0.049		mg/Kg	1	4/5/2019 7:00:38 PM	44080
Ethylbenzene	ND	0.049		mg/Kg	1	4/5/2019 7:00:38 PM	44080
Xylenes, Total	ND	0.099		mg/Kg	1	4/5/2019 7:00:38 PM	44080
Surr: 4-Bromofluorobenzene	95.8	80-120		%Rec	1	4/5/2019 7:00:38 PM	44080

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-031 **Matrix:** SOIL

Client Sample ID: SP154
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	190	60		mg/Kg	20	4/6/2019 12:00:23 PM	44169
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/6/2019 1:22:01 AM	44072
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/6/2019 1:22:01 AM	44072
Surr: DNOP	14.8	70-130	S	%Rec	1	4/6/2019 1:22:01 AM	44072
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/5/2019 7:24:12 PM	44080
Surr: BFB	94.3	73.8-119		%Rec	1	4/5/2019 7:24:12 PM	44080
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 7:24:12 PM	44080
Toluene	ND	0.048		mg/Kg	1	4/5/2019 7:24:12 PM	44080
Ethylbenzene	ND	0.048		mg/Kg	1	4/5/2019 7:24:12 PM	44080
Xylenes, Total	ND	0.095		mg/Kg	1	4/5/2019 7:24:12 PM	44080
Surr: 4-Bromofluorobenzene	95.6	80-120		%Rec	1	4/5/2019 7:24:12 PM	44080

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-032 **Matrix:** SOIL

Client Sample ID: SP155
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	150	60		mg/Kg	20	4/6/2019 12:37:36 PM	44169
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/6/2019 1:46:04 AM	44072
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/6/2019 1:46:04 AM	44072
Surr: DNOP	15.2	70-130	S	%Rec	1	4/6/2019 1:46:04 AM	44072
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/5/2019 7:47:36 PM	44080
Surr: BFB	93.9	73.8-119		%Rec	1	4/5/2019 7:47:36 PM	44080
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 7:47:36 PM	44080
Toluene	ND	0.048		mg/Kg	1	4/5/2019 7:47:36 PM	44080
Ethylbenzene	ND	0.048		mg/Kg	1	4/5/2019 7:47:36 PM	44080
Xylenes, Total	ND	0.097		mg/Kg	1	4/5/2019 7:47:36 PM	44080
Surr: 4-Bromofluorobenzene	95.8	80-120		%Rec	1	4/5/2019 7:47:36 PM	44080

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-033 **Matrix:** SOIL

Client Sample ID: SP156
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	120	60		mg/Kg	20	4/6/2019 12:50:00 PM	44169
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/6/2019 2:10:14 AM	44072
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/6/2019 2:10:14 AM	44072
Surr: DNOP	11.7	70-130	S	%Rec	1	4/6/2019 2:10:14 AM	44072
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/5/2019 8:10:56 PM	44080
Surr: BFB	95.4	73.8-119		%Rec	1	4/5/2019 8:10:56 PM	44080
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/5/2019 8:10:56 PM	44080
Toluene	ND	0.050		mg/Kg	1	4/5/2019 8:10:56 PM	44080
Ethylbenzene	ND	0.050		mg/Kg	1	4/5/2019 8:10:56 PM	44080
Xylenes, Total	ND	0.10		mg/Kg	1	4/5/2019 8:10:56 PM	44080
Surr: 4-Bromofluorobenzene	97.9	80-120		%Rec	1	4/5/2019 8:10:56 PM	44080

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-034 **Matrix:** SOIL

Client Sample ID: SP157
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	130	60		mg/Kg	20	4/6/2019 1:02:25 PM	44169
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	4/6/2019 2:34:17 AM	44072
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/6/2019 2:34:17 AM	44072
Surr: DNOP	13.7	70-130	S	%Rec	1	4/6/2019 2:34:17 AM	44072
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/5/2019 8:34:12 PM	44080
Surr: BFB	93.9	73.8-119		%Rec	1	4/5/2019 8:34:12 PM	44080
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/5/2019 8:34:12 PM	44080
Toluene	ND	0.046		mg/Kg	1	4/5/2019 8:34:12 PM	44080
Ethylbenzene	ND	0.046		mg/Kg	1	4/5/2019 8:34:12 PM	44080
Xylenes, Total	ND	0.092		mg/Kg	1	4/5/2019 8:34:12 PM	44080
Surr: 4-Bromofluorobenzene	95.2	80-120		%Rec	1	4/5/2019 8:34:12 PM	44080

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-035 **Matrix:** SOIL

Client Sample ID: SP158
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	140	60		mg/Kg	20	4/6/2019 1:14:50 PM	44169
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/6/2019 2:58:27 AM	44072
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/6/2019 2:58:27 AM	44072
Surr: DNOP	17.8	70-130	S	%Rec	1	4/6/2019 2:58:27 AM	44072
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/5/2019 8:57:27 PM	44080
Surr: BFB	93.7	73.8-119		%Rec	1	4/5/2019 8:57:27 PM	44080
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/5/2019 8:57:27 PM	44080
Toluene	ND	0.049		mg/Kg	1	4/5/2019 8:57:27 PM	44080
Ethylbenzene	ND	0.049		mg/Kg	1	4/5/2019 8:57:27 PM	44080
Xylenes, Total	ND	0.098		mg/Kg	1	4/5/2019 8:57:27 PM	44080
Surr: 4-Bromofluorobenzene	95.9	80-120		%Rec	1	4/5/2019 8:57:27 PM	44080

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-036 **Matrix:** SOIL

Client Sample ID: SP159
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	160	60		mg/Kg	20	4/6/2019 1:27:15 PM	44169
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/6/2019 3:22:27 AM	44072
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/6/2019 3:22:27 AM	44072
Surr: DNOP	10.7	70-130	S	%Rec	1	4/6/2019 3:22:27 AM	44072
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/5/2019 9:20:42 PM	44080
Surr: BFB	96.9	73.8-119		%Rec	1	4/5/2019 9:20:42 PM	44080
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 9:20:42 PM	44080
Toluene	ND	0.047		mg/Kg	1	4/5/2019 9:20:42 PM	44080
Ethylbenzene	ND	0.047		mg/Kg	1	4/5/2019 9:20:42 PM	44080
Xylenes, Total	ND	0.094		mg/Kg	1	4/5/2019 9:20:42 PM	44080
Surr: 4-Bromofluorobenzene	98.9	80-120		%Rec	1	4/5/2019 9:20:42 PM	44080

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-037 **Matrix:** SOIL

Client Sample ID: SP160
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	160	60		mg/Kg	20	4/6/2019 1:39:40 PM	44169
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/6/2019 3:46:33 AM	44072
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/6/2019 3:46:33 AM	44072
Surr: DNOP	10.3	70-130	S	%Rec	1	4/6/2019 3:46:33 AM	44072
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/5/2019 9:43:56 PM	44080
Surr: BFB	95.4	73.8-119		%Rec	1	4/5/2019 9:43:56 PM	44080
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 9:43:56 PM	44080
Toluene	ND	0.048		mg/Kg	1	4/5/2019 9:43:56 PM	44080
Ethylbenzene	ND	0.048		mg/Kg	1	4/5/2019 9:43:56 PM	44080
Xylenes, Total	ND	0.097		mg/Kg	1	4/5/2019 9:43:56 PM	44080
Surr: 4-Bromofluorobenzene	97.4	80-120		%Rec	1	4/5/2019 9:43:56 PM	44080

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-038 **Matrix:** SOIL

Client Sample ID: SP161
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	150	60		mg/Kg	20	4/6/2019 3:56:10 PM	44170
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/6/2019 4:10:29 AM	44072
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/6/2019 4:10:29 AM	44072
Surr: DNOP	9.35	70-130	S	%Rec	1	4/6/2019 4:10:29 AM	44072
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/5/2019 10:07:16 PM	44080
Surr: BFB	95.0	73.8-119		%Rec	1	4/5/2019 10:07:16 PM	44080
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/5/2019 10:07:16 PM	44080
Toluene	ND	0.046		mg/Kg	1	4/5/2019 10:07:16 PM	44080
Ethylbenzene	ND	0.046		mg/Kg	1	4/5/2019 10:07:16 PM	44080
Xylenes, Total	ND	0.091		mg/Kg	1	4/5/2019 10:07:16 PM	44080
Surr: 4-Bromofluorobenzene	96.7	80-120		%Rec	1	4/5/2019 10:07:16 PM	44080

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-039 **Matrix:** SOIL

Client Sample ID: SP162
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	150	60		mg/Kg	20	4/6/2019 4:33:24 PM	44170
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/6/2019 4:34:35 AM	44072
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/6/2019 4:34:35 AM	44072
Surr: DNOP	13.1	70-130	S	%Rec	1	4/6/2019 4:34:35 AM	44072
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/5/2019 10:30:39 PM	44080
Surr: BFB	95.5	73.8-119		%Rec	1	4/5/2019 10:30:39 PM	44080
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/5/2019 10:30:39 PM	44080
Toluene	ND	0.048		mg/Kg	1	4/5/2019 10:30:39 PM	44080
Ethylbenzene	ND	0.048		mg/Kg	1	4/5/2019 10:30:39 PM	44080
Xylenes, Total	ND	0.096		mg/Kg	1	4/5/2019 10:30:39 PM	44080
Surr: 4-Bromofluorobenzene	97.5	80-120		%Rec	1	4/5/2019 10:30:39 PM	44080

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-040 **Matrix:** SOIL

Client Sample ID: SP163
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	230	60		mg/Kg	20	4/6/2019 4:45:48 PM	44170
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/6/2019 1:21:25 PM	44110
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/6/2019 1:21:25 PM	44110
Surr: DNOP	79.5	70-130		%Rec	1	4/6/2019 1:21:25 PM	44110
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/6/2019 12:51:41 AM	44087
Surr: BFB	94.3	73.8-119		%Rec	1	4/6/2019 12:51:41 AM	44087
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/6/2019 12:51:41 AM	44087
Toluene	ND	0.049		mg/Kg	1	4/6/2019 12:51:41 AM	44087
Ethylbenzene	ND	0.049		mg/Kg	1	4/6/2019 12:51:41 AM	44087
Xylenes, Total	ND	0.098		mg/Kg	1	4/6/2019 12:51:41 AM	44087
Surr: 4-Bromofluorobenzene	95.4	80-120		%Rec	1	4/6/2019 12:51:41 AM	44087

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904160**
Date Reported: **4/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904160-041 **Matrix:** SOIL

Client Sample ID: SP164
Collection Date: 4/2/2019
Received Date: 4/3/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	310	60		mg/Kg	20	4/6/2019 4:58:12 PM	44170
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/6/2019 2:28:07 PM	44110
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/6/2019 2:28:07 PM	44110
Surr: DNOP	77.8	70-130		%Rec	1	4/6/2019 2:28:07 PM	44110
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/6/2019 2:02:16 AM	44087
Surr: BFB	92.8	73.8-119		%Rec	1	4/6/2019 2:02:16 AM	44087
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/6/2019 2:02:16 AM	44087
Toluene	ND	0.047		mg/Kg	1	4/6/2019 2:02:16 AM	44087
Ethylbenzene	ND	0.047		mg/Kg	1	4/6/2019 2:02:16 AM	44087
Xylenes, Total	ND	0.094		mg/Kg	1	4/6/2019 2:02:16 AM	44087
Surr: 4-Bromofluorobenzene	94.0	80-120		%Rec	1	4/6/2019 2:02:16 AM	44087

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904160**
09-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-44166** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **44166** RunNo: **58920**
Prep Date: **4/5/2019** Analysis Date: **4/5/2019** SeqNo: **1982110** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-44166** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **44166** RunNo: **58920**
Prep Date: **4/5/2019** Analysis Date: **4/5/2019** SeqNo: **1982111** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.2	90	110			

Sample ID: **MB-44169** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **44169** RunNo: **58961**
Prep Date: **4/5/2019** Analysis Date: **4/6/2019** SeqNo: **1983308** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-44169** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **44169** RunNo: **58961**
Prep Date: **4/5/2019** Analysis Date: **4/6/2019** SeqNo: **1983310** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.9	90	110			

Sample ID: **MB-44170** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **44170** RunNo: **58961**
Prep Date: **4/6/2019** Analysis Date: **4/6/2019** SeqNo: **1983371** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-44170** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **44170** RunNo: **58961**
Prep Date: **4/6/2019** Analysis Date: **4/6/2019** SeqNo: **1983373** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.4	90	110			

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904160**
09-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **1904160-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP124** Batch ID: **44071** RunNo: **58884**
Prep Date: **4/3/2019** Analysis Date: **4/4/2019** SeqNo: **1979964** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	9.2	45.79	2.046	96.0	53.5	126			
Surr: DNOP	4.4		4.579		97.1	70	130			

Sample ID: **1904160-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP124** Batch ID: **44071** RunNo: **58884**
Prep Date: **4/3/2019** Analysis Date: **4/4/2019** SeqNo: **1979965** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.40	2.046	89.9	53.5	126	2.90	21.7	
Surr: DNOP	4.5		5.040		89.6	70	130	0	0	

Sample ID: **MB-44071** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44071** RunNo: **58884**
Prep Date: **4/3/2019** Analysis Date: **4/4/2019** SeqNo: **1980000** 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		104	70	130			

Sample ID: **LCS-44071** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **44071** RunNo: **58884**
Prep Date: **4/3/2019** Analysis Date: **4/4/2019** SeqNo: **1980001** 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	95.8	63.9	124			
Surr: DNOP	4.8		5.000		95.0	70	130			

Sample ID: **LCS-44142** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **44142** RunNo: **58917**
Prep Date: **4/5/2019** Analysis Date: **4/5/2019** SeqNo: **1981087** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.4		5.000		87.5	70	130			

Sample ID: **MB-44142** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44142** RunNo: **58917**
Prep Date: **4/5/2019** Analysis Date: **4/5/2019** SeqNo: **1981088** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904160**
09-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-44142** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44142** RunNo: **58917**
Prep Date: **4/5/2019** Analysis Date: **4/5/2019** SeqNo: **1981088** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		101	70	130			

Sample ID: **LCS-44128** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **44128** RunNo: **58917**
Prep Date: **4/4/2019** Analysis Date: **4/5/2019** SeqNo: **1982023** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.3		5.000		86.1	70	130			

Sample ID: **MB-44128** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44128** RunNo: **58917**
Prep Date: **4/4/2019** Analysis Date: **4/5/2019** SeqNo: **1982024** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.8		10.00		98.1	70	130			

Sample ID: **LCS-44110** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **44110** RunNo: **58917**
Prep Date: **4/4/2019** Analysis Date: **4/6/2019** SeqNo: **1983117** 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	100	63.9	124			
Surr: DNOP	4.4		5.000		88.3	70	130			

Sample ID: **MB-44110** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44110** RunNo: **58917**
Prep Date: **4/4/2019** Analysis Date: **4/6/2019** SeqNo: **1983118** 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		90.9	70	130			

Sample ID: **1904160-040AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP163** Batch ID: **44110** RunNo: **58917**
Prep Date: **4/4/2019** Analysis Date: **4/6/2019** SeqNo: **1983123** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	9.6	48.03	4.058	89.8	53.5	126			
Surr: DNOP	3.2		4.803		66.9	70	130			S

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904160**
09-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **1904160-040AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP163** Batch ID: **44110** RunNo: **58917**
Prep Date: **4/4/2019** Analysis Date: **4/6/2019** SeqNo: **1983124** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	9.2	45.79	4.058	91.7	53.5	126	2.44	21.7	
Surr: DNOP	3.4		4.579		73.7	70	130	0	0	

Sample ID: **MB-44072** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44072** RunNo: **58918**
Prep Date: **4/3/2019** Analysis Date: **4/5/2019** SeqNo: **1983176** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.8		10.00		88.0	70	130			

Sample ID: **LCS-44072** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **44072** RunNo: **58918**
Prep Date: **4/3/2019** Analysis Date: **4/5/2019** SeqNo: **1983177** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	98.0	63.9	124			
Surr: DNOP	4.1		5.000		81.3	70	130			

Sample ID: **1904160-020AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP143** Batch ID: **44072** RunNo: **58918**
Prep Date: **4/3/2019** Analysis Date: **4/5/2019** SeqNo: **1983565** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	9.5	47.57	0	88.2	53.5	126			
Surr: DNOP	2.1		4.757		44.2	70	130			S

Sample ID: **1904160-020AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP143** Batch ID: **44072** RunNo: **58918**
Prep Date: **4/3/2019** Analysis Date: **4/5/2019** SeqNo: **1983566** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.9	49.46	0	91.3	53.5	126	9.24	21.7	
Surr: DNOP	1.7		4.946		34.5	70	130	0	0	S

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904160**
09-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **LCS-44079** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **44079** RunNo: **58896**
Prep Date: **4/3/2019** Analysis Date: **4/4/2019** SeqNo: **1980298** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	5.0	25.00	0	81.1	80.1	123			
Surr: BFB	1000		1000		101	73.8	119			

Sample ID: **MB-44079** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **44079** RunNo: **58896**
Prep Date: **4/3/2019** Analysis Date: **4/4/2019** SeqNo: **1980300** 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	920		1000		91.9	73.8	119			

Sample ID: **1904160-020AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP143** Batch ID: **44080** RunNo: **58948**
Prep Date: **4/3/2019** Analysis Date: **4/5/2019** SeqNo: **1982432** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.8	24.13	0	100	69.1	142			
Surr: BFB	1000		965.3		105	73.8	119			

Sample ID: **1904160-020AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP143** Batch ID: **44080** RunNo: **58948**
Prep Date: **4/3/2019** Analysis Date: **4/5/2019** SeqNo: **1982433** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.8	24.20	0	92.3	69.1	142	8.02	20	
Surr: BFB	1000		968.1		106	73.8	119	0	0	

Sample ID: **1904160-040AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP163** Batch ID: **44087** RunNo: **58948**
Prep Date: **4/3/2019** Analysis Date: **4/6/2019** SeqNo: **1982455** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.9	24.41	0	92.0	69.1	142			
Surr: BFB	1100		976.6		109	73.8	119			

Sample ID: **LCS-44080** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **44080** RunNo: **58948**
Prep Date: **4/3/2019** Analysis Date: **4/5/2019** SeqNo: **1982476** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904160**
09-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **LCS-44080** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **44080** RunNo: **58948**
Prep Date: **4/3/2019** Analysis Date: **4/5/2019** SeqNo: **1982476** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.8	80.1	123			
Surr: BFB	1100		1000		107	73.8	119			

Sample ID: **LCS-44087** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **44087** RunNo: **58948**
Prep Date: **4/3/2019** Analysis Date: **4/5/2019** SeqNo: **1982477** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.4	80.1	123			
Surr: BFB	1100		1000		112	73.8	119			

Sample ID: **MB-44080** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **44080** RunNo: **58948**
Prep Date: **4/3/2019** Analysis Date: **4/5/2019** SeqNo: **1982478** 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	920		1000		92.4	73.8	119			

Sample ID: **MB-44087** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **44087** RunNo: **58948**
Prep Date: **4/3/2019** Analysis Date: **4/6/2019** SeqNo: **1982479** 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		94.1	73.8	119			

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904160**
09-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **LCS-44079** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **44079** RunNo: **58896**
Prep Date: **4/3/2019** Analysis Date: **4/4/2019** SeqNo: **1980315** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.025	1.000	0	83.3	80	120			
Toluene	0.95	0.050	1.000	0	94.5	80	120			
Ethylbenzene	0.88	0.050	1.000	0	88.0	80	120			
Xylenes, Total	2.7	0.10	3.000	0	90.4	80	120			
Surr: 4-Bromofluorobenzene	0.94		1.000		93.8	80	120			

Sample ID: **MB-44079** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **44079** RunNo: **58896**
Prep Date: **4/3/2019** Analysis Date: **4/4/2019** SeqNo: **1980317** 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		93.0	80	120			

Sample ID: **1904160-001AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP124** Batch ID: **44079** RunNo: **58896**
Prep Date: **4/3/2019** Analysis Date: **4/4/2019** SeqNo: **1980342** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.024	0.9794	0	95.3	63.9	127			
Toluene	1.0	0.049	0.9794	0.01295	102	69.9	131			
Ethylbenzene	1.0	0.049	0.9794	0	102	71	132			
Xylenes, Total	3.1	0.098	2.938	0	104	71.8	131			
Surr: 4-Bromofluorobenzene	0.93		0.9794		95.0	80	120			

Sample ID: **1904160-001AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP124** Batch ID: **44079** RunNo: **58896**
Prep Date: **4/3/2019** Analysis Date: **4/4/2019** SeqNo: **1980343** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.023	0.9337	0	98.3	63.9	127	1.68	20	
Toluene	1.0	0.047	0.9337	0.01295	105	69.9	131	1.29	20	
Ethylbenzene	1.0	0.047	0.9337	0	108	71	132	0.914	20	
Xylenes, Total	3.1	0.093	2.801	0	109	71.8	131	0.322	20	
Surr: 4-Bromofluorobenzene	0.88		0.9337		94.8	80	120	0	0	

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904160**
09-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **1904160-021AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP144** Batch ID: **44080** RunNo: **58948**
Prep Date: **4/3/2019** Analysis Date: **4/5/2019** SeqNo: **1982482** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.024	0.9479	0	89.7	63.9	127			
Toluene	0.94	0.047	0.9479	0.01689	97.4	69.9	131			
Ethylbenzene	0.94	0.047	0.9479	0	98.9	71	132			
Xylenes, Total	2.8	0.095	2.844	0.01456	99.7	71.8	131			
Surr: 4-Bromofluorobenzene	0.94		0.9479		98.7	80	120			

Sample ID: **1904160-021AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP144** Batch ID: **44080** RunNo: **58948**
Prep Date: **4/3/2019** Analysis Date: **4/5/2019** SeqNo: **1982483** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.025	0.9930	0	89.0	63.9	127	3.84	20	
Toluene	0.97	0.050	0.9930	0.01689	95.5	69.9	131	2.59	20	
Ethylbenzene	0.97	0.050	0.9930	0	98.1	71	132	3.79	20	
Xylenes, Total	2.9	0.099	2.979	0.01456	98.2	71.8	131	3.16	20	
Surr: 4-Bromofluorobenzene	0.96		0.9930		97.0	80	120	0	0	

Sample ID: **1904160-041AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP164** Batch ID: **44087** RunNo: **58948**
Prep Date: **4/3/2019** Analysis Date: **4/6/2019** SeqNo: **1982504** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.023	0.9381	0	91.5	63.9	127			
Toluene	0.93	0.047	0.9381	0.01202	97.9	69.9	131			
Ethylbenzene	0.93	0.047	0.9381	0	99.1	71	132			
Xylenes, Total	2.8	0.094	2.814	0	100	71.8	131			
Surr: 4-Bromofluorobenzene	0.93		0.9381		99.1	80	120			

Sample ID: **1904160-041AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP164** Batch ID: **44087** RunNo: **58948**
Prep Date: **4/3/2019** Analysis Date: **4/6/2019** SeqNo: **1982505** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.023	0.9225	0	93.4	63.9	127	0.402	20	
Toluene	0.93	0.046	0.9225	0.01202	99.6	69.9	131	0.0151	20	
Ethylbenzene	0.94	0.046	0.9225	0	102	71	132	0.944	20	
Xylenes, Total	2.8	0.092	2.768	0	102	71.8	131	0.265	20	
Surr: 4-Bromofluorobenzene	0.91		0.9225		99.0	80	120	0	0	

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904160**
09-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **LCS-44080** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **44080** RunNo: **58948**
Prep Date: **4/3/2019** Analysis Date: **4/5/2019** SeqNo: **1982524** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.025	1.000	0	85.6	80	120			
Toluene	0.96	0.050	1.000	0	95.6	80	120			
Ethylbenzene	0.91	0.050	1.000	0	90.7	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.6	80	120			
Surr: 4-Bromofluorobenzene	0.96		1.000		96.4	80	120			

Sample ID: **LCS-44087** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **44087** RunNo: **58948**
Prep Date: **4/3/2019** Analysis Date: **4/6/2019** SeqNo: **1982525** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	91.0	80	120			
Toluene	0.97	0.050	1.000	0	97.1	80	120			
Ethylbenzene	0.96	0.050	1.000	0	96.2	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.8	80	120			
Surr: 4-Bromofluorobenzene	0.96		1.000		96.0	80	120			

Sample ID: **MB-44080** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **44080** RunNo: **58948**
Prep Date: **4/3/2019** Analysis Date: **4/5/2019** SeqNo: **1982526** 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	0.94		1.000		93.5	80	120			

Sample ID: **MB-44087** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **44087** RunNo: **58948**
Prep Date: **4/3/2019** Analysis Date: **4/6/2019** SeqNo: **1982527** 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		95.9	80	120			

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **1904160** RcptNo: **1**

Received By: **Yazmine Garduno** **4/2/2019 8:50:00 AM** Yazmine Garduno

Completed By: **Isaiah Ortiz** **4/3/2019 9:29:42 AM** I-Ox

Reviewed By: YG 4/3/19
LB DAD 4/3/19

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° 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 4/3/19

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	2.1	Good	Yes			
2	2.8	Good	Yes			
3	5.6	Good	Yes			

Chain-of-Custody Record

Client: WPX Carlsbad

Mailing Address: On file

Phone #:

Email or Fax#:

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time: 5 day turn
☒ Standard ☐ Rush _____

Project Name: LVP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature: [illegible]

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1904 1160	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
12/2014		Soil	SP124	4oz. (1)	Ice	-001	X		X					X							
			SP125			-002															
			SP126			-003															
			SP127			-004															
			SP128			-005															
			SP129			-006															
			SP130			-007															
			SP131			-008															
			SP132			-009															
			SP133			-010															
			SP134			-011															
			SP135			-012															

Date:	Time:	Relinquished by:	Received by:	Date	Time
12/2014	1630	Kevin Smith	[signature]	12/12/14	1630
4/2/19	1900	[signature]	[signature] courier	4/3/19	8:50

Remarks: Report to: Kris Rowe, Debbie Watson, Kevin Smith, Natalie Gordon

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

Chain-of-Custody Record

Client: WPX Carlsbad

Mailing Address: on file

Phone #:

Email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day turn
☒ Standard ☐ Rush

Project Name: LVP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☑ Yes ☐ No

Sample Temperature: 2.6, 2.8, 5.6°

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1904160	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
4/2019		Soil	SP 136	4 oz. (1)	Ice	-013	X		X					X							
			SP 137			-014															
			SP 138			-015															
			SP 139			-016															
			SP 140			-017															
			SP 141			-018															
			SP 142			-019															
			SP 143			-020															
			SP 144			-021															
			SP 145			-022															
			SP 146			-023															
			SP 147			-024															

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/2/2019	1630	Kevin Smith		4/2/19	1630
Date:	Time:	Relinquished by:	Received by:	Date	Time
4/2/19	1910		UPS courier	4/3/19	8:50

Remarks: Report to: (on file)

Chain-of-Custody Record

Client: WPX Carlsbad

Mailing Address: on file

Phone #:

Email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day turn
☒ Standard ☐ Rush

Project Name: LVP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☑ Yes ☐ No

Sample Temperature: 4.1 / 4.5 / 5.6 °C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1904160	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
4/2/2019		Soil	SP148	4oz(1)	Ice	-025	X		X					X							
			SP149			-026															
			SP150			-027															
			SP151			-028															
			SP152			-029															
			SP153			-030															
			SP154			-031															
			SP155			-032															
			SP156			-033															
			SP157			-034															
			SP158			-035															
			SP159			-036															

Date	Time	Relinquished by:	Received by:	Date	Time
4/2/19	1630	Kevin Smith	[signature]	4/2/19	1630
4/2/19	1900	[signature]	[signature] courier	4/2/19	8:50

Remarks:

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

Chain-of-Custody Record

Client: WPX Carlsbad

Mailing Address: On file

Phone #:

Email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day turn
☒ Standard ☐ Rush

Project Name:

Project #: LVP SWD

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.1, 2.3, 5.6

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1904160	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F^-, Cl^-, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
2/2014		Soil	SP160	4oz. (1)	ICE	-037	X		X					X							
			SP161			-038															
			SP162			-039															
			SP163			-040															
			SP164			-041															

Date:	Time:	Relinquished by:	Received by:	Date	Time
12/2019	1630	Kevin Smith	[signature]	4/2/19	1630
Date:	Time:	Relinquished by:	Received by:	Date	Time
4/2/19	1900	[signature]	[signature]	4/3/19	8:50

Remarks:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

April 12, 2019

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

RE: LVP SWD OrderNo.: 1904256

Dear Kris Rowe:

Hall Environmental Analysis Laboratory received 92 sample(s) on 4/4/2019 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-001 **Matrix:** SOIL

Client Sample ID: SP165
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	180	60		mg/Kg	20	4/6/2019 5:13:07 PM	44174
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/5/2019 11:36:52 PM	44128
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/5/2019 11:36:52 PM	44128
Surr: DNOP	79.6	70-130		%Rec	1	4/5/2019 11:36:52 PM	44128
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/6/2019 8:53:38 PM	44112
Surr: BFB	89.0	73.8-119		%Rec	1	4/6/2019 8:53:38 PM	44112
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/6/2019 8:53:38 PM	44112
Toluene	ND	0.047		mg/Kg	1	4/6/2019 8:53:38 PM	44112
Ethylbenzene	ND	0.047		mg/Kg	1	4/6/2019 8:53:38 PM	44112
Xylenes, Total	ND	0.093		mg/Kg	1	4/6/2019 8:53:38 PM	44112
Surr: 4-Bromofluorobenzene	90.2	80-120		%Rec	1	4/6/2019 8:53:38 PM	44112

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-002 **Matrix:** SOIL

Client Sample ID: SP166
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	250	60		mg/Kg	20	4/6/2019 5:50:20 PM	44174
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/5/2019 11:58:51 PM	44128
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/5/2019 11:58:51 PM	44128
Surr: DNOP	85.6	70-130		%Rec	1	4/5/2019 11:58:51 PM	44128
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/6/2019 9:17:14 PM	44112
Surr: BFB	91.8	73.8-119		%Rec	1	4/6/2019 9:17:14 PM	44112
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/6/2019 9:17:14 PM	44112
Toluene	ND	0.048		mg/Kg	1	4/6/2019 9:17:14 PM	44112
Ethylbenzene	ND	0.048		mg/Kg	1	4/6/2019 9:17:14 PM	44112
Xylenes, Total	ND	0.097		mg/Kg	1	4/6/2019 9:17:14 PM	44112
Surr: 4-Bromofluorobenzene	92.6	80-120		%Rec	1	4/6/2019 9:17:14 PM	44112

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-003 **Matrix:** SOIL

Client Sample ID: SP167
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	250	60		mg/Kg	20	4/6/2019 6:02:45 PM	44174
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/6/2019 12:20:57 AM	44128
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/6/2019 12:20:57 AM	44128
Surr: DNOP	98.2	70-130		%Rec	1	4/6/2019 12:20:57 AM	44128
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/6/2019 9:40:50 PM	44112
Surr: BFB	89.2	73.8-119		%Rec	1	4/6/2019 9:40:50 PM	44112
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/6/2019 9:40:50 PM	44112
Toluene	ND	0.049		mg/Kg	1	4/6/2019 9:40:50 PM	44112
Ethylbenzene	ND	0.049		mg/Kg	1	4/6/2019 9:40:50 PM	44112
Xylenes, Total	ND	0.098		mg/Kg	1	4/6/2019 9:40:50 PM	44112
Surr: 4-Bromofluorobenzene	90.5	80-120		%Rec	1	4/6/2019 9:40:50 PM	44112

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-004 **Matrix:** SOIL

Client Sample ID: SP168
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	210	59		mg/Kg	20	4/6/2019 6:15:09 PM	44174
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	4/6/2019 12:42:53 AM	44128
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/6/2019 12:42:53 AM	44128
Surr: DNOP	89.4	70-130		%Rec	1	4/6/2019 12:42:53 AM	44128
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/6/2019 10:04:26 PM	44112
Surr: BFB	91.2	73.8-119		%Rec	1	4/6/2019 10:04:26 PM	44112
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/6/2019 10:04:26 PM	44112
Toluene	ND	0.048		mg/Kg	1	4/6/2019 10:04:26 PM	44112
Ethylbenzene	ND	0.048		mg/Kg	1	4/6/2019 10:04:26 PM	44112
Xylenes, Total	ND	0.096		mg/Kg	1	4/6/2019 10:04:26 PM	44112
Surr: 4-Bromofluorobenzene	93.5	80-120		%Rec	1	4/6/2019 10:04:26 PM	44112

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-005 **Matrix:** SOIL

Client Sample ID: SP169
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	230	60		mg/Kg	20	4/6/2019 6:27:33 PM	44174
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/6/2019 1:04:54 AM	44128
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/6/2019 1:04:54 AM	44128
Surr: DNOP	88.1	70-130		%Rec	1	4/6/2019 1:04:54 AM	44128
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/6/2019 11:14:50 PM	44112
Surr: BFB	90.5	73.8-119		%Rec	1	4/6/2019 11:14:50 PM	44112
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/6/2019 11:14:50 PM	44112
Toluene	ND	0.048		mg/Kg	1	4/6/2019 11:14:50 PM	44112
Ethylbenzene	ND	0.048		mg/Kg	1	4/6/2019 11:14:50 PM	44112
Xylenes, Total	ND	0.096		mg/Kg	1	4/6/2019 11:14:50 PM	44112
Surr: 4-Bromofluorobenzene	93.2	80-120		%Rec	1	4/6/2019 11:14:50 PM	44112

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-006 **Matrix:** SOIL

Client Sample ID: SP170
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	200	60		mg/Kg	20	4/6/2019 7:29:36 PM	44176
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	4/6/2019 1:26:45 AM	44128
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/6/2019 1:26:45 AM	44128
Surr: DNOP	67.5	70-130	S	%Rec	1	4/6/2019 1:26:45 AM	44128
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/6/2019 11:38:05 PM	44112
Surr: BFB	90.5	73.8-119		%Rec	1	4/6/2019 11:38:05 PM	44112
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/6/2019 11:38:05 PM	44112
Toluene	ND	0.048		mg/Kg	1	4/6/2019 11:38:05 PM	44112
Ethylbenzene	ND	0.048		mg/Kg	1	4/6/2019 11:38:05 PM	44112
Xylenes, Total	ND	0.097		mg/Kg	1	4/6/2019 11:38:05 PM	44112
Surr: 4-Bromofluorobenzene	92.8	80-120		%Rec	1	4/6/2019 11:38:05 PM	44112

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP171
Project: LVP SWD
Collection Date: 4/3/2019
Lab ID: 1904256-007
Matrix: SOIL
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	190	60		mg/Kg	20	4/6/2019 8:31:40 PM	44176
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/6/2019 1:48:59 AM	44128
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/6/2019 1:48:59 AM	44128
Surr: DNOP	69.9	70-130	S	%Rec	1	4/6/2019 1:48:59 AM	44128
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/7/2019 12:01:42 AM	44112
Surr: BFB	89.0	73.8-119		%Rec	1	4/7/2019 12:01:42 AM	44112
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/7/2019 12:01:42 AM	44112
Toluene	ND	0.048		mg/Kg	1	4/7/2019 12:01:42 AM	44112
Ethylbenzene	ND	0.048		mg/Kg	1	4/7/2019 12:01:42 AM	44112
Xylenes, Total	ND	0.096		mg/Kg	1	4/7/2019 12:01:42 AM	44112
Surr: 4-Bromofluorobenzene	90.3	80-120		%Rec	1	4/7/2019 12:01:42 AM	44112

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-008 **Matrix:** SOIL

Client Sample ID: SP172
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	180	60		mg/Kg	20	4/6/2019 8:44:04 PM	44176
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/6/2019 2:10:54 AM	44128
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/6/2019 2:10:54 AM	44128
Surr: DNOP	80.3	70-130		%Rec	1	4/6/2019 2:10:54 AM	44128
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/7/2019 12:25:11 AM	44112
Surr: BFB	88.4	73.8-119		%Rec	1	4/7/2019 12:25:11 AM	44112
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/7/2019 12:25:11 AM	44112
Toluene	ND	0.046		mg/Kg	1	4/7/2019 12:25:11 AM	44112
Ethylbenzene	ND	0.046		mg/Kg	1	4/7/2019 12:25:11 AM	44112
Xylenes, Total	ND	0.093		mg/Kg	1	4/7/2019 12:25:11 AM	44112
Surr: 4-Bromofluorobenzene	90.5	80-120		%Rec	1	4/7/2019 12:25:11 AM	44112

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-009 **Matrix:** SOIL

Client Sample ID: SP173
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	210	60		mg/Kg	20	4/6/2019 8:56:29 PM	44176
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/6/2019 2:32:54 AM	44128
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/6/2019 2:32:54 AM	44128
Surr: DNOP	69.2	70-130	S	%Rec	1	4/6/2019 2:32:54 AM	44128
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/7/2019 12:48:39 AM	44112
Surr: BFB	87.6	73.8-119		%Rec	1	4/7/2019 12:48:39 AM	44112
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/7/2019 12:48:39 AM	44112
Toluene	ND	0.047		mg/Kg	1	4/7/2019 12:48:39 AM	44112
Ethylbenzene	ND	0.047		mg/Kg	1	4/7/2019 12:48:39 AM	44112
Xylenes, Total	ND	0.095		mg/Kg	1	4/7/2019 12:48:39 AM	44112
Surr: 4-Bromofluorobenzene	88.8	80-120		%Rec	1	4/7/2019 12:48:39 AM	44112

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-010 **Matrix:** SOIL

Client Sample ID: SP174
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	230	60		mg/Kg	20	4/6/2019 9:08:54 PM	44176
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	4/6/2019 2:54:43 AM	44128
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/6/2019 2:54:43 AM	44128
Surr: DNOP	36.6	70-130	S	%Rec	1	4/6/2019 2:54:43 AM	44128
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/7/2019 1:12:01 AM	44112
Surr: BFB	90.4	73.8-119		%Rec	1	4/7/2019 1:12:01 AM	44112
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/7/2019 1:12:01 AM	44112
Toluene	ND	0.048		mg/Kg	1	4/7/2019 1:12:01 AM	44112
Ethylbenzene	ND	0.048		mg/Kg	1	4/7/2019 1:12:01 AM	44112
Xylenes, Total	ND	0.096		mg/Kg	1	4/7/2019 1:12:01 AM	44112
Surr: 4-Bromofluorobenzene	91.8	80-120		%Rec	1	4/7/2019 1:12:01 AM	44112

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-011 **Matrix:** SOIL

Client Sample ID: SP175
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	300	60		mg/Kg	20	4/6/2019 9:21:18 PM	44176
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/6/2019 3:16:40 AM	44128
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/6/2019 3:16:40 AM	44128
Surr: DNOP	42.2	70-130	S	%Rec	1	4/6/2019 3:16:40 AM	44128
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/7/2019 1:35:23 AM	44112
Surr: BFB	90.4	73.8-119		%Rec	1	4/7/2019 1:35:23 AM	44112
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/7/2019 1:35:23 AM	44112
Toluene	ND	0.048		mg/Kg	1	4/7/2019 1:35:23 AM	44112
Ethylbenzene	ND	0.048		mg/Kg	1	4/7/2019 1:35:23 AM	44112
Xylenes, Total	ND	0.096		mg/Kg	1	4/7/2019 1:35:23 AM	44112
Surr: 4-Bromofluorobenzene	92.3	80-120		%Rec	1	4/7/2019 1:35:23 AM	44112

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-012 **Matrix:** SOIL

Client Sample ID: SP176
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	240	60		mg/Kg	20	4/6/2019 9:33:43 PM	44176
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/6/2019 3:38:31 AM	44128
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/6/2019 3:38:31 AM	44128
Surr: DNOP	46.7	70-130	S	%Rec	1	4/6/2019 3:38:31 AM	44128
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/7/2019 1:58:54 AM	44112
Surr: BFB	89.8	73.8-119		%Rec	1	4/7/2019 1:58:54 AM	44112
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/7/2019 1:58:54 AM	44112
Toluene	ND	0.048		mg/Kg	1	4/7/2019 1:58:54 AM	44112
Ethylbenzene	ND	0.048		mg/Kg	1	4/7/2019 1:58:54 AM	44112
Xylenes, Total	ND	0.096		mg/Kg	1	4/7/2019 1:58:54 AM	44112
Surr: 4-Bromofluorobenzene	92.1	80-120		%Rec	1	4/7/2019 1:58:54 AM	44112

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-013 **Matrix:** SOIL

Client Sample ID: SP177
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	230	60		mg/Kg	20	4/6/2019 9:46:07 PM	44176
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/6/2019 4:00:27 AM	44142
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/6/2019 4:00:27 AM	44142
Surr: DNOP	59.7	70-130	S	%Rec	1	4/6/2019 4:00:27 AM	44142
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/7/2019 2:22:17 AM	44112
Surr: BFB	88.4	73.8-119		%Rec	1	4/7/2019 2:22:17 AM	44112
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/7/2019 2:22:17 AM	44112
Toluene	ND	0.046		mg/Kg	1	4/7/2019 2:22:17 AM	44112
Ethylbenzene	ND	0.046		mg/Kg	1	4/7/2019 2:22:17 AM	44112
Xylenes, Total	ND	0.093		mg/Kg	1	4/7/2019 2:22:17 AM	44112
Surr: 4-Bromofluorobenzene	90.2	80-120		%Rec	1	4/7/2019 2:22:17 AM	44112

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-014 **Matrix:** SOIL

Client Sample ID: SP178
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	260	60		mg/Kg	20	4/6/2019 9:58:31 PM	44176
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	4/6/2019 4:22:31 AM	44142
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/6/2019 4:22:31 AM	44142
Surr: DNOP	67.4	70-130	S	%Rec	1	4/6/2019 4:22:31 AM	44142
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/7/2019 2:45:50 AM	44112
Surr: BFB	90.2	73.8-119		%Rec	1	4/7/2019 2:45:50 AM	44112
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/7/2019 2:45:50 AM	44112
Toluene	ND	0.047		mg/Kg	1	4/7/2019 2:45:50 AM	44112
Ethylbenzene	ND	0.047		mg/Kg	1	4/7/2019 2:45:50 AM	44112
Xylenes, Total	ND	0.095		mg/Kg	1	4/7/2019 2:45:50 AM	44112
Surr: 4-Bromofluorobenzene	92.0	80-120		%Rec	1	4/7/2019 2:45:50 AM	44112

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-015 **Matrix:** SOIL

Client Sample ID: SP179
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	270	60		mg/Kg	20	4/7/2019 1:08:27 PM	44176
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/5/2019 6:18:31 PM	44133
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/5/2019 6:18:31 PM	44133
Surr: DNOP	115	70-130		%Rec	1	4/5/2019 6:18:31 PM	44133
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/7/2019 5:06:21 AM	44113
Surr: BFB	88.7	73.8-119		%Rec	1	4/7/2019 5:06:21 AM	44113
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/7/2019 5:06:21 AM	44113
Toluene	ND	0.050		mg/Kg	1	4/7/2019 5:06:21 AM	44113
Ethylbenzene	ND	0.050		mg/Kg	1	4/7/2019 5:06:21 AM	44113
Xylenes, Total	ND	0.10		mg/Kg	1	4/7/2019 5:06:21 AM	44113
Surr: 4-Bromofluorobenzene	90.4	80-120		%Rec	1	4/7/2019 5:06:21 AM	44113

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-016 **Matrix:** SOIL

Client Sample ID: SP180
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	150	60		mg/Kg	20	4/7/2019 1:20:51 PM	44176
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/5/2019 7:30:55 PM	44133
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/5/2019 7:30:55 PM	44133
Surr: DNOP	96.6	70-130		%Rec	1	4/5/2019 7:30:55 PM	44133
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/7/2019 6:16:44 AM	44113
Surr: BFB	91.4	73.8-119		%Rec	1	4/7/2019 6:16:44 AM	44113
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/7/2019 6:16:44 AM	44113
Toluene	ND	0.048		mg/Kg	1	4/7/2019 6:16:44 AM	44113
Ethylbenzene	ND	0.048		mg/Kg	1	4/7/2019 6:16:44 AM	44113
Xylenes, Total	ND	0.097		mg/Kg	1	4/7/2019 6:16:44 AM	44113
Surr: 4-Bromofluorobenzene	93.6	80-120		%Rec	1	4/7/2019 6:16:44 AM	44113

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-017 **Matrix:** SOIL

Client Sample ID: SP181
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	330	60		mg/Kg	20	4/7/2019 1:33:15 PM	44176
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	4/5/2019 7:55:07 PM	44133
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/5/2019 7:55:07 PM	44133
Surr: DNOP	88.3	70-130		%Rec	1	4/5/2019 7:55:07 PM	44133
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/7/2019 7:27:13 AM	44113
Surr: BFB	90.6	73.8-119		%Rec	1	4/7/2019 7:27:13 AM	44113
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/7/2019 7:27:13 AM	44113
Toluene	ND	0.047		mg/Kg	1	4/7/2019 7:27:13 AM	44113
Ethylbenzene	ND	0.047		mg/Kg	1	4/7/2019 7:27:13 AM	44113
Xylenes, Total	ND	0.093		mg/Kg	1	4/7/2019 7:27:13 AM	44113
Surr: 4-Bromofluorobenzene	92.1	80-120		%Rec	1	4/7/2019 7:27:13 AM	44113

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-018 **Matrix:** SOIL

Client Sample ID: SP182
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	240	60		mg/Kg	20	4/7/2019 1:45:40 PM	44176
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/5/2019 8:19:18 PM	44133
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/5/2019 8:19:18 PM	44133
Surr: DNOP	103	70-130		%Rec	1	4/5/2019 8:19:18 PM	44133
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/7/2019 7:50:36 AM	44113
Surr: BFB	91.9	73.8-119		%Rec	1	4/7/2019 7:50:36 AM	44113
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/7/2019 7:50:36 AM	44113
Toluene	ND	0.049		mg/Kg	1	4/7/2019 7:50:36 AM	44113
Ethylbenzene	ND	0.049		mg/Kg	1	4/7/2019 7:50:36 AM	44113
Xylenes, Total	ND	0.097		mg/Kg	1	4/7/2019 7:50:36 AM	44113
Surr: 4-Bromofluorobenzene	95.0	80-120		%Rec	1	4/7/2019 7:50:36 AM	44113

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-019 **Matrix:** SOIL

Client Sample ID: SP183
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	240	60		mg/Kg	20	4/7/2019 1:58:04 PM	44176
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	4/5/2019 8:43:26 PM	44133
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/5/2019 8:43:26 PM	44133
Surr: DNOP	96.6	70-130		%Rec	1	4/5/2019 8:43:26 PM	44133
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/7/2019 8:14:15 AM	44113
Surr: BFB	90.0	73.8-119		%Rec	1	4/7/2019 8:14:15 AM	44113
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/7/2019 8:14:15 AM	44113
Toluene	ND	0.047		mg/Kg	1	4/7/2019 8:14:15 AM	44113
Ethylbenzene	ND	0.047		mg/Kg	1	4/7/2019 8:14:15 AM	44113
Xylenes, Total	ND	0.093		mg/Kg	1	4/7/2019 8:14:15 AM	44113
Surr: 4-Bromofluorobenzene	93.2	80-120		%Rec	1	4/7/2019 8:14:15 AM	44113

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-020 **Matrix:** SOIL

Client Sample ID: SP184
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	170	60		mg/Kg	20	4/7/2019 2:10:29 PM	44176
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	4/5/2019 9:07:33 PM	44133
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/5/2019 9:07:33 PM	44133
Surr: DNOP	94.3	70-130		%Rec	1	4/5/2019 9:07:33 PM	44133
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/7/2019 8:37:47 AM	44113
Surr: BFB	90.1	73.8-119		%Rec	1	4/7/2019 8:37:47 AM	44113
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/7/2019 8:37:47 AM	44113
Toluene	ND	0.046		mg/Kg	1	4/7/2019 8:37:47 AM	44113
Ethylbenzene	ND	0.046		mg/Kg	1	4/7/2019 8:37:47 AM	44113
Xylenes, Total	ND	0.093		mg/Kg	1	4/7/2019 8:37:47 AM	44113
Surr: 4-Bromofluorobenzene	92.8	80-120		%Rec	1	4/7/2019 8:37:47 AM	44113

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP185
Project: LVP SWD
Collection Date: 4/3/2019
Lab ID: 1904256-021
Matrix: SOIL
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	220	60		mg/Kg	20	4/7/2019 2:22:53 PM	44176
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/5/2019 9:31:41 PM	44133
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/5/2019 9:31:41 PM	44133
Surr: DNOP	88.0	70-130		%Rec	1	4/5/2019 9:31:41 PM	44133
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/7/2019 9:01:21 AM	44113
Surr: BFB	88.7	73.8-119		%Rec	1	4/7/2019 9:01:21 AM	44113
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/7/2019 9:01:21 AM	44113
Toluene	ND	0.047		mg/Kg	1	4/7/2019 9:01:21 AM	44113
Ethylbenzene	ND	0.047		mg/Kg	1	4/7/2019 9:01:21 AM	44113
Xylenes, Total	ND	0.093		mg/Kg	1	4/7/2019 9:01:21 AM	44113
Surr: 4-Bromofluorobenzene	90.0	80-120		%Rec	1	4/7/2019 9:01:21 AM	44113

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-022 **Matrix:** SOIL

Client Sample ID: SP186
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	170	60		mg/Kg	20	4/7/2019 2:35:18 PM	44176
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/5/2019 9:55:46 PM	44133
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/5/2019 9:55:46 PM	44133
Surr: DNOP	87.5	70-130		%Rec	1	4/5/2019 9:55:46 PM	44133
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/7/2019 9:24:50 AM	44113
Surr: BFB	87.9	73.8-119		%Rec	1	4/7/2019 9:24:50 AM	44113
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/7/2019 9:24:50 AM	44113
Toluene	ND	0.048		mg/Kg	1	4/7/2019 9:24:50 AM	44113
Ethylbenzene	ND	0.048		mg/Kg	1	4/7/2019 9:24:50 AM	44113
Xylenes, Total	ND	0.095		mg/Kg	1	4/7/2019 9:24:50 AM	44113
Surr: 4-Bromofluorobenzene	90.5	80-120		%Rec	1	4/7/2019 9:24:50 AM	44113

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-023 **Matrix:** SOIL

Client Sample ID: SP187
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	220	60		mg/Kg	20	4/7/2019 2:47:42 PM	44176
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/5/2019 10:19:48 PM	44133
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/5/2019 10:19:48 PM	44133
Surr: DNOP	85.3	70-130		%Rec	1	4/5/2019 10:19:48 PM	44133
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/7/2019 9:48:20 AM	44113
Surr: BFB	90.9	73.8-119		%Rec	1	4/7/2019 9:48:20 AM	44113
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/7/2019 9:48:20 AM	44113
Toluene	ND	0.049		mg/Kg	1	4/7/2019 9:48:20 AM	44113
Ethylbenzene	ND	0.049		mg/Kg	1	4/7/2019 9:48:20 AM	44113
Xylenes, Total	ND	0.097		mg/Kg	1	4/7/2019 9:48:20 AM	44113
Surr: 4-Bromofluorobenzene	92.0	80-120		%Rec	1	4/7/2019 9:48:20 AM	44113

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-024 **Matrix:** SOIL

Client Sample ID: SP188
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	180	60		mg/Kg	20	4/7/2019 3:00:07 PM	44176
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/5/2019 10:43:51 PM	44133
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/5/2019 10:43:51 PM	44133
Surr: DNOP	104	70-130		%Rec	1	4/5/2019 10:43:51 PM	44133
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/7/2019 10:11:41 AM	44113
Surr: BFB	91.7	73.8-119		%Rec	1	4/7/2019 10:11:41 AM	44113
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/7/2019 10:11:41 AM	44113
Toluene	ND	0.047		mg/Kg	1	4/7/2019 10:11:41 AM	44113
Ethylbenzene	ND	0.047		mg/Kg	1	4/7/2019 10:11:41 AM	44113
Xylenes, Total	ND	0.095		mg/Kg	1	4/7/2019 10:11:41 AM	44113
Surr: 4-Bromofluorobenzene	93.4	80-120		%Rec	1	4/7/2019 10:11:41 AM	44113

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-025 **Matrix:** SOIL

Client Sample ID: SP189
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	150	60		mg/Kg	20	4/7/2019 3:37:21 PM	44176
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	4/5/2019 11:07:50 PM	44133
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/5/2019 11:07:50 PM	44133
Surr: DNOP	82.1	70-130		%Rec	1	4/5/2019 11:07:50 PM	44133
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/7/2019 11:22:20 AM	44113
Surr: BFB	88.4	73.8-119		%Rec	1	4/7/2019 11:22:20 AM	44113
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/7/2019 11:22:20 AM	44113
Toluene	ND	0.049		mg/Kg	1	4/7/2019 11:22:20 AM	44113
Ethylbenzene	ND	0.049		mg/Kg	1	4/7/2019 11:22:20 AM	44113
Xylenes, Total	ND	0.098		mg/Kg	1	4/7/2019 11:22:20 AM	44113
Surr: 4-Bromofluorobenzene	90.1	80-120		%Rec	1	4/7/2019 11:22:20 AM	44113

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-026 **Matrix:** SOIL

Client Sample ID: SP190
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	120	60		mg/Kg	20	4/6/2019 10:33:17 PM	44177
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/5/2019 11:31:50 PM	44133
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/5/2019 11:31:50 PM	44133
Surr: DNOP	92.9	70-130		%Rec	1	4/5/2019 11:31:50 PM	44133
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/7/2019 11:45:59 AM	44113
Surr: BFB	89.2	73.8-119		%Rec	1	4/7/2019 11:45:59 AM	44113
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/7/2019 11:45:59 AM	44113
Toluene	ND	0.047		mg/Kg	1	4/7/2019 11:45:59 AM	44113
Ethylbenzene	ND	0.047		mg/Kg	1	4/7/2019 11:45:59 AM	44113
Xylenes, Total	ND	0.093		mg/Kg	1	4/7/2019 11:45:59 AM	44113
Surr: 4-Bromofluorobenzene	91.2	80-120		%Rec	1	4/7/2019 11:45:59 AM	44113

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-027 **Matrix:** SOIL

Client Sample ID: SP191
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	190	60		mg/Kg	20	4/6/2019 11:10:32 PM	44177
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	4/5/2019 11:55:46 PM	44133
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/5/2019 11:55:46 PM	44133
Surr: DNOP	93.2	70-130		%Rec	1	4/5/2019 11:55:46 PM	44133
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/7/2019 12:09:38 PM	44113
Surr: BFB	87.7	73.8-119		%Rec	1	4/7/2019 12:09:38 PM	44113
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/7/2019 12:09:38 PM	44113
Toluene	ND	0.047		mg/Kg	1	4/7/2019 12:09:38 PM	44113
Ethylbenzene	ND	0.047		mg/Kg	1	4/7/2019 12:09:38 PM	44113
Xylenes, Total	ND	0.093		mg/Kg	1	4/7/2019 12:09:38 PM	44113
Surr: 4-Bromofluorobenzene	89.0	80-120		%Rec	1	4/7/2019 12:09:38 PM	44113

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-028 **Matrix:** SOIL

Client Sample ID: SP192
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	120	60		mg/Kg	20	4/6/2019 11:22:56 PM	44177
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	4/6/2019 12:19:41 AM	44133
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/6/2019 12:19:41 AM	44133
Surr: DNOP	99.6	70-130		%Rec	1	4/6/2019 12:19:41 AM	44133
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/7/2019 12:33:19 PM	44113
Surr: BFB	89.6	73.8-119		%Rec	1	4/7/2019 12:33:19 PM	44113
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/7/2019 12:33:19 PM	44113
Toluene	ND	0.048		mg/Kg	1	4/7/2019 12:33:19 PM	44113
Ethylbenzene	ND	0.048		mg/Kg	1	4/7/2019 12:33:19 PM	44113
Xylenes, Total	ND	0.095		mg/Kg	1	4/7/2019 12:33:19 PM	44113
Surr: 4-Bromofluorobenzene	91.1	80-120		%Rec	1	4/7/2019 12:33:19 PM	44113

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-029 **Matrix:** SOIL

Client Sample ID: SP193
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	220	60		mg/Kg	20	4/6/2019 11:35:21 PM	44177
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	4/6/2019 12:43:35 AM	44133
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	4/6/2019 12:43:35 AM	44133
Surr: DNOP	115	70-130		%Rec	1	4/6/2019 12:43:35 AM	44133
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/7/2019 12:56:46 PM	44113
Surr: BFB	93.7	73.8-119		%Rec	1	4/7/2019 12:56:46 PM	44113
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/7/2019 12:56:46 PM	44113
Toluene	ND	0.048		mg/Kg	1	4/7/2019 12:56:46 PM	44113
Ethylbenzene	ND	0.048		mg/Kg	1	4/7/2019 12:56:46 PM	44113
Xylenes, Total	ND	0.095		mg/Kg	1	4/7/2019 12:56:46 PM	44113
Surr: 4-Bromofluorobenzene	95.5	80-120		%Rec	1	4/7/2019 12:56:46 PM	44113

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-030 **Matrix:** SOIL

Client Sample ID: SP194
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	150	60		mg/Kg	20	4/6/2019 11:47:46 PM	44177
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/6/2019 1:07:26 AM	44133
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/6/2019 1:07:26 AM	44133
Surr: DNOP	76.9	70-130		%Rec	1	4/6/2019 1:07:26 AM	44133
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/7/2019 1:20:11 PM	44113
Surr: BFB	88.7	73.8-119		%Rec	1	4/7/2019 1:20:11 PM	44113
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/7/2019 1:20:11 PM	44113
Toluene	ND	0.049		mg/Kg	1	4/7/2019 1:20:11 PM	44113
Ethylbenzene	ND	0.049		mg/Kg	1	4/7/2019 1:20:11 PM	44113
Xylenes, Total	ND	0.099		mg/Kg	1	4/7/2019 1:20:11 PM	44113
Surr: 4-Bromofluorobenzene	90.4	80-120		%Rec	1	4/7/2019 1:20:11 PM	44113

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-031 **Matrix:** SOIL

Client Sample ID: SP195
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	220	59		mg/Kg	20	4/7/2019 12:00:11 AM	44177
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/6/2019 1:31:15 AM	44133
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/6/2019 1:31:15 AM	44133
Surr: DNOP	96.6	70-130		%Rec	1	4/6/2019 1:31:15 AM	44133
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/7/2019 1:43:35 PM	44113
Surr: BFB	92.1	73.8-119		%Rec	1	4/7/2019 1:43:35 PM	44113
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/7/2019 1:43:35 PM	44113
Toluene	ND	0.047		mg/Kg	1	4/7/2019 1:43:35 PM	44113
Ethylbenzene	ND	0.047		mg/Kg	1	4/7/2019 1:43:35 PM	44113
Xylenes, Total	ND	0.095		mg/Kg	1	4/7/2019 1:43:35 PM	44113
Surr: 4-Bromofluorobenzene	93.5	80-120		%Rec	1	4/7/2019 1:43:35 PM	44113

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-032 **Matrix:** SOIL

Client Sample ID: SP196
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	110	60		mg/Kg	20	4/7/2019 12:12:36 AM	44177
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	4/6/2019 1:55:05 AM	44133
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	4/6/2019 1:55:05 AM	44133
Surr: DNOP	78.7	70-130		%Rec	1	4/6/2019 1:55:05 AM	44133
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/7/2019 2:06:55 PM	44113
Surr: BFB	90.3	73.8-119		%Rec	1	4/7/2019 2:06:55 PM	44113
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/7/2019 2:06:55 PM	44113
Toluene	ND	0.050		mg/Kg	1	4/7/2019 2:06:55 PM	44113
Ethylbenzene	ND	0.050		mg/Kg	1	4/7/2019 2:06:55 PM	44113
Xylenes, Total	ND	0.10		mg/Kg	1	4/7/2019 2:06:55 PM	44113
Surr: 4-Bromofluorobenzene	91.6	80-120		%Rec	1	4/7/2019 2:06:55 PM	44113

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-033 **Matrix:** SOIL

Client Sample ID: SP197
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	150	60		mg/Kg	20	4/7/2019 12:25:01 AM	44177
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/6/2019 2:18:51 AM	44133
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/6/2019 2:18:51 AM	44133
Surr: DNOP	85.4	70-130		%Rec	1	4/6/2019 2:18:51 AM	44133
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/7/2019 2:30:16 PM	44113
Surr: BFB	88.1	73.8-119		%Rec	1	4/7/2019 2:30:16 PM	44113
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/7/2019 2:30:16 PM	44113
Toluene	ND	0.047		mg/Kg	1	4/7/2019 2:30:16 PM	44113
Ethylbenzene	ND	0.047		mg/Kg	1	4/7/2019 2:30:16 PM	44113
Xylenes, Total	ND	0.095		mg/Kg	1	4/7/2019 2:30:16 PM	44113
Surr: 4-Bromofluorobenzene	89.3	80-120		%Rec	1	4/7/2019 2:30:16 PM	44113

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-034 **Matrix:** SOIL

Client Sample ID: SP198
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	160	60		mg/Kg	20	4/7/2019 1:02:16 AM	44177
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/6/2019 2:42:36 AM	44133
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/6/2019 2:42:36 AM	44133
Surr: DNOP	68.1	70-130	S	%Rec	1	4/6/2019 2:42:36 AM	44133
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/7/2019 2:53:38 PM	44113
Surr: BFB	90.2	73.8-119		%Rec	1	4/7/2019 2:53:38 PM	44113
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/7/2019 2:53:38 PM	44113
Toluene	ND	0.048		mg/Kg	1	4/7/2019 2:53:38 PM	44113
Ethylbenzene	ND	0.048		mg/Kg	1	4/7/2019 2:53:38 PM	44113
Xylenes, Total	ND	0.097		mg/Kg	1	4/7/2019 2:53:38 PM	44113
Surr: 4-Bromofluorobenzene	91.6	80-120		%Rec	1	4/7/2019 2:53:38 PM	44113

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-035 **Matrix:** SOIL

Client Sample ID: SP199
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	210	60		mg/Kg	20	4/7/2019 1:14:41 AM	44177
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/9/2019 8:52:03 AM	44134
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/9/2019 8:52:03 AM	44134
Surr: DNOP	109	70-130		%Rec	1	4/9/2019 8:52:03 AM	44134
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/7/2019 5:14:06 PM	44114
Surr: BFB	87.5	73.8-119		%Rec	1	4/7/2019 5:14:06 PM	44114
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/7/2019 5:14:06 PM	44114
Toluene	ND	0.049		mg/Kg	1	4/7/2019 5:14:06 PM	44114
Ethylbenzene	ND	0.049		mg/Kg	1	4/7/2019 5:14:06 PM	44114
Xylenes, Total	ND	0.097		mg/Kg	1	4/7/2019 5:14:06 PM	44114
Surr: 4-Bromofluorobenzene	89.1	80-120		%Rec	1	4/7/2019 5:14:06 PM	44114

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-036 **Matrix:** SOIL

Client Sample ID: SP200
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	150	60		mg/Kg	20	4/7/2019 1:27:05 AM	44177
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/9/2019 10:04:00 AM	44134
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/9/2019 10:04:00 AM	44134
Surr: DNOP	118	70-130		%Rec	1	4/9/2019 10:04:00 AM	44134
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/7/2019 6:23:49 PM	44114
Surr: BFB	88.0	73.8-119		%Rec	1	4/7/2019 6:23:49 PM	44114
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/7/2019 6:23:49 PM	44114
Toluene	ND	0.048		mg/Kg	1	4/7/2019 6:23:49 PM	44114
Ethylbenzene	ND	0.048		mg/Kg	1	4/7/2019 6:23:49 PM	44114
Xylenes, Total	ND	0.097		mg/Kg	1	4/7/2019 6:23:49 PM	44114
Surr: 4-Bromofluorobenzene	90.1	80-120		%Rec	1	4/7/2019 6:23:49 PM	44114

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-037 **Matrix:** SOIL

Client Sample ID: SP201
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	160	60		mg/Kg	20	4/7/2019 1:39:29 AM	44177
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	4/9/2019 10:28:11 AM	44134
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/9/2019 10:28:11 AM	44134
Surr: DNOP	105	70-130		%Rec	1	4/9/2019 10:28:11 AM	44134
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/7/2019 7:33:32 PM	44114
Surr: BFB	87.9	73.8-119		%Rec	1	4/7/2019 7:33:32 PM	44114
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/7/2019 7:33:32 PM	44114
Toluene	ND	0.050		mg/Kg	1	4/7/2019 7:33:32 PM	44114
Ethylbenzene	ND	0.050		mg/Kg	1	4/7/2019 7:33:32 PM	44114
Xylenes, Total	ND	0.099		mg/Kg	1	4/7/2019 7:33:32 PM	44114
Surr: 4-Bromofluorobenzene	90.2	80-120		%Rec	1	4/7/2019 7:33:32 PM	44114

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-038 **Matrix:** SOIL

Client Sample ID: SP202
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	140	59		mg/Kg	20	4/7/2019 1:51:54 AM	44177
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/9/2019 12:01:52 PM	44134
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/9/2019 12:01:52 PM	44134
Surr: DNOP	79.4	70-130		%Rec	1	4/9/2019 12:01:52 PM	44134
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/7/2019 7:56:58 PM	44114
Surr: BFB	88.5	73.8-119		%Rec	1	4/7/2019 7:56:58 PM	44114
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/7/2019 7:56:58 PM	44114
Toluene	ND	0.047		mg/Kg	1	4/7/2019 7:56:58 PM	44114
Ethylbenzene	ND	0.047		mg/Kg	1	4/7/2019 7:56:58 PM	44114
Xylenes, Total	ND	0.093		mg/Kg	1	4/7/2019 7:56:58 PM	44114
Surr: 4-Bromofluorobenzene	90.2	80-120		%Rec	1	4/7/2019 7:56:58 PM	44114

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-039 **Matrix:** SOIL

Client Sample ID: SP203
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	220	60		mg/Kg	20	4/7/2019 2:04:18 AM	44177
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/9/2019 12:25:57 PM	44134
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/9/2019 12:25:57 PM	44134
Surr: DNOP	115	70-130		%Rec	1	4/9/2019 12:25:57 PM	44134
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/7/2019 8:20:28 PM	44114
Surr: BFB	85.7	73.8-119		%Rec	1	4/7/2019 8:20:28 PM	44114
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/7/2019 8:20:28 PM	44114
Toluene	ND	0.049		mg/Kg	1	4/7/2019 8:20:28 PM	44114
Ethylbenzene	ND	0.049		mg/Kg	1	4/7/2019 8:20:28 PM	44114
Xylenes, Total	ND	0.098		mg/Kg	1	4/7/2019 8:20:28 PM	44114
Surr: 4-Bromofluorobenzene	86.7	80-120		%Rec	1	4/7/2019 8:20:28 PM	44114

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-040 **Matrix:** SOIL

Client Sample ID: SP204
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	200	60		mg/Kg	20	4/7/2019 2:16:43 AM	44177
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/9/2019 12:50:15 PM	44134
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/9/2019 12:50:15 PM	44134
Surr: DNOP	95.3	70-130		%Rec	1	4/9/2019 12:50:15 PM	44134
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/7/2019 8:43:59 PM	44114
Surr: BFB	89.3	73.8-119		%Rec	1	4/7/2019 8:43:59 PM	44114
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/7/2019 8:43:59 PM	44114
Toluene	ND	0.047		mg/Kg	1	4/7/2019 8:43:59 PM	44114
Ethylbenzene	ND	0.047		mg/Kg	1	4/7/2019 8:43:59 PM	44114
Xylenes, Total	ND	0.094		mg/Kg	1	4/7/2019 8:43:59 PM	44114
Surr: 4-Bromofluorobenzene	90.1	80-120		%Rec	1	4/7/2019 8:43:59 PM	44114

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP205
Project: LVP SWD
Collection Date: 4/3/2019
Lab ID: 1904256-041
Matrix: SOIL
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	210	60		mg/Kg	20	4/7/2019 2:29:08 AM	44177
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/9/2019 1:14:31 PM	44134
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/9/2019 1:14:31 PM	44134
Surr: DNOP	92.0	70-130		%Rec	1	4/9/2019 1:14:31 PM	44134
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/7/2019 9:07:29 PM	44114
Surr: BFB	84.8	73.8-119		%Rec	1	4/7/2019 9:07:29 PM	44114
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/7/2019 9:07:29 PM	44114
Toluene	ND	0.048		mg/Kg	1	4/7/2019 9:07:29 PM	44114
Ethylbenzene	ND	0.048		mg/Kg	1	4/7/2019 9:07:29 PM	44114
Xylenes, Total	ND	0.095		mg/Kg	1	4/7/2019 9:07:29 PM	44114
Surr: 4-Bromofluorobenzene	86.5	80-120		%Rec	1	4/7/2019 9:07:29 PM	44114

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-042 **Matrix:** SOIL

Client Sample ID: SP206
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	240	60		mg/Kg	20	4/7/2019 2:41:32 AM	44177
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/9/2019 1:38:41 PM	44134
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/9/2019 1:38:41 PM	44134
Surr: DNOP	101	70-130		%Rec	1	4/9/2019 1:38:41 PM	44134
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/7/2019 9:31:03 PM	44114
Surr: BFB	87.6	73.8-119		%Rec	1	4/7/2019 9:31:03 PM	44114
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/7/2019 9:31:03 PM	44114
Toluene	ND	0.048		mg/Kg	1	4/7/2019 9:31:03 PM	44114
Ethylbenzene	ND	0.048		mg/Kg	1	4/7/2019 9:31:03 PM	44114
Xylenes, Total	ND	0.097		mg/Kg	1	4/7/2019 9:31:03 PM	44114
Surr: 4-Bromofluorobenzene	89.3	80-120		%Rec	1	4/7/2019 9:31:03 PM	44114

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-043 **Matrix:** SOIL

Client Sample ID: SP207
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	180	60		mg/Kg	20	4/7/2019 2:53:56 AM	44177
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/9/2019 2:02:56 PM	44134
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/9/2019 2:02:56 PM	44134
Surr: DNOP	104	70-130		%Rec	1	4/9/2019 2:02:56 PM	44134
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/7/2019 9:54:35 PM	44114
Surr: BFB	89.0	73.8-119		%Rec	1	4/7/2019 9:54:35 PM	44114
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/7/2019 9:54:35 PM	44114
Toluene	ND	0.047		mg/Kg	1	4/7/2019 9:54:35 PM	44114
Ethylbenzene	ND	0.047		mg/Kg	1	4/7/2019 9:54:35 PM	44114
Xylenes, Total	ND	0.093		mg/Kg	1	4/7/2019 9:54:35 PM	44114
Surr: 4-Bromofluorobenzene	90.2	80-120		%Rec	1	4/7/2019 9:54:35 PM	44114

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-044 **Matrix:** SOIL

Client Sample ID: SP208
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	200	60		mg/Kg	20	4/7/2019 11:29:11 AM	44177
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/9/2019 2:27:14 PM	44134
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/9/2019 2:27:14 PM	44134
Surr: DNOP	94.2	70-130		%Rec	1	4/9/2019 2:27:14 PM	44134
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/7/2019 10:18:07 PM	44114
Surr: BFB	86.1	73.8-119		%Rec	1	4/7/2019 10:18:07 PM	44114
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/7/2019 10:18:07 PM	44114
Toluene	ND	0.046		mg/Kg	1	4/7/2019 10:18:07 PM	44114
Ethylbenzene	ND	0.046		mg/Kg	1	4/7/2019 10:18:07 PM	44114
Xylenes, Total	ND	0.092		mg/Kg	1	4/7/2019 10:18:07 PM	44114
Surr: 4-Bromofluorobenzene	88.0	80-120		%Rec	1	4/7/2019 10:18:07 PM	44114

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-045 **Matrix:** SOIL

Client Sample ID: SP209
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	210	60		mg/Kg	20	4/7/2019 11:41:36 AM	44177
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/9/2019 2:51:35 PM	44134
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/9/2019 2:51:35 PM	44134
Surr: DNOP	83.1	70-130		%Rec	1	4/9/2019 2:51:35 PM	44134
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/7/2019 11:28:38 PM	44114
Surr: BFB	87.5	73.8-119		%Rec	1	4/7/2019 11:28:38 PM	44114
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/7/2019 11:28:38 PM	44114
Toluene	ND	0.046		mg/Kg	1	4/7/2019 11:28:38 PM	44114
Ethylbenzene	ND	0.046		mg/Kg	1	4/7/2019 11:28:38 PM	44114
Xylenes, Total	ND	0.093		mg/Kg	1	4/7/2019 11:28:38 PM	44114
Surr: 4-Bromofluorobenzene	88.7	80-120		%Rec	1	4/7/2019 11:28:38 PM	44114

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-046 **Matrix:** SOIL

Client Sample ID: SP210
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	270	60		mg/Kg	20	4/8/2019 12:49:20 PM	44191
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/9/2019 3:15:56 PM	44134
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/9/2019 3:15:56 PM	44134
Surr: DNOP	99.1	70-130		%Rec	1	4/9/2019 3:15:56 PM	44134
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/7/2019 11:52:05 PM	44114
Surr: BFB	86.4	73.8-119		%Rec	1	4/7/2019 11:52:05 PM	44114
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/7/2019 11:52:05 PM	44114
Toluene	ND	0.047		mg/Kg	1	4/7/2019 11:52:05 PM	44114
Ethylbenzene	ND	0.047		mg/Kg	1	4/7/2019 11:52:05 PM	44114
Xylenes, Total	ND	0.095		mg/Kg	1	4/7/2019 11:52:05 PM	44114
Surr: 4-Bromofluorobenzene	88.1	80-120		%Rec	1	4/7/2019 11:52:05 PM	44114

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-047 **Matrix:** SOIL

Client Sample ID: SP211
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	180	60		mg/Kg	20	4/8/2019 1:26:33 PM	44191
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/9/2019 3:40:14 PM	44134
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/9/2019 3:40:14 PM	44134
Surr: DNOP	122	70-130		%Rec	1	4/9/2019 3:40:14 PM	44134
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/8/2019 12:15:26 AM	44114
Surr: BFB	89.0	73.8-119		%Rec	1	4/8/2019 12:15:26 AM	44114
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/8/2019 12:15:26 AM	44114
Toluene	ND	0.049		mg/Kg	1	4/8/2019 12:15:26 AM	44114
Ethylbenzene	ND	0.049		mg/Kg	1	4/8/2019 12:15:26 AM	44114
Xylenes, Total	ND	0.099		mg/Kg	1	4/8/2019 12:15:26 AM	44114
Surr: 4-Bromofluorobenzene	91.0	80-120		%Rec	1	4/8/2019 12:15:26 AM	44114

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-048 **Matrix:** SOIL

Client Sample ID: SP212
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	190	60		mg/Kg	20	4/8/2019 1:38:57 PM	44191
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/9/2019 4:28:59 PM	44134
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/9/2019 4:28:59 PM	44134
Surr: DNOP	81.7	70-130		%Rec	1	4/9/2019 4:28:59 PM	44134
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/8/2019 12:38:52 AM	44114
Surr: BFB	88.6	73.8-119		%Rec	1	4/8/2019 12:38:52 AM	44114
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/8/2019 12:38:52 AM	44114
Toluene	ND	0.047		mg/Kg	1	4/8/2019 12:38:52 AM	44114
Ethylbenzene	ND	0.047		mg/Kg	1	4/8/2019 12:38:52 AM	44114
Xylenes, Total	ND	0.093		mg/Kg	1	4/8/2019 12:38:52 AM	44114
Surr: 4-Bromofluorobenzene	89.9	80-120		%Rec	1	4/8/2019 12:38:52 AM	44114

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-049 **Matrix:** SOIL

Client Sample ID: SP213
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	130	60		mg/Kg	20	4/8/2019 1:51:22 PM	44191
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/9/2019 4:53:28 PM	44134
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/9/2019 4:53:28 PM	44134
Surr: DNOP	93.9	70-130		%Rec	1	4/9/2019 4:53:28 PM	44134
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/8/2019 1:02:22 AM	44114
Surr: BFB	84.7	73.8-119		%Rec	1	4/8/2019 1:02:22 AM	44114
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/8/2019 1:02:22 AM	44114
Toluene	ND	0.046		mg/Kg	1	4/8/2019 1:02:22 AM	44114
Ethylbenzene	ND	0.046		mg/Kg	1	4/8/2019 1:02:22 AM	44114
Xylenes, Total	ND	0.091		mg/Kg	1	4/8/2019 1:02:22 AM	44114
Surr: 4-Bromofluorobenzene	87.0	80-120		%Rec	1	4/8/2019 1:02:22 AM	44114

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-050 **Matrix:** SOIL

Client Sample ID: SP214
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	210	60		mg/Kg	20	4/8/2019 2:03:46 PM	44191
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/9/2019 5:18:01 PM	44134
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/9/2019 5:18:01 PM	44134
Surr: DNOP	102	70-130		%Rec	1	4/9/2019 5:18:01 PM	44134
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/8/2019 1:25:33 AM	44114
Surr: BFB	85.9	73.8-119		%Rec	1	4/8/2019 1:25:33 AM	44114
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/8/2019 1:25:33 AM	44114
Toluene	ND	0.049		mg/Kg	1	4/8/2019 1:25:33 AM	44114
Ethylbenzene	ND	0.049		mg/Kg	1	4/8/2019 1:25:33 AM	44114
Xylenes, Total	ND	0.097		mg/Kg	1	4/8/2019 1:25:33 AM	44114
Surr: 4-Bromofluorobenzene	87.4	80-120		%Rec	1	4/8/2019 1:25:33 AM	44114

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-051 **Matrix:** SOIL

Client Sample ID: SP215
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	190	60		mg/Kg	20	4/8/2019 2:16:10 PM	44191
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/9/2019 5:42:34 PM	44134
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/9/2019 5:42:34 PM	44134
Surr: DNOP	103	70-130		%Rec	1	4/9/2019 5:42:34 PM	44134
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/8/2019 1:49:04 AM	44114
Surr: BFB	88.9	73.8-119		%Rec	1	4/8/2019 1:49:04 AM	44114
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/8/2019 1:49:04 AM	44114
Toluene	ND	0.048		mg/Kg	1	4/8/2019 1:49:04 AM	44114
Ethylbenzene	ND	0.048		mg/Kg	1	4/8/2019 1:49:04 AM	44114
Xylenes, Total	ND	0.097		mg/Kg	1	4/8/2019 1:49:04 AM	44114
Surr: 4-Bromofluorobenzene	89.7	80-120		%Rec	1	4/8/2019 1:49:04 AM	44114

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-052 **Matrix:** SOIL

Client Sample ID: SP216
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	200	60		mg/Kg	20	4/8/2019 2:53:24 PM	44191
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/9/2019 6:07:24 PM	44134
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/9/2019 6:07:24 PM	44134
Surr: DNOP	106	70-130		%Rec	1	4/9/2019 6:07:24 PM	44134
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/8/2019 2:12:32 AM	44114
Surr: BFB	85.7	73.8-119		%Rec	1	4/8/2019 2:12:32 AM	44114
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/8/2019 2:12:32 AM	44114
Toluene	ND	0.048		mg/Kg	1	4/8/2019 2:12:32 AM	44114
Ethylbenzene	ND	0.048		mg/Kg	1	4/8/2019 2:12:32 AM	44114
Xylenes, Total	ND	0.096		mg/Kg	1	4/8/2019 2:12:32 AM	44114
Surr: 4-Bromofluorobenzene	87.5	80-120		%Rec	1	4/8/2019 2:12:32 AM	44114

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-053 **Matrix:** SOIL

Client Sample ID: SP217
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	110	60		mg/Kg	20	4/8/2019 3:05:49 PM	44191
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/9/2019 6:32:16 PM	44134
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/9/2019 6:32:16 PM	44134
Surr: DNOP	79.6	70-130		%Rec	1	4/9/2019 6:32:16 PM	44134
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/8/2019 2:36:03 AM	44114
Surr: BFB	87.2	73.8-119		%Rec	1	4/8/2019 2:36:03 AM	44114
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/8/2019 2:36:03 AM	44114
Toluene	ND	0.049		mg/Kg	1	4/8/2019 2:36:03 AM	44114
Ethylbenzene	ND	0.049		mg/Kg	1	4/8/2019 2:36:03 AM	44114
Xylenes, Total	ND	0.097		mg/Kg	1	4/8/2019 2:36:03 AM	44114
Surr: 4-Bromofluorobenzene	89.0	80-120		%Rec	1	4/8/2019 2:36:03 AM	44114

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-054 **Matrix:** SOIL

Client Sample ID: SP218
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	180	60		mg/Kg	20	4/8/2019 3:18:13 PM	44191
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/9/2019 6:57:12 PM	44134
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/9/2019 6:57:12 PM	44134
Surr: DNOP	86.3	70-130		%Rec	1	4/9/2019 6:57:12 PM	44134
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/8/2019 2:59:28 AM	44114
Surr: BFB	87.0	73.8-119		%Rec	1	4/8/2019 2:59:28 AM	44114
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/8/2019 2:59:28 AM	44114
Toluene	ND	0.047		mg/Kg	1	4/8/2019 2:59:28 AM	44114
Ethylbenzene	ND	0.047		mg/Kg	1	4/8/2019 2:59:28 AM	44114
Xylenes, Total	ND	0.094		mg/Kg	1	4/8/2019 2:59:28 AM	44114
Surr: 4-Bromofluorobenzene	87.4	80-120		%Rec	1	4/8/2019 2:59:28 AM	44114

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-055 **Matrix:** SOIL

Client Sample ID: SP219
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	200	60		mg/Kg	20	4/8/2019 3:30:38 PM	44191
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/8/2019 3:07:05 PM	44143
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/8/2019 3:07:05 PM	44143
Surr: DNOP	99.3	70-130		%Rec	1	4/8/2019 3:07:05 PM	44143
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/8/2019 1:43:22 PM	44115
Surr: BFB	90.1	73.8-119		%Rec	1	4/8/2019 1:43:22 PM	44115
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/8/2019 1:43:22 PM	44115
Toluene	ND	0.048		mg/Kg	1	4/8/2019 1:43:22 PM	44115
Ethylbenzene	ND	0.048		mg/Kg	1	4/8/2019 1:43:22 PM	44115
Xylenes, Total	ND	0.095		mg/Kg	1	4/8/2019 1:43:22 PM	44115
Surr: 4-Bromofluorobenzene	90.4	80-120		%Rec	1	4/8/2019 1:43:22 PM	44115

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-056 **Matrix:** SOIL

Client Sample ID: SP220
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	210	60		mg/Kg	20	4/8/2019 3:43:02 PM	44191
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/8/2019 3:31:08 PM	44143
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/8/2019 3:31:08 PM	44143
Surr: DNOP	98.8	70-130		%Rec	1	4/8/2019 3:31:08 PM	44143
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/8/2019 2:53:36 PM	44115
Surr: BFB	86.0	73.8-119		%Rec	1	4/8/2019 2:53:36 PM	44115
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	4/8/2019 2:53:36 PM	44115
Toluene	ND	0.047		mg/Kg	1	4/8/2019 2:53:36 PM	44115
Ethylbenzene	ND	0.047		mg/Kg	1	4/8/2019 2:53:36 PM	44115
Xylenes, Total	ND	0.093		mg/Kg	1	4/8/2019 2:53:36 PM	44115
Surr: 4-Bromofluorobenzene	87.6	80-120		%Rec	1	4/8/2019 2:53:36 PM	44115

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP221
Project: LVP SWD
Collection Date: 4/3/2019
Lab ID: 1904256-057
Matrix: SOIL
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	240	60		mg/Kg	20	4/8/2019 3:55:27 PM	44191
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/8/2019 3:55:14 PM	44143
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/8/2019 3:55:14 PM	44143
Surr: DNOP	97.5	70-130		%Rec	1	4/8/2019 3:55:14 PM	44143
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/8/2019 4:03:52 PM	44115
Surr: BFB	87.2	73.8-119		%Rec	1	4/8/2019 4:03:52 PM	44115
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	4/8/2019 4:03:52 PM	44115
Toluene	ND	0.046		mg/Kg	1	4/8/2019 4:03:52 PM	44115
Ethylbenzene	ND	0.046		mg/Kg	1	4/8/2019 4:03:52 PM	44115
Xylenes, Total	ND	0.092		mg/Kg	1	4/8/2019 4:03:52 PM	44115
Surr: 4-Bromofluorobenzene	89.6	80-120		%Rec	1	4/8/2019 4:03:52 PM	44115

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-058 **Matrix:** SOIL

Client Sample ID: SP222
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	170	60		mg/Kg	20	4/8/2019 4:07:52 PM	44191
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/8/2019 4:19:14 PM	44143
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/8/2019 4:19:14 PM	44143
Surr: DNOP	96.9	70-130		%Rec	1	4/8/2019 4:19:14 PM	44143
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/8/2019 5:37:20 PM	44115
Surr: BFB	87.8	73.8-119		%Rec	1	4/8/2019 5:37:20 PM	44115
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/8/2019 5:37:20 PM	44115
Toluene	ND	0.047		mg/Kg	1	4/8/2019 5:37:20 PM	44115
Ethylbenzene	ND	0.047		mg/Kg	1	4/8/2019 5:37:20 PM	44115
Xylenes, Total	ND	0.094		mg/Kg	1	4/8/2019 5:37:20 PM	44115
Surr: 4-Bromofluorobenzene	88.8	80-120		%Rec	1	4/8/2019 5:37:20 PM	44115

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-059 **Matrix:** SOIL

Client Sample ID: SP223
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	190	60		mg/Kg	20	4/8/2019 7:14:02 PM	44203
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/8/2019 4:43:15 PM	44143
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/8/2019 4:43:15 PM	44143
Surr: DNOP	98.7	70-130		%Rec	1	4/8/2019 4:43:15 PM	44143
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/8/2019 6:00:36 PM	44115
Surr: BFB	87.3	73.8-119		%Rec	1	4/8/2019 6:00:36 PM	44115
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	4/8/2019 6:00:36 PM	44115
Toluene	ND	0.046		mg/Kg	1	4/8/2019 6:00:36 PM	44115
Ethylbenzene	ND	0.046		mg/Kg	1	4/8/2019 6:00:36 PM	44115
Xylenes, Total	ND	0.092		mg/Kg	1	4/8/2019 6:00:36 PM	44115
Surr: 4-Bromofluorobenzene	88.7	80-120		%Rec	1	4/8/2019 6:00:36 PM	44115

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-060 **Matrix:** SOIL

Client Sample ID: SP224
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	160	60		mg/Kg	20	4/8/2019 7:51:15 PM	44203
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/8/2019 5:07:17 PM	44143
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/8/2019 5:07:17 PM	44143
Surr: DNOP	81.4	70-130		%Rec	1	4/8/2019 5:07:17 PM	44143
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/8/2019 6:24:17 PM	44115
Surr: BFB	84.9	73.8-119		%Rec	1	4/8/2019 6:24:17 PM	44115
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	4/8/2019 6:24:17 PM	44115
Toluene	ND	0.047		mg/Kg	1	4/8/2019 6:24:17 PM	44115
Ethylbenzene	ND	0.047		mg/Kg	1	4/8/2019 6:24:17 PM	44115
Xylenes, Total	ND	0.094		mg/Kg	1	4/8/2019 6:24:17 PM	44115
Surr: 4-Bromofluorobenzene	86.3	80-120		%Rec	1	4/8/2019 6:24:17 PM	44115

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-061 **Matrix:** SOIL

Client Sample ID: SP225
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	220	60		mg/Kg	20	4/8/2019 8:28:30 PM	44203
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/8/2019 5:31:37 PM	44143
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/8/2019 5:31:37 PM	44143
Surr: DNOP	91.7	70-130		%Rec	1	4/8/2019 5:31:37 PM	44143
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/8/2019 6:47:37 PM	44115
Surr: BFB	87.7	73.8-119		%Rec	1	4/8/2019 6:47:37 PM	44115
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	4/8/2019 6:47:37 PM	44115
Toluene	ND	0.049		mg/Kg	1	4/8/2019 6:47:37 PM	44115
Ethylbenzene	ND	0.049		mg/Kg	1	4/8/2019 6:47:37 PM	44115
Xylenes, Total	ND	0.098		mg/Kg	1	4/8/2019 6:47:37 PM	44115
Surr: 4-Bromofluorobenzene	88.8	80-120		%Rec	1	4/8/2019 6:47:37 PM	44115

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-062 **Matrix:** SOIL

Client Sample ID: SP226
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	180	59		mg/Kg	20	4/8/2019 8:40:54 PM	44203
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/8/2019 5:56:07 PM	44143
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/8/2019 5:56:07 PM	44143
Surr: DNOP	71.5	70-130		%Rec	1	4/8/2019 5:56:07 PM	44143
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/8/2019 7:10:56 PM	44115
Surr: BFB	85.6	73.8-119		%Rec	1	4/8/2019 7:10:56 PM	44115
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/8/2019 7:10:56 PM	44115
Toluene	ND	0.048		mg/Kg	1	4/8/2019 7:10:56 PM	44115
Ethylbenzene	ND	0.048		mg/Kg	1	4/8/2019 7:10:56 PM	44115
Xylenes, Total	ND	0.096		mg/Kg	1	4/8/2019 7:10:56 PM	44115
Surr: 4-Bromofluorobenzene	88.2	80-120		%Rec	1	4/8/2019 7:10:56 PM	44115

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-063 **Matrix:** SOIL

Client Sample ID: SP227
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	180	60		mg/Kg	20	4/8/2019 8:53:19 PM	44203
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/8/2019 6:20:44 PM	44143
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/8/2019 6:20:44 PM	44143
Surr: DNOP	78.4	70-130		%Rec	1	4/8/2019 6:20:44 PM	44143
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/8/2019 7:34:14 PM	44115
Surr: BFB	86.5	73.8-119		%Rec	1	4/8/2019 7:34:14 PM	44115
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/8/2019 7:34:14 PM	44115
Toluene	ND	0.048		mg/Kg	1	4/8/2019 7:34:14 PM	44115
Ethylbenzene	ND	0.048		mg/Kg	1	4/8/2019 7:34:14 PM	44115
Xylenes, Total	ND	0.096		mg/Kg	1	4/8/2019 7:34:14 PM	44115
Surr: 4-Bromofluorobenzene	88.2	80-120		%Rec	1	4/8/2019 7:34:14 PM	44115

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-064 **Matrix:** SOIL

Client Sample ID: SP228
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	200	60		mg/Kg	20	4/8/2019 9:05:44 PM	44203
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/8/2019 6:45:25 PM	44143
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/8/2019 6:45:25 PM	44143
Surr: DNOP	91.2	70-130		%Rec	1	4/8/2019 6:45:25 PM	44143
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/8/2019 7:57:29 PM	44115
Surr: BFB	88.7	73.8-119		%Rec	1	4/8/2019 7:57:29 PM	44115
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	4/8/2019 7:57:29 PM	44115
Toluene	ND	0.046		mg/Kg	1	4/8/2019 7:57:29 PM	44115
Ethylbenzene	ND	0.046		mg/Kg	1	4/8/2019 7:57:29 PM	44115
Xylenes, Total	ND	0.092		mg/Kg	1	4/8/2019 7:57:29 PM	44115
Surr: 4-Bromofluorobenzene	91.0	80-120		%Rec	1	4/8/2019 7:57:29 PM	44115

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-065 **Matrix:** SOIL

Client Sample ID: SP229
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	230	60		mg/Kg	20	4/8/2019 9:18:09 PM	44203
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/8/2019 7:10:04 PM	44143
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/8/2019 7:10:04 PM	44143
Surr: DNOP	90.1	70-130		%Rec	1	4/8/2019 7:10:04 PM	44143
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/8/2019 8:20:43 PM	44115
Surr: BFB	89.3	73.8-119		%Rec	1	4/8/2019 8:20:43 PM	44115
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/8/2019 8:20:43 PM	44115
Toluene	ND	0.049		mg/Kg	1	4/8/2019 8:20:43 PM	44115
Ethylbenzene	ND	0.049		mg/Kg	1	4/8/2019 8:20:43 PM	44115
Xylenes, Total	ND	0.097		mg/Kg	1	4/8/2019 8:20:43 PM	44115
Surr: 4-Bromofluorobenzene	91.3	80-120		%Rec	1	4/8/2019 8:20:43 PM	44115

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-066 **Matrix:** SOIL

Client Sample ID: SP230
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	260	60		mg/Kg	20	4/8/2019 9:30:33 PM	44203
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/8/2019 7:34:39 PM	44143
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/8/2019 7:34:39 PM	44143
Surr: DNOP	97.4	70-130		%Rec	1	4/8/2019 7:34:39 PM	44143
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/8/2019 8:44:03 PM	44115
Surr: BFB	88.9	73.8-119		%Rec	1	4/8/2019 8:44:03 PM	44115
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	4/8/2019 8:44:03 PM	44115
Toluene	ND	0.047		mg/Kg	1	4/8/2019 8:44:03 PM	44115
Ethylbenzene	ND	0.047		mg/Kg	1	4/8/2019 8:44:03 PM	44115
Xylenes, Total	ND	0.093		mg/Kg	1	4/8/2019 8:44:03 PM	44115
Surr: 4-Bromofluorobenzene	90.3	80-120		%Rec	1	4/8/2019 8:44:03 PM	44115

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-067 **Matrix:** SOIL

Client Sample ID: SP231
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	210	60		mg/Kg	20	4/8/2019 9:42:58 PM	44203
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/8/2019 7:59:15 PM	44143
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/8/2019 7:59:15 PM	44143
Surr: DNOP	73.6	70-130		%Rec	1	4/8/2019 7:59:15 PM	44143
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/8/2019 9:07:20 PM	44115
Surr: BFB	88.3	73.8-119		%Rec	1	4/8/2019 9:07:20 PM	44115
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/8/2019 9:07:20 PM	44115
Toluene	ND	0.048		mg/Kg	1	4/8/2019 9:07:20 PM	44115
Ethylbenzene	ND	0.048		mg/Kg	1	4/8/2019 9:07:20 PM	44115
Xylenes, Total	ND	0.097		mg/Kg	1	4/8/2019 9:07:20 PM	44115
Surr: 4-Bromofluorobenzene	89.8	80-120		%Rec	1	4/8/2019 9:07:20 PM	44115

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-068 **Matrix:** SOIL

Client Sample ID: SP232
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	91	59		mg/Kg	20	4/8/2019 10:20:12 PM	44203
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/8/2019 8:23:52 PM	44143
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/8/2019 8:23:52 PM	44143
Surr: DNOP	63.7	70-130	S	%Rec	1	4/8/2019 8:23:52 PM	44143
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/8/2019 10:17:12 PM	44115
Surr: BFB	87.4	73.8-119		%Rec	1	4/8/2019 10:17:12 PM	44115
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/8/2019 10:17:12 PM	44115
Toluene	ND	0.047		mg/Kg	1	4/8/2019 10:17:12 PM	44115
Ethylbenzene	ND	0.047		mg/Kg	1	4/8/2019 10:17:12 PM	44115
Xylenes, Total	ND	0.095		mg/Kg	1	4/8/2019 10:17:12 PM	44115
Surr: 4-Bromofluorobenzene	88.1	80-120		%Rec	1	4/8/2019 10:17:12 PM	44115

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-069 **Matrix:** SOIL

Client Sample ID: SP233
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	410	60		mg/Kg	20	4/8/2019 10:32:36 PM	44203
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/8/2019 8:48:27 PM	44143
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/8/2019 8:48:27 PM	44143
Surr: DNOP	72.3	70-130		%Rec	1	4/8/2019 8:48:27 PM	44143
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/8/2019 10:40:41 PM	44115
Surr: BFB	86.5	73.8-119		%Rec	1	4/8/2019 10:40:41 PM	44115
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	4/8/2019 10:40:41 PM	44115
Toluene	ND	0.047		mg/Kg	1	4/8/2019 10:40:41 PM	44115
Ethylbenzene	ND	0.047		mg/Kg	1	4/8/2019 10:40:41 PM	44115
Xylenes, Total	ND	0.093		mg/Kg	1	4/8/2019 10:40:41 PM	44115
Surr: 4-Bromofluorobenzene	88.0	80-120		%Rec	1	4/8/2019 10:40:41 PM	44115

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-070 **Matrix:** SOIL

Client Sample ID: SP234
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	170	59		mg/Kg	20	4/8/2019 10:45:01 PM	44203
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/8/2019 9:12:59 PM	44143
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/8/2019 9:12:59 PM	44143
Surr: DNOP	68.0	70-130	S	%Rec	1	4/8/2019 9:12:59 PM	44143
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/8/2019 11:04:14 PM	44115
Surr: BFB	87.3	73.8-119		%Rec	1	4/8/2019 11:04:14 PM	44115
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/8/2019 11:04:14 PM	44115
Toluene	ND	0.049		mg/Kg	1	4/8/2019 11:04:14 PM	44115
Ethylbenzene	ND	0.049		mg/Kg	1	4/8/2019 11:04:14 PM	44115
Xylenes, Total	ND	0.097		mg/Kg	1	4/8/2019 11:04:14 PM	44115
Surr: 4-Bromofluorobenzene	88.8	80-120		%Rec	1	4/8/2019 11:04:14 PM	44115

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-071 **Matrix:** SOIL

Client Sample ID: SP235
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	130	60		mg/Kg	20	4/8/2019 11:22:14 PM	44203
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/8/2019 9:37:32 PM	44143
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/8/2019 9:37:32 PM	44143
Surr: DNOP	63.4	70-130	S	%Rec	1	4/8/2019 9:37:32 PM	44143
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/8/2019 11:27:50 PM	44115
Surr: BFB	87.0	73.8-119		%Rec	1	4/8/2019 11:27:50 PM	44115
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	4/8/2019 11:27:50 PM	44115
Toluene	ND	0.046		mg/Kg	1	4/8/2019 11:27:50 PM	44115
Ethylbenzene	ND	0.046		mg/Kg	1	4/8/2019 11:27:50 PM	44115
Xylenes, Total	ND	0.092		mg/Kg	1	4/8/2019 11:27:50 PM	44115
Surr: 4-Bromofluorobenzene	89.2	80-120		%Rec	1	4/8/2019 11:27:50 PM	44115

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-072 **Matrix:** SOIL

Client Sample ID: SP236
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	110	59		mg/Kg	20	4/8/2019 11:34:38 PM	44203
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/8/2019 10:02:05 PM	44143
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/8/2019 10:02:05 PM	44143
Surr: DNOP	75.6	70-130		%Rec	1	4/8/2019 10:02:05 PM	44143
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/8/2019 11:51:25 PM	44115
Surr: BFB	85.5	73.8-119		%Rec	1	4/8/2019 11:51:25 PM	44115
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	4/8/2019 11:51:25 PM	44115
Toluene	ND	0.046		mg/Kg	1	4/8/2019 11:51:25 PM	44115
Ethylbenzene	ND	0.046		mg/Kg	1	4/8/2019 11:51:25 PM	44115
Xylenes, Total	ND	0.092		mg/Kg	1	4/8/2019 11:51:25 PM	44115
Surr: 4-Bromofluorobenzene	87.1	80-120		%Rec	1	4/8/2019 11:51:25 PM	44115

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-073 **Matrix:** SOIL

Client Sample ID: SP237
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	260	60		mg/Kg	20	4/8/2019 11:47:03 PM	44203
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/8/2019 10:26:34 PM	44143
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/8/2019 10:26:34 PM	44143
Surr: DNOP	73.2	70-130		%Rec	1	4/8/2019 10:26:34 PM	44143
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/9/2019 12:14:55 AM	44115
Surr: BFB	86.0	73.8-119		%Rec	1	4/9/2019 12:14:55 AM	44115
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	4/9/2019 12:14:55 AM	44115
Toluene	ND	0.049		mg/Kg	1	4/9/2019 12:14:55 AM	44115
Ethylbenzene	ND	0.049		mg/Kg	1	4/9/2019 12:14:55 AM	44115
Xylenes, Total	ND	0.098		mg/Kg	1	4/9/2019 12:14:55 AM	44115
Surr: 4-Bromofluorobenzene	87.1	80-120		%Rec	1	4/9/2019 12:14:55 AM	44115

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-074 **Matrix:** SOIL

Client Sample ID: SP238
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	160	60		mg/Kg	20	4/8/2019 11:59:27 PM	44203
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/8/2019 10:50:57 PM	44143
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/8/2019 10:50:57 PM	44143
Surr: DNOP	66.7	70-130	S	%Rec	1	4/8/2019 10:50:57 PM	44143
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/9/2019 12:38:25 AM	44115
Surr: BFB	87.8	73.8-119		%Rec	1	4/9/2019 12:38:25 AM	44115
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	4/9/2019 12:38:25 AM	44115
Toluene	ND	0.049		mg/Kg	1	4/9/2019 12:38:25 AM	44115
Ethylbenzene	ND	0.049		mg/Kg	1	4/9/2019 12:38:25 AM	44115
Xylenes, Total	ND	0.099		mg/Kg	1	4/9/2019 12:38:25 AM	44115
Surr: 4-Bromofluorobenzene	88.0	80-120		%Rec	1	4/9/2019 12:38:25 AM	44115

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-075 **Matrix:** SOIL

Client Sample ID: SP239
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	210	59		mg/Kg	20	4/9/2019 12:11:52 AM	44203
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/6/2019 2:22:23 PM	44144
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/6/2019 2:22:23 PM	44144
Surr: DNOP	85.7	70-130		%Rec	1	4/6/2019 2:22:23 PM	44144
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/9/2019 10:13:48 PM	44121
Surr: BFB	89.3	73.8-119		%Rec	1	4/9/2019 10:13:48 PM	44121
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/9/2019 10:13:48 PM	44121
Toluene	ND	0.049		mg/Kg	1	4/9/2019 10:13:48 PM	44121
Ethylbenzene	ND	0.049		mg/Kg	1	4/9/2019 10:13:48 PM	44121
Xylenes, Total	ND	0.097		mg/Kg	1	4/9/2019 10:13:48 PM	44121
Surr: 4-Bromofluorobenzene	88.7	80-120		%Rec	1	4/9/2019 10:13:48 PM	44121

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-076 **Matrix:** SOIL

Client Sample ID: SP240
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	230	60		mg/Kg	20	4/9/2019 12:49:06 AM	44203
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/6/2019 3:35:43 PM	44144
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/6/2019 3:35:43 PM	44144
Surr: DNOP	66.9	70-130	S	%Rec	1	4/6/2019 3:35:43 PM	44144
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/9/2019 11:24:09 PM	44121
Surr: BFB	90.1	73.8-119		%Rec	1	4/9/2019 11:24:09 PM	44121
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/9/2019 11:24:09 PM	44121
Toluene	ND	0.048		mg/Kg	1	4/9/2019 11:24:09 PM	44121
Ethylbenzene	ND	0.048		mg/Kg	1	4/9/2019 11:24:09 PM	44121
Xylenes, Total	ND	0.097		mg/Kg	1	4/9/2019 11:24:09 PM	44121
Surr: 4-Bromofluorobenzene	89.4	80-120		%Rec	1	4/9/2019 11:24:09 PM	44121

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP241
Project: LVP SWD
Collection Date: 4/3/2019
Lab ID: 1904256-077
Matrix: SOIL
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	260	60		mg/Kg	20	4/9/2019 1:01:31 AM	44203
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/6/2019 4:00:10 PM	44144
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/6/2019 4:00:10 PM	44144
Surr: DNOP	58.0	70-130	S	%Rec	1	4/6/2019 4:00:10 PM	44144
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/10/2019 12:34:00 AM	44121
Surr: BFB	86.5	73.8-119		%Rec	1	4/10/2019 12:34:00 AM	44121
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/10/2019 12:34:00 AM	44121
Toluene	ND	0.047		mg/Kg	1	4/10/2019 12:34:00 AM	44121
Ethylbenzene	ND	0.047		mg/Kg	1	4/10/2019 12:34:00 AM	44121
Xylenes, Total	ND	0.095		mg/Kg	1	4/10/2019 12:34:00 AM	44121
Surr: 4-Bromofluorobenzene	86.5	80-120		%Rec	1	4/10/2019 12:34:00 AM	44121

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-078 **Matrix:** SOIL

Client Sample ID: SP242
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	160	60		mg/Kg	20	4/9/2019 1:13:55 AM	44203
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/6/2019 4:24:44 PM	44144
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/6/2019 4:24:44 PM	44144
Surr: DNOP	59.6	70-130	S	%Rec	1	4/6/2019 4:24:44 PM	44144
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/10/2019 12:57:18 AM	44121
Surr: BFB	88.0	73.8-119		%Rec	1	4/10/2019 12:57:18 AM	44121
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	4/10/2019 12:57:18 AM	44121
Toluene	ND	0.050		mg/Kg	1	4/10/2019 12:57:18 AM	44121
Ethylbenzene	ND	0.050		mg/Kg	1	4/10/2019 12:57:18 AM	44121
Xylenes, Total	ND	0.099		mg/Kg	1	4/10/2019 12:57:18 AM	44121
Surr: 4-Bromofluorobenzene	89.1	80-120		%Rec	1	4/10/2019 12:57:18 AM	44121

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-079 **Matrix:** SOIL

Client Sample ID: SP243
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	120	60		mg/Kg	20	4/8/2019 9:22:39 PM	44214
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/6/2019 4:49:14 PM	44144
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/6/2019 4:49:14 PM	44144
Surr: DNOP	56.6	70-130	S	%Rec	1	4/6/2019 4:49:14 PM	44144
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/10/2019 1:20:33 AM	44121
Surr: BFB	87.9	73.8-119		%Rec	1	4/10/2019 1:20:33 AM	44121
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	4/10/2019 1:20:33 AM	44121
Toluene	ND	0.049		mg/Kg	1	4/10/2019 1:20:33 AM	44121
Ethylbenzene	ND	0.049		mg/Kg	1	4/10/2019 1:20:33 AM	44121
Xylenes, Total	ND	0.099		mg/Kg	1	4/10/2019 1:20:33 AM	44121
Surr: 4-Bromofluorobenzene	87.5	80-120		%Rec	1	4/10/2019 1:20:33 AM	44121

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-080 **Matrix:** SOIL

Client Sample ID: SP244
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	120	60		mg/Kg	20	4/8/2019 9:35:03 PM	44214
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/6/2019 5:13:49 PM	44144
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/6/2019 5:13:49 PM	44144
Surr: DNOP	67.6	70-130	S	%Rec	1	4/6/2019 5:13:49 PM	44144
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/10/2019 1:43:51 AM	44121
Surr: BFB	88.3	73.8-119		%Rec	1	4/10/2019 1:43:51 AM	44121
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	4/10/2019 1:43:51 AM	44121
Toluene	ND	0.047		mg/Kg	1	4/10/2019 1:43:51 AM	44121
Ethylbenzene	ND	0.047		mg/Kg	1	4/10/2019 1:43:51 AM	44121
Xylenes, Total	ND	0.093		mg/Kg	1	4/10/2019 1:43:51 AM	44121
Surr: 4-Bromofluorobenzene	88.2	80-120		%Rec	1	4/10/2019 1:43:51 AM	44121

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP245
Project: LVP SWD
Collection Date: 4/3/2019
Lab ID: 1904256-081
Matrix: SOIL
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	81	60		mg/Kg	20	4/8/2019 10:12:17 PM	44214
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/6/2019 5:38:16 PM	44144
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/6/2019 5:38:16 PM	44144
Surr: DNOP	77.9	70-130		%Rec	1	4/6/2019 5:38:16 PM	44144
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/10/2019 2:07:13 AM	44121
Surr: BFB	90.4	73.8-119		%Rec	1	4/10/2019 2:07:13 AM	44121
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	4/10/2019 2:07:13 AM	44121
Toluene	ND	0.047		mg/Kg	1	4/10/2019 2:07:13 AM	44121
Ethylbenzene	ND	0.047		mg/Kg	1	4/10/2019 2:07:13 AM	44121
Xylenes, Total	ND	0.094		mg/Kg	1	4/10/2019 2:07:13 AM	44121
Surr: 4-Bromofluorobenzene	89.7	80-120		%Rec	1	4/10/2019 2:07:13 AM	44121

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-082 **Matrix:** SOIL

Client Sample ID: SP246
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	190	60		mg/Kg	20	4/8/2019 10:24:42 PM	44214
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/6/2019 6:02:50 PM	44144
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	4/6/2019 6:02:50 PM	44144
Surr: DNOP	51.9	70-130	S	%Rec	1	4/6/2019 6:02:50 PM	44144
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/10/2019 2:30:41 AM	44121
Surr: BFB	86.6	73.8-119		%Rec	1	4/10/2019 2:30:41 AM	44121
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/10/2019 2:30:41 AM	44121
Toluene	ND	0.047		mg/Kg	1	4/10/2019 2:30:41 AM	44121
Ethylbenzene	ND	0.047		mg/Kg	1	4/10/2019 2:30:41 AM	44121
Xylenes, Total	ND	0.094		mg/Kg	1	4/10/2019 2:30:41 AM	44121
Surr: 4-Bromofluorobenzene	85.8	80-120		%Rec	1	4/10/2019 2:30:41 AM	44121

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-083 **Matrix:** SOIL

Client Sample ID: SP247
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	120	60		mg/Kg	20	4/8/2019 11:01:55 PM	44214
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/6/2019 6:27:17 PM	44144
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/6/2019 6:27:17 PM	44144
Surr: DNOP	57.7	70-130	S	%Rec	1	4/6/2019 6:27:17 PM	44144
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/10/2019 2:54:10 AM	44121
Surr: BFB	86.4	73.8-119		%Rec	1	4/10/2019 2:54:10 AM	44121
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	4/10/2019 2:54:10 AM	44121
Toluene	ND	0.047		mg/Kg	1	4/10/2019 2:54:10 AM	44121
Ethylbenzene	ND	0.047		mg/Kg	1	4/10/2019 2:54:10 AM	44121
Xylenes, Total	ND	0.093		mg/Kg	1	4/10/2019 2:54:10 AM	44121
Surr: 4-Bromofluorobenzene	85.1	80-120		%Rec	1	4/10/2019 2:54:10 AM	44121

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP248
Project: LVP SWD
Collection Date: 4/3/2019
Lab ID: 1904256-084
Matrix: SOIL
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	74	60		mg/Kg	20	4/8/2019 11:14:20 PM	44214
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/6/2019 6:51:48 PM	44144
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/6/2019 6:51:48 PM	44144
Surr: DNOP	68.1	70-130	S	%Rec	1	4/6/2019 6:51:48 PM	44144
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/10/2019 3:41:07 AM	44121
Surr: BFB	85.9	73.8-119		%Rec	1	4/10/2019 3:41:07 AM	44121
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	4/10/2019 3:41:07 AM	44121
Toluene	ND	0.047		mg/Kg	1	4/10/2019 3:41:07 AM	44121
Ethylbenzene	ND	0.047		mg/Kg	1	4/10/2019 3:41:07 AM	44121
Xylenes, Total	ND	0.093		mg/Kg	1	4/10/2019 3:41:07 AM	44121
Surr: 4-Bromofluorobenzene	84.6	80-120		%Rec	1	4/10/2019 3:41:07 AM	44121

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP249
Project: LVP SWD
Collection Date: 4/3/2019
Lab ID: 1904256-085
Matrix: SOIL
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	150	60		mg/Kg	20	4/8/2019 11:51:34 PM	44214
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/6/2019 7:16:09 PM	44144
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/6/2019 7:16:09 PM	44144
Surr: DNOP	50.3	70-130	S	%Rec	1	4/6/2019 7:16:09 PM	44144
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/10/2019 4:04:32 AM	44121
Surr: BFB	85.9	73.8-119		%Rec	1	4/10/2019 4:04:32 AM	44121
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/10/2019 4:04:32 AM	44121
Toluene	ND	0.047		mg/Kg	1	4/10/2019 4:04:32 AM	44121
Ethylbenzene	ND	0.047		mg/Kg	1	4/10/2019 4:04:32 AM	44121
Xylenes, Total	ND	0.094		mg/Kg	1	4/10/2019 4:04:32 AM	44121
Surr: 4-Bromofluorobenzene	85.6	80-120		%Rec	1	4/10/2019 4:04:32 AM	44121

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-086 **Matrix:** SOIL

Client Sample ID: SP250
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	220	60		mg/Kg	20	4/9/2019 12:03:59 AM	44214
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/6/2019 7:40:37 PM	44144
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/6/2019 7:40:37 PM	44144
Surr: DNOP	49.3	70-130	S	%Rec	1	4/6/2019 7:40:37 PM	44144
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/10/2019 7:36:49 AM	44121
Surr: BFB	89.2	73.8-119		%Rec	1	4/10/2019 7:36:49 AM	44121
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/10/2019 7:36:49 AM	44121
Toluene	ND	0.048		mg/Kg	1	4/10/2019 7:36:49 AM	44121
Ethylbenzene	ND	0.048		mg/Kg	1	4/10/2019 7:36:49 AM	44121
Xylenes, Total	ND	0.097		mg/Kg	1	4/10/2019 7:36:49 AM	44121
Surr: 4-Bromofluorobenzene	88.3	80-120		%Rec	1	4/10/2019 7:36:49 AM	44121

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP251
Project: LVP SWD
Collection Date: 4/3/2019
Lab ID: 1904256-087
Matrix: SOIL
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	180	59		mg/Kg	20	4/9/2019 12:16:23 AM	44214
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/6/2019 8:04:55 PM	44144
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	4/6/2019 8:04:55 PM	44144
Surr: DNOP	56.8	70-130	S	%Rec	1	4/6/2019 8:04:55 PM	44144
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/10/2019 8:00:26 AM	44121
Surr: BFB	86.5	73.8-119		%Rec	1	4/10/2019 8:00:26 AM	44121
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	4/10/2019 8:00:26 AM	44121
Toluene	ND	0.046		mg/Kg	1	4/10/2019 8:00:26 AM	44121
Ethylbenzene	ND	0.046		mg/Kg	1	4/10/2019 8:00:26 AM	44121
Xylenes, Total	ND	0.092		mg/Kg	1	4/10/2019 8:00:26 AM	44121
Surr: 4-Bromofluorobenzene	85.6	80-120		%Rec	1	4/10/2019 8:00:26 AM	44121

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP252
Project: LVP SWD
Collection Date: 4/3/2019
Lab ID: 1904256-088
Matrix: SOIL
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	110	60		mg/Kg	20	4/9/2019 12:28:48 AM	44214
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/6/2019 8:29:22 PM	44144
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/6/2019 8:29:22 PM	44144
Surr: DNOP	43.2	70-130	S	%Rec	1	4/6/2019 8:29:22 PM	44144
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/10/2019 8:24:09 AM	44121
Surr: BFB	89.1	73.8-119		%Rec	1	4/10/2019 8:24:09 AM	44121
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/10/2019 8:24:09 AM	44121
Toluene	ND	0.049		mg/Kg	1	4/10/2019 8:24:09 AM	44121
Ethylbenzene	ND	0.049		mg/Kg	1	4/10/2019 8:24:09 AM	44121
Xylenes, Total	ND	0.098		mg/Kg	1	4/10/2019 8:24:09 AM	44121
Surr: 4-Bromofluorobenzene	88.2	80-120		%Rec	1	4/10/2019 8:24:09 AM	44121

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP253
Project: LVP SWD
Collection Date: 4/3/2019
Lab ID: 1904256-089
Matrix: SOIL
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	190	60		mg/Kg	20	4/9/2019 12:41:13 AM	44214
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/6/2019 8:53:45 PM	44144
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/6/2019 8:53:45 PM	44144
Surr: DNOP	46.5	70-130	S	%Rec	1	4/6/2019 8:53:45 PM	44144
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/10/2019 8:47:49 AM	44121
Surr: BFB	89.9	73.8-119		%Rec	1	4/10/2019 8:47:49 AM	44121
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	4/10/2019 8:47:49 AM	44121
Toluene	ND	0.049		mg/Kg	1	4/10/2019 8:47:49 AM	44121
Ethylbenzene	ND	0.049		mg/Kg	1	4/10/2019 8:47:49 AM	44121
Xylenes, Total	ND	0.098		mg/Kg	1	4/10/2019 8:47:49 AM	44121
Surr: 4-Bromofluorobenzene	88.7	80-120		%Rec	1	4/10/2019 8:47:49 AM	44121

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP254
Project: LVP SWD
Collection Date: 4/3/2019
Lab ID: 1904256-090
Matrix: SOIL
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	170	60		mg/Kg	20	4/9/2019 12:53:38 AM	44214
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/6/2019 9:18:10 PM	44144
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/6/2019 9:18:10 PM	44144
Surr: DNOP	51.5	70-130	S	%Rec	1	4/6/2019 9:18:10 PM	44144
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/10/2019 9:11:22 AM	44121
Surr: BFB	89.0	73.8-119		%Rec	1	4/10/2019 9:11:22 AM	44121
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	4/10/2019 9:11:22 AM	44121
Toluene	ND	0.046		mg/Kg	1	4/10/2019 9:11:22 AM	44121
Ethylbenzene	ND	0.046		mg/Kg	1	4/10/2019 9:11:22 AM	44121
Xylenes, Total	ND	0.092		mg/Kg	1	4/10/2019 9:11:22 AM	44121
Surr: 4-Bromofluorobenzene	88.7	80-120		%Rec	1	4/10/2019 9:11:22 AM	44121

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP255
Project: LVP SWD
Collection Date: 4/3/2019
Lab ID: 1904256-091
Matrix: SOIL
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	120	60		mg/Kg	20	4/9/2019 1:06:03 AM	44214
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/6/2019 9:42:22 PM	44144
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/6/2019 9:42:22 PM	44144
Surr: DNOP	46.9	70-130	S	%Rec	1	4/6/2019 9:42:22 PM	44144
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/10/2019 9:35:07 AM	44121
Surr: BFB	89.9	73.8-119		%Rec	1	4/10/2019 9:35:07 AM	44121
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/10/2019 9:35:07 AM	44121
Toluene	ND	0.048		mg/Kg	1	4/10/2019 9:35:07 AM	44121
Ethylbenzene	ND	0.048		mg/Kg	1	4/10/2019 9:35:07 AM	44121
Xylenes, Total	ND	0.096		mg/Kg	1	4/10/2019 9:35:07 AM	44121
Surr: 4-Bromofluorobenzene	88.6	80-120		%Rec	1	4/10/2019 9:35:07 AM	44121

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report
Lab Order **1904256**
Date Reported: **4/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904256-092 **Matrix:** SOIL

Client Sample ID: SP256
Collection Date: 4/3/2019
Received Date: 4/4/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	130	60		mg/Kg	20	4/9/2019 1:18:27 AM	44214
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	4/6/2019 10:06:43 PM	44144
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/6/2019 10:06:43 PM	44144
Surr: DNOP	35.9	70-130	S	%Rec	1	4/6/2019 10:06:43 PM	44144
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/10/2019 9:58:36 AM	44121
Surr: BFB	88.8	73.8-119		%Rec	1	4/10/2019 9:58:36 AM	44121
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	4/10/2019 9:58:36 AM	44121
Toluene	ND	0.050		mg/Kg	1	4/10/2019 9:58:36 AM	44121
Ethylbenzene	ND	0.050		mg/Kg	1	4/10/2019 9:58:36 AM	44121
Xylenes, Total	ND	0.10		mg/Kg	1	4/10/2019 9:58:36 AM	44121
Surr: 4-Bromofluorobenzene	88.3	80-120		%Rec	1	4/10/2019 9:58:36 AM	44121

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

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904256**
12-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-44177** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **44177** RunNo: **58961**
Prep Date: **4/6/2019** Analysis Date: **4/6/2019** SeqNo: **1983426** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-44177** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **44177** RunNo: **58961**
Prep Date: **4/6/2019** Analysis Date: **4/6/2019** SeqNo: **1983428** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.6	90	110			

Sample ID: **MB-44174** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **44174** RunNo: **58963**
Prep Date: **4/6/2019** Analysis Date: **4/6/2019** SeqNo: **1983569** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-44174** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **44174** RunNo: **58963**
Prep Date: **4/6/2019** Analysis Date: **4/6/2019** SeqNo: **1983570** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.5	90	110			

Sample ID: **MB-44176** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **44176** RunNo: **58963**
Prep Date: **4/6/2019** Analysis Date: **4/6/2019** SeqNo: **1983599** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-44176** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **44176** RunNo: **58963**
Prep Date: **4/6/2019** Analysis Date: **4/6/2019** SeqNo: **1983600** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.4	90	110			

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904256**
12-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-44176** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **44176** RunNo: **58965**
Prep Date: **4/6/2019** Analysis Date: **4/7/2019** SeqNo: **1983668** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-44176** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **44176** RunNo: **58965**
Prep Date: **4/6/2019** Analysis Date: **4/7/2019** SeqNo: **1983669** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.1	90	110			

Sample ID: **MB-44191** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **44191** RunNo: **58977**
Prep Date: **4/8/2019** Analysis Date: **4/8/2019** SeqNo: **1984926** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-44191** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **44191** RunNo: **58977**
Prep Date: **4/8/2019** Analysis Date: **4/8/2019** SeqNo: **1984927** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.7	90	110			

Sample ID: **MB-44203** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **44203** RunNo: **58977**
Prep Date: **4/8/2019** Analysis Date: **4/8/2019** SeqNo: **1984968** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-44203** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **44203** RunNo: **58977**
Prep Date: **4/8/2019** Analysis Date: **4/8/2019** SeqNo: **1984969** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.1	90	110			

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904256**
12-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-44214** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **44214** RunNo: **58997**
Prep Date: **4/8/2019** Analysis Date: **4/8/2019** SeqNo: **1985167** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-44214** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **44214** RunNo: **58997**
Prep Date: **4/8/2019** Analysis Date: **4/8/2019** SeqNo: **1985168** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.3	90	110			

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904256**
12-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **LCS-44142** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **44142** RunNo: **58917**
Prep Date: **4/5/2019** Analysis Date: **4/5/2019** SeqNo: **1981087** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.4	63.9	124			
Surr: DNOP	4.4		5.000		87.5	70	130			

Sample ID: **MB-44142** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44142** RunNo: **58917**
Prep Date: **4/5/2019** Analysis Date: **4/5/2019** SeqNo: **1981088** 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: **LCS-44128** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **44128** RunNo: **58917**
Prep Date: **4/4/2019** Analysis Date: **4/5/2019** SeqNo: **1982023** 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	95.0	63.9	124			
Surr: DNOP	4.3		5.000		86.1	70	130			

Sample ID: **MB-44128** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44128** RunNo: **58917**
Prep Date: **4/4/2019** Analysis Date: **4/5/2019** SeqNo: **1982024** 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: **LCS-44144** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **44144** RunNo: **58960**
Prep Date: **4/5/2019** Analysis Date: **4/6/2019** SeqNo: **1983490** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	85.7	63.9	124			
Surr: DNOP	4.7		5.000		94.5	70	130			

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904256**
12-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-44144** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44144** RunNo: **58960**
Prep Date: **4/5/2019** Analysis Date: **4/6/2019** SeqNo: **1983491** 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		97.6	70	130			

Sample ID: **1904256-075AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP239** Batch ID: **44144** RunNo: **58960**
Prep Date: **4/5/2019** Analysis Date: **4/6/2019** SeqNo: **1983493** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	38	9.9	49.55	0	77.2	53.5	126			
Surr: DNOP	2.3		4.955		46.6	70	130			S

Sample ID: **1904256-075AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP239** Batch ID: **44144** RunNo: **58960**
Prep Date: **4/5/2019** Analysis Date: **4/6/2019** SeqNo: **1983494** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	9.8	48.78	0	83.1	53.5	126	5.80	21.7	
Surr: DNOP	2.6		4.878		52.7	70	130	0	0	S

Sample ID: **MB-44152** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44152** RunNo: **58967**
Prep Date: **4/5/2019** Analysis Date: **4/8/2019** SeqNo: **1983700** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		101	70	130			

Sample ID: **MB-44133** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44133** RunNo: **58929**
Prep Date: **4/4/2019** Analysis Date: **4/5/2019** SeqNo: **1983932** 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	13		10.00		130	70	130			S

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904256**
12-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **LCS-44133** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **44133** RunNo: **58929**
Prep Date: **4/4/2019** Analysis Date: **4/5/2019** SeqNo: **1983933** 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	94.9	63.9	124			
Surr: DNOP	4.7		5.000		94.6	70	130			

Sample ID: **1904256-015AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP179** Batch ID: **44133** RunNo: **58929**
Prep Date: **4/4/2019** Analysis Date: **4/5/2019** SeqNo: **1983935** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	9.4	47.08	0	106	53.5	126			
Surr: DNOP	4.8		4.708		103	70	130			

Sample ID: **1904256-015AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP179** Batch ID: **44133** RunNo: **58929**
Prep Date: **4/4/2019** Analysis Date: **4/5/2019** SeqNo: **1983936** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	49.90	0	87.7	53.5	126	12.7	21.7	
Surr: DNOP	4.1		4.990		82.5	70	130	0	0	

Sample ID: **LCS-44143** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **44143** RunNo: **58967**
Prep Date: **4/5/2019** Analysis Date: **4/8/2019** SeqNo: **1984045** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	10	50.00	0	81.7	63.9	124			
Surr: DNOP	4.1		5.000		82.3	70	130			

Sample ID: **LCS-44152** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **44152** RunNo: **58967**
Prep Date: **4/5/2019** Analysis Date: **4/8/2019** SeqNo: **1984046** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.7		5.000		94.2	70	130			

Sample ID: **MB-44143** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44143** RunNo: **58967**
Prep Date: **4/5/2019** Analysis Date: **4/8/2019** SeqNo: **1984047** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904256**
12-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-44143** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44143** RunNo: **58967**
Prep Date: **4/5/2019** Analysis Date: **4/8/2019** SeqNo: **1984047** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		109	70	130			

Sample ID: **1904256-055AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP219** Batch ID: **44143** RunNo: **58979**
Prep Date: **4/5/2019** Analysis Date: **4/8/2019** SeqNo: **1984234** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	49.80	0	90.5	53.5	126			
Surr: DNOP	3.8		4.980		76.5	70	130			

Sample ID: **1904256-055AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP219** Batch ID: **44143** RunNo: **58979**
Prep Date: **4/5/2019** Analysis Date: **4/8/2019** SeqNo: **1984236** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.30	0	99.0	53.5	126	10.0	21.7	
Surr: DNOP	4.4		5.030		87.4	70	130	0	0	

Sample ID: **MB-44134** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44134** RunNo: **59025**
Prep Date: **4/4/2019** Analysis Date: **4/9/2019** SeqNo: **1986100** 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		104	70	130			

Sample ID: **LCS-44134** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **44134** RunNo: **59025**
Prep Date: **4/4/2019** Analysis Date: **4/9/2019** SeqNo: **1986101** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	101	63.9	124			
Surr: DNOP	4.5		5.000		90.7	70	130			

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904256**
12-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **1904256-035AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP199** Batch ID: **44134** RunNo: **59025**
Prep Date: **4/4/2019** Analysis Date: **4/9/2019** SeqNo: **1986169** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	60	9.5	47.53	0	125	53.5	126			
Surr: DNOP	5.3		4.753		111	70	130			

Sample ID: **1904256-035AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP199** Batch ID: **44134** RunNo: **59025**
Prep Date: **4/4/2019** Analysis Date: **4/9/2019** SeqNo: **1986172** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	9.3	46.51	0	87.0	53.5	126	38.3	21.7	R
Surr: DNOP	3.5		4.651		75.2	70	130	0	0	

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904256**
12-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **1904256-016AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP180** Batch ID: **44113** RunNo: **58955**
Prep Date: **4/4/2019** Analysis Date: **4/7/2019** SeqNo: **1982823** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.9	24.58	0	84.9	69.1	142			
Surr: BFB	1000		983.3		102	73.8	119			

Sample ID: **1904256-016AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP180** Batch ID: **44113** RunNo: **58955**
Prep Date: **4/4/2019** Analysis Date: **4/7/2019** SeqNo: **1982824** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.7	23.74	0	90.4	69.1	142	2.73	20	
Surr: BFB	940		949.7		99.4	73.8	119	0	0	

Sample ID: **1904256-036AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP200** Batch ID: **44114** RunNo: **58955**
Prep Date: **4/4/2019** Analysis Date: **4/7/2019** SeqNo: **1982847** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	4.8	23.99	0	79.3	69.1	142			
Surr: BFB	970		959.7		101	73.8	119			

Sample ID: **1904256-036AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP200** Batch ID: **44114** RunNo: **58955**
Prep Date: **4/4/2019** Analysis Date: **4/7/2019** SeqNo: **1982848** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	4.8	23.95	0	84.0	69.1	142	5.54	20	
Surr: BFB	970		957.9		101	73.8	119	0	0	

Sample ID: **LCS-44112** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **44112** RunNo: **58955**
Prep Date: **4/4/2019** Analysis Date: **4/6/2019** SeqNo: **1982861** 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	90.1	80.1	123			
Surr: BFB	1000		1000		104	73.8	119			

Sample ID: **LCS-44113** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **44113** RunNo: **58955**
Prep Date: **4/4/2019** Analysis Date: **4/7/2019** SeqNo: **1982863** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904256**
12-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **LCS-44113** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **44113** RunNo: **58955**
Prep Date: **4/4/2019** Analysis Date: **4/7/2019** SeqNo: **1982863** 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	89.0	80.1	123			
Surr: BFB	1000		1000		101	73.8	119			

Sample ID: **LCS-44114** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **44114** RunNo: **58955**
Prep Date: **4/4/2019** Analysis Date: **4/7/2019** SeqNo: **1982864** 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	83.8	80.1	123			
Surr: BFB	990		1000		98.9	73.8	119			

Sample ID: **MB-44112** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **44112** RunNo: **58955**
Prep Date: **4/4/2019** Analysis Date: **4/6/2019** SeqNo: **1982865** 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		94.0	73.8	119			

Sample ID: **MB-44113** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **44113** RunNo: **58955**
Prep Date: **4/4/2019** Analysis Date: **4/7/2019** SeqNo: **1982866** 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	910		1000		90.8	73.8	119			

Sample ID: **MB-44114** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **44114** RunNo: **58955**
Prep Date: **4/4/2019** Analysis Date: **4/7/2019** SeqNo: **1982867** 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	890		1000		89.0	73.8	119			

Sample ID: **MB-44115** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **44115** RunNo: **58972**
Prep Date: **4/4/2019** Analysis Date: **4/8/2019** SeqNo: **1984136** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904256**
12-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-44115** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **44115** RunNo: **58972**
Prep Date: **4/4/2019** Analysis Date: **4/8/2019** SeqNo: **1984136** 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	890		1000		89.4	73.8	119			

Sample ID: **LCS-44115** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **44115** RunNo: **58972**
Prep Date: **4/4/2019** Analysis Date: **4/8/2019** SeqNo: **1984137** 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	89.8	80.1	123			
Surr: BFB	1000		1000		101	73.8	119			

Sample ID: **1904256-056AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP220** Batch ID: **44115** RunNo: **58972**
Prep Date: **4/4/2019** Analysis Date: **4/8/2019** SeqNo: **1984140** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.7	23.67	0	87.3	69.1	142			
Surr: BFB	960		947.0		101	73.8	119			

Sample ID: **1904256-056AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP220** Batch ID: **44115** RunNo: **58972**
Prep Date: **4/4/2019** Analysis Date: **4/8/2019** SeqNo: **1984141** 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	89.4	69.1	142	7.20	20	
Surr: BFB	1000		994.0		100	73.8	119	0	0	

Sample ID: **MB-44121** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **44121** RunNo: **59017**
Prep Date: **4/4/2019** Analysis Date: **4/9/2019** SeqNo: **1985591** 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	900		1000		89.6	73.8	119			

Sample ID: **LCS-44121** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **44121** RunNo: **59017**
Prep Date: **4/4/2019** Analysis Date: **4/9/2019** SeqNo: **1985592** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904256**
12-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **LCS-44121** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **44121** RunNo: **59017**
Prep Date: **4/4/2019** Analysis Date: **4/9/2019** SeqNo: **1985592** 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	89.4	80.1	123			
Surr: BFB	1000		1000		104	73.8	119			

Sample ID: **1904256-076AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP240** Batch ID: **44121** RunNo: **59017**
Prep Date: **4/4/2019** Analysis Date: **4/9/2019** SeqNo: **1985595** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	4.7	23.72	0	80.3	69.1	142			
Surr: BFB	950		948.8		100	73.8	119			

Sample ID: **1904256-076AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP240** Batch ID: **44121** RunNo: **59017**
Prep Date: **4/4/2019** Analysis Date: **4/10/2019** SeqNo: **1985596** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	4.9	24.49	0	78.6	69.1	142	1.12	20	
Surr: BFB	980		979.4		99.8	73.8	119	0	0	

Sample ID: **MB-44149** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **44149** RunNo: **59056**
Prep Date: **4/5/2019** Analysis Date: **4/10/2019** SeqNo: **1987604** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	880		1000		88.2	73.8	119			

Sample ID: **LCS-44149** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **44149** RunNo: **59056**
Prep Date: **4/5/2019** Analysis Date: **4/10/2019** SeqNo: **1987605** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		99.6	73.8	119			

Sample ID: **MB-44150** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **44150** RunNo: **59056**
Prep Date: **4/5/2019** Analysis Date: **4/10/2019** SeqNo: **1987630** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	900		1000		89.8	73.8	119			

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904256**
12-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **LCS-44150** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **44150** RunNo: **59056**
Prep Date: **4/5/2019** Analysis Date: **4/10/2019** SeqNo: **1987631** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		102	73.8	119			

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904256**
12-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **1904256-015AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP179** Batch ID: **44113** RunNo: **58955**
Prep Date: **4/4/2019** Analysis Date: **4/7/2019** SeqNo: **1982887** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.023	0.9337	0	93.4	63.9	127			
Toluene	0.92	0.047	0.9337	0.01584	96.8	69.9	131			
Ethylbenzene	0.92	0.047	0.9337	0	98.5	71	132			
Xylenes, Total	2.8	0.093	2.801	0.01464	99.7	71.8	131			
Surr: 4-Bromofluorobenzene	0.85		0.9337		91.1	80	120			

Sample ID: **1904256-015AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP179** Batch ID: **44113** RunNo: **58955**
Prep Date: **4/4/2019** Analysis Date: **4/7/2019** SeqNo: **1982888** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.024	0.9681	0	93.0	63.9	127	3.16	20	
Toluene	0.94	0.048	0.9681	0.01584	95.1	69.9	131	1.79	20	
Ethylbenzene	0.94	0.048	0.9681	0	96.6	71	132	1.71	20	
Xylenes, Total	2.8	0.097	2.904	0.01464	97.5	71.8	131	1.37	20	
Surr: 4-Bromofluorobenzene	0.91		0.9681		93.6	80	120	0	0	

Sample ID: **1904256-035AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP199** Batch ID: **44114** RunNo: **58955**
Prep Date: **4/4/2019** Analysis Date: **4/7/2019** SeqNo: **1982909** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.023	0.9302	0	94.9	63.9	127			
Toluene	0.93	0.047	0.9302	0.01856	98.1	69.9	131			
Ethylbenzene	0.92	0.047	0.9302	0	99.0	71	132			
Xylenes, Total	2.8	0.093	2.791	0.01487	99.5	71.8	131			
Surr: 4-Bromofluorobenzene	0.87		0.9302		93.1	80	120			

Sample ID: **1904256-035AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP199** Batch ID: **44114** RunNo: **58955**
Prep Date: **4/4/2019** Analysis Date: **4/7/2019** SeqNo: **1982910** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.024	0.9569	0	95.6	63.9	127	3.56	20	
Toluene	0.97	0.048	0.9569	0.01856	99.7	69.9	131	4.44	20	
Ethylbenzene	0.96	0.048	0.9569	0	99.8	71	132	3.67	20	
Xylenes, Total	2.9	0.096	2.871	0.01487	101	71.8	131	4.12	20	
Surr: 4-Bromofluorobenzene	0.89		0.9569		93.3	80	120	0	0	

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904256**
12-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **LCS-44112** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **44112** RunNo: **58955**
Prep Date: **4/4/2019** Analysis Date: **4/6/2019** SeqNo: **1982924** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.84	0.025	1.000	0	83.7	80	120			
Toluene	0.90	0.050	1.000	0	90.1	80	120			
Ethylbenzene	0.89	0.050	1.000	0	89.3	80	120			
Xylenes, Total	2.7	0.10	3.000	0	90.5	80	120			
Surr: 4-Bromofluorobenzene	0.94		1.000		93.9	80	120			

Sample ID: **LCS-44113** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **44113** RunNo: **58955**
Prep Date: **4/4/2019** Analysis Date: **4/7/2019** SeqNo: **1982925** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	91.2	80	120			
Toluene	0.95	0.050	1.000	0	95.2	80	120			
Ethylbenzene	0.94	0.050	1.000	0	93.6	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.0	80	120			
Surr: 4-Bromofluorobenzene	0.92		1.000		92.1	80	120			

Sample ID: **LCS-44114** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **44114** RunNo: **58955**
Prep Date: **4/4/2019** Analysis Date: **4/7/2019** SeqNo: **1982926** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	94.4	80	120			
Toluene	0.98	0.050	1.000	0	97.9	80	120			
Ethylbenzene	0.96	0.050	1.000	0	96.3	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.4	80	120			
Surr: 4-Bromofluorobenzene	0.89		1.000		89.3	80	120			

Sample ID: **MB-44112** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **44112** RunNo: **58955**
Prep Date: **4/4/2019** Analysis Date: **4/6/2019** SeqNo: **1982927** 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			

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904256**
12-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-44113** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **44113** RunNo: **58955**
Prep Date: **4/4/2019** Analysis Date: **4/7/2019** SeqNo: **1982928** 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		93.0	80	120			

Sample ID: **MB-44114** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **44114** RunNo: **58955**
Prep Date: **4/4/2019** Analysis Date: **4/7/2019** SeqNo: **1982929** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.90		1.000		89.9	80	120			

Sample ID: **MB-44115** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **44115** RunNo: **58972**
Prep Date: **4/4/2019** Analysis Date: **4/8/2019** SeqNo: **1984175** 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		90.6	80	120			

Sample ID: **LCS-44115** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **44115** RunNo: **58972**
Prep Date: **4/4/2019** Analysis Date: **4/8/2019** SeqNo: **1984176** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	90.9	80	120			
Toluene	0.95	0.050	1.000	0	94.6	80	120			
Ethylbenzene	0.93	0.050	1.000	0	93.1	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.0	80	120			
Surr: 4-Bromofluorobenzene	0.91		1.000		91.0	80	120			

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904256**
12-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **1904256-055AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP219** Batch ID: **44115** RunNo: **58972**
Prep Date: **4/4/2019** Analysis Date: **4/8/2019** SeqNo: **1984178** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.024	0.9479	0.009610	89.2	63.9	127			
Toluene	0.91	0.047	0.9479	0.01475	95.0	69.9	131			
Ethylbenzene	0.92	0.047	0.9479	0	97.1	71	132			
Xylenes, Total	2.8	0.095	2.844	0.01456	97.6	71.8	131			
Surr: 4-Bromofluorobenzene	0.87		0.9479		91.4	80	120			

Sample ID: **1904256-055AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP219** Batch ID: **44115** RunNo: **58972**
Prep Date: **4/4/2019** Analysis Date: **4/8/2019** SeqNo: **1984182** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	0.9930	0.009610	90.7	63.9	127	6.23	20	
Toluene	0.95	0.050	0.9930	0.01475	94.6	69.9	131	4.26	20	
Ethylbenzene	0.95	0.050	0.9930	0	96.1	71	132	3.66	20	
Xylenes, Total	2.9	0.099	2.979	0.01456	96.8	71.8	131	3.85	20	
Surr: 4-Bromofluorobenzene	0.90		0.9930		90.4	80	120	0	0	

Sample ID: **MB-44121** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **44121** RunNo: **59017**
Prep Date: **4/4/2019** Analysis Date: **4/9/2019** SeqNo: **1985640** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.90		1.000		90.1	80	120			

Sample ID: **LCS-44121** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **44121** RunNo: **59017**
Prep Date: **4/4/2019** Analysis Date: **4/9/2019** SeqNo: **1985641** 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	93.1	80	120			
Toluene	0.96	0.050	1.000	0	96.0	80	120			
Ethylbenzene	0.95	0.050	1.000	0	94.8	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.0	80	120			
Surr: 4-Bromofluorobenzene	0.91		1.000		90.9	80	120			

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904256**
12-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **1904256-075AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP239** Batch ID: **44121** RunNo: **59017**
Prep Date: **4/4/2019** Analysis Date: **4/9/2019** SeqNo: **1985643** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.024	0.9470	0.009709	91.8	63.9	127			
Toluene	0.93	0.047	0.9470	0.01456	96.4	69.9	131			
Ethylbenzene	0.92	0.047	0.9470	0	97.3	71	132			
Xylenes, Total	2.8	0.095	2.841	0.01447	96.9	71.8	131			
Surr: 4-Bromofluorobenzene	0.86		0.9470		90.5	80	120			

Sample ID: **1904256-075AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP239** Batch ID: **44121** RunNo: **59017**
Prep Date: **4/4/2019** Analysis Date: **4/9/2019** SeqNo: **1985644** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	0.9891	0.009709	90.6	63.9	127	3.09	20	
Toluene	0.97	0.049	0.9891	0.01456	96.2	69.9	131	4.11	20	
Ethylbenzene	0.96	0.049	0.9891	0	96.9	71	132	3.94	20	
Xylenes, Total	2.9	0.099	2.967	0.01447	97.5	71.8	131	4.94	20	
Surr: 4-Bromofluorobenzene	0.90		0.9891		91.0	80	120	0	0	

Sample ID: **MB-44149** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **44149** RunNo: **59056**
Prep Date: **4/5/2019** Analysis Date: **4/10/2019** SeqNo: **1987683** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.88		1.000		87.7	80	120			

Sample ID: **LCS-44149** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **44149** RunNo: **59056**
Prep Date: **4/5/2019** Analysis Date: **4/10/2019** SeqNo: **1987684** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.87		1.000		86.9	80	120			

Sample ID: **MB-44150** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **44150** RunNo: **59056**
Prep Date: **4/5/2019** Analysis Date: **4/10/2019** SeqNo: **1987707** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.90		1.000		89.8	80	120			

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904256**
12-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **LCS-44150** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **44150** RunNo: **59056**
Prep Date: **4/5/2019** Analysis Date: **4/11/2019** SeqNo: **1987708** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.92		1.000		92.3	80	120			

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **1904256** RcptNo: **1**

Received By: **Yazmine Garduno** **4/4/2019 8:55:00 AM** Yazmine Garduno

Completed By: **Erin Melendrez** **4/4/2019 9:44:37 AM** 4/4/19

Reviewed By: LB: YG 4/4/19

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° 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: YG 4/4/19

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	1.6	Good	Yes			

Chain-of-Custody Record

Client: WPX Carlsbad

Mailing Address: On file

Phone #:

Email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day turn
☒ Standard ☐ Rush

Project Name: LVP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.6°

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1904256	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
1/3/2019		Soil	SP165	4oz.(1)	ice	-001	X		X					X							
			SP166			-002															
			SP167			-003															
			SP168			-004															
			SP169			-005															
			SP170			-006															
			SP171			-007															
			SP172			-008															
			SP173			-009															
			SP174			-010															
			SP175			-011															
			SP176			-012															

Date:	Time:	Relinquished by:	Received by:	Date	Time
3/30/19	1600	Kevin Smith		4/3/19	1600
4/3/19	1900		Yulie Carner	4/4	8:55

Remarks: Report to: Debbie Watson, Kris Rowe, Kevin Smith

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

Chain-of-Custody Record

Client: WPX Carlsbad

Mailing Address: on file

Phone #:

Email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day turn
☒ Standard ☐ Rush

Project Name:

Project #: LUP SWD

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.6

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1904256	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
			SP177			-013															
3/2019		Soil	SP178	4 oz (1)	ice	-014	X		X					X							
			SP179			-015															
			SP180			-016															
			SP181			-017															
			SP182			-018															
			SP183			-019															
			SP184			-020															
			SP185			-021															
			SP186			-022															
			SP187			-023															
			SP188			-024															
			SP189			-025															

Date:	Time:	Relinquished by:	Received by:	Date	Time
3/2019	1600	Kevin Smith		4/3/19	1600
Date: 4/3/19	Time: 1900	Relinquished by:	Received by: Hand carrier	4/4	8:55

Remarks:

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

Chain-of-Custody Record

Client: WPX Carlsbad

Mailing Address: on file

Phone #:

Email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day turn
☑ Standard ☐ Rush

Project Name: LVP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.6

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1904256	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
3/29/19		Soil	SP190	4oz (1)	ice	-026	X		X					X								
			SP191			-027																
			SP192			-028																
			SP193			-029																
			SP194			-030																
			SP195			-031																
			SP196			-032																
			SP197			-033																
			SP198			-034																
			SP199			-035																
			SP200			-036																
			SP201			-037																

Date	Time	Relinquished by	Received by	Date	Time
4/3/19	1600	Kevin Smith	[signature]	4/3/19	1600
4/3/19	1900	[signature]	[signature]	4/4/19	8:55

Remarks:

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

Chain-of-Custody Record

Client: WPX Carlsbad

Mailing Address: on file

Phone #:

Email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day turn
☒ Standard ☐ Rush

Project Name: LVP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature:

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1904256	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
4/3/2019		soil	SP202	4oz (1)	ice	-038	X		X					X							
			SP203			-039															
			SP204			-040															
			SP205			-041															
			SP206			-042															
			SP207			-043															
			SP208			-044															
			SP209			-045															
			SP210			-046															
			SP211			-047															
			SP212			-048															
			SP213			-049															

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/3/2019	1600	Kevin Smith		4/3/19	1600
4/3/19	1900		Yulie Garcia	4/4/19	8:55

Remarks:

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

Chain-of-Custody Record

Client: WPX Carlsbad

Mailing Address: on file

Phone #:

Email or Fax#:

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time: 5 day turn
☒ Standard ☐ Rush _____

Project Name: LVP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.6

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1904 2556	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F^-, Cl^-, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
3/2019		Soil	SP214	4oz(1)	ice	-050	X		X					X								
			SP215			-051																
			SP216			-052																
			SP217			-053																
			SP218			-054																
			SP219			-055																
			SP220			-056																
			SP221			-057																
			SP222			-058																
			SP223			-059																
			SP224			-060																
			SP225			-061																

Date:	Time:	Relinquished by:	Received by:	Date	Time
3/28/19	1600	Kevin Smith	[signature]	4/3/19	1600
4/3/19	1900	[signature]	Yolo Garner	4/4/19	8:55

Remarks:

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

Chain-of-Custody Record

Client: WPX Carlsbad

Mailing Address: on file

Phone #:

Email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day turn
☒ Standard ☐ Rush

Project Name: LVP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.6

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1904256	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F^-, Cl^-, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
4/3/2019		Soil	SP226	4 oz (1)	ice	-062	X		X					X							
			SP227			-063															
			SP228			-064															
			SP229			-065															
			SP230			-066															
			SP231			-067															
			SP232			-068															
			SP233			-069															
			SP234			-070															
			SP235			-071															
			SP236			-072															
			SP237			-073															

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/3/2019	1600	Kevin Smith	[signature]	4/3/19	1600
4/3/19	1900	[signature]	[signature]	4/4/19	8:55

Remarks:

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

Chain-of-Custody Record

Client: WPX Carlsbad

Mailing Address: on file

Phone #:

Email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day turn
☒ Standard ☐ Rush

Project Name: LVP SWD

Project #:

Project Manager:

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: 6

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. A042556	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F^-, Cl^-, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
3/2019		soil	SP238	4 oz (1)	ice	-074	X		X					X								
			SP239			-075																
			SP240			-076																
			SP241			-077																
			SP242			-078																
			SP243			-079																
			SP244			-080																
			SP245			-081																
			SP246			-082																
			SP247			-083																
			SP248			-084																
			SP249			-085																

Date	Time	Relinquished by	Received by	Date	Time
3/2019		[signature]	[signature]	4/3/19	1600
4/3/19	1900	[signature]	[signature]	4/4/19	8:55

Remarks:

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

Chain-of-Custody Record

Page 8 of 8

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client: WPX Carlsbad

Mailing Address:

Phone #:

Email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day turn
☑ Standard ☐ Rush

Project Name: LVP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☑ Yes ☐ No

Sample Temperature: 4

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1904256	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
4/2/19		Soil	SP250	4oz (1)	ice	-086	X		X					X								
			SP251			-087																
			SP252			-088																
			SP253			-089																
			SP254			-090																
			SP255			-091																
			SP256			-092																
			SP257			~~-093~~																
						ENM 4/4/19																

Date	Time	Relinquished by:	Received by:	Date	Time
4/2/19	1600	Kevin Dunn	[signature]	4/3/19	1600
4/3/19	1900	[signature]	Yulee Cano	4/4/19	8:35

Remarks: Per Skip, Only 92 Samples Submitted. -ENM 4/4/19

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

April 16, 2019

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

RE: LVP SWD OrderNo.: 1904351

Dear Kris Rowe:

Hall Environmental Analysis Laboratory received 107 sample(s) on 4/5/2019 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-001 **Matrix:** SOIL

Client Sample ID: SP258
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	170	60		mg/Kg	20	4/9/2019 2:45:15 PM	44223
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/8/2019 4:18:03 PM	44148
Surr: BFB	103	70-130		%Rec	1	4/8/2019 4:18:03 PM	44148
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/8/2019 4:53:57 PM	44152
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/8/2019 4:53:57 PM	44152
Surr: DNOP	72.2	70-130		%Rec	1	4/8/2019 4:53:57 PM	44152
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/8/2019 4:18:03 PM	44148
Toluene	ND	0.048		mg/Kg	1	4/8/2019 4:18:03 PM	44148
Ethylbenzene	ND	0.048		mg/Kg	1	4/8/2019 4:18:03 PM	44148
Xylenes, Total	ND	0.095		mg/Kg	1	4/8/2019 4:18:03 PM	44148
Surr: 1,2-Dichloroethane-d4	85.5	70-130		%Rec	1	4/8/2019 4:18:03 PM	44148
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	4/8/2019 4:18:03 PM	44148
Surr: Dibromofluoromethane	89.7	70-130		%Rec	1	4/8/2019 4:18:03 PM	44148
Surr: Toluene-d8	93.3	70-130		%Rec	1	4/8/2019 4:18:03 PM	44148

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-002 **Matrix:** SOIL

Client Sample ID: SP259
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	250	60		mg/Kg	20	4/9/2019 2:57:40 PM	44223
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/8/2019 4:46:41 PM	44148
Surr: BFB	98.9	70-130		%Rec	1	4/8/2019 4:46:41 PM	44148
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	4/8/2019 5:18:30 PM	44152
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/8/2019 5:18:30 PM	44152
Surr: DNOP	91.0	70-130		%Rec	1	4/8/2019 5:18:30 PM	44152
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/8/2019 4:46:41 PM	44148
Toluene	ND	0.049		mg/Kg	1	4/8/2019 4:46:41 PM	44148
Ethylbenzene	ND	0.049		mg/Kg	1	4/8/2019 4:46:41 PM	44148
Xylenes, Total	ND	0.098		mg/Kg	1	4/8/2019 4:46:41 PM	44148
Surr: 1,2-Dichloroethane-d4	85.4	70-130		%Rec	1	4/8/2019 4:46:41 PM	44148
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	4/8/2019 4:46:41 PM	44148
Surr: Dibromofluoromethane	89.9	70-130		%Rec	1	4/8/2019 4:46:41 PM	44148
Surr: Toluene-d8	92.0	70-130		%Rec	1	4/8/2019 4:46:41 PM	44148

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-003 **Matrix:** SOIL

Client Sample ID: SP260
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	310	60		mg/Kg	20	4/9/2019 3:10:05 PM	44223
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/8/2019 5:15:13 PM	44148
Surr: BFB	102	70-130		%Rec	1	4/8/2019 5:15:13 PM	44148
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	4/8/2019 5:43:00 PM	44152
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/8/2019 5:43:00 PM	44152
Surr: DNOP	89.3	70-130		%Rec	1	4/8/2019 5:43:00 PM	44152
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/8/2019 5:15:13 PM	44148
Toluene	ND	0.048		mg/Kg	1	4/8/2019 5:15:13 PM	44148
Ethylbenzene	ND	0.048		mg/Kg	1	4/8/2019 5:15:13 PM	44148
Xylenes, Total	ND	0.096		mg/Kg	1	4/8/2019 5:15:13 PM	44148
Surr: 1,2-Dichloroethane-d4	86.7	70-130		%Rec	1	4/8/2019 5:15:13 PM	44148
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/8/2019 5:15:13 PM	44148
Surr: Dibromofluoromethane	91.5	70-130		%Rec	1	4/8/2019 5:15:13 PM	44148
Surr: Toluene-d8	93.7	70-130		%Rec	1	4/8/2019 5:15:13 PM	44148

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-004 **Matrix:** SOIL

Client Sample ID: SP261
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	200	60		mg/Kg	20	4/9/2019 3:22:30 PM	44223
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/8/2019 5:43:43 PM	44148
Surr: BFB	104	70-130		%Rec	1	4/8/2019 5:43:43 PM	44148
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/8/2019 6:07:44 PM	44152
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/8/2019 6:07:44 PM	44152
Surr: DNOP	67.9	70-130	S	%Rec	1	4/8/2019 6:07:44 PM	44152
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/8/2019 5:43:43 PM	44148
Toluene	ND	0.049		mg/Kg	1	4/8/2019 5:43:43 PM	44148
Ethylbenzene	ND	0.049		mg/Kg	1	4/8/2019 5:43:43 PM	44148
Xylenes, Total	ND	0.098		mg/Kg	1	4/8/2019 5:43:43 PM	44148
Surr: 1,2-Dichloroethane-d4	88.3	70-130		%Rec	1	4/8/2019 5:43:43 PM	44148
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/8/2019 5:43:43 PM	44148
Surr: Dibromofluoromethane	90.4	70-130		%Rec	1	4/8/2019 5:43:43 PM	44148
Surr: Toluene-d8	93.6	70-130		%Rec	1	4/8/2019 5:43:43 PM	44148

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-005 **Matrix:** SOIL

Client Sample ID: SP262
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	200	60		mg/Kg	20	4/9/2019 3:59:43 PM	44223
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/8/2019 6:12:13 PM	44148
Surr: BFB	106	70-130		%Rec	1	4/8/2019 6:12:13 PM	44148
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/9/2019 2:06:46 PM	44152
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/9/2019 2:06:46 PM	44152
Surr: DNOP	71.5	70-130		%Rec	1	4/9/2019 2:06:46 PM	44152
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/8/2019 6:12:13 PM	44148
Toluene	ND	0.049		mg/Kg	1	4/8/2019 6:12:13 PM	44148
Ethylbenzene	ND	0.049		mg/Kg	1	4/8/2019 6:12:13 PM	44148
Xylenes, Total	ND	0.097		mg/Kg	1	4/8/2019 6:12:13 PM	44148
Surr: 1,2-Dichloroethane-d4	86.8	70-130		%Rec	1	4/8/2019 6:12:13 PM	44148
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	4/8/2019 6:12:13 PM	44148
Surr: Dibromofluoromethane	89.1	70-130		%Rec	1	4/8/2019 6:12:13 PM	44148
Surr: Toluene-d8	96.0	70-130		%Rec	1	4/8/2019 6:12:13 PM	44148

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-006 **Matrix:** SOIL

Client Sample ID: SP263
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	180	60		mg/Kg	20	4/9/2019 4:12:07 PM	44223
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/8/2019 6:40:50 PM	44148
Surr: BFB	104	70-130		%Rec	1	4/8/2019 6:40:50 PM	44148
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/9/2019 2:31:22 PM	44152
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/9/2019 2:31:22 PM	44152
Surr: DNOP	65.1	70-130	S	%Rec	1	4/9/2019 2:31:22 PM	44152
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/8/2019 6:40:50 PM	44148
Toluene	ND	0.049		mg/Kg	1	4/8/2019 6:40:50 PM	44148
Ethylbenzene	ND	0.049		mg/Kg	1	4/8/2019 6:40:50 PM	44148
Xylenes, Total	ND	0.098		mg/Kg	1	4/8/2019 6:40:50 PM	44148
Surr: 1,2-Dichloroethane-d4	85.8	70-130		%Rec	1	4/8/2019 6:40:50 PM	44148
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	4/8/2019 6:40:50 PM	44148
Surr: Dibromofluoromethane	90.0	70-130		%Rec	1	4/8/2019 6:40:50 PM	44148
Surr: Toluene-d8	95.1	70-130		%Rec	1	4/8/2019 6:40:50 PM	44148

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-007 **Matrix:** SOIL

Client Sample ID: SP264
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	280	60		mg/Kg	20	4/9/2019 4:24:31 PM	44223
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/8/2019 7:09:16 PM	44148
Surr: BFB	102	70-130		%Rec	1	4/8/2019 7:09:16 PM	44148
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/9/2019 2:55:57 PM	44152
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/9/2019 2:55:57 PM	44152
Surr: DNOP	72.2	70-130		%Rec	1	4/9/2019 2:55:57 PM	44152
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/8/2019 7:09:16 PM	44148
Toluene	ND	0.049		mg/Kg	1	4/8/2019 7:09:16 PM	44148
Ethylbenzene	ND	0.049		mg/Kg	1	4/8/2019 7:09:16 PM	44148
Xylenes, Total	ND	0.098		mg/Kg	1	4/8/2019 7:09:16 PM	44148
Surr: 1,2-Dichloroethane-d4	87.6	70-130		%Rec	1	4/8/2019 7:09:16 PM	44148
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	4/8/2019 7:09:16 PM	44148
Surr: Dibromofluoromethane	90.0	70-130		%Rec	1	4/8/2019 7:09:16 PM	44148
Surr: Toluene-d8	92.6	70-130		%Rec	1	4/8/2019 7:09:16 PM	44148

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-008 **Matrix:** SOIL

Client Sample ID: SP265
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	150	60		mg/Kg	20	4/9/2019 4:36:56 PM	44223
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/8/2019 7:37:43 PM	44148
Surr: BFB	103	70-130		%Rec	1	4/8/2019 7:37:43 PM	44148
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/9/2019 3:20:28 PM	44152
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/9/2019 3:20:28 PM	44152
Surr: DNOP	75.7	70-130		%Rec	1	4/9/2019 3:20:28 PM	44152
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/8/2019 7:37:43 PM	44148
Toluene	ND	0.048		mg/Kg	1	4/8/2019 7:37:43 PM	44148
Ethylbenzene	ND	0.048		mg/Kg	1	4/8/2019 7:37:43 PM	44148
Xylenes, Total	ND	0.095		mg/Kg	1	4/8/2019 7:37:43 PM	44148
Surr: 1,2-Dichloroethane-d4	88.4	70-130		%Rec	1	4/8/2019 7:37:43 PM	44148
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	4/8/2019 7:37:43 PM	44148
Surr: Dibromofluoromethane	89.2	70-130		%Rec	1	4/8/2019 7:37:43 PM	44148
Surr: Toluene-d8	94.5	70-130		%Rec	1	4/8/2019 7:37:43 PM	44148

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-009 **Matrix:** SOIL

Client Sample ID: SP266
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	280	60		mg/Kg	20	4/9/2019 4:49:20 PM	44223
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/8/2019 8:06:09 PM	44148
Surr: BFB	101	70-130		%Rec	1	4/8/2019 8:06:09 PM	44148
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/9/2019 3:45:04 PM	44152
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/9/2019 3:45:04 PM	44152
Surr: DNOP	79.9	70-130		%Rec	1	4/9/2019 3:45:04 PM	44152
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/8/2019 8:06:09 PM	44148
Toluene	ND	0.050		mg/Kg	1	4/8/2019 8:06:09 PM	44148
Ethylbenzene	ND	0.050		mg/Kg	1	4/8/2019 8:06:09 PM	44148
Xylenes, Total	ND	0.099		mg/Kg	1	4/8/2019 8:06:09 PM	44148
Surr: 1,2-Dichloroethane-d4	85.9	70-130		%Rec	1	4/8/2019 8:06:09 PM	44148
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	4/8/2019 8:06:09 PM	44148
Surr: Dibromofluoromethane	90.7	70-130		%Rec	1	4/8/2019 8:06:09 PM	44148
Surr: Toluene-d8	90.9	70-130		%Rec	1	4/8/2019 8:06:09 PM	44148

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SP267
Project: LVP SWD
Collection Date: 4/3/2019
Lab ID: 1904351-010
Matrix: SOIL
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	94	60		mg/Kg	20	4/9/2019 5:01:45 PM	44223
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/8/2019 8:34:39 PM	44148
Surr: BFB	100	70-130		%Rec	1	4/8/2019 8:34:39 PM	44148
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/9/2019 4:09:30 PM	44152
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/9/2019 4:09:30 PM	44152
Surr: DNOP	88.6	70-130		%Rec	1	4/9/2019 4:09:30 PM	44152
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/8/2019 8:34:39 PM	44148
Toluene	ND	0.046		mg/Kg	1	4/8/2019 8:34:39 PM	44148
Ethylbenzene	ND	0.046		mg/Kg	1	4/8/2019 8:34:39 PM	44148
Xylenes, Total	ND	0.092		mg/Kg	1	4/8/2019 8:34:39 PM	44148
Surr: 1,2-Dichloroethane-d4	85.8	70-130		%Rec	1	4/8/2019 8:34:39 PM	44148
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	4/8/2019 8:34:39 PM	44148
Surr: Dibromofluoromethane	90.7	70-130		%Rec	1	4/8/2019 8:34:39 PM	44148
Surr: Toluene-d8	92.4	70-130		%Rec	1	4/8/2019 8:34:39 PM	44148

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-011 **Matrix:** SOIL

Client Sample ID: SP268
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	200	60		mg/Kg	20	4/9/2019 5:14:09 PM	44223
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/8/2019 9:03:04 PM	44148
Surr: BFB	104	70-130		%Rec	1	4/8/2019 9:03:04 PM	44148
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	4/9/2019 4:34:19 PM	44152
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/9/2019 4:34:19 PM	44152
Surr: DNOP	89.4	70-130		%Rec	1	4/9/2019 4:34:19 PM	44152
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/8/2019 9:03:04 PM	44148
Toluene	ND	0.048		mg/Kg	1	4/8/2019 9:03:04 PM	44148
Ethylbenzene	ND	0.048		mg/Kg	1	4/8/2019 9:03:04 PM	44148
Xylenes, Total	ND	0.096		mg/Kg	1	4/8/2019 9:03:04 PM	44148
Surr: 1,2-Dichloroethane-d4	89.2	70-130		%Rec	1	4/8/2019 9:03:04 PM	44148
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/8/2019 9:03:04 PM	44148
Surr: Dibromofluoromethane	89.4	70-130		%Rec	1	4/8/2019 9:03:04 PM	44148
Surr: Toluene-d8	94.3	70-130		%Rec	1	4/8/2019 9:03:04 PM	44148

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-012 **Matrix:** SOIL

Client Sample ID: SP269
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	230	60		mg/Kg	20	4/9/2019 1:12:15 PM	44224
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/9/2019 12:22:33 AM	44148
Surr: BFB	102	70-130		%Rec	1	4/9/2019 12:22:33 AM	44148
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/9/2019 7:22:03 PM	44182
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/9/2019 7:22:03 PM	44182
Surr: DNOP	96.7	70-130		%Rec	1	4/9/2019 7:22:03 PM	44182
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/9/2019 12:22:33 AM	44148
Toluene	ND	0.049		mg/Kg	1	4/9/2019 12:22:33 AM	44148
Ethylbenzene	ND	0.049		mg/Kg	1	4/9/2019 12:22:33 AM	44148
Xylenes, Total	ND	0.099		mg/Kg	1	4/9/2019 12:22:33 AM	44148
Surr: 1,2-Dichloroethane-d4	90.2	70-130		%Rec	1	4/9/2019 12:22:33 AM	44148
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/9/2019 12:22:33 AM	44148
Surr: Dibromofluoromethane	90.8	70-130		%Rec	1	4/9/2019 12:22:33 AM	44148
Surr: Toluene-d8	95.0	70-130		%Rec	1	4/9/2019 12:22:33 AM	44148

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-013 **Matrix:** SOIL

Client Sample ID: SP270
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	220	60		mg/Kg	20	4/9/2019 1:24:39 PM	44224
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/9/2019 8:36:29 PM	44182
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/9/2019 8:36:29 PM	44182
Surr: DNOP	91.0	70-130		%Rec	1	4/9/2019 8:36:29 PM	44182
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/10/2019 12:19:12 PM	44149
Surr: BFB	85.1	73.8-119		%Rec	1	4/10/2019 12:19:12 PM	44149
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	4/10/2019 12:19:12 PM	44149
Toluene	ND	0.049		mg/Kg	1	4/10/2019 12:19:12 PM	44149
Ethylbenzene	ND	0.049		mg/Kg	1	4/10/2019 12:19:12 PM	44149
Xylenes, Total	ND	0.099		mg/Kg	1	4/10/2019 12:19:12 PM	44149
Surr: 4-Bromofluorobenzene	84.6	80-120		%Rec	1	4/10/2019 12:19:12 PM	44149

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-014 **Matrix:** SOIL

Client Sample ID: SP271
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	260	60		mg/Kg	20	4/9/2019 2:01:53 PM	44224
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	4/9/2019 9:01:14 PM	44182
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/9/2019 9:01:14 PM	44182
Surr: DNOP	98.9	70-130		%Rec	1	4/9/2019 9:01:14 PM	44182
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/10/2019 1:30:05 PM	44149
Surr: BFB	88.4	73.8-119		%Rec	1	4/10/2019 1:30:05 PM	44149
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/10/2019 1:30:05 PM	44149
Toluene	ND	0.048		mg/Kg	1	4/10/2019 1:30:05 PM	44149
Ethylbenzene	ND	0.048		mg/Kg	1	4/10/2019 1:30:05 PM	44149
Xylenes, Total	ND	0.097		mg/Kg	1	4/10/2019 1:30:05 PM	44149
Surr: 4-Bromofluorobenzene	89.2	80-120		%Rec	1	4/10/2019 1:30:05 PM	44149

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-015 **Matrix:** SOIL

Client Sample ID: SP272
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	160	60		mg/Kg	20	4/9/2019 2:14:18 PM	44224
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/9/2019 9:25:53 PM	44182
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/9/2019 9:25:53 PM	44182
Surr: DNOP	95.5	70-130		%Rec	1	4/9/2019 9:25:53 PM	44182
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/10/2019 2:40:54 PM	44149
Surr: BFB	87.8	73.8-119		%Rec	1	4/10/2019 2:40:54 PM	44149
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	4/10/2019 2:40:54 PM	44149
Toluene	ND	0.046		mg/Kg	1	4/10/2019 2:40:54 PM	44149
Ethylbenzene	ND	0.046		mg/Kg	1	4/10/2019 2:40:54 PM	44149
Xylenes, Total	ND	0.093		mg/Kg	1	4/10/2019 2:40:54 PM	44149
Surr: 4-Bromofluorobenzene	87.8	80-120		%Rec	1	4/10/2019 2:40:54 PM	44149

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-016 **Matrix:** SOIL

Client Sample ID: SP273
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	200	60		mg/Kg	20	4/9/2019 2:26:43 PM	44224
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/9/2019 9:50:39 PM	44182
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/9/2019 9:50:39 PM	44182
Surr: DNOP	103	70-130		%Rec	1	4/9/2019 9:50:39 PM	44182
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/10/2019 3:04:32 PM	44149
Surr: BFB	86.7	73.8-119		%Rec	1	4/10/2019 3:04:32 PM	44149
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	4/12/2019 1:39:25 PM	44149
Toluene	ND	0.046		mg/Kg	1	4/12/2019 1:39:25 PM	44149
Ethylbenzene	ND	0.046		mg/Kg	1	4/12/2019 1:39:25 PM	44149
Xylenes, Total	ND	0.092		mg/Kg	1	4/12/2019 1:39:25 PM	44149
Surr: 4-Bromofluorobenzene	92.5	80-120		%Rec	1	4/12/2019 1:39:25 PM	44149

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-017 **Matrix:** SOIL

Client Sample ID: SP274
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	120	60		mg/Kg	20	4/9/2019 2:39:07 PM	44224
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/9/2019 10:15:29 PM	44182
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/9/2019 10:15:29 PM	44182
Surr: DNOP	94.5	70-130		%Rec	1	4/9/2019 10:15:29 PM	44182
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/10/2019 3:28:05 PM	44149
Surr: BFB	86.8	73.8-119		%Rec	1	4/10/2019 3:28:05 PM	44149
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/12/2019 2:50:12 PM	44149
Toluene	ND	0.047		mg/Kg	1	4/12/2019 2:50:12 PM	44149
Ethylbenzene	ND	0.047		mg/Kg	1	4/12/2019 2:50:12 PM	44149
Xylenes, Total	ND	0.094		mg/Kg	1	4/12/2019 2:50:12 PM	44149
Surr: 4-Bromofluorobenzene	88.0	80-120		%Rec	1	4/12/2019 2:50:12 PM	44149

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-018 **Matrix:** SOIL

Client Sample ID: SP275
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	ND	59		mg/Kg	20	4/9/2019 2:51:32 PM	44224
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/9/2019 10:40:22 PM	44182
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/9/2019 10:40:22 PM	44182
Surr: DNOP	95.5	70-130		%Rec	1	4/9/2019 10:40:22 PM	44182
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/10/2019 4:38:30 PM	44149
Surr: BFB	86.4	73.8-119		%Rec	1	4/10/2019 4:38:30 PM	44149
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/10/2019 4:38:30 PM	44149
Toluene	ND	0.049		mg/Kg	1	4/10/2019 4:38:30 PM	44149
Ethylbenzene	ND	0.049		mg/Kg	1	4/10/2019 4:38:30 PM	44149
Xylenes, Total	ND	0.098		mg/Kg	1	4/10/2019 4:38:30 PM	44149
Surr: 4-Bromofluorobenzene	85.0	80-120		%Rec	1	4/10/2019 4:38:30 PM	44149

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-019 **Matrix:** SOIL

Client Sample ID: SP276
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	260	60		mg/Kg	20	4/9/2019 3:03:57 PM	44224
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/9/2019 11:05:05 PM	44182
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/9/2019 11:05:05 PM	44182
Surr: DNOP	99.0	70-130		%Rec	1	4/9/2019 11:05:05 PM	44182
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/10/2019 5:01:51 PM	44149
Surr: BFB	87.7	73.8-119		%Rec	1	4/10/2019 5:01:51 PM	44149
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/10/2019 5:01:51 PM	44149
Toluene	ND	0.049		mg/Kg	1	4/10/2019 5:01:51 PM	44149
Ethylbenzene	ND	0.049		mg/Kg	1	4/10/2019 5:01:51 PM	44149
Xylenes, Total	ND	0.097		mg/Kg	1	4/10/2019 5:01:51 PM	44149
Surr: 4-Bromofluorobenzene	88.8	80-120		%Rec	1	4/10/2019 5:01:51 PM	44149

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-020 **Matrix:** SOIL

Client Sample ID: SP277
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	210	60		mg/Kg	20	4/9/2019 3:16:21 PM	44224
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/9/2019 11:29:50 PM	44182
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/9/2019 11:29:50 PM	44182
Surr: DNOP	101	70-130		%Rec	1	4/9/2019 11:29:50 PM	44182
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/10/2019 5:25:15 PM	44149
Surr: BFB	87.2	73.8-119		%Rec	1	4/10/2019 5:25:15 PM	44149
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/10/2019 5:25:15 PM	44149
Toluene	ND	0.048		mg/Kg	1	4/10/2019 5:25:15 PM	44149
Ethylbenzene	ND	0.048		mg/Kg	1	4/10/2019 5:25:15 PM	44149
Xylenes, Total	ND	0.096		mg/Kg	1	4/10/2019 5:25:15 PM	44149
Surr: 4-Bromofluorobenzene	86.5	80-120		%Rec	1	4/10/2019 5:25:15 PM	44149

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-021 **Matrix:** SOIL

Client Sample ID: SP278
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	170	60		mg/Kg	20	4/9/2019 3:28:46 PM	44224
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/10/2019 12:19:13 AM	44182
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/10/2019 12:19:13 AM	44182
Surr: DNOP	91.5	70-130		%Rec	1	4/10/2019 12:19:13 AM	44182
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/10/2019 5:48:33 PM	44149
Surr: BFB	87.4	73.8-119		%Rec	1	4/10/2019 5:48:33 PM	44149
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	4/10/2019 5:48:33 PM	44149
Toluene	ND	0.050		mg/Kg	1	4/10/2019 5:48:33 PM	44149
Ethylbenzene	ND	0.050		mg/Kg	1	4/10/2019 5:48:33 PM	44149
Xylenes, Total	ND	0.099		mg/Kg	1	4/10/2019 5:48:33 PM	44149
Surr: 4-Bromofluorobenzene	86.8	80-120		%Rec	1	4/10/2019 5:48:33 PM	44149

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-022 **Matrix:** SOIL

Client Sample ID: SP279
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	86	60		mg/Kg	20	4/9/2019 3:41:10 PM	44224
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/10/2019 12:43:52 AM	44182
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/10/2019 12:43:52 AM	44182
Surr: DNOP	100	70-130		%Rec	1	4/10/2019 12:43:52 AM	44182
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/10/2019 6:11:56 PM	44149
Surr: BFB	87.6	73.8-119		%Rec	1	4/10/2019 6:11:56 PM	44149
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	4/10/2019 6:11:56 PM	44149
Toluene	ND	0.046		mg/Kg	1	4/10/2019 6:11:56 PM	44149
Ethylbenzene	ND	0.046		mg/Kg	1	4/10/2019 6:11:56 PM	44149
Xylenes, Total	ND	0.093		mg/Kg	1	4/10/2019 6:11:56 PM	44149
Surr: 4-Bromofluorobenzene	87.1	80-120		%Rec	1	4/10/2019 6:11:56 PM	44149

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-023 **Matrix:** SOIL

Client Sample ID: SP280
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	120	60		mg/Kg	20	4/9/2019 3:53:35 PM	44224
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/10/2019 1:08:28 AM	44182
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/10/2019 1:08:28 AM	44182
Surr: DNOP	89.4	70-130		%Rec	1	4/10/2019 1:08:28 AM	44182
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/10/2019 6:35:21 PM	44149
Surr: BFB	88.3	73.8-119		%Rec	1	4/10/2019 6:35:21 PM	44149
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	4/10/2019 6:35:21 PM	44149
Toluene	ND	0.047		mg/Kg	1	4/10/2019 6:35:21 PM	44149
Ethylbenzene	ND	0.047		mg/Kg	1	4/10/2019 6:35:21 PM	44149
Xylenes, Total	ND	0.093		mg/Kg	1	4/10/2019 6:35:21 PM	44149
Surr: 4-Bromofluorobenzene	88.2	80-120		%Rec	1	4/10/2019 6:35:21 PM	44149

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-024 **Matrix:** SOIL

Client Sample ID: SP281
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	140	60		mg/Kg	20	4/9/2019 4:30:49 PM	44224
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/10/2019 1:33:10 AM	44182
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/10/2019 1:33:10 AM	44182
Surr: DNOP	96.8	70-130		%Rec	1	4/10/2019 1:33:10 AM	44182
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/10/2019 6:58:50 PM	44149
Surr: BFB	86.6	73.8-119		%Rec	1	4/10/2019 6:58:50 PM	44149
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	4/10/2019 6:58:50 PM	44149
Toluene	ND	0.049		mg/Kg	1	4/10/2019 6:58:50 PM	44149
Ethylbenzene	ND	0.049		mg/Kg	1	4/10/2019 6:58:50 PM	44149
Xylenes, Total	ND	0.099		mg/Kg	1	4/10/2019 6:58:50 PM	44149
Surr: 4-Bromofluorobenzene	85.7	80-120		%Rec	1	4/10/2019 6:58:50 PM	44149

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-025 **Matrix:** SOIL

Client Sample ID: SP282
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	210	60		mg/Kg	20	4/9/2019 4:43:14 PM	44224
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/10/2019 1:57:45 AM	44182
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/10/2019 1:57:45 AM	44182
Surr: DNOP	101	70-130		%Rec	1	4/10/2019 1:57:45 AM	44182
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/10/2019 7:22:28 PM	44149
Surr: BFB	88.9	73.8-119		%Rec	1	4/10/2019 7:22:28 PM	44149
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/10/2019 7:22:28 PM	44149
Toluene	ND	0.047		mg/Kg	1	4/10/2019 7:22:28 PM	44149
Ethylbenzene	ND	0.047		mg/Kg	1	4/10/2019 7:22:28 PM	44149
Xylenes, Total	ND	0.095		mg/Kg	1	4/10/2019 7:22:28 PM	44149
Surr: 4-Bromofluorobenzene	89.0	80-120		%Rec	1	4/10/2019 7:22:28 PM	44149

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-026 **Matrix:** SOIL

Client Sample ID: SP283
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	220	59		mg/Kg	20	4/9/2019 4:55:38 PM	44224
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/10/2019 2:22:18 AM	44182
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/10/2019 2:22:18 AM	44182
Surr: DNOP	99.9	70-130		%Rec	1	4/10/2019 2:22:18 AM	44182
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/10/2019 7:45:59 PM	44149
Surr: BFB	87.4	73.8-119		%Rec	1	4/10/2019 7:45:59 PM	44149
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/10/2019 7:45:59 PM	44149
Toluene	ND	0.047		mg/Kg	1	4/10/2019 7:45:59 PM	44149
Ethylbenzene	ND	0.047		mg/Kg	1	4/10/2019 7:45:59 PM	44149
Xylenes, Total	ND	0.095		mg/Kg	1	4/10/2019 7:45:59 PM	44149
Surr: 4-Bromofluorobenzene	87.6	80-120		%Rec	1	4/10/2019 7:45:59 PM	44149

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-027 **Matrix:** SOIL

Client Sample ID: SP284
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	150	60		mg/Kg	20	4/9/2019 5:08:02 PM	44224
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/10/2019 2:46:50 AM	44182
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/10/2019 2:46:50 AM	44182
Surr: DNOP	99.9	70-130		%Rec	1	4/10/2019 2:46:50 AM	44182
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/10/2019 8:09:26 PM	44149
Surr: BFB	86.3	73.8-119		%Rec	1	4/10/2019 8:09:26 PM	44149
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	4/10/2019 8:09:26 PM	44149
Toluene	ND	0.046		mg/Kg	1	4/10/2019 8:09:26 PM	44149
Ethylbenzene	ND	0.046		mg/Kg	1	4/10/2019 8:09:26 PM	44149
Xylenes, Total	ND	0.092		mg/Kg	1	4/10/2019 8:09:26 PM	44149
Surr: 4-Bromofluorobenzene	86.2	80-120		%Rec	1	4/10/2019 8:09:26 PM	44149

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-028 **Matrix:** SOIL

Client Sample ID: SP285
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	170	60		mg/Kg	20	4/9/2019 6:10:05 PM	44240
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/10/2019 3:11:25 AM	44182
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/10/2019 3:11:25 AM	44182
Surr: DNOP	101	70-130		%Rec	1	4/10/2019 3:11:25 AM	44182
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/10/2019 9:19:49 PM	44149
Surr: BFB	86.9	73.8-119		%Rec	1	4/10/2019 9:19:49 PM	44149
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/10/2019 9:19:49 PM	44149
Toluene	ND	0.049		mg/Kg	1	4/10/2019 9:19:49 PM	44149
Ethylbenzene	ND	0.049		mg/Kg	1	4/10/2019 9:19:49 PM	44149
Xylenes, Total	ND	0.098		mg/Kg	1	4/10/2019 9:19:49 PM	44149
Surr: 4-Bromofluorobenzene	86.5	80-120		%Rec	1	4/10/2019 9:19:49 PM	44149

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-029 **Matrix:** SOIL

Client Sample ID: SP286
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	140	60		mg/Kg	20	4/9/2019 6:22:29 PM	44240
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/10/2019 3:35:58 AM	44182
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/10/2019 3:35:58 AM	44182
Surr: DNOP	100	70-130		%Rec	1	4/10/2019 3:35:58 AM	44182
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/10/2019 9:43:20 PM	44149
Surr: BFB	89.2	73.8-119		%Rec	1	4/10/2019 9:43:20 PM	44149
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/10/2019 9:43:20 PM	44149
Toluene	ND	0.048		mg/Kg	1	4/10/2019 9:43:20 PM	44149
Ethylbenzene	ND	0.048		mg/Kg	1	4/10/2019 9:43:20 PM	44149
Xylenes, Total	ND	0.097		mg/Kg	1	4/10/2019 9:43:20 PM	44149
Surr: 4-Bromofluorobenzene	89.0	80-120		%Rec	1	4/10/2019 9:43:20 PM	44149

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-030 **Matrix:** SOIL

Client Sample ID: SP287
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	ND	60		mg/Kg	20	4/9/2019 7:24:33 PM	44240
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	4/10/2019 4:00:28 AM	44182
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/10/2019 4:00:28 AM	44182
Surr: DNOP	106	70-130		%Rec	1	4/10/2019 4:00:28 AM	44182
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/10/2019 10:06:34 PM	44149
Surr: BFB	89.5	73.8-119		%Rec	1	4/10/2019 10:06:34 PM	44149
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	4/10/2019 10:06:34 PM	44149
Toluene	ND	0.050		mg/Kg	1	4/10/2019 10:06:34 PM	44149
Ethylbenzene	ND	0.050		mg/Kg	1	4/10/2019 10:06:34 PM	44149
Xylenes, Total	ND	0.10		mg/Kg	1	4/10/2019 10:06:34 PM	44149
Surr: 4-Bromofluorobenzene	89.8	80-120		%Rec	1	4/10/2019 10:06:34 PM	44149

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-031 **Matrix:** SOIL

Client Sample ID: SP288
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	180	60		mg/Kg	20	4/9/2019 7:36:58 PM	44240
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/10/2019 4:24:57 AM	44182
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/10/2019 4:24:57 AM	44182
Surr: DNOP	97.8	70-130		%Rec	1	4/10/2019 4:24:57 AM	44182
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/10/2019 10:30:07 PM	44149
Surr: BFB	86.8	73.8-119		%Rec	1	4/10/2019 10:30:07 PM	44149
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	4/10/2019 10:30:07 PM	44149
Toluene	ND	0.047		mg/Kg	1	4/10/2019 10:30:07 PM	44149
Ethylbenzene	ND	0.047		mg/Kg	1	4/10/2019 10:30:07 PM	44149
Xylenes, Total	ND	0.094		mg/Kg	1	4/10/2019 10:30:07 PM	44149
Surr: 4-Bromofluorobenzene	86.8	80-120		%Rec	1	4/10/2019 10:30:07 PM	44149

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-032 **Matrix:** SOIL

Client Sample ID: SP289
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	ND	60		mg/Kg	20	4/9/2019 7:49:23 PM	44240
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	4/9/2019 1:45:42 PM	44183
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	4/9/2019 1:45:42 PM	44183
Surr: DNOP	94.3	70-130		%Rec	1	4/9/2019 1:45:42 PM	44183
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/10/2019 10:53:33 PM	44149
Surr: BFB	91.2	73.8-119		%Rec	1	4/10/2019 10:53:33 PM	44149
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/10/2019 10:53:33 PM	44149
Toluene	ND	0.047		mg/Kg	1	4/10/2019 10:53:33 PM	44149
Ethylbenzene	ND	0.047		mg/Kg	1	4/10/2019 10:53:33 PM	44149
Xylenes, Total	ND	0.095		mg/Kg	1	4/10/2019 10:53:33 PM	44149
Surr: 4-Bromofluorobenzene	91.9	80-120		%Rec	1	4/10/2019 10:53:33 PM	44149

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-033 **Matrix:** SOIL

Client Sample ID: SP290
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	130	60		mg/Kg	20	4/9/2019 8:01:48 PM	44240
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	8.1		mg/Kg	1	4/9/2019 2:52:25 PM	44183
Motor Oil Range Organics (MRO)	ND	40		mg/Kg	1	4/9/2019 2:52:25 PM	44183
Surr: DNOP	95.9	70-130		%Rec	1	4/9/2019 2:52:25 PM	44183
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/11/2019 12:27:41 AM	44150
Surr: BFB	93.9	73.8-119		%Rec	1	4/11/2019 12:27:41 AM	44150
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	4/11/2019 12:27:41 AM	44150
Toluene	ND	0.049		mg/Kg	1	4/11/2019 12:27:41 AM	44150
Ethylbenzene	ND	0.049		mg/Kg	1	4/11/2019 12:27:41 AM	44150
Xylenes, Total	ND	0.099		mg/Kg	1	4/11/2019 12:27:41 AM	44150
Surr: 4-Bromofluorobenzene	94.2	80-120		%Rec	1	4/11/2019 12:27:41 AM	44150

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-034 **Matrix:** SOIL

Client Sample ID: SP291
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	280	60		mg/Kg	20	4/9/2019 8:14:12 PM	44240
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/9/2019 3:14:37 PM	44183
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/9/2019 3:14:37 PM	44183
Surr: DNOP	56.4	70-130	S	%Rec	1	4/9/2019 3:14:37 PM	44183
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/11/2019 1:38:09 AM	44150
Surr: BFB	88.9	73.8-119		%Rec	1	4/11/2019 1:38:09 AM	44150
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/11/2019 1:38:09 AM	44150
Toluene	ND	0.048		mg/Kg	1	4/11/2019 1:38:09 AM	44150
Ethylbenzene	ND	0.048		mg/Kg	1	4/11/2019 1:38:09 AM	44150
Xylenes, Total	ND	0.097		mg/Kg	1	4/11/2019 1:38:09 AM	44150
Surr: 4-Bromofluorobenzene	88.4	80-120		%Rec	1	4/11/2019 1:38:09 AM	44150

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-035 **Matrix:** SOIL

Client Sample ID: SP292
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	230	61		mg/Kg	20	4/9/2019 8:26:37 PM	44240
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/9/2019 3:36:50 PM	44183
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/9/2019 3:36:50 PM	44183
Surr: DNOP	59.1	70-130	S	%Rec	1	4/9/2019 3:36:50 PM	44183
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/11/2019 2:48:35 AM	44150
Surr: BFB	90.6	73.8-119		%Rec	1	4/11/2019 2:48:35 AM	44150
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	4/11/2019 2:48:35 AM	44150
Toluene	ND	0.046		mg/Kg	1	4/11/2019 2:48:35 AM	44150
Ethylbenzene	ND	0.046		mg/Kg	1	4/11/2019 2:48:35 AM	44150
Xylenes, Total	ND	0.093		mg/Kg	1	4/11/2019 2:48:35 AM	44150
Surr: 4-Bromofluorobenzene	91.3	80-120		%Rec	1	4/11/2019 2:48:35 AM	44150

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-036 **Matrix:** SOIL

Client Sample ID: SP293
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	290	60		mg/Kg	20	4/9/2019 8:39:01 PM	44240
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	4/9/2019 3:58:59 PM	44183
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/9/2019 3:58:59 PM	44183
Surr: DNOP	63.5	70-130	S	%Rec	1	4/9/2019 3:58:59 PM	44183
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/11/2019 3:12:10 AM	44150
Surr: BFB	90.8	73.8-119		%Rec	1	4/11/2019 3:12:10 AM	44150
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/11/2019 3:12:10 AM	44150
Toluene	ND	0.047		mg/Kg	1	4/11/2019 3:12:10 AM	44150
Ethylbenzene	ND	0.047		mg/Kg	1	4/11/2019 3:12:10 AM	44150
Xylenes, Total	ND	0.095		mg/Kg	1	4/11/2019 3:12:10 AM	44150
Surr: 4-Bromofluorobenzene	91.4	80-120		%Rec	1	4/11/2019 3:12:10 AM	44150

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-037 **Matrix:** SOIL

Client Sample ID: SP294
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	ND	60		mg/Kg	20	4/9/2019 8:51:26 PM	44240
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/9/2019 4:21:26 PM	44183
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/9/2019 4:21:26 PM	44183
Surr: DNOP	82.4	70-130		%Rec	1	4/9/2019 4:21:26 PM	44183
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/11/2019 3:35:27 AM	44150
Surr: BFB	89.7	73.8-119		%Rec	1	4/11/2019 3:35:27 AM	44150
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/11/2019 3:35:27 AM	44150
Toluene	ND	0.048		mg/Kg	1	4/11/2019 3:35:27 AM	44150
Ethylbenzene	ND	0.048		mg/Kg	1	4/11/2019 3:35:27 AM	44150
Xylenes, Total	ND	0.096		mg/Kg	1	4/11/2019 3:35:27 AM	44150
Surr: 4-Bromofluorobenzene	89.8	80-120		%Rec	1	4/11/2019 3:35:27 AM	44150

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-038 **Matrix:** SOIL

Client Sample ID: SP295
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	180	60		mg/Kg	20	4/9/2019 9:28:39 PM	44240
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/9/2019 4:43:49 PM	44183
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/9/2019 4:43:49 PM	44183
Surr: DNOP	50.4	70-130	S	%Rec	1	4/9/2019 4:43:49 PM	44183
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/11/2019 7:33:11 AM	44150
Surr: BFB	93.5	73.8-119		%Rec	1	4/11/2019 7:33:11 AM	44150
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	4/11/2019 7:33:11 AM	44150
Toluene	ND	0.049		mg/Kg	1	4/11/2019 7:33:11 AM	44150
Ethylbenzene	ND	0.049		mg/Kg	1	4/11/2019 7:33:11 AM	44150
Xylenes, Total	ND	0.098		mg/Kg	1	4/11/2019 7:33:11 AM	44150
Surr: 4-Bromofluorobenzene	92.5	80-120		%Rec	1	4/11/2019 7:33:11 AM	44150

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-039 **Matrix:** SOIL

Client Sample ID: SP296
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	ND	60		mg/Kg	20	4/9/2019 9:41:04 PM	44240
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	8.1		mg/Kg	1	4/9/2019 5:06:03 PM	44183
Motor Oil Range Organics (MRO)	ND	41		mg/Kg	1	4/9/2019 5:06:03 PM	44183
Surr: DNOP	71.7	70-130		%Rec	1	4/9/2019 5:06:03 PM	44183
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/11/2019 7:56:41 AM	44150
Surr: BFB	90.0	73.8-119		%Rec	1	4/11/2019 7:56:41 AM	44150
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/11/2019 7:56:41 AM	44150
Toluene	ND	0.048		mg/Kg	1	4/11/2019 7:56:41 AM	44150
Ethylbenzene	ND	0.048		mg/Kg	1	4/11/2019 7:56:41 AM	44150
Xylenes, Total	ND	0.096		mg/Kg	1	4/11/2019 7:56:41 AM	44150
Surr: 4-Bromofluorobenzene	89.7	80-120		%Rec	1	4/11/2019 7:56:41 AM	44150

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-040 **Matrix:** SOIL

Client Sample ID: SP297
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	ND	60		mg/Kg	20	4/9/2019 9:53:28 PM	44240
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/9/2019 5:28:23 PM	44183
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/9/2019 5:28:23 PM	44183
Surr: DNOP	54.4	70-130	S	%Rec	1	4/9/2019 5:28:23 PM	44183
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/11/2019 8:20:15 AM	44150
Surr: BFB	93.9	73.8-119		%Rec	1	4/11/2019 8:20:15 AM	44150
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	4/11/2019 8:20:15 AM	44150
Toluene	ND	0.049		mg/Kg	1	4/11/2019 8:20:15 AM	44150
Ethylbenzene	ND	0.049		mg/Kg	1	4/11/2019 8:20:15 AM	44150
Xylenes, Total	ND	0.099		mg/Kg	1	4/11/2019 8:20:15 AM	44150
Surr: 4-Bromofluorobenzene	93.6	80-120		%Rec	1	4/11/2019 8:20:15 AM	44150

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-041 **Matrix:** SOIL

Client Sample ID: SP298
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	230	60		mg/Kg	20	4/9/2019 10:05:53 PM	44240
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	4/9/2019 5:50:43 PM	44183
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/9/2019 5:50:43 PM	44183
Surr: DNOP	45.2	70-130	S	%Rec	1	4/9/2019 5:50:43 PM	44183
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/12/2019 3:13:50 PM	44150
Surr: BFB	92.1	73.8-119		%Rec	1	4/12/2019 3:13:50 PM	44150
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	4/12/2019 3:13:50 PM	44150
Toluene	ND	0.047		mg/Kg	1	4/12/2019 3:13:50 PM	44150
Ethylbenzene	ND	0.047		mg/Kg	1	4/12/2019 3:13:50 PM	44150
Xylenes, Total	ND	0.093		mg/Kg	1	4/12/2019 3:13:50 PM	44150
Surr: 4-Bromofluorobenzene	91.8	80-120		%Rec	1	4/12/2019 3:13:50 PM	44150

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-042 **Matrix:** SOIL

Client Sample ID: SP299
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	ND	60		mg/Kg	20	4/9/2019 10:18:17 PM	44240
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	4/9/2019 6:12:56 PM	44183
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	4/9/2019 6:12:56 PM	44183
Surr: DNOP	55.9	70-130	S	%Rec	1	4/9/2019 6:12:56 PM	44183
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/12/2019 3:37:26 PM	44150
Surr: BFB	91.3	73.8-119		%Rec	1	4/12/2019 3:37:26 PM	44150
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	4/12/2019 3:37:26 PM	44150
Toluene	ND	0.049		mg/Kg	1	4/12/2019 3:37:26 PM	44150
Ethylbenzene	ND	0.049		mg/Kg	1	4/12/2019 3:37:26 PM	44150
Xylenes, Total	ND	0.099		mg/Kg	1	4/12/2019 3:37:26 PM	44150
Surr: 4-Bromofluorobenzene	90.5	80-120		%Rec	1	4/12/2019 3:37:26 PM	44150

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-043 **Matrix:** SOIL

Client Sample ID: SP300
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	150	60		mg/Kg	20	4/9/2019 10:30:42 PM	44240
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/9/2019 6:35:20 PM	44183
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/9/2019 6:35:20 PM	44183
Surr: DNOP	53.9	70-130	S	%Rec	1	4/9/2019 6:35:20 PM	44183
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/12/2019 4:01:02 PM	44150
Surr: BFB	91.9	73.8-119		%Rec	1	4/12/2019 4:01:02 PM	44150
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	4/12/2019 4:01:02 PM	44150
Toluene	ND	0.049		mg/Kg	1	4/12/2019 4:01:02 PM	44150
Ethylbenzene	ND	0.049		mg/Kg	1	4/12/2019 4:01:02 PM	44150
Xylenes, Total	ND	0.099		mg/Kg	1	4/12/2019 4:01:02 PM	44150
Surr: 4-Bromofluorobenzene	92.5	80-120		%Rec	1	4/12/2019 4:01:02 PM	44150

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-044 **Matrix:** SOIL

Client Sample ID: SP301
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	130	60		mg/Kg	20	4/9/2019 10:43:06 PM	44240
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	4/9/2019 6:57:39 PM	44183
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/9/2019 6:57:39 PM	44183
Surr: DNOP	62.2	70-130	S	%Rec	1	4/9/2019 6:57:39 PM	44183
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/12/2019 4:24:37 PM	44150
Surr: BFB	90.5	73.8-119		%Rec	1	4/12/2019 4:24:37 PM	44150
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/12/2019 4:24:37 PM	44150
Toluene	ND	0.048		mg/Kg	1	4/12/2019 4:24:37 PM	44150
Ethylbenzene	ND	0.048		mg/Kg	1	4/12/2019 4:24:37 PM	44150
Xylenes, Total	ND	0.096		mg/Kg	1	4/12/2019 4:24:37 PM	44150
Surr: 4-Bromofluorobenzene	90.5	80-120		%Rec	1	4/12/2019 4:24:37 PM	44150

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-045 **Matrix:** SOIL

Client Sample ID: SP302
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	240	60		mg/Kg	20	4/9/2019 10:55:30 PM	44240
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	4/9/2019 7:19:58 PM	44183
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/9/2019 7:19:58 PM	44183
Surr: DNOP	68.2	70-130	S	%Rec	1	4/9/2019 7:19:58 PM	44183
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/12/2019 4:48:10 PM	44150
Surr: BFB	91.4	73.8-119		%Rec	1	4/12/2019 4:48:10 PM	44150
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/12/2019 4:48:10 PM	44150
Toluene	ND	0.048		mg/Kg	1	4/12/2019 4:48:10 PM	44150
Ethylbenzene	ND	0.048		mg/Kg	1	4/12/2019 4:48:10 PM	44150
Xylenes, Total	ND	0.096		mg/Kg	1	4/12/2019 4:48:10 PM	44150
Surr: 4-Bromofluorobenzene	91.0	80-120		%Rec	1	4/12/2019 4:48:10 PM	44150

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-046 **Matrix:** SOIL

Client Sample ID: SP303
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	85	60		mg/Kg	20	4/9/2019 11:07:55 PM	44240
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/9/2019 7:42:16 PM	44183
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/9/2019 7:42:16 PM	44183
Surr: DNOP	51.6	70-130	S	%Rec	1	4/9/2019 7:42:16 PM	44183
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/12/2019 5:11:39 PM	44150
Surr: BFB	93.5	73.8-119		%Rec	1	4/12/2019 5:11:39 PM	44150
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/12/2019 5:11:39 PM	44150
Toluene	ND	0.048		mg/Kg	1	4/12/2019 5:11:39 PM	44150
Ethylbenzene	ND	0.048		mg/Kg	1	4/12/2019 5:11:39 PM	44150
Xylenes, Total	ND	0.097		mg/Kg	1	4/12/2019 5:11:39 PM	44150
Surr: 4-Bromofluorobenzene	93.1	80-120		%Rec	1	4/12/2019 5:11:39 PM	44150

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-047 **Matrix:** SOIL

Client Sample ID: SP304
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	170	60		mg/Kg	20	4/9/2019 11:20:20 PM	44240
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	4/9/2019 8:04:39 PM	44183
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/9/2019 8:04:39 PM	44183
Surr: DNOP	51.1	70-130	S	%Rec	1	4/9/2019 8:04:39 PM	44183
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/12/2019 5:35:04 PM	44150
Surr: BFB	91.2	73.8-119		%Rec	1	4/12/2019 5:35:04 PM	44150
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/12/2019 5:35:04 PM	44150
Toluene	ND	0.049		mg/Kg	1	4/12/2019 5:35:04 PM	44150
Ethylbenzene	ND	0.049		mg/Kg	1	4/12/2019 5:35:04 PM	44150
Xylenes, Total	ND	0.098		mg/Kg	1	4/12/2019 5:35:04 PM	44150
Surr: 4-Bromofluorobenzene	90.2	80-120		%Rec	1	4/12/2019 5:35:04 PM	44150

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-048 **Matrix:** SOIL

Client Sample ID: SP305
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	60		mg/Kg	20	4/9/2019 5:51:23 PM	44242
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	4/9/2019 8:26:52 PM	44183
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/9/2019 8:26:52 PM	44183
Surr: DNOP	73.6	70-130		%Rec	1	4/9/2019 8:26:52 PM	44183
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/12/2019 5:58:25 PM	44150
Surr: BFB	93.7	73.8-119		%Rec	1	4/12/2019 5:58:25 PM	44150
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/12/2019 5:58:25 PM	44150
Toluene	ND	0.049		mg/Kg	1	4/12/2019 5:58:25 PM	44150
Ethylbenzene	ND	0.049		mg/Kg	1	4/12/2019 5:58:25 PM	44150
Xylenes, Total	ND	0.097		mg/Kg	1	4/12/2019 5:58:25 PM	44150
Surr: 4-Bromofluorobenzene	93.0	80-120		%Rec	1	4/12/2019 5:58:25 PM	44150

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-049 **Matrix:** SOIL

Client Sample ID: SP306
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	110	60		mg/Kg	20	4/9/2019 6:53:26 PM	44242
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	19	9.7		mg/Kg	1	4/9/2019 8:49:09 PM	44183
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/9/2019 8:49:09 PM	44183
Surr: DNOP	65.9	70-130	S	%Rec	1	4/9/2019 8:49:09 PM	44183
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/12/2019 6:21:42 PM	44150
Surr: BFB	92.5	73.8-119		%Rec	1	4/12/2019 6:21:42 PM	44150
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	4/12/2019 6:21:42 PM	44150
Toluene	ND	0.050		mg/Kg	1	4/12/2019 6:21:42 PM	44150
Ethylbenzene	ND	0.050		mg/Kg	1	4/12/2019 6:21:42 PM	44150
Xylenes, Total	ND	0.099		mg/Kg	1	4/12/2019 6:21:42 PM	44150
Surr: 4-Bromofluorobenzene	91.5	80-120		%Rec	1	4/12/2019 6:21:42 PM	44150

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-050 **Matrix:** SOIL

Client Sample ID: SP307
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	89	60		mg/Kg	20	4/9/2019 7:05:51 PM	44242
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/9/2019 9:11:31 PM	44183
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/9/2019 9:11:31 PM	44183
Surr: DNOP	51.2	70-130	S	%Rec	1	4/9/2019 9:11:31 PM	44183
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/12/2019 7:31:36 PM	44150
Surr: BFB	87.4	73.8-119		%Rec	1	4/12/2019 7:31:36 PM	44150
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/12/2019 7:31:36 PM	44150
Toluene	ND	0.048		mg/Kg	1	4/12/2019 7:31:36 PM	44150
Ethylbenzene	ND	0.048		mg/Kg	1	4/12/2019 7:31:36 PM	44150
Xylenes, Total	ND	0.096		mg/Kg	1	4/12/2019 7:31:36 PM	44150
Surr: 4-Bromofluorobenzene	87.8	80-120		%Rec	1	4/12/2019 7:31:36 PM	44150

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-051 **Matrix:** SOIL

Client Sample ID: SP308
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	140	60		mg/Kg	20	4/9/2019 7:18:15 PM	44242
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/9/2019 9:33:52 PM	44183
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/9/2019 9:33:52 PM	44183
Surr: DNOP	44.3	70-130	S	%Rec	1	4/9/2019 9:33:52 PM	44183
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/12/2019 7:54:51 PM	44150
Surr: BFB	91.4	73.8-119		%Rec	1	4/12/2019 7:54:51 PM	44150
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	4/12/2019 7:54:51 PM	44150
Toluene	ND	0.046		mg/Kg	1	4/12/2019 7:54:51 PM	44150
Ethylbenzene	ND	0.046		mg/Kg	1	4/12/2019 7:54:51 PM	44150
Xylenes, Total	ND	0.093		mg/Kg	1	4/12/2019 7:54:51 PM	44150
Surr: 4-Bromofluorobenzene	91.7	80-120		%Rec	1	4/12/2019 7:54:51 PM	44150

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-052 **Matrix:** SOIL

Client Sample ID: SP309
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	120	60		mg/Kg	20	4/9/2019 7:30:40 PM	44242
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/9/2019 9:56:09 PM	44184
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/9/2019 9:56:09 PM	44184
Surr: DNOP	43.8	70-130	S	%Rec	1	4/9/2019 9:56:09 PM	44184
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/12/2019 8:18:03 PM	44150
Surr: BFB	91.8	73.8-119		%Rec	1	4/12/2019 8:18:03 PM	44150
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	4/12/2019 8:18:03 PM	44150
Toluene	ND	0.049		mg/Kg	1	4/12/2019 8:18:03 PM	44150
Ethylbenzene	ND	0.049		mg/Kg	1	4/12/2019 8:18:03 PM	44150
Xylenes, Total	ND	0.097		mg/Kg	1	4/12/2019 8:18:03 PM	44150
Surr: 4-Bromofluorobenzene	91.6	80-120		%Rec	1	4/12/2019 8:18:03 PM	44150

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-053 **Matrix:** SOIL

Client Sample ID: SP310
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	130	60		mg/Kg	20	4/9/2019 7:43:04 PM	44242
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/10/2019 11:12:24 PM	44151
Surr: BFB	101	70-130		%Rec	1	4/10/2019 11:12:24 PM	44151
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/9/2019 11:25:25 PM	44184
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/9/2019 11:25:25 PM	44184
Surr: DNOP	32.1	70-130	S	%Rec	1	4/9/2019 11:25:25 PM	44184
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/10/2019 11:12:24 PM	44151
Toluene	ND	0.046		mg/Kg	1	4/10/2019 11:12:24 PM	44151
Ethylbenzene	ND	0.046		mg/Kg	1	4/10/2019 11:12:24 PM	44151
Xylenes, Total	ND	0.092		mg/Kg	1	4/10/2019 11:12:24 PM	44151
Surr: 1,2-Dichloroethane-d4	85.2	70-130		%Rec	1	4/10/2019 11:12:24 PM	44151
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/10/2019 11:12:24 PM	44151
Surr: Dibromofluoromethane	89.9	70-130		%Rec	1	4/10/2019 11:12:24 PM	44151
Surr: Toluene-d8	94.8	70-130		%Rec	1	4/10/2019 11:12:24 PM	44151

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-054 **Matrix:** SOIL

Client Sample ID: SP311
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	310	60		mg/Kg	20	4/9/2019 7:55:29 PM	44242
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/11/2019 12:38:18 AM	44151
Surr: BFB	105	70-130		%Rec	1	4/11/2019 12:38:18 AM	44151
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	4/9/2019 11:47:37 PM	44184
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/9/2019 11:47:37 PM	44184
Surr: DNOP	34.1	70-130	S	%Rec	1	4/9/2019 11:47:37 PM	44184
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/11/2019 12:38:18 AM	44151
Toluene	ND	0.046		mg/Kg	1	4/11/2019 12:38:18 AM	44151
Ethylbenzene	ND	0.046		mg/Kg	1	4/11/2019 12:38:18 AM	44151
Xylenes, Total	ND	0.093		mg/Kg	1	4/11/2019 12:38:18 AM	44151
Surr: 1,2-Dichloroethane-d4	86.9	70-130		%Rec	1	4/11/2019 12:38:18 AM	44151
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/11/2019 12:38:18 AM	44151
Surr: Dibromofluoromethane	93.2	70-130		%Rec	1	4/11/2019 12:38:18 AM	44151
Surr: Toluene-d8	94.9	70-130		%Rec	1	4/11/2019 12:38:18 AM	44151

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-055 **Matrix:** SOIL

Client Sample ID: SP312
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	100	60		mg/Kg	20	4/9/2019 8:07:53 PM	44242
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/11/2019 2:04:10 AM	44151
Surr: BFB	101	70-130		%Rec	1	4/11/2019 2:04:10 AM	44151
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	4/10/2019 12:09:57 AM	44184
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/10/2019 12:09:57 AM	44184
Surr: DNOP	31.2	70-130	S	%Rec	1	4/10/2019 12:09:57 AM	44184
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/11/2019 2:04:10 AM	44151
Toluene	ND	0.048		mg/Kg	1	4/11/2019 2:04:10 AM	44151
Ethylbenzene	ND	0.048		mg/Kg	1	4/11/2019 2:04:10 AM	44151
Xylenes, Total	ND	0.096		mg/Kg	1	4/11/2019 2:04:10 AM	44151
Surr: 1,2-Dichloroethane-d4	86.4	70-130		%Rec	1	4/11/2019 2:04:10 AM	44151
Surr: 4-Bromofluorobenzene	99.4	70-130		%Rec	1	4/11/2019 2:04:10 AM	44151
Surr: Dibromofluoromethane	90.4	70-130		%Rec	1	4/11/2019 2:04:10 AM	44151
Surr: Toluene-d8	93.8	70-130		%Rec	1	4/11/2019 2:04:10 AM	44151

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-056 **Matrix:** SOIL

Client Sample ID: SP313
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	140	61		mg/Kg	20	4/9/2019 8:20:17 PM	44242
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/11/2019 2:32:48 AM	44151
Surr: BFB	102	70-130		%Rec	1	4/11/2019 2:32:48 AM	44151
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/10/2019 12:32:16 AM	44184
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/10/2019 12:32:16 AM	44184
Surr: DNOP	20.3	70-130	S	%Rec	1	4/10/2019 12:32:16 AM	44184
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/11/2019 2:32:48 AM	44151
Toluene	ND	0.049		mg/Kg	1	4/11/2019 2:32:48 AM	44151
Ethylbenzene	ND	0.049		mg/Kg	1	4/11/2019 2:32:48 AM	44151
Xylenes, Total	ND	0.098		mg/Kg	1	4/11/2019 2:32:48 AM	44151
Surr: 1,2-Dichloroethane-d4	82.9	70-130		%Rec	1	4/11/2019 2:32:48 AM	44151
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	1	4/11/2019 2:32:48 AM	44151
Surr: Dibromofluoromethane	89.2	70-130		%Rec	1	4/11/2019 2:32:48 AM	44151
Surr: Toluene-d8	96.0	70-130		%Rec	1	4/11/2019 2:32:48 AM	44151

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-057 **Matrix:** SOIL

Client Sample ID: SP314
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	220	60		mg/Kg	20	4/9/2019 8:57:31 PM	44242
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/11/2019 3:01:33 AM	44151
Surr: BFB	103	70-130		%Rec	1	4/11/2019 3:01:33 AM	44151
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/10/2019 12:54:26 AM	44184
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/10/2019 12:54:26 AM	44184
Surr: DNOP	38.1	70-130	S	%Rec	1	4/10/2019 12:54:26 AM	44184
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/11/2019 3:01:33 AM	44151
Toluene	ND	0.048		mg/Kg	1	4/11/2019 3:01:33 AM	44151
Ethylbenzene	ND	0.048		mg/Kg	1	4/11/2019 3:01:33 AM	44151
Xylenes, Total	ND	0.095		mg/Kg	1	4/11/2019 3:01:33 AM	44151
Surr: 1,2-Dichloroethane-d4	85.3	70-130		%Rec	1	4/11/2019 3:01:33 AM	44151
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	4/11/2019 3:01:33 AM	44151
Surr: Dibromofluoromethane	90.3	70-130		%Rec	1	4/11/2019 3:01:33 AM	44151
Surr: Toluene-d8	95.6	70-130		%Rec	1	4/11/2019 3:01:33 AM	44151

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-058 **Matrix:** SOIL

Client Sample ID: SP315
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	60		mg/Kg	20	4/9/2019 9:09:55 PM	44242
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/11/2019 3:30:03 AM	44151
Surr: BFB	101	70-130		%Rec	1	4/11/2019 3:30:03 AM	44151
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/10/2019 1:16:50 AM	44184
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/10/2019 1:16:50 AM	44184
Surr: DNOP	41.1	70-130	S	%Rec	1	4/10/2019 1:16:50 AM	44184
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/11/2019 3:30:03 AM	44151
Toluene	ND	0.048		mg/Kg	1	4/11/2019 3:30:03 AM	44151
Ethylbenzene	ND	0.048		mg/Kg	1	4/11/2019 3:30:03 AM	44151
Xylenes, Total	ND	0.097		mg/Kg	1	4/11/2019 3:30:03 AM	44151
Surr: 1,2-Dichloroethane-d4	82.9	70-130		%Rec	1	4/11/2019 3:30:03 AM	44151
Surr: 4-Bromofluorobenzene	98.0	70-130		%Rec	1	4/11/2019 3:30:03 AM	44151
Surr: Dibromofluoromethane	89.0	70-130		%Rec	1	4/11/2019 3:30:03 AM	44151
Surr: Toluene-d8	94.8	70-130		%Rec	1	4/11/2019 3:30:03 AM	44151

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-059 **Matrix:** SOIL

Client Sample ID: SP316
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	120	60		mg/Kg	20	4/9/2019 9:22:20 PM	44242
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/11/2019 3:58:39 AM	44151
Surr: BFB	101	70-130		%Rec	1	4/11/2019 3:58:39 AM	44151
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/10/2019 1:39:09 AM	44184
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/10/2019 1:39:09 AM	44184
Surr: DNOP	42.9	70-130	S	%Rec	1	4/10/2019 1:39:09 AM	44184
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/11/2019 3:58:39 AM	44151
Toluene	ND	0.046		mg/Kg	1	4/11/2019 3:58:39 AM	44151
Ethylbenzene	ND	0.046		mg/Kg	1	4/11/2019 3:58:39 AM	44151
Xylenes, Total	ND	0.092		mg/Kg	1	4/11/2019 3:58:39 AM	44151
Surr: 1,2-Dichloroethane-d4	83.7	70-130		%Rec	1	4/11/2019 3:58:39 AM	44151
Surr: 4-Bromofluorobenzene	98.4	70-130		%Rec	1	4/11/2019 3:58:39 AM	44151
Surr: Dibromofluoromethane	89.7	70-130		%Rec	1	4/11/2019 3:58:39 AM	44151
Surr: Toluene-d8	94.2	70-130		%Rec	1	4/11/2019 3:58:39 AM	44151

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-060 **Matrix:** SOIL

Client Sample ID: SP317
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	120	60		mg/Kg	20	4/9/2019 9:59:34 PM	44242
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/11/2019 4:27:18 AM	44151
Surr: BFB	103	70-130		%Rec	1	4/11/2019 4:27:18 AM	44151
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/10/2019 2:01:30 AM	44184
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/10/2019 2:01:30 AM	44184
Surr: DNOP	31.3	70-130	S	%Rec	1	4/10/2019 2:01:30 AM	44184
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/11/2019 4:27:18 AM	44151
Toluene	ND	0.050		mg/Kg	1	4/11/2019 4:27:18 AM	44151
Ethylbenzene	ND	0.050		mg/Kg	1	4/11/2019 4:27:18 AM	44151
Xylenes, Total	ND	0.099		mg/Kg	1	4/11/2019 4:27:18 AM	44151
Surr: 1,2-Dichloroethane-d4	83.1	70-130		%Rec	1	4/11/2019 4:27:18 AM	44151
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	4/11/2019 4:27:18 AM	44151
Surr: Dibromofluoromethane	89.2	70-130		%Rec	1	4/11/2019 4:27:18 AM	44151
Surr: Toluene-d8	92.7	70-130		%Rec	1	4/11/2019 4:27:18 AM	44151

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-061 **Matrix:** SOIL

Client Sample ID: SP318
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	200	60		mg/Kg	20	4/9/2019 10:11:59 PM	44242
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/11/2019 4:55:53 AM	44151
Surr: BFB	102	70-130		%Rec	1	4/11/2019 4:55:53 AM	44151
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/10/2019 2:23:40 AM	44184
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/10/2019 2:23:40 AM	44184
Surr: DNOP	30.3	70-130	S	%Rec	1	4/10/2019 2:23:40 AM	44184
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/11/2019 4:55:53 AM	44151
Toluene	ND	0.047		mg/Kg	1	4/11/2019 4:55:53 AM	44151
Ethylbenzene	ND	0.047		mg/Kg	1	4/11/2019 4:55:53 AM	44151
Xylenes, Total	ND	0.094		mg/Kg	1	4/11/2019 4:55:53 AM	44151
Surr: 1,2-Dichloroethane-d4	83.6	70-130		%Rec	1	4/11/2019 4:55:53 AM	44151
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	4/11/2019 4:55:53 AM	44151
Surr: Dibromofluoromethane	89.6	70-130		%Rec	1	4/11/2019 4:55:53 AM	44151
Surr: Toluene-d8	93.4	70-130		%Rec	1	4/11/2019 4:55:53 AM	44151

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-062 **Matrix:** SOIL

Client Sample ID: SP319
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	130	60		mg/Kg	20	4/9/2019 10:24:23 PM	44242
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/11/2019 5:24:34 AM	44151
Surr: BFB	105	70-130		%Rec	1	4/11/2019 5:24:34 AM	44151
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/10/2019 2:45:57 AM	44184
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/10/2019 2:45:57 AM	44184
Surr: DNOP	38.6	70-130	S	%Rec	1	4/10/2019 2:45:57 AM	44184
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/11/2019 5:24:34 AM	44151
Toluene	ND	0.049		mg/Kg	1	4/11/2019 5:24:34 AM	44151
Ethylbenzene	ND	0.049		mg/Kg	1	4/11/2019 5:24:34 AM	44151
Xylenes, Total	ND	0.097		mg/Kg	1	4/11/2019 5:24:34 AM	44151
Surr: 1,2-Dichloroethane-d4	84.8	70-130		%Rec	1	4/11/2019 5:24:34 AM	44151
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	4/11/2019 5:24:34 AM	44151
Surr: Dibromofluoromethane	91.8	70-130		%Rec	1	4/11/2019 5:24:34 AM	44151
Surr: Toluene-d8	94.7	70-130		%Rec	1	4/11/2019 5:24:34 AM	44151

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-063 **Matrix:** SOIL

Client Sample ID: SP320
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	140	60		mg/Kg	20	4/9/2019 10:36:48 PM	44242
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/11/2019 5:53:04 AM	44151
Surr: BFB	102	70-130		%Rec	1	4/11/2019 5:53:04 AM	44151
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/10/2019 3:08:20 AM	44184
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/10/2019 3:08:20 AM	44184
Surr: DNOP	36.4	70-130	S	%Rec	1	4/10/2019 3:08:20 AM	44184
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/11/2019 5:53:04 AM	44151
Toluene	ND	0.048		mg/Kg	1	4/11/2019 5:53:04 AM	44151
Ethylbenzene	ND	0.048		mg/Kg	1	4/11/2019 5:53:04 AM	44151
Xylenes, Total	ND	0.095		mg/Kg	1	4/11/2019 5:53:04 AM	44151
Surr: 1,2-Dichloroethane-d4	85.5	70-130		%Rec	1	4/11/2019 5:53:04 AM	44151
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	4/11/2019 5:53:04 AM	44151
Surr: Dibromofluoromethane	89.8	70-130		%Rec	1	4/11/2019 5:53:04 AM	44151
Surr: Toluene-d8	94.9	70-130		%Rec	1	4/11/2019 5:53:04 AM	44151

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-064 **Matrix:** SOIL

Client Sample ID: SP321
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	190	60		mg/Kg	20	4/9/2019 10:49:13 PM	44242
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/11/2019 6:21:41 AM	44151
Surr: BFB	102	70-130		%Rec	1	4/11/2019 6:21:41 AM	44151
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/10/2019 3:30:36 AM	44184
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/10/2019 3:30:36 AM	44184
Surr: DNOP	22.9	70-130	S	%Rec	1	4/10/2019 3:30:36 AM	44184
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/11/2019 6:21:41 AM	44151
Toluene	ND	0.050		mg/Kg	1	4/11/2019 6:21:41 AM	44151
Ethylbenzene	ND	0.050		mg/Kg	1	4/11/2019 6:21:41 AM	44151
Xylenes, Total	ND	0.10		mg/Kg	1	4/11/2019 6:21:41 AM	44151
Surr: 1,2-Dichloroethane-d4	84.1	70-130		%Rec	1	4/11/2019 6:21:41 AM	44151
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	4/11/2019 6:21:41 AM	44151
Surr: Dibromofluoromethane	90.1	70-130		%Rec	1	4/11/2019 6:21:41 AM	44151
Surr: Toluene-d8	93.9	70-130		%Rec	1	4/11/2019 6:21:41 AM	44151

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-065 **Matrix:** SOIL

Client Sample ID: SP322
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	120	60		mg/Kg	20	4/9/2019 11:26:28 PM	44242
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/11/2019 6:50:18 AM	44151
Surr: BFB	102	70-130		%Rec	1	4/11/2019 6:50:18 AM	44151
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/10/2019 3:52:54 AM	44184
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/10/2019 3:52:54 AM	44184
Surr: DNOP	26.2	70-130	S	%Rec	1	4/10/2019 3:52:54 AM	44184
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/11/2019 6:50:18 AM	44151
Toluene	ND	0.046		mg/Kg	1	4/11/2019 6:50:18 AM	44151
Ethylbenzene	ND	0.046		mg/Kg	1	4/11/2019 6:50:18 AM	44151
Xylenes, Total	ND	0.091		mg/Kg	1	4/11/2019 6:50:18 AM	44151
Surr: 1,2-Dichloroethane-d4	84.9	70-130		%Rec	1	4/11/2019 6:50:18 AM	44151
Surr: 4-Bromofluorobenzene	98.4	70-130		%Rec	1	4/11/2019 6:50:18 AM	44151
Surr: Dibromofluoromethane	91.1	70-130		%Rec	1	4/11/2019 6:50:18 AM	44151
Surr: Toluene-d8	94.4	70-130		%Rec	1	4/11/2019 6:50:18 AM	44151

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-066 **Matrix:** SOIL

Client Sample ID: SP323
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	240	60		mg/Kg	20	4/9/2019 11:38:54 PM	44242
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/11/2019 7:18:48 AM	44151
Surr: BFB	102	70-130		%Rec	1	4/11/2019 7:18:48 AM	44151
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/10/2019 4:15:08 AM	44184
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/10/2019 4:15:08 AM	44184
Surr: DNOP	39.5	70-130	S	%Rec	1	4/10/2019 4:15:08 AM	44184
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/11/2019 7:18:48 AM	44151
Toluene	ND	0.046		mg/Kg	1	4/11/2019 7:18:48 AM	44151
Ethylbenzene	ND	0.046		mg/Kg	1	4/11/2019 7:18:48 AM	44151
Xylenes, Total	ND	0.093		mg/Kg	1	4/11/2019 7:18:48 AM	44151
Surr: 1,2-Dichloroethane-d4	83.8	70-130		%Rec	1	4/11/2019 7:18:48 AM	44151
Surr: 4-Bromofluorobenzene	99.9	70-130		%Rec	1	4/11/2019 7:18:48 AM	44151
Surr: Dibromofluoromethane	90.8	70-130		%Rec	1	4/11/2019 7:18:48 AM	44151
Surr: Toluene-d8	95.1	70-130		%Rec	1	4/11/2019 7:18:48 AM	44151

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-067 **Matrix:** SOIL

Client Sample ID: SP324
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	190	60		mg/Kg	20	4/9/2019 11:51:18 PM	44242
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/11/2019 7:47:30 AM	44151
Surr: BFB	104	70-130		%Rec	1	4/11/2019 7:47:30 AM	44151
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/10/2019 4:37:19 AM	44184
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/10/2019 4:37:19 AM	44184
Surr: DNOP	19.1	70-130	S	%Rec	1	4/10/2019 4:37:19 AM	44184
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/11/2019 7:47:30 AM	44151
Toluene	ND	0.049		mg/Kg	1	4/11/2019 7:47:30 AM	44151
Ethylbenzene	ND	0.049		mg/Kg	1	4/11/2019 7:47:30 AM	44151
Xylenes, Total	ND	0.098		mg/Kg	1	4/11/2019 7:47:30 AM	44151
Surr: 1,2-Dichloroethane-d4	81.8	70-130		%Rec	1	4/11/2019 7:47:30 AM	44151
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	4/11/2019 7:47:30 AM	44151
Surr: Dibromofluoromethane	87.1	70-130		%Rec	1	4/11/2019 7:47:30 AM	44151
Surr: Toluene-d8	92.4	70-130		%Rec	1	4/11/2019 7:47:30 AM	44151

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-068 **Matrix:** SOIL

Client Sample ID: SP325
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	280	59		mg/Kg	20	4/10/2019 1:43:56 PM	44258
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/11/2019 8:16:06 AM	44151
Surr: BFB	104	70-130		%Rec	1	4/11/2019 8:16:06 AM	44151
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/10/2019 4:59:34 AM	44184
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/10/2019 4:59:34 AM	44184
Surr: DNOP	21.4	70-130	S	%Rec	1	4/10/2019 4:59:34 AM	44184
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/11/2019 8:16:06 AM	44151
Toluene	ND	0.049		mg/Kg	1	4/11/2019 8:16:06 AM	44151
Ethylbenzene	ND	0.049		mg/Kg	1	4/11/2019 8:16:06 AM	44151
Xylenes, Total	ND	0.098		mg/Kg	1	4/11/2019 8:16:06 AM	44151
Surr: 1,2-Dichloroethane-d4	83.7	70-130		%Rec	1	4/11/2019 8:16:06 AM	44151
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/11/2019 8:16:06 AM	44151
Surr: Dibromofluoromethane	87.7	70-130		%Rec	1	4/11/2019 8:16:06 AM	44151
Surr: Toluene-d8	94.1	70-130		%Rec	1	4/11/2019 8:16:06 AM	44151

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-069 **Matrix:** SOIL

Client Sample ID: SP326
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	210	60		mg/Kg	20	4/10/2019 1:56:20 PM	44258
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/11/2019 8:44:36 AM	44151
Surr: BFB	104	70-130		%Rec	1	4/11/2019 8:44:36 AM	44151
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	4/10/2019 5:21:36 AM	44184
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/10/2019 5:21:36 AM	44184
Surr: DNOP	20.0	70-130	S	%Rec	1	4/10/2019 5:21:36 AM	44184
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/11/2019 8:44:36 AM	44151
Toluene	ND	0.047		mg/Kg	1	4/11/2019 8:44:36 AM	44151
Ethylbenzene	ND	0.047		mg/Kg	1	4/11/2019 8:44:36 AM	44151
Xylenes, Total	ND	0.093		mg/Kg	1	4/11/2019 8:44:36 AM	44151
Surr: 1,2-Dichloroethane-d4	86.6	70-130		%Rec	1	4/11/2019 8:44:36 AM	44151
Surr: 4-Bromofluorobenzene	99.8	70-130		%Rec	1	4/11/2019 8:44:36 AM	44151
Surr: Dibromofluoromethane	89.2	70-130		%Rec	1	4/11/2019 8:44:36 AM	44151
Surr: Toluene-d8	96.2	70-130		%Rec	1	4/11/2019 8:44:36 AM	44151

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-070 **Matrix:** SOIL

Client Sample ID: SP327
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	280	60		mg/Kg	20	4/10/2019 2:08:45 PM	44258
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/11/2019 9:13:12 AM	44151
Surr: BFB	102	70-130		%Rec	1	4/11/2019 9:13:12 AM	44151
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/10/2019 5:43:41 AM	44184
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/10/2019 5:43:41 AM	44184
Surr: DNOP	24.7	70-130	S	%Rec	1	4/10/2019 5:43:41 AM	44184
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/11/2019 9:13:12 AM	44151
Toluene	ND	0.049		mg/Kg	1	4/11/2019 9:13:12 AM	44151
Ethylbenzene	ND	0.049		mg/Kg	1	4/11/2019 9:13:12 AM	44151
Xylenes, Total	ND	0.099		mg/Kg	1	4/11/2019 9:13:12 AM	44151
Surr: 1,2-Dichloroethane-d4	81.3	70-130		%Rec	1	4/11/2019 9:13:12 AM	44151
Surr: 4-Bromofluorobenzene	97.6	70-130		%Rec	1	4/11/2019 9:13:12 AM	44151
Surr: Dibromofluoromethane	87.9	70-130		%Rec	1	4/11/2019 9:13:12 AM	44151
Surr: Toluene-d8	95.9	70-130		%Rec	1	4/11/2019 9:13:12 AM	44151

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-071 **Matrix:** SOIL

Client Sample ID: SP328
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	170	60		mg/Kg	20	4/10/2019 2:21:10 PM	44258
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/11/2019 9:41:51 AM	44151
Surr: BFB	102	70-130		%Rec	1	4/11/2019 9:41:51 AM	44151
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/10/2019 6:05:45 AM	44184
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/10/2019 6:05:45 AM	44184
Surr: DNOP	21.3	70-130	S	%Rec	1	4/10/2019 6:05:45 AM	44184
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/11/2019 9:41:51 AM	44151
Toluene	ND	0.049		mg/Kg	1	4/11/2019 9:41:51 AM	44151
Ethylbenzene	ND	0.049		mg/Kg	1	4/11/2019 9:41:51 AM	44151
Xylenes, Total	ND	0.098		mg/Kg	1	4/11/2019 9:41:51 AM	44151
Surr: 1,2-Dichloroethane-d4	83.1	70-130		%Rec	1	4/11/2019 9:41:51 AM	44151
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	4/11/2019 9:41:51 AM	44151
Surr: Dibromofluoromethane	90.6	70-130		%Rec	1	4/11/2019 9:41:51 AM	44151
Surr: Toluene-d8	95.5	70-130		%Rec	1	4/11/2019 9:41:51 AM	44151

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-072 **Matrix:** SOIL

Client Sample ID: SP329
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	88	60		mg/Kg	20	4/10/2019 2:58:24 PM	44258
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/11/2019 2:52:49 PM	44151
Surr: BFB	101	70-130		%Rec	1	4/11/2019 2:52:49 PM	44151
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/9/2019 11:35:05 PM	44185
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/9/2019 11:35:05 PM	44185
Surr: DNOP	23.7	70-130	S	%Rec	1	4/9/2019 11:35:05 PM	44185
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/11/2019 2:52:49 PM	44151
Toluene	ND	0.050		mg/Kg	1	4/11/2019 2:52:49 PM	44151
Ethylbenzene	ND	0.050		mg/Kg	1	4/11/2019 2:52:49 PM	44151
Xylenes, Total	ND	0.099		mg/Kg	1	4/11/2019 2:52:49 PM	44151
Surr: 1,2-Dichloroethane-d4	83.3	70-130		%Rec	1	4/11/2019 2:52:49 PM	44151
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	4/11/2019 2:52:49 PM	44151
Surr: Dibromofluoromethane	89.7	70-130		%Rec	1	4/11/2019 2:52:49 PM	44151
Surr: Toluene-d8	94.3	70-130		%Rec	1	4/11/2019 2:52:49 PM	44151

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-073 **Matrix:** SOIL

Client Sample ID: SP330
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	100	60		mg/Kg	20	4/10/2019 3:10:48 PM	44258
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/11/2019 8:07:23 PM	44153
Surr: BFB	101	70-130		%Rec	1	4/11/2019 8:07:23 PM	44153
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/10/2019 12:49:16 AM	44185
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/10/2019 12:49:16 AM	44185
Surr: DNOP	16.3	70-130	S	%Rec	1	4/10/2019 12:49:16 AM	44185
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/11/2019 8:07:23 PM	44153
Toluene	ND	0.048		mg/Kg	1	4/11/2019 8:07:23 PM	44153
Ethylbenzene	ND	0.048		mg/Kg	1	4/11/2019 8:07:23 PM	44153
Xylenes, Total	ND	0.096		mg/Kg	1	4/11/2019 8:07:23 PM	44153
Surr: 1,2-Dichloroethane-d4	83.5	70-130		%Rec	1	4/11/2019 8:07:23 PM	44153
Surr: 4-Bromofluorobenzene	95.9	70-130		%Rec	1	4/11/2019 8:07:23 PM	44153
Surr: Dibromofluoromethane	90.8	70-130		%Rec	1	4/11/2019 8:07:23 PM	44153
Surr: Toluene-d8	93.2	70-130		%Rec	1	4/11/2019 8:07:23 PM	44153

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-074 **Matrix:** SOIL

Client Sample ID: SP331
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	130	60		mg/Kg	20	4/10/2019 3:23:12 PM	44258
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/11/2019 9:33:11 PM	44153
Surr: BFB	103	70-130		%Rec	1	4/11/2019 9:33:11 PM	44153
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	8.6		mg/Kg	1	4/10/2019 1:13:50 AM	44185
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	4/10/2019 1:13:50 AM	44185
Surr: DNOP	36.5	70-130	S	%Rec	1	4/10/2019 1:13:50 AM	44185
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/11/2019 9:33:11 PM	44153
Toluene	ND	0.047		mg/Kg	1	4/11/2019 9:33:11 PM	44153
Ethylbenzene	ND	0.047		mg/Kg	1	4/11/2019 9:33:11 PM	44153
Xylenes, Total	ND	0.093		mg/Kg	1	4/11/2019 9:33:11 PM	44153
Surr: 1,2-Dichloroethane-d4	82.5	70-130		%Rec	1	4/11/2019 9:33:11 PM	44153
Surr: 4-Bromofluorobenzene	98.1	70-130		%Rec	1	4/11/2019 9:33:11 PM	44153
Surr: Dibromofluoromethane	87.5	70-130		%Rec	1	4/11/2019 9:33:11 PM	44153
Surr: Toluene-d8	92.6	70-130		%Rec	1	4/11/2019 9:33:11 PM	44153

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-075 **Matrix:** SOIL

Client Sample ID: SP332
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	180	60		mg/Kg	20	4/10/2019 3:35:36 PM	44258
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/11/2019 10:58:44 PM	44153
Surr: BFB	105	70-130		%Rec	1	4/11/2019 10:58:44 PM	44153
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/10/2019 1:38:36 AM	44185
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/10/2019 1:38:36 AM	44185
Surr: DNOP	12.8	70-130	S	%Rec	1	4/10/2019 1:38:36 AM	44185
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/11/2019 10:58:44 PM	44153
Toluene	ND	0.049		mg/Kg	1	4/11/2019 10:58:44 PM	44153
Ethylbenzene	ND	0.049		mg/Kg	1	4/11/2019 10:58:44 PM	44153
Xylenes, Total	ND	0.098		mg/Kg	1	4/11/2019 10:58:44 PM	44153
Surr: 1,2-Dichloroethane-d4	82.3	70-130		%Rec	1	4/11/2019 10:58:44 PM	44153
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/11/2019 10:58:44 PM	44153
Surr: Dibromofluoromethane	88.0	70-130		%Rec	1	4/11/2019 10:58:44 PM	44153
Surr: Toluene-d8	93.5	70-130		%Rec	1	4/11/2019 10:58:44 PM	44153

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-076 **Matrix:** SOIL

Client Sample ID: SP333
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	220	60		mg/Kg	20	4/10/2019 3:48:00 PM	44258
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/12/2019 1:21:56 AM	44153
Surr: BFB	102	70-130		%Rec	1	4/12/2019 1:21:56 AM	44153
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/10/2019 2:03:13 AM	44185
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/10/2019 2:03:13 AM	44185
Surr: DNOP	13.7	70-130	S	%Rec	1	4/10/2019 2:03:13 AM	44185
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/12/2019 1:21:56 AM	44153
Toluene	ND	0.049		mg/Kg	1	4/12/2019 1:21:56 AM	44153
Ethylbenzene	ND	0.049		mg/Kg	1	4/12/2019 1:21:56 AM	44153
Xylenes, Total	ND	0.099		mg/Kg	1	4/12/2019 1:21:56 AM	44153
Surr: 1,2-Dichloroethane-d4	83.0	70-130		%Rec	1	4/12/2019 1:21:56 AM	44153
Surr: 4-Bromofluorobenzene	99.3	70-130		%Rec	1	4/12/2019 1:21:56 AM	44153
Surr: Dibromofluoromethane	89.4	70-130		%Rec	1	4/12/2019 1:21:56 AM	44153
Surr: Toluene-d8	95.3	70-130		%Rec	1	4/12/2019 1:21:56 AM	44153

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-077 **Matrix:** SOIL

Client Sample ID: SP334
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	250	60		mg/Kg	20	4/10/2019 4:00:24 PM	44258
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/12/2019 1:50:39 AM	44153
Surr: BFB	101	70-130		%Rec	1	4/12/2019 1:50:39 AM	44153
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/10/2019 2:27:55 AM	44185
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/10/2019 2:27:55 AM	44185
Surr: DNOP	37.1	70-130	S	%Rec	1	4/10/2019 2:27:55 AM	44185
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/12/2019 1:50:39 AM	44153
Toluene	ND	0.048		mg/Kg	1	4/12/2019 1:50:39 AM	44153
Ethylbenzene	ND	0.048		mg/Kg	1	4/12/2019 1:50:39 AM	44153
Xylenes, Total	ND	0.097		mg/Kg	1	4/12/2019 1:50:39 AM	44153
Surr: 1,2-Dichloroethane-d4	84.7	70-130		%Rec	1	4/12/2019 1:50:39 AM	44153
Surr: 4-Bromofluorobenzene	94.3	70-130		%Rec	1	4/12/2019 1:50:39 AM	44153
Surr: Dibromofluoromethane	92.5	70-130		%Rec	1	4/12/2019 1:50:39 AM	44153
Surr: Toluene-d8	95.0	70-130		%Rec	1	4/12/2019 1:50:39 AM	44153

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-078 **Matrix:** SOIL

Client Sample ID: SP335
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	150	60		mg/Kg	20	4/10/2019 4:12:49 PM	44258
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/12/2019 2:19:13 AM	44153
Surr: BFB	107	70-130		%Rec	1	4/12/2019 2:19:13 AM	44153
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/10/2019 2:52:23 AM	44185
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/10/2019 2:52:23 AM	44185
Surr: DNOP	34.5	70-130	S	%Rec	1	4/10/2019 2:52:23 AM	44185
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/12/2019 2:19:13 AM	44153
Toluene	ND	0.049		mg/Kg	1	4/12/2019 2:19:13 AM	44153
Ethylbenzene	ND	0.049		mg/Kg	1	4/12/2019 2:19:13 AM	44153
Xylenes, Total	ND	0.099		mg/Kg	1	4/12/2019 2:19:13 AM	44153
Surr: 1,2-Dichloroethane-d4	83.2	70-130		%Rec	1	4/12/2019 2:19:13 AM	44153
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	4/12/2019 2:19:13 AM	44153
Surr: Dibromofluoromethane	90.0	70-130		%Rec	1	4/12/2019 2:19:13 AM	44153
Surr: Toluene-d8	95.3	70-130		%Rec	1	4/12/2019 2:19:13 AM	44153

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-079 **Matrix:** SOIL

Client Sample ID: SP336
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	280	60		mg/Kg	20	4/10/2019 4:25:13 PM	44258
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/12/2019 2:47:40 AM	44153
Surr: BFB	102	70-130		%Rec	1	4/12/2019 2:47:40 AM	44153
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/10/2019 3:16:59 AM	44185
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/10/2019 3:16:59 AM	44185
Surr: DNOP	34.2	70-130	S	%Rec	1	4/10/2019 3:16:59 AM	44185
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/12/2019 2:47:40 AM	44153
Toluene	ND	0.049		mg/Kg	1	4/12/2019 2:47:40 AM	44153
Ethylbenzene	ND	0.049		mg/Kg	1	4/12/2019 2:47:40 AM	44153
Xylenes, Total	ND	0.098		mg/Kg	1	4/12/2019 2:47:40 AM	44153
Surr: 1,2-Dichloroethane-d4	82.2	70-130		%Rec	1	4/12/2019 2:47:40 AM	44153
Surr: 4-Bromofluorobenzene	95.7	70-130		%Rec	1	4/12/2019 2:47:40 AM	44153
Surr: Dibromofluoromethane	89.5	70-130		%Rec	1	4/12/2019 2:47:40 AM	44153
Surr: Toluene-d8	96.6	70-130		%Rec	1	4/12/2019 2:47:40 AM	44153

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-080 **Matrix:** SOIL

Client Sample ID: SP337
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	130	60		mg/Kg	20	4/10/2019 4:37:37 PM	44258
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/12/2019 3:16:19 AM	44153
Surr: BFB	104	70-130		%Rec	1	4/12/2019 3:16:19 AM	44153
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/10/2019 3:41:30 AM	44185
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/10/2019 3:41:30 AM	44185
Surr: DNOP	35.5	70-130	S	%Rec	1	4/10/2019 3:41:30 AM	44185
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/12/2019 3:16:19 AM	44153
Toluene	ND	0.049		mg/Kg	1	4/12/2019 3:16:19 AM	44153
Ethylbenzene	ND	0.049		mg/Kg	1	4/12/2019 3:16:19 AM	44153
Xylenes, Total	ND	0.099		mg/Kg	1	4/12/2019 3:16:19 AM	44153
Surr: 1,2-Dichloroethane-d4	82.7	70-130		%Rec	1	4/12/2019 3:16:19 AM	44153
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	4/12/2019 3:16:19 AM	44153
Surr: Dibromofluoromethane	89.5	70-130		%Rec	1	4/12/2019 3:16:19 AM	44153
Surr: Toluene-d8	94.1	70-130		%Rec	1	4/12/2019 3:16:19 AM	44153

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-081 **Matrix:** SOIL

Client Sample ID: SP338
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	190	59		mg/Kg	20	4/10/2019 4:50:02 PM	44258
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/12/2019 3:44:57 AM	44153
Surr: BFB	105	70-130		%Rec	1	4/12/2019 3:44:57 AM	44153
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/10/2019 4:06:08 AM	44185
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/10/2019 4:06:08 AM	44185
Surr: DNOP	33.9	70-130	S	%Rec	1	4/10/2019 4:06:08 AM	44185
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/12/2019 3:44:57 AM	44153
Toluene	ND	0.047		mg/Kg	1	4/12/2019 3:44:57 AM	44153
Ethylbenzene	ND	0.047		mg/Kg	1	4/12/2019 3:44:57 AM	44153
Xylenes, Total	ND	0.094		mg/Kg	1	4/12/2019 3:44:57 AM	44153
Surr: 1,2-Dichloroethane-d4	83.0	70-130		%Rec	1	4/12/2019 3:44:57 AM	44153
Surr: 4-Bromofluorobenzene	99.8	70-130		%Rec	1	4/12/2019 3:44:57 AM	44153
Surr: Dibromofluoromethane	89.4	70-130		%Rec	1	4/12/2019 3:44:57 AM	44153
Surr: Toluene-d8	94.8	70-130		%Rec	1	4/12/2019 3:44:57 AM	44153

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-082 **Matrix:** SOIL

Client Sample ID: SP339
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	150	60		mg/Kg	20	4/10/2019 5:27:16 PM	44258
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/12/2019 4:13:35 AM	44153
Surr: BFB	101	70-130		%Rec	1	4/12/2019 4:13:35 AM	44153
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/10/2019 4:30:38 AM	44185
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/10/2019 4:30:38 AM	44185
Surr: DNOP	37.1	70-130	S	%Rec	1	4/10/2019 4:30:38 AM	44185
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/12/2019 4:13:35 AM	44153
Toluene	ND	0.047		mg/Kg	1	4/12/2019 4:13:35 AM	44153
Ethylbenzene	ND	0.047		mg/Kg	1	4/12/2019 4:13:35 AM	44153
Xylenes, Total	ND	0.094		mg/Kg	1	4/12/2019 4:13:35 AM	44153
Surr: 1,2-Dichloroethane-d4	80.0	70-130		%Rec	1	4/12/2019 4:13:35 AM	44153
Surr: 4-Bromofluorobenzene	97.9	70-130		%Rec	1	4/12/2019 4:13:35 AM	44153
Surr: Dibromofluoromethane	91.4	70-130		%Rec	1	4/12/2019 4:13:35 AM	44153
Surr: Toluene-d8	92.3	70-130		%Rec	1	4/12/2019 4:13:35 AM	44153

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-083 **Matrix:** SOIL

Client Sample ID: SP340
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	220	60		mg/Kg	20	4/10/2019 5:39:41 PM	44258
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/12/2019 4:42:07 AM	44153
Surr: BFB	105	70-130		%Rec	1	4/12/2019 4:42:07 AM	44153
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	4/10/2019 4:55:17 AM	44185
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/10/2019 4:55:17 AM	44185
Surr: DNOP	39.3	70-130	S	%Rec	1	4/10/2019 4:55:17 AM	44185
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/12/2019 4:42:07 AM	44153
Toluene	ND	0.049		mg/Kg	1	4/12/2019 4:42:07 AM	44153
Ethylbenzene	ND	0.049		mg/Kg	1	4/12/2019 4:42:07 AM	44153
Xylenes, Total	ND	0.099		mg/Kg	1	4/12/2019 4:42:07 AM	44153
Surr: 1,2-Dichloroethane-d4	81.3	70-130		%Rec	1	4/12/2019 4:42:07 AM	44153
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/12/2019 4:42:07 AM	44153
Surr: Dibromofluoromethane	88.3	70-130		%Rec	1	4/12/2019 4:42:07 AM	44153
Surr: Toluene-d8	96.3	70-130		%Rec	1	4/12/2019 4:42:07 AM	44153

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-084 **Matrix:** SOIL

Client Sample ID: SP341
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	120	60		mg/Kg	20	4/10/2019 5:52:06 PM	44258
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/12/2019 5:10:47 AM	44153
Surr: BFB	104	70-130		%Rec	1	4/12/2019 5:10:47 AM	44153
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/10/2019 5:19:41 AM	44185
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/10/2019 5:19:41 AM	44185
Surr: DNOP	38.6	70-130	S	%Rec	1	4/10/2019 5:19:41 AM	44185
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/12/2019 5:10:47 AM	44153
Toluene	ND	0.050		mg/Kg	1	4/12/2019 5:10:47 AM	44153
Ethylbenzene	ND	0.050		mg/Kg	1	4/12/2019 5:10:47 AM	44153
Xylenes, Total	ND	0.099		mg/Kg	1	4/12/2019 5:10:47 AM	44153
Surr: 1,2-Dichloroethane-d4	80.6	70-130		%Rec	1	4/12/2019 5:10:47 AM	44153
Surr: 4-Bromofluorobenzene	98.7	70-130		%Rec	1	4/12/2019 5:10:47 AM	44153
Surr: Dibromofluoromethane	88.7	70-130		%Rec	1	4/12/2019 5:10:47 AM	44153
Surr: Toluene-d8	94.2	70-130		%Rec	1	4/12/2019 5:10:47 AM	44153

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-085 **Matrix:** SOIL

Client Sample ID: SW9
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	110	60		mg/Kg	20	4/10/2019 6:04:30 PM	44258
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/12/2019 5:39:23 AM	44153
Surr: BFB	104	70-130		%Rec	1	4/12/2019 5:39:23 AM	44153
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	4/10/2019 5:44:11 AM	44185
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/10/2019 5:44:11 AM	44185
Surr: DNOP	34.8	70-130	S	%Rec	1	4/10/2019 5:44:11 AM	44185
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/12/2019 5:39:23 AM	44153
Toluene	ND	0.049		mg/Kg	1	4/12/2019 5:39:23 AM	44153
Ethylbenzene	ND	0.049		mg/Kg	1	4/12/2019 5:39:23 AM	44153
Xylenes, Total	ND	0.098		mg/Kg	1	4/12/2019 5:39:23 AM	44153
Surr: 1,2-Dichloroethane-d4	82.5	70-130		%Rec	1	4/12/2019 5:39:23 AM	44153
Surr: 4-Bromofluorobenzene	98.4	70-130		%Rec	1	4/12/2019 5:39:23 AM	44153
Surr: Dibromofluoromethane	89.1	70-130		%Rec	1	4/12/2019 5:39:23 AM	44153
Surr: Toluene-d8	96.3	70-130		%Rec	1	4/12/2019 5:39:23 AM	44153

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-086 **Matrix:** SOIL

Client Sample ID: SW10
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	120	60		mg/Kg	20	4/10/2019 6:16:55 PM	44258
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/12/2019 6:08:04 AM	44153
Surr: BFB	106	70-130		%Rec	1	4/12/2019 6:08:04 AM	44153
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/10/2019 6:08:34 AM	44185
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/10/2019 6:08:34 AM	44185
Surr: DNOP	37.5	70-130	S	%Rec	1	4/10/2019 6:08:34 AM	44185
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/12/2019 6:08:04 AM	44153
Toluene	ND	0.049		mg/Kg	1	4/12/2019 6:08:04 AM	44153
Ethylbenzene	ND	0.049		mg/Kg	1	4/12/2019 6:08:04 AM	44153
Xylenes, Total	ND	0.099		mg/Kg	1	4/12/2019 6:08:04 AM	44153
Surr: 1,2-Dichloroethane-d4	82.8	70-130		%Rec	1	4/12/2019 6:08:04 AM	44153
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	1	4/12/2019 6:08:04 AM	44153
Surr: Dibromofluoromethane	90.2	70-130		%Rec	1	4/12/2019 6:08:04 AM	44153
Surr: Toluene-d8	96.3	70-130		%Rec	1	4/12/2019 6:08:04 AM	44153

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-087 **Matrix:** SOIL

Client Sample ID: SW11
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	110	60		mg/Kg	20	4/10/2019 7:18:56 PM	44272
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/12/2019 6:36:44 AM	44153
Surr: BFB	106	70-130		%Rec	1	4/12/2019 6:36:44 AM	44153
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/10/2019 6:33:05 AM	44185
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/10/2019 6:33:05 AM	44185
Surr: DNOP	34.6	70-130	S	%Rec	1	4/10/2019 6:33:05 AM	44185
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/12/2019 6:36:44 AM	44153
Toluene	ND	0.046		mg/Kg	1	4/12/2019 6:36:44 AM	44153
Ethylbenzene	ND	0.046		mg/Kg	1	4/12/2019 6:36:44 AM	44153
Xylenes, Total	ND	0.092		mg/Kg	1	4/12/2019 6:36:44 AM	44153
Surr: 1,2-Dichloroethane-d4	83.0	70-130		%Rec	1	4/12/2019 6:36:44 AM	44153
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	4/12/2019 6:36:44 AM	44153
Surr: Dibromofluoromethane	88.8	70-130		%Rec	1	4/12/2019 6:36:44 AM	44153
Surr: Toluene-d8	95.8	70-130		%Rec	1	4/12/2019 6:36:44 AM	44153

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-088 **Matrix:** SOIL

Client Sample ID: SW12
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	75	60		mg/Kg	20	4/10/2019 8:20:59 PM	44272
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/12/2019 7:05:16 AM	44153
Surr: BFB	102	70-130		%Rec	1	4/12/2019 7:05:16 AM	44153
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/10/2019 6:57:25 AM	44185
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/10/2019 6:57:25 AM	44185
Surr: DNOP	36.8	70-130	S	%Rec	1	4/10/2019 6:57:25 AM	44185
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/12/2019 7:05:16 AM	44153
Toluene	ND	0.048		mg/Kg	1	4/12/2019 7:05:16 AM	44153
Ethylbenzene	ND	0.048		mg/Kg	1	4/12/2019 7:05:16 AM	44153
Xylenes, Total	ND	0.097		mg/Kg	1	4/12/2019 7:05:16 AM	44153
Surr: 1,2-Dichloroethane-d4	80.8	70-130		%Rec	1	4/12/2019 7:05:16 AM	44153
Surr: 4-Bromofluorobenzene	97.9	70-130		%Rec	1	4/12/2019 7:05:16 AM	44153
Surr: Dibromofluoromethane	88.4	70-130		%Rec	1	4/12/2019 7:05:16 AM	44153
Surr: Toluene-d8	93.0	70-130		%Rec	1	4/12/2019 7:05:16 AM	44153

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-089 **Matrix:** SOIL

Client Sample ID: SW13
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	130	60		mg/Kg	20	4/10/2019 8:33:23 PM	44272
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/12/2019 7:33:52 AM	44153
Surr: BFB	98.1	70-130		%Rec	1	4/12/2019 7:33:52 AM	44153
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/10/2019 7:21:52 AM	44185
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/10/2019 7:21:52 AM	44185
Surr: DNOP	34.7	70-130	S	%Rec	1	4/10/2019 7:21:52 AM	44185
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/12/2019 7:33:52 AM	44153
Toluene	ND	0.047		mg/Kg	1	4/12/2019 7:33:52 AM	44153
Ethylbenzene	ND	0.047		mg/Kg	1	4/12/2019 7:33:52 AM	44153
Xylenes, Total	ND	0.094		mg/Kg	1	4/12/2019 7:33:52 AM	44153
Surr: 1,2-Dichloroethane-d4	83.3	70-130		%Rec	1	4/12/2019 7:33:52 AM	44153
Surr: 4-Bromofluorobenzene	93.5	70-130		%Rec	1	4/12/2019 7:33:52 AM	44153
Surr: Dibromofluoromethane	90.6	70-130		%Rec	1	4/12/2019 7:33:52 AM	44153
Surr: Toluene-d8	93.4	70-130		%Rec	1	4/12/2019 7:33:52 AM	44153

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-090 **Matrix:** SOIL

Client Sample ID: SW14
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	130	60		mg/Kg	20	4/10/2019 8:45:48 PM	44272
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/12/2019 8:02:27 AM	44153
Surr: BFB	103	70-130		%Rec	1	4/12/2019 8:02:27 AM	44153
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	4/10/2019 7:46:14 AM	44185
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/10/2019 7:46:14 AM	44185
Surr: DNOP	32.6	70-130	S	%Rec	1	4/10/2019 7:46:14 AM	44185
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/12/2019 8:02:27 AM	44153
Toluene	ND	0.048		mg/Kg	1	4/12/2019 8:02:27 AM	44153
Ethylbenzene	ND	0.048		mg/Kg	1	4/12/2019 8:02:27 AM	44153
Xylenes, Total	ND	0.097		mg/Kg	1	4/12/2019 8:02:27 AM	44153
Surr: 1,2-Dichloroethane-d4	79.8	70-130		%Rec	1	4/12/2019 8:02:27 AM	44153
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	4/12/2019 8:02:27 AM	44153
Surr: Dibromofluoromethane	86.8	70-130		%Rec	1	4/12/2019 8:02:27 AM	44153
Surr: Toluene-d8	95.1	70-130		%Rec	1	4/12/2019 8:02:27 AM	44153

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-091 **Matrix:** SOIL

Client Sample ID: SW15
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	110	60		mg/Kg	20	4/10/2019 8:58:12 PM	44272
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/12/2019 8:31:01 AM	44153
Surr: BFB	104	70-130		%Rec	1	4/12/2019 8:31:01 AM	44153
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/10/2019 8:10:52 AM	44185
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	4/10/2019 8:10:52 AM	44185
Surr: DNOP	33.1	70-130	S	%Rec	1	4/10/2019 8:10:52 AM	44185
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/12/2019 8:31:01 AM	44153
Toluene	ND	0.047		mg/Kg	1	4/12/2019 8:31:01 AM	44153
Ethylbenzene	ND	0.047		mg/Kg	1	4/12/2019 8:31:01 AM	44153
Xylenes, Total	ND	0.094		mg/Kg	1	4/12/2019 8:31:01 AM	44153
Surr: 1,2-Dichloroethane-d4	81.6	70-130		%Rec	1	4/12/2019 8:31:01 AM	44153
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	4/12/2019 8:31:01 AM	44153
Surr: Dibromofluoromethane	87.3	70-130		%Rec	1	4/12/2019 8:31:01 AM	44153
Surr: Toluene-d8	94.7	70-130		%Rec	1	4/12/2019 8:31:01 AM	44153

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-092 **Matrix:** SOIL

Client Sample ID: SW16
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	110	60		mg/Kg	20	4/10/2019 9:10:37 PM	44272
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/12/2019 8:59:35 AM	44153
Surr: BFB	102	70-130		%Rec	1	4/12/2019 8:59:35 AM	44153
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/10/2019 4:49:23 AM	44186
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/10/2019 4:49:23 AM	44186
Surr: DNOP	102	70-130		%Rec	1	4/10/2019 4:49:23 AM	44186
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/12/2019 8:59:35 AM	44153
Toluene	ND	0.047		mg/Kg	1	4/12/2019 8:59:35 AM	44153
Ethylbenzene	ND	0.047		mg/Kg	1	4/12/2019 8:59:35 AM	44153
Xylenes, Total	ND	0.095		mg/Kg	1	4/12/2019 8:59:35 AM	44153
Surr: 1,2-Dichloroethane-d4	82.8	70-130		%Rec	1	4/12/2019 8:59:35 AM	44153
Surr: 4-Bromofluorobenzene	98.8	70-130		%Rec	1	4/12/2019 8:59:35 AM	44153
Surr: Dibromofluoromethane	89.3	70-130		%Rec	1	4/12/2019 8:59:35 AM	44153
Surr: Toluene-d8	94.9	70-130		%Rec	1	4/12/2019 8:59:35 AM	44153

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-093 **Matrix:** SOIL

Client Sample ID: SW17
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	110	60		mg/Kg	20	4/10/2019 9:23:02 PM	44272
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/9/2019 12:38:07 PM	44157
Surr: BFB	102	70-130		%Rec	1	4/9/2019 12:38:07 PM	44157
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/10/2019 6:01:36 AM	44186
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/10/2019 6:01:36 AM	44186
Surr: DNOP	85.5	70-130		%Rec	1	4/10/2019 6:01:36 AM	44186
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/9/2019 12:38:07 PM	44157
Toluene	ND	0.049		mg/Kg	1	4/9/2019 12:38:07 PM	44157
Ethylbenzene	ND	0.049		mg/Kg	1	4/9/2019 12:38:07 PM	44157
Xylenes, Total	ND	0.099		mg/Kg	1	4/9/2019 12:38:07 PM	44157
Surr: 1,2-Dichloroethane-d4	86.2	70-130		%Rec	1	4/9/2019 12:38:07 PM	44157
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	4/9/2019 12:38:07 PM	44157
Surr: Dibromofluoromethane	88.6	70-130		%Rec	1	4/9/2019 12:38:07 PM	44157
Surr: Toluene-d8	94.4	70-130		%Rec	1	4/9/2019 12:38:07 PM	44157

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-094 **Matrix:** SOIL

Client Sample ID: SW18
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	130	60		mg/Kg	20	4/10/2019 9:35:27 PM	44272
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/9/2019 2:04:01 PM	44157
Surr: BFB	104	70-130		%Rec	1	4/9/2019 2:04:01 PM	44157
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	4/10/2019 6:25:45 AM	44186
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/10/2019 6:25:45 AM	44186
Surr: DNOP	74.1	70-130		%Rec	1	4/10/2019 6:25:45 AM	44186
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/9/2019 2:04:01 PM	44157
Toluene	ND	0.049		mg/Kg	1	4/9/2019 2:04:01 PM	44157
Ethylbenzene	ND	0.049		mg/Kg	1	4/9/2019 2:04:01 PM	44157
Xylenes, Total	ND	0.098		mg/Kg	1	4/9/2019 2:04:01 PM	44157
Surr: 1,2-Dichloroethane-d4	85.8	70-130		%Rec	1	4/9/2019 2:04:01 PM	44157
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/9/2019 2:04:01 PM	44157
Surr: Dibromofluoromethane	87.9	70-130		%Rec	1	4/9/2019 2:04:01 PM	44157
Surr: Toluene-d8	94.2	70-130		%Rec	1	4/9/2019 2:04:01 PM	44157

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-095 **Matrix:** SOIL

Client Sample ID: SW19
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	96	60		mg/Kg	20	4/10/2019 9:47:52 PM	44272
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/9/2019 2:32:32 PM	44157
Surr: BFB	103	70-130		%Rec	1	4/9/2019 2:32:32 PM	44157
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/10/2019 4:28:55 PM	44186
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/10/2019 4:28:55 PM	44186
Surr: DNOP	97.2	70-130		%Rec	1	4/10/2019 4:28:55 PM	44186
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	4/9/2019 2:32:32 PM	44157
Toluene	ND	0.049		mg/Kg	1	4/9/2019 2:32:32 PM	44157
Ethylbenzene	ND	0.049		mg/Kg	1	4/9/2019 2:32:32 PM	44157
Xylenes, Total	ND	0.099		mg/Kg	1	4/9/2019 2:32:32 PM	44157
Surr: 1,2-Dichloroethane-d4	84.8	70-130		%Rec	1	4/9/2019 2:32:32 PM	44157
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	4/9/2019 2:32:32 PM	44157
Surr: Dibromofluoromethane	86.6	70-130		%Rec	1	4/9/2019 2:32:32 PM	44157
Surr: Toluene-d8	92.1	70-130		%Rec	1	4/9/2019 2:32:32 PM	44157

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-096 **Matrix:** SOIL

Client Sample ID: SW20
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	110	60		mg/Kg	20	4/10/2019 10:25:05 PM	44272
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/9/2019 3:01:07 PM	44157
Surr: BFB	97.7	70-130		%Rec	1	4/9/2019 3:01:07 PM	44157
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/10/2019 4:53:19 PM	44186
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/10/2019 4:53:19 PM	44186
Surr: DNOP	96.3	70-130		%Rec	1	4/10/2019 4:53:19 PM	44186
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/9/2019 3:01:07 PM	44157
Toluene	ND	0.046		mg/Kg	1	4/9/2019 3:01:07 PM	44157
Ethylbenzene	ND	0.046		mg/Kg	1	4/9/2019 3:01:07 PM	44157
Xylenes, Total	ND	0.092		mg/Kg	1	4/9/2019 3:01:07 PM	44157
Surr: 1,2-Dichloroethane-d4	84.9	70-130		%Rec	1	4/9/2019 3:01:07 PM	44157
Surr: 4-Bromofluorobenzene	98.7	70-130		%Rec	1	4/9/2019 3:01:07 PM	44157
Surr: Dibromofluoromethane	88.8	70-130		%Rec	1	4/9/2019 3:01:07 PM	44157
Surr: Toluene-d8	92.8	70-130		%Rec	1	4/9/2019 3:01:07 PM	44157

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-097 **Matrix:** SOIL

Client Sample ID: SW21
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	360	60		mg/Kg	20	4/10/2019 10:37:30 PM	44272
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/9/2019 3:29:39 PM	44157
Surr: BFB	100	70-130		%Rec	1	4/9/2019 3:29:39 PM	44157
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	4/10/2019 5:17:45 PM	44186
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	4/10/2019 5:17:45 PM	44186
Surr: DNOP	79.3	70-130		%Rec	1	4/10/2019 5:17:45 PM	44186
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/9/2019 3:29:39 PM	44157
Toluene	ND	0.049		mg/Kg	1	4/9/2019 3:29:39 PM	44157
Ethylbenzene	ND	0.049		mg/Kg	1	4/9/2019 3:29:39 PM	44157
Xylenes, Total	ND	0.097		mg/Kg	1	4/9/2019 3:29:39 PM	44157
Surr: 1,2-Dichloroethane-d4	84.3	70-130		%Rec	1	4/9/2019 3:29:39 PM	44157
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	4/9/2019 3:29:39 PM	44157
Surr: Dibromofluoromethane	88.7	70-130		%Rec	1	4/9/2019 3:29:39 PM	44157
Surr: Toluene-d8	91.5	70-130		%Rec	1	4/9/2019 3:29:39 PM	44157

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-098 **Matrix:** SOIL

Client Sample ID: SW22
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	71	60		mg/Kg	20	4/10/2019 10:49:55 PM	44272
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/9/2019 3:58:10 PM	44157
Surr: BFB	103	70-130		%Rec	1	4/9/2019 3:58:10 PM	44157
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/10/2019 5:42:05 PM	44186
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/10/2019 5:42:05 PM	44186
Surr: DNOP	126	70-130		%Rec	1	4/10/2019 5:42:05 PM	44186
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/9/2019 3:58:10 PM	44157
Toluene	ND	0.047		mg/Kg	1	4/9/2019 3:58:10 PM	44157
Ethylbenzene	ND	0.047		mg/Kg	1	4/9/2019 3:58:10 PM	44157
Xylenes, Total	ND	0.095		mg/Kg	1	4/9/2019 3:58:10 PM	44157
Surr: 1,2-Dichloroethane-d4	82.1	70-130		%Rec	1	4/9/2019 3:58:10 PM	44157
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	4/9/2019 3:58:10 PM	44157
Surr: Dibromofluoromethane	88.0	70-130		%Rec	1	4/9/2019 3:58:10 PM	44157
Surr: Toluene-d8	93.4	70-130		%Rec	1	4/9/2019 3:58:10 PM	44157

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Client Sample ID: SW23
Project: LVP SWD
Collection Date: 4/3/2019
Lab ID: 1904351-099
Matrix: SOIL
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	110	60		mg/Kg	20	4/10/2019 11:02:20 PM	44272
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/9/2019 4:26:39 PM	44157
Surr: BFB	103	70-130		%Rec	1	4/9/2019 4:26:39 PM	44157
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/10/2019 6:06:20 PM	44186
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/10/2019 6:06:20 PM	44186
Surr: DNOP	93.9	70-130		%Rec	1	4/10/2019 6:06:20 PM	44186
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/9/2019 4:26:39 PM	44157
Toluene	ND	0.048		mg/Kg	1	4/9/2019 4:26:39 PM	44157
Ethylbenzene	ND	0.048		mg/Kg	1	4/9/2019 4:26:39 PM	44157
Xylenes, Total	ND	0.097		mg/Kg	1	4/9/2019 4:26:39 PM	44157
Surr: 1,2-Dichloroethane-d4	85.3	70-130		%Rec	1	4/9/2019 4:26:39 PM	44157
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	4/9/2019 4:26:39 PM	44157
Surr: Dibromofluoromethane	85.5	70-130		%Rec	1	4/9/2019 4:26:39 PM	44157
Surr: Toluene-d8	92.7	70-130		%Rec	1	4/9/2019 4:26:39 PM	44157

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-100 **Matrix:** SOIL

Client Sample ID: SW24
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	260	60		mg/Kg	20	4/10/2019 11:14:45 PM	44272
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/9/2019 4:55:17 PM	44157
Surr: BFB	101	70-130		%Rec	1	4/9/2019 4:55:17 PM	44157
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/10/2019 6:30:27 PM	44186
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/10/2019 6:30:27 PM	44186
Surr: DNOP	82.4	70-130		%Rec	1	4/10/2019 6:30:27 PM	44186
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/9/2019 4:55:17 PM	44157
Toluene	ND	0.048		mg/Kg	1	4/9/2019 4:55:17 PM	44157
Ethylbenzene	ND	0.048		mg/Kg	1	4/9/2019 4:55:17 PM	44157
Xylenes, Total	ND	0.097		mg/Kg	1	4/9/2019 4:55:17 PM	44157
Surr: 1,2-Dichloroethane-d4	85.5	70-130		%Rec	1	4/9/2019 4:55:17 PM	44157
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	4/9/2019 4:55:17 PM	44157
Surr: Dibromofluoromethane	89.9	70-130		%Rec	1	4/9/2019 4:55:17 PM	44157
Surr: Toluene-d8	92.6	70-130		%Rec	1	4/9/2019 4:55:17 PM	44157

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-101 **Matrix:** SOIL

Client Sample ID: SW25
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	130	60		mg/Kg	20	4/10/2019 11:27:09 PM	44272
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/9/2019 5:23:49 PM	44157
Surr: BFB	100	70-130		%Rec	1	4/9/2019 5:23:49 PM	44157
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/10/2019 6:54:31 PM	44186
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/10/2019 6:54:31 PM	44186
Surr: DNOP	85.7	70-130		%Rec	1	4/10/2019 6:54:31 PM	44186
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/9/2019 5:23:49 PM	44157
Toluene	ND	0.048		mg/Kg	1	4/9/2019 5:23:49 PM	44157
Ethylbenzene	ND	0.048		mg/Kg	1	4/9/2019 5:23:49 PM	44157
Xylenes, Total	ND	0.096		mg/Kg	1	4/9/2019 5:23:49 PM	44157
Surr: 1,2-Dichloroethane-d4	84.5	70-130		%Rec	1	4/9/2019 5:23:49 PM	44157
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	4/9/2019 5:23:49 PM	44157
Surr: Dibromofluoromethane	87.2	70-130		%Rec	1	4/9/2019 5:23:49 PM	44157
Surr: Toluene-d8	93.0	70-130		%Rec	1	4/9/2019 5:23:49 PM	44157

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-102 **Matrix:** SOIL

Client Sample ID: SW26
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	380	60		mg/Kg	20	4/10/2019 11:39:34 PM	44272
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/9/2019 5:52:23 PM	44157
Surr: BFB	102	70-130		%Rec	1	4/9/2019 5:52:23 PM	44157
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/10/2019 7:18:33 PM	44186
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/10/2019 7:18:33 PM	44186
Surr: DNOP	88.8	70-130		%Rec	1	4/10/2019 7:18:33 PM	44186
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/9/2019 5:52:23 PM	44157
Toluene	ND	0.048		mg/Kg	1	4/9/2019 5:52:23 PM	44157
Ethylbenzene	ND	0.048		mg/Kg	1	4/9/2019 5:52:23 PM	44157
Xylenes, Total	ND	0.097		mg/Kg	1	4/9/2019 5:52:23 PM	44157
Surr: 1,2-Dichloroethane-d4	85.6	70-130		%Rec	1	4/9/2019 5:52:23 PM	44157
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	4/9/2019 5:52:23 PM	44157
Surr: Dibromofluoromethane	89.5	70-130		%Rec	1	4/9/2019 5:52:23 PM	44157
Surr: Toluene-d8	91.9	70-130		%Rec	1	4/9/2019 5:52:23 PM	44157

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-103 **Matrix:** SOIL

Client Sample ID: SW27
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	120	60		mg/Kg	20	4/10/2019 11:51:59 PM	44272
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/9/2019 6:21:06 PM	44157
Surr: BFB	103	70-130		%Rec	1	4/9/2019 6:21:06 PM	44157
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/10/2019 7:42:31 PM	44186
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/10/2019 7:42:31 PM	44186
Surr: DNOP	81.9	70-130		%Rec	1	4/10/2019 7:42:31 PM	44186
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/9/2019 6:21:06 PM	44157
Toluene	ND	0.047		mg/Kg	1	4/9/2019 6:21:06 PM	44157
Ethylbenzene	ND	0.047		mg/Kg	1	4/9/2019 6:21:06 PM	44157
Xylenes, Total	ND	0.094		mg/Kg	1	4/9/2019 6:21:06 PM	44157
Surr: 1,2-Dichloroethane-d4	85.0	70-130		%Rec	1	4/9/2019 6:21:06 PM	44157
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	4/9/2019 6:21:06 PM	44157
Surr: Dibromofluoromethane	90.0	70-130		%Rec	1	4/9/2019 6:21:06 PM	44157
Surr: Toluene-d8	94.7	70-130		%Rec	1	4/9/2019 6:21:06 PM	44157

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-104 **Matrix:** SOIL

Client Sample ID: SW28
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	130	60		mg/Kg	20	4/11/2019 12:04:23 AM	44272
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/9/2019 6:49:38 PM	44157
Surr: BFB	104	70-130		%Rec	1	4/9/2019 6:49:38 PM	44157
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	4/10/2019 8:06:25 PM	44186
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/10/2019 8:06:25 PM	44186
Surr: DNOP	82.7	70-130		%Rec	1	4/10/2019 8:06:25 PM	44186
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/9/2019 6:49:38 PM	44157
Toluene	ND	0.046		mg/Kg	1	4/9/2019 6:49:38 PM	44157
Ethylbenzene	ND	0.046		mg/Kg	1	4/9/2019 6:49:38 PM	44157
Xylenes, Total	ND	0.092		mg/Kg	1	4/9/2019 6:49:38 PM	44157
Surr: 1,2-Dichloroethane-d4	86.6	70-130		%Rec	1	4/9/2019 6:49:38 PM	44157
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	4/9/2019 6:49:38 PM	44157
Surr: Dibromofluoromethane	90.0	70-130		%Rec	1	4/9/2019 6:49:38 PM	44157
Surr: Toluene-d8	93.0	70-130		%Rec	1	4/9/2019 6:49:38 PM	44157

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-105 **Matrix:** SOIL

Client Sample ID: SW29
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	93	60		mg/Kg	20	4/11/2019 12:16:48 AM	44272
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/9/2019 7:18:10 PM	44157
Surr: BFB	102	70-130		%Rec	1	4/9/2019 7:18:10 PM	44157
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/10/2019 8:30:17 PM	44186
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/10/2019 8:30:17 PM	44186
Surr: DNOP	76.1	70-130		%Rec	1	4/10/2019 8:30:17 PM	44186
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	4/9/2019 7:18:10 PM	44157
Toluene	ND	0.049		mg/Kg	1	4/9/2019 7:18:10 PM	44157
Ethylbenzene	ND	0.049		mg/Kg	1	4/9/2019 7:18:10 PM	44157
Xylenes, Total	ND	0.097		mg/Kg	1	4/9/2019 7:18:10 PM	44157
Surr: 1,2-Dichloroethane-d4	86.2	70-130		%Rec	1	4/9/2019 7:18:10 PM	44157
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	4/9/2019 7:18:10 PM	44157
Surr: Dibromofluoromethane	88.7	70-130		%Rec	1	4/9/2019 7:18:10 PM	44157
Surr: Toluene-d8	92.4	70-130		%Rec	1	4/9/2019 7:18:10 PM	44157

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-106 **Matrix:** SOIL

Client Sample ID: SW30
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	110	60		mg/Kg	20	4/11/2019 12:54:01 AM	44272
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/9/2019 7:46:51 PM	44157
Surr: BFB	103	70-130		%Rec	1	4/9/2019 7:46:51 PM	44157
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/10/2019 8:54:04 PM	44186
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/10/2019 8:54:04 PM	44186
Surr: DNOP	89.6	70-130		%Rec	1	4/10/2019 8:54:04 PM	44186
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	0.023		mg/Kg	1	4/9/2019 7:46:51 PM	44157
Toluene	ND	0.046		mg/Kg	1	4/9/2019 7:46:51 PM	44157
Ethylbenzene	ND	0.046		mg/Kg	1	4/9/2019 7:46:51 PM	44157
Xylenes, Total	ND	0.093		mg/Kg	1	4/9/2019 7:46:51 PM	44157
Surr: 1,2-Dichloroethane-d4	84.4	70-130		%Rec	1	4/9/2019 7:46:51 PM	44157
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	4/9/2019 7:46:51 PM	44157
Surr: Dibromofluoromethane	87.9	70-130		%Rec	1	4/9/2019 7:46:51 PM	44157
Surr: Toluene-d8	92.5	70-130		%Rec	1	4/9/2019 7:46:51 PM	44157

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1904351**
Date Reported: **4/16/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD
Lab ID: 1904351-107 **Matrix:** SOIL

Client Sample ID: SP257
Collection Date: 4/3/2019
Received Date: 4/5/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	130	60		mg/Kg	20	4/11/2019 11:35:22 AM	44289
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**CLP**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/11/2019 8:30:06 AM	44266
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/11/2019 8:30:06 AM	44266
Surr: DNOP	139	70-130	S	%Rec	1	4/11/2019 8:30:06 AM	44266
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/14/2019 12:59:46 AM	44270
Surr: BFB	88.0	73.8-119		%Rec	1	4/14/2019 12:59:46 AM	44270
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.023		mg/Kg	1	4/14/2019 12:59:46 AM	44270
Toluene	ND	0.046		mg/Kg	1	4/14/2019 12:59:46 AM	44270
Ethylbenzene	ND	0.046		mg/Kg	1	4/14/2019 12:59:46 AM	44270
Xylenes, Total	ND	0.093		mg/Kg	1	4/14/2019 12:59:46 AM	44270
Surr: 4-Bromofluorobenzene	89.3	80-120		%Rec	1	4/14/2019 12:59:46 AM	44270

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

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904351**
16-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-44224** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **44224** RunNo: **59030**
Prep Date: **4/9/2019** Analysis Date: **4/9/2019** SeqNo: **1986298** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-44224** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **44224** RunNo: **59030**
Prep Date: **4/9/2019** Analysis Date: **4/9/2019** SeqNo: **1986300** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.2	90	110			

Sample ID: **MB-44240** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **44240** RunNo: **59030**
Prep Date: **4/9/2019** Analysis Date: **4/9/2019** SeqNo: **1986360** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-44240** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **44240** RunNo: **59030**
Prep Date: **4/9/2019** Analysis Date: **4/9/2019** SeqNo: **1986362** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.1	90	110			

Sample ID: **MB-44223** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **44223** RunNo: **59031**
Prep Date: **4/9/2019** Analysis Date: **4/9/2019** SeqNo: **1986954** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-44223** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **44223** RunNo: **59031**
Prep Date: **4/9/2019** Analysis Date: **4/9/2019** SeqNo: **1986955** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.9	90	110			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904351**
16-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-44242** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **44242** RunNo: **59031**
Prep Date: **4/9/2019** Analysis Date: **4/9/2019** SeqNo: **1986985** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-44242** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **44242** RunNo: **59031**
Prep Date: **4/9/2019** Analysis Date: **4/9/2019** SeqNo: **1986986** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.0	90	110			

Sample ID: **MB-44258** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **44258** RunNo: **59068**
Prep Date: **4/10/2019** Analysis Date: **4/10/2019** SeqNo: **1988358** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-44258** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **44258** RunNo: **59068**
Prep Date: **4/10/2019** Analysis Date: **4/10/2019** SeqNo: **1988359** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.9	90	110			

Sample ID: **MB-44272** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **44272** RunNo: **59068**
Prep Date: **4/10/2019** Analysis Date: **4/10/2019** SeqNo: **1988388** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-44272** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **44272** RunNo: **59068**
Prep Date: **4/10/2019** Analysis Date: **4/10/2019** SeqNo: **1988389** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.0	90	110			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904351**
16-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-44289** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **44289** RunNo: **59093**
Prep Date: **4/11/2019** Analysis Date: **4/11/2019** SeqNo: **1989069** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-44289** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **44289** RunNo: **59093**
Prep Date: **4/11/2019** Analysis Date: **4/11/2019** SeqNo: **1989070** 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:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904351**
16-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-44152** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44152** RunNo: **58967**
Prep Date: **4/5/2019** Analysis Date: **4/8/2019** SeqNo: **1983700** 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: **LCS-44152** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **44152** RunNo: **58967**
Prep Date: **4/5/2019** Analysis Date: **4/8/2019** SeqNo: **1984046** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	87.1	63.9	124			
Surr: DNOP	4.7		5.000		94.2	70	130			

Sample ID: **LCS-44183** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **44183** RunNo: **59005**
Prep Date: **4/8/2019** Analysis Date: **4/9/2019** SeqNo: **1985348** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	104	63.9	124			
Surr: DNOP	4.6		5.000		91.8	70	130			

Sample ID: **MB-44183** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44183** RunNo: **59005**
Prep Date: **4/8/2019** Analysis Date: **4/9/2019** SeqNo: **1985349** 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	9.7		10.00		97.5	70	130			

Sample ID: **LCS-44185** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **44185** RunNo: **59005**
Prep Date: **4/8/2019** Analysis Date: **4/9/2019** SeqNo: **1985350** 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	100	63.9	124			
Surr: DNOP	4.5		5.000		89.6	70	130			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904351**
16-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-44185** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44185** RunNo: **59005**
Prep Date: **4/8/2019** Analysis Date: **4/9/2019** SeqNo: **1985351** 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		92.0	70	130			

Sample ID: **LCS-44182** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **44182** RunNo: **59005**
Prep Date: **4/8/2019** Analysis Date: **4/9/2019** SeqNo: **1985352** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	102	63.9	124			
Surr: DNOP	4.6		5.000		92.2	70	130			

Sample ID: **MB-44182** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44182** RunNo: **59005**
Prep Date: **4/8/2019** Analysis Date: **4/9/2019** SeqNo: **1985353** 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		104	70	130			

Sample ID: **LCS-44184** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **44184** RunNo: **59005**
Prep Date: **4/8/2019** Analysis Date: **4/9/2019** SeqNo: **1985355** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	98.2	63.9	124			
Surr: DNOP	4.4		5.000		87.3	70	130			

Sample ID: **MB-44184** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44184** RunNo: **59005**
Prep Date: **4/8/2019** Analysis Date: **4/9/2019** SeqNo: **1985356** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.0		10.00		90.4	70	130			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904351**
16-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **LCS-44186** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **44186** RunNo: **59005**
Prep Date: **4/8/2019** Analysis Date: **4/9/2019** SeqNo: **1985475** 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		96.4	70	130			

Sample ID: **MB-44186** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44186** RunNo: **59005**
Prep Date: **4/8/2019** Analysis Date: **4/9/2019** SeqNo: **1985476** 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	14		10.00		136	70	130			S

Sample ID: **1904351-032AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP289** Batch ID: **44183** RunNo: **59005**
Prep Date: **4/8/2019** Analysis Date: **4/9/2019** SeqNo: **1985479** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.5	47.71	0	101	53.5	126			
Surr: DNOP	4.3		4.771		89.6	70	130			

Sample ID: **1904351-032AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP289** Batch ID: **44183** RunNo: **59005**
Prep Date: **4/8/2019** Analysis Date: **4/9/2019** SeqNo: **1985480** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	9.0	44.92	0	102	53.5	126	5.33	21.7	
Surr: DNOP	4.1		4.492		92.2	70	130	0	0	

Sample ID: **1904351-052AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP309** Batch ID: **44184** RunNo: **59005**
Prep Date: **4/8/2019** Analysis Date: **4/9/2019** SeqNo: **1985729** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.9	49.60	0	97.0	53.5	126			
Surr: DNOP	1.7		4.960		33.7	70	130			S

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904351**
16-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **1904351-052AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP309** Batch ID: **44184** RunNo: **59005**
Prep Date: **4/8/2019** Analysis Date: **4/9/2019** SeqNo: **1985730** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.6	48.03	0	94.5	53.5	126	5.79	21.7	
Surr: DNOP	1.5		4.803		30.7	70	130	0	0	S

Sample ID: **1904351-012AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP269** Batch ID: **44182** RunNo: **59025**
Prep Date: **4/8/2019** Analysis Date: **4/9/2019** SeqNo: **1986168** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.8	49.12	0	92.6	53.5	126			
Surr: DNOP	3.6		4.912		73.9	70	130			

Sample ID: **1904351-092AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SW16** Batch ID: **44186** RunNo: **59025**
Prep Date: **4/8/2019** Analysis Date: **4/10/2019** SeqNo: **1986170** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	9.7	48.73	0	85.5	53.5	126			
Surr: DNOP	3.5		4.873		71.1	70	130			

Sample ID: **1904351-012AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP269** Batch ID: **44182** RunNo: **59025**
Prep Date: **4/8/2019** Analysis Date: **4/9/2019** SeqNo: **1986171** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	9.3	46.73	0	94.1	53.5	126	3.39	21.7	
Surr: DNOP	3.5		4.673		75.5	70	130	0	0	

Sample ID: **1904351-092AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SW16** Batch ID: **44186** RunNo: **59025**
Prep Date: **4/8/2019** Analysis Date: **4/10/2019** SeqNo: **1986173** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	9.6	47.80	0	89.3	53.5	126	2.42	21.7	
Surr: DNOP	3.5		4.780		74.2	70	130	0	0	

Sample ID: **MB-44266** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44266** RunNo: **59043**
Prep Date: **4/10/2019** Analysis Date: **4/11/2019** SeqNo: **1989013** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904351**
16-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-44266** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44266** RunNo: **59043**
Prep Date: **4/10/2019** Analysis Date: **4/11/2019** SeqNo: **1989013** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		106	70	130			

Sample ID: **LCS-44266** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **44266** RunNo: **59043**
Prep Date: **4/10/2019** Analysis Date: **4/11/2019** SeqNo: **1989014** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	92.2	63.9	124			
Surr: DNOP	4.7		5.000		94.0	70	130			

Sample ID: **1904351-072AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP329** Batch ID: **44185** RunNo: **59076**
Prep Date: **4/8/2019** Analysis Date: **4/12/2019** SeqNo: **1989747** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	9.2	46.21	0	95.2	53.5	126			
Surr: DNOP	2.3		4.621		49.1	70	130			S

Sample ID: **1904351-072AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP329** Batch ID: **44185** RunNo: **59076**
Prep Date: **4/8/2019** Analysis Date: **4/12/2019** SeqNo: **1989748** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.86	0	82.8	53.5	126	4.36	21.7	
Surr: DNOP	1.6		5.086		31.4	70	130	0	0	S

Sample ID: **MB-44296** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **44296** RunNo: **59115**
Prep Date: **4/11/2019** Analysis Date: **4/12/2019** SeqNo: **1990924** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		105	70	130			

Sample ID: **LCS-44296** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **44296** RunNo: **59115**
Prep Date: **4/11/2019** Analysis Date: **4/12/2019** SeqNo: **1990925** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904351**
16-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **LCS-44296** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **44296** RunNo: **59115**
Prep Date: **4/11/2019** Analysis Date: **4/12/2019** SeqNo: **1990925** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.6		5.000		92.9	70	130			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904351**
16-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-44149** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **44149** RunNo: **59056**
Prep Date: **4/5/2019** Analysis Date: **4/10/2019** SeqNo: **1987604** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		88.2	73.8	119			

Sample ID: **LCS-44149** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **44149** RunNo: **59056**
Prep Date: **4/5/2019** Analysis Date: **4/10/2019** SeqNo: **1987605** 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	99.0	80.1	123			
Surr: BFB	1000		1000		99.6	73.8	119			

Sample ID: **1904351-014AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP271** Batch ID: **44149** RunNo: **59056**
Prep Date: **4/5/2019** Analysis Date: **4/10/2019** SeqNo: **1987608** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.7	23.54	0	97.0	69.1	142			
Surr: BFB	950		941.6		101	73.8	119			

Sample ID: **1904351-014AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP271** Batch ID: **44149** RunNo: **59056**
Prep Date: **4/5/2019** Analysis Date: **4/10/2019** SeqNo: **1987609** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	24.93	0	91.5	69.1	142	0.143	20	
Surr: BFB	990		997.0		99.2	73.8	119	0	0	

Sample ID: **MB-44150** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **44150** RunNo: **59056**
Prep Date: **4/5/2019** Analysis Date: **4/10/2019** SeqNo: **1987630** 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	900		1000		89.8	73.8	119			

Sample ID: **LCS-44150** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **44150** RunNo: **59056**
Prep Date: **4/5/2019** Analysis Date: **4/10/2019** SeqNo: **1987631** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904351**
16-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **LCS-44150** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **44150** RunNo: **59056**
Prep Date: **4/5/2019** Analysis Date: **4/10/2019** SeqNo: **1987631** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	102	80.1	123			
Surr: BFB	1000		1000		102	73.8	119			

Sample ID: **1904351-034AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP291** Batch ID: **44150** RunNo: **59056**
Prep Date: **4/5/2019** Analysis Date: **4/11/2019** SeqNo: **1987634** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	24.88	0	92.0	69.1	142			
Surr: BFB	1000		995.0		101	73.8	119			

Sample ID: **1904351-034AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP291** Batch ID: **44150** RunNo: **59056**
Prep Date: **4/5/2019** Analysis Date: **4/11/2019** SeqNo: **1987635** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.7	23.36	0	90.7	69.1	142	7.71	20	
Surr: BFB	970		934.6		104	73.8	119	0	0	

Sample ID: **MB-44253** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **44253** RunNo: **59130**
Prep Date: **4/10/2019** Analysis Date: **4/13/2019** SeqNo: **1990394** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	910		1000		90.5	73.8	119			

Sample ID: **LCS-44253** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **44253** RunNo: **59130**
Prep Date: **4/10/2019** Analysis Date: **4/13/2019** SeqNo: **1990395** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		103	73.8	119			

Sample ID: **MB-44270** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **44270** RunNo: **59130**
Prep Date: **4/10/2019** Analysis Date: **4/13/2019** SeqNo: **1990417** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		87.7	73.8	119			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904351**
16-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **LCS-44270** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **44270** RunNo: **59130**
Prep Date: **4/10/2019** Analysis Date: **4/14/2019** SeqNo: **1990418** 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	94.2	80.1	123			
Surr: BFB	980		1000		97.7	73.8	119			

Sample ID: **1904351-107AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP257** Batch ID: **44270** RunNo: **59130**
Prep Date: **4/10/2019** Analysis Date: **4/14/2019** SeqNo: **1990420** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.6	22.83	0	94.8	69.1	142			
Surr: BFB	890		913.2		97.9	73.8	119			

Sample ID: **1904351-107AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP257** Batch ID: **44270** RunNo: **59130**
Prep Date: **4/10/2019** Analysis Date: **4/14/2019** SeqNo: **1990421** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.7	23.36	0	89.2	69.1	142	3.82	20	
Surr: BFB	920		934.6		98.1	73.8	119	0	0	

Sample ID: **MB-44274** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **44274** RunNo: **59134**
Prep Date: **4/10/2019** Analysis Date: **4/14/2019** SeqNo: **1990660** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	940		1000		93.7	73.8	119			

Sample ID: **LCS-44274** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **44274** RunNo: **59134**
Prep Date: **4/10/2019** Analysis Date: **4/14/2019** SeqNo: **1990661** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		107	73.8	119			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904351**
16-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-44149** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **44149** RunNo: **59056**
Prep Date: **4/5/2019** Analysis Date: **4/10/2019** SeqNo: **1987683** 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		87.7	80	120			

Sample ID: **LCS-44149** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **44149** RunNo: **59056**
Prep Date: **4/5/2019** Analysis Date: **4/10/2019** SeqNo: **1987684** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	91.1	80	120			
Toluene	0.94	0.050	1.000	0	94.5	80	120			
Ethylbenzene	0.92	0.050	1.000	0	92.5	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.9	80	120			
Surr: 4-Bromofluorobenzene	0.87		1.000		86.9	80	120			

Sample ID: **1904351-013AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP270** Batch ID: **44149** RunNo: **59056**
Prep Date: **4/5/2019** Analysis Date: **4/10/2019** SeqNo: **1987686** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	0.9950	0.009951	88.8	63.9	127			
Toluene	0.93	0.050	0.9950	0.01419	92.1	69.9	131			
Ethylbenzene	0.91	0.050	0.9950	0	91.9	71	132			
Xylenes, Total	2.8	0.10	2.985	0.01478	92.6	71.8	131			
Surr: 4-Bromofluorobenzene	0.88		0.9950		88.8	80	120			

Sample ID: **1904351-013AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP270** Batch ID: **44149** RunNo: **59056**
Prep Date: **4/5/2019** Analysis Date: **4/10/2019** SeqNo: **1987687** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.025	0.9921	0.009951	88.1	63.9	127	1.06	20	
Toluene	0.94	0.050	0.9921	0.01419	93.4	69.9	131	1.06	20	
Ethylbenzene	0.94	0.050	0.9921	0	94.7	71	132	2.75	20	
Xylenes, Total	2.8	0.099	2.976	0.01478	94.5	71.8	131	1.76	20	
Surr: 4-Bromofluorobenzene	0.88		0.9921		89.1	80	120	0	0	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904351**
16-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-44150** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **44150** RunNo: **59056**
Prep Date: **4/5/2019** Analysis Date: **4/10/2019** SeqNo: **1987707** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.90		1.000		89.8	80	120			

Sample ID: **LCS-44150** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **44150** RunNo: **59056**
Prep Date: **4/5/2019** Analysis Date: **4/11/2019** SeqNo: **1987708** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	1.000	0	96.6	80	120			
Toluene	1.0	0.050	1.000	0	100	80	120			
Ethylbenzene	1.0	0.050	1.000	0	100	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	0.92		1.000		92.3	80	120			

Sample ID: **1904351-033AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP290** Batch ID: **44150** RunNo: **59056**
Prep Date: **4/5/2019** Analysis Date: **4/11/2019** SeqNo: **1987710** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.75	0.025	0.9852	0	75.7	63.9	127			
Toluene	0.81	0.049	0.9852	0.01609	80.1	69.9	131			
Ethylbenzene	0.80	0.049	0.9852	0	81.6	71	132			
Xylenes, Total	2.4	0.099	2.956	0.01520	81.7	71.8	131			
Surr: 4-Bromofluorobenzene	0.90		0.9852		91.6	80	120			

Sample ID: **1904351-033AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP290** Batch ID: **44150** RunNo: **59056**
Prep Date: **4/5/2019** Analysis Date: **4/11/2019** SeqNo: **1987711** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.81	0.025	0.9980	0	81.7	63.9	127	8.88	20	
Toluene	0.85	0.050	0.9980	0.01609	83.6	69.9	131	5.42	20	
Ethylbenzene	0.85	0.050	0.9980	0	85.5	71	132	5.97	20	
Xylenes, Total	2.6	0.10	2.994	0.01520	85.5	71.8	131	5.75	20	
Surr: 4-Bromofluorobenzene	0.94		0.9980		93.7	80	120	0	0	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904351**
16-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **MB-44253** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **44253** RunNo: **59130**
Prep Date: **4/10/2019** Analysis Date: **4/13/2019** SeqNo: **1990440** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.90		1.000		90.4	80	120			

Sample ID: **LCS-44253** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **44253** RunNo: **59130**
Prep Date: **4/10/2019** Analysis Date: **4/13/2019** SeqNo: **1990441** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.96		1.000		95.5	80	120			

Sample ID: **MB-44270** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **44270** RunNo: **59130**
Prep Date: **4/10/2019** Analysis Date: **4/13/2019** SeqNo: **1990477** 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	0.89		1.000		88.6	80	120			

Sample ID: **LCS-44270** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **44270** RunNo: **59130**
Prep Date: **4/10/2019** Analysis Date: **4/14/2019** SeqNo: **1990499** 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	91.8	80	120			
Toluene	0.96	0.050	1.000	0	95.5	80	120			
Ethylbenzene	0.95	0.050	1.000	0	95.4	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.2	80	120			
Surr: 4-Bromofluorobenzene	0.91		1.000		90.7	80	120			

Sample ID: **MB-44274** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **44274** RunNo: **59134**
Prep Date: **4/10/2019** Analysis Date: **4/14/2019** SeqNo: **1990691** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.93		1.000		92.6	80	120			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904351**
16-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **LCS-44274** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **44274** RunNo: **59134**
Prep Date: **4/10/2019** Analysis Date: **4/14/2019** SeqNo: **1990692** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.93		1.000		92.5	80	120			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904351**
16-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **lcs-44148** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS** Batch ID: **44148** RunNo: **58990**
Prep Date: **4/5/2019** Analysis Date: **4/8/2019** SeqNo: **1984861** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.82	0.025	1.000	0	81.6	70	130			
Toluene	0.98	0.050	1.000	0	98.4	70	130			
Ethylbenzene	0.99	0.050	1.000	0	99.0	70	130			
Xylenes, Total	3.0	0.10	3.000	0	99.9	70	130			
Surr: 1,2-Dichloroethane-d4	0.44		0.5000		87.6	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		104	70	130			
Surr: Dibromofluoromethane	0.45		0.5000		90.1	70	130			
Surr: Toluene-d8	0.48		0.5000		95.5	70	130			

Sample ID: **mb-44148** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **44148** RunNo: **58990**
Prep Date: **4/5/2019** Analysis Date: **4/8/2019** SeqNo: **1984862** 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: 1,2-Dichloroethane-d4	0.43		0.5000		86.8	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		102	70	130			
Surr: Dibromofluoromethane	0.45		0.5000		90.1	70	130			
Surr: Toluene-d8	0.47		0.5000		93.6	70	130			

Sample ID: **lcs-44157** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS** Batch ID: **44157** RunNo: **59006**
Prep Date: **4/8/2019** Analysis Date: **4/9/2019** SeqNo: **1985358** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.82	0.025	1.000	0	82.2	70	130			
Toluene	0.97	0.050	1.000	0	96.8	70	130			
Ethylbenzene	0.98	0.050	1.000	0	97.5	70	130			
Xylenes, Total	2.9	0.10	3.000	0	98.0	70	130			
Surr: 1,2-Dichloroethane-d4	0.44		0.5000		87.5	70	130			
Surr: 4-Bromofluorobenzene	0.53		0.5000		105	70	130			
Surr: Dibromofluoromethane	0.46		0.5000		92.5	70	130			
Surr: Toluene-d8	0.47		0.5000		93.8	70	130			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904351**
16-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **mb-44157** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **44157** RunNo: **59006**
Prep Date: **4/8/2019** Analysis Date: **4/9/2019** SeqNo: **1985359** 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: 1,2-Dichloroethane-d4	0.42		0.5000		84.8	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.8	70	130			
Surr: Dibromofluoromethane	0.45		0.5000		91.0	70	130			
Surr: Toluene-d8	0.46		0.5000		92.7	70	130			

Sample ID: **1904351-093ams** SampType: **MS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **SW17** Batch ID: **44157** RunNo: **59006**
Prep Date: **4/8/2019** Analysis Date: **4/9/2019** SeqNo: **1985797** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.024	0.9551	0	89.3	68.9	131			
Toluene	1.0	0.048	0.9551	0	109	64.3	137			
Ethylbenzene	1.1	0.048	0.9551	0	112	70	130			
Xylenes, Total	3.3	0.096	2.865	0	114	70	130			
Surr: 1,2-Dichloroethane-d4	0.41		0.4776		85.2	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.4776		108	70	130			
Surr: Dibromofluoromethane	0.42		0.4776		87.5	70	130			
Surr: Toluene-d8	0.45		0.4776		93.6	70	130			

Sample ID: **1904351-093amsd** SampType: **MSD** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **SW17** Batch ID: **44157** RunNo: **59006**
Prep Date: **4/8/2019** Analysis Date: **4/9/2019** SeqNo: **1985798** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.025	0.9881	0	88.1	68.9	131	2.01	20	
Toluene	1.1	0.049	0.9881	0	109	64.3	137	2.74	20	
Ethylbenzene	1.1	0.049	0.9881	0	109	70	130	0.435	0	
Xylenes, Total	3.2	0.099	2.964	0	108	70	130	1.45	0	
Surr: 1,2-Dichloroethane-d4	0.42		0.4941		85.1	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.50		0.4941		101	70	130	0	0	
Surr: Dibromofluoromethane	0.45		0.4941		90.1	70	130	0	0	
Surr: Toluene-d8	0.47		0.4941		94.5	70	130	0	0	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904351**
16-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **1904351-053ams** SampType: **MS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **SP310** Batch ID: **44151** RunNo: **59036**
Prep Date: **4/5/2019** Analysis Date: **4/10/2019** SeqNo: **1988280** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.73	0.024	0.9470	0	77.2	68.9	131			
Toluene	0.92	0.047	0.9470	0.007329	95.9	64.3	137			
Ethylbenzene	0.95	0.047	0.9470	0	100	70	130			
Xylenes, Total	2.8	0.095	2.841	0	99.6	70	130			
Surr: 1,2-Dichloroethane-d4	0.40		0.4735		85.1	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.4735		103	70	130			
Surr: Dibromofluoromethane	0.43		0.4735		91.5	70	130			
Surr: Toluene-d8	0.44		0.4735		93.4	70	130			

Sample ID: **1904351-053amsd** SampType: **MSD** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **SP310** Batch ID: **44151** RunNo: **59036**
Prep Date: **4/5/2019** Analysis Date: **4/11/2019** SeqNo: **1988281** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.74	0.024	0.9634	0	77.3	68.9	131	1.86	20	
Toluene	0.95	0.048	0.9634	0.007329	97.7	64.3	137	3.62	20	
Ethylbenzene	0.97	0.048	0.9634	0	100	70	130	1.88	0	
Xylenes, Total	2.9	0.096	2.890	0	102	70	130	3.96	0	
Surr: 1,2-Dichloroethane-d4	0.39		0.4817		81.3	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.49		0.4817		101	70	130	0	0	
Surr: Dibromofluoromethane	0.42		0.4817		87.8	70	130	0	0	
Surr: Toluene-d8	0.46		0.4817		95.6	70	130	0	0	

Sample ID: **lcs-44151** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS** Batch ID: **44151** RunNo: **59036**
Prep Date: **4/5/2019** Analysis Date: **4/10/2019** SeqNo: **1988300** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.025	1.000	0	84.6	70	130			
Toluene	1.0	0.050	1.000	0	102	70	130			
Ethylbenzene	1.0	0.050	1.000	0	101	70	130			
Xylenes, Total	3.1	0.10	3.000	0	103	70	130			
Surr: 1,2-Dichloroethane-d4	0.43		0.5000		85.1	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		104	70	130			
Surr: Dibromofluoromethane	0.46		0.5000		92.4	70	130			
Surr: Toluene-d8	0.47		0.5000		93.7	70	130			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904351**
16-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **mb-44151** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **44151** RunNo: **59036**
Prep Date: **4/5/2019** Analysis Date: **4/10/2019** SeqNo: **1988301** 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: 1,2-Dichloroethane-d4	0.43		0.5000		86.3	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		102	70	130			
Surr: Dibromofluoromethane	0.46		0.5000		92.2	70	130			
Surr: Toluene-d8	0.48		0.5000		95.8	70	130			

Sample ID: **1904351-073ams** SampType: **MS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **SP330** Batch ID: **44153** RunNo: **59108**
Prep Date: **4/5/2019** Analysis Date: **4/11/2019** SeqNo: **1989624** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.67	0.023	0.9251	0	72.6	68.9	131			
Toluene	0.85	0.046	0.9251	0	91.7	64.3	137			
Ethylbenzene	0.87	0.046	0.9251	0	93.7	70	130			
Xylenes, Total	2.6	0.093	2.775	0	95.3	70	130			
Surr: 1,2-Dichloroethane-d4	0.39		0.4625		83.8	70	130			
Surr: 4-Bromofluorobenzene	0.45		0.4625		97.8	70	130			
Surr: Dibromofluoromethane	0.41		0.4625		88.3	70	130			
Surr: Toluene-d8	0.43		0.4625		93.2	70	130			

Sample ID: **1904351-073amsd** SampType: **MSD** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **SP330** Batch ID: **44153** RunNo: **59108**
Prep Date: **4/5/2019** Analysis Date: **4/11/2019** SeqNo: **1989625** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.77	0.025	0.9881	0	77.4	68.9	131	13.0	20	
Toluene	0.96	0.049	0.9881	0	97.1	64.3	137	12.3	20	
Ethylbenzene	1.0	0.049	0.9881	0	101	70	130	14.4	0	
Xylenes, Total	3.0	0.099	2.964	0	100	70	130	11.9	0	
Surr: 1,2-Dichloroethane-d4	0.41		0.4941		83.2	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.49		0.4941		100	70	130	0	0	
Surr: Dibromofluoromethane	0.44		0.4941		89.3	70	130	0	0	
Surr: Toluene-d8	0.47		0.4941		94.8	70	130	0	0	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904351**
16-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **lcs-44153** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS** Batch ID: **44153** RunNo: **59108**
Prep Date: **4/5/2019** Analysis Date: **4/11/2019** SeqNo: **1989809** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.025	1.000	0	83.1	70	130			
Toluene	0.99	0.050	1.000	0	99.4	70	130			
Ethylbenzene	1.0	0.050	1.000	0	101	70	130			
Xylenes, Total	3.0	0.10	3.000	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	0.41		0.5000		82.8	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		99.0	70	130			
Surr: Dibromofluoromethane	0.46		0.5000		91.2	70	130			
Surr: Toluene-d8	0.47		0.5000		93.1	70	130			

Sample ID: **mb-44153** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **44153** RunNo: **59108**
Prep Date: **4/5/2019** Analysis Date: **4/11/2019** SeqNo: **1989834** 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: 1,2-Dichloroethane-d4	0.41		0.5000		82.7	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.1	70	130			
Surr: Dibromofluoromethane	0.45		0.5000		90.3	70	130			
Surr: Toluene-d8	0.48		0.5000		96.0	70	130			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904351**
16-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **lcs-44148** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS** Batch ID: **44148** RunNo: **58990**
Prep Date: **4/5/2019** Analysis Date: **4/8/2019** SeqNo: **1984917** 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	97.2	70	130			
Surr: BFB	500		500.0		100	70	130			

Sample ID: **mb-44148** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS** Batch ID: **44148** RunNo: **58990**
Prep Date: **4/5/2019** Analysis Date: **4/8/2019** SeqNo: **1984918** 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	510		500.0		102	70	130			

Sample ID: **lcs-44157** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS** Batch ID: **44157** RunNo: **59006**
Prep Date: **4/8/2019** Analysis Date: **4/9/2019** SeqNo: **1985838** 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	97.7	70	130			
Surr: BFB	510		500.0		102	70	130			

Sample ID: **mb-44157** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS** Batch ID: **44157** RunNo: **59006**
Prep Date: **4/8/2019** Analysis Date: **4/9/2019** SeqNo: **1985839** 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	500		500.0		99.4	70	130			

Sample ID: **1904351-054ams** SampType: **MS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **SP311** Batch ID: **44151** RunNo: **59036**
Prep Date: **4/5/2019** Analysis Date: **4/11/2019** SeqNo: **1988311** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.9	24.70	0	90.1	68.2	135			
Surr: BFB	510		494.1		102	70	130			

Sample ID: **1904351-054amsd** SampType: **MSD** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **SP311** Batch ID: **44151** RunNo: **59036**
Prep Date: **4/5/2019** Analysis Date: **4/11/2019** SeqNo: **1988313** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904351**
16-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **1904351-054amsd** SampType: **MSD** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **SP311** Batch ID: **44151** RunNo: **59036**
Prep Date: **4/5/2019** Analysis Date: **4/11/2019** SeqNo: **1988313** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	24.75	0	89.4	68.2	135	0.604	20	
Surr: BFB	490		495.0		99.6	70	130	0	0	

Sample ID: **lcs-44151** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS** Batch ID: **44151** RunNo: **59036**
Prep Date: **4/5/2019** Analysis Date: **4/10/2019** SeqNo: **1988353** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.3	70	130			
Surr: BFB	510		500.0		102	70	130			

Sample ID: **mb-44151** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS** Batch ID: **44151** RunNo: **59036**
Prep Date: **4/5/2019** Analysis Date: **4/10/2019** SeqNo: **1988355** 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	520		500.0		103	70	130			

Sample ID: **1904351-074ams** SampType: **MS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **SP331** Batch ID: **44153** RunNo: **59108**
Prep Date: **4/5/2019** Analysis Date: **4/11/2019** SeqNo: **1989662** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	4.7	23.36	0	86.4	68.2	135			
Surr: BFB	470		467.3		101	70	130			

Sample ID: **1904351-074amsd** SampType: **MSD** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **SP331** Batch ID: **44153** RunNo: **59108**
Prep Date: **4/5/2019** Analysis Date: **4/11/2019** SeqNo: **1989663** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.9	24.41	0	93.8	68.2	135	12.6	20	
Surr: BFB	500		488.3		102	70	130	0	0	

Sample ID: **lcs-44153** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS** Batch ID: **44153** RunNo: **59108**
Prep Date: **4/5/2019** Analysis Date: **4/11/2019** SeqNo: **1989689** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904351**
16-Apr-19

Client: WPX Energy
Project: LVP SWD

Sample ID: **lcs-44153** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS** Batch ID: **44153** RunNo: **59108**
Prep Date: **4/5/2019** Analysis Date: **4/11/2019** SeqNo: **1989689** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	102	70	130			
Surr: BFB	510		500.0		102	70	130			

Sample ID: **mb-44153** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS** Batch ID: **44153** RunNo: **59108**
Prep Date: **4/5/2019** Analysis Date: **4/11/2019** SeqNo: **1989691** 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	500		500.0		101	70	130			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **1904351** RcptNo: **1**

Received By: **Leah Baca** **4/5/2019 8:45:00 AM** Leah Baca

Completed By: **Leah Baca** **4/5/2019 9:55:41 AM** Leah Baca

Reviewed By:

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: _____

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	3.6	Good	Yes			
2	2.4	Good	Yes			

Chain-of-Custody Record

Client: WPX Carlsbad

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day turn
☒ Standard ☐ Rush

Project Name: LVP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.6, 2.4 C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1904351	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
4/3/2019		Soil	SP258	4oz (1)	ice	-001	X		X					X								
4/3/2019			SP259			-002																
"			SP260			-003																
			SP261			-004																
			SP262			-005																
			SP263			-006																
			SP264			-007																
			SP265			-008																
			SP266			-009																
			SP267			-010																
			SP268			-011																
			SP269			-012																

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/4/2019	11:50	Kevin Smith	H. Galvez	4-4-19	11:50 AM
Date:	Time:	Relinquished by:	Received by:	Date	Time
		H. Galvez	Courier Leah	4/5/19	0945

Remarks: Report to: Debbie Watson, Kevin Smith, Kris Rowe

Chain-of-Custody Record

Client: WPX Carlsbad

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day turn
☒ Standard ☐ Rush

Project Name: LVT SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.6, 2.4 C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1904351	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
4/3/2019		Soil	SP270	4oz(1)	ice	-013	X		X					X								
			SP271			-014																
			SP272			-015																
			SP273			-016																
			SP274			-017																
			SP275			-018																
			SP276			-019																
			SP277			-020																
			SP278			-021																
			SP279			-022																
			SP280			-023																
			SP281			-024																

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/4/2019	11:50	Kevin Smith	[signature]	4-4-19	11:50
Date:	Time:	Relinquished by:	Received by: Leah	4/5/19	0845

Remarks:

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

Chain-of-Custody Record

Client: WPX Carlsbad

Mailing Address: On File

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day turn
☒ Standard ☐ Rush

Project Name: LVP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.6, 2.4C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1904351	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
4/3/2019		Soil	SP282	4 oz (1)	ice	-025	X		X					X							
			SP283			-026															
			SP284			-027															
			SP285			-028															
			SP286			-029															
			SP287			-030															
			SP288			-031															
			SP289			-032															
			SP290			-033															
			SP291			-034															
			SP292			-035															
			SP293			-036															

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/5/2019	11:50	Kevin Dunn	[signature]	4-4-19	11:50 am
Date:	Time:	Relinquished by:	Received by:	Date	Time
			LB	4/5/19	0845

Remarks:

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

of-Custody Record

WPX Carlsbad

Mai... ress: 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 turn

☒ Standard ☐ Rush

Project Name: LVP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

# of Coolers: 2

Cooler Temp (including CF): 2.4, 3.6 C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1904351	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	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
4/3/2019		soil	SP294	4oz (1)	ice	-037	X	X					X			
			SP295			-038										
			SP296			-039										
			SP297			-040										
			SP298			-041										
			SP299			-042										
			SP300			-043										
			SP301			-044										
			SP302			-045										
			SP303			-046										
			SP304			-047										
			SP305			-048										

Date	Time	Relinquished by	Received by	Via	Date	Time
4/4/2019	11:50	Kevin Dixon	[signature]		4-4-19	11:50
			[signature]	Courier	4/5/19	0845

Remarks:

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

Chain-of-Custody Record

WPX Carlsbad

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day turn
☒ Standard ☐ Rush

Project Name: LVP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.6, 2.4 C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1904351	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
4/3/2019		Soil	SP306	4oz (1)	ice	-049	X		X					X								
			SP307			-050																
			SP308			-051																
			SP309			-052																
			SP310			-053																
			SP311			-054																
			SP312			-055																
			SP313			-056																
			SP314			-057																
			SP315			-058																
			SP316			-059																
			SP317			-060																

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/5/2019	11:50	Kevin Smith	[signature]	4-4-19	11:50
Date:	Time:	Relinquished by:	Received by:	Date	Time
			[signature]	4/5/19	0845

Remarks:

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

Chain-of-Custody Record

Client: WPX Carlsbad

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day turn
☒ Standard ☐ Rush

Project Name: LUP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.6, 2.4C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1904351	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
4/3/2019		Soil	SP318	4oz (1)	ice	-061	X		X					X								
			SP319			-062																
			SP320			-063																
			SP321			-064																
			SP322			-065																
			SP323			-066																
			SP324			-067																
			SP325			-068																
			SP326			-069																
			SP327			-070																
			SP328			-071																
			SP329			-072																

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/5/2019	11:50	Kevin Smith	[signature]	4-4-19	11:50
Date:	Time:	Relinquished by:	Received by:	Date	Time
			[signature]	4/5/19	0845

Remarks:

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

Chain-of-Custody Record

Client: WPX Carlsbad

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day turn
☒ Standard ☐ Rush

Project Name: LUP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.6, 2.4 C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1904351	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
4/3/2019		soil	SP330	4 oz (1)	ice	-073																
			SP331			-074																
			SP332			-075																
			SP333			-076																
			SP334			-077																
			SP335			-078																
			SP336			-079																
			SP337			-080																
			SP338			-081																
			SP339			-082																
			SP340			-083																
			SP341			-084																

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/5/2019	11:50	[signature]	[signature]	4-4-19	11:50
Date:	Time:	Relinquished by:	Received by:	Date	Time
			[signature]	4/5/19	0845

Remarks:

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

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Client: WTX 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 turn
☒ Standard ☐ Rush

Project Name: LVP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

# of Coolers: 2

Cooler Temp(including CF): 2.4, 3.6C

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1904351	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	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
4/3/2019		Soil	SW9	4 oz (1)	ice	-085	X	X					X			
			SW10			-086										
			SW11			-087										
			SW12			-088										
			SW13			-089										
			SW14			-090										
			SW15			-091										
			SW16			-092										
			SW17			-093										
			SW18			-094										
			SW19			-095										
			SW20			-096										

Date	Time	Relinquished by	Received by	Via	Date	Time
4/4/2019	11:50	Kevin Dixon	H. Haley		4-4-19	11:50
			Leah	Courier	4/5/19	0845

Remarks:

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

Chain-of-Custody Record

Client: WPX 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 turn
☒ Standard ☐ Rush

Project Name: LVP SWD

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

# of Coolers: 2

Cooler Temp (including CF): 2.4, 3.6 C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1904357	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	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
4/3/2019		Soil	SW21	4 oz (1)	ice	-097	X	X					X			
			SW22			-098										
			SW23			-099 ~~-100~~										
			SW24			-100										
			SW25			-101										
			SW26			-102										
			SW27			-103										
			SW28			-104										
			SW29			-105										
			SW30			-106										
			~~SW31~~			-107										
			~~SP~~	LB 4/9/19	Did Not receive											

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
4/4/19	11:50	Kevin Smith	[illegible]		4-4-19	11:50
Date:	Time:	Relinquished by:	Received by:	Via: Courier	Date	Time
			[illegible]		4/5/19	0845

Remarks:

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

Chain-of-Custody Record

Client: WPX 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 tur
☒ Standard ☐ Rush

Project Name: LVT SWD #1

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp (including CF):

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	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	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
4/3/2019		Soil	SP257	4oz (1)	ice	1904351-107	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
4/9/2019		Kevin Smith				
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks: Received updated COC on 4/9/19

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

July 10, 2019

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

RE: LVP SWD 1 OrderNo.: 1906E98

Dear Kris Rowe:

Hall Environmental Analysis Laboratory received 60 sample(s) on 6/27/2019 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-001 **Matrix:** SOIL

Client Sample ID: SP342
Collection Date: 6/26/2019
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	260	60		mg/Kg	20	7/1/2019 1:33:49 PM	45930
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	8.6		mg/Kg	1	6/30/2019 4:13:53 AM	45903
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	6/30/2019 4:13:53 AM	45903
Surr: DNOP	89.3	70-130		%Rec	1	6/30/2019 4:13:53 AM	45903
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/28/2019 9:07:41 PM	45877
Surr: BFB	99.5	73.8-119		%Rec	1	6/28/2019 9:07:41 PM	45877
EPA METHOD 8260B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/29/2019 11:39:57 PM	45877
Toluene	ND	0.049		mg/Kg	1	6/29/2019 11:39:57 PM	45877
Ethylbenzene	ND	0.049		mg/Kg	1	6/29/2019 11:39:57 PM	45877
Xylenes, Total	ND	0.099		mg/Kg	1	6/29/2019 11:39:57 PM	45877
Surr: Dibromofluoromethane	87.7	70-130		%Rec	1	6/29/2019 11:39:57 PM	45877
Surr: 1,2-Dichloroethane-d4	86.1	70-130		%Rec	1	6/29/2019 11:39:57 PM	45877
Surr: Toluene-d8	97.2	70-130		%Rec	1	6/29/2019 11:39:57 PM	45877
Surr: 4-Bromofluorobenzene	98.7	70-130		%Rec	1	6/29/2019 11:39:57 PM	45877

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-002 **Matrix:** SOIL

Client Sample ID: SP343
Collection Date: 6/26/2019
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	220	60		mg/Kg	20	7/1/2019 1:46:13 PM	45930
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	6/30/2019 4:38:22 AM	45903
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	6/30/2019 4:38:22 AM	45903
Surr: DNOP	68.1	70-130	S	%Rec	1	6/30/2019 4:38:22 AM	45903
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/28/2019 9:30:18 PM	45877
Surr: BFB	101	73.8-119		%Rec	1	6/28/2019 9:30:18 PM	45877
EPA METHOD 8260B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 12:09:05 AM	45877
Toluene	ND	0.049		mg/Kg	1	6/30/2019 12:09:05 AM	45877
Ethylbenzene	ND	0.049		mg/Kg	1	6/30/2019 12:09:05 AM	45877
Xylenes, Total	ND	0.098		mg/Kg	1	6/30/2019 12:09:05 AM	45877
Surr: Dibromofluoromethane	91.6	70-130		%Rec	1	6/30/2019 12:09:05 AM	45877
Surr: 1,2-Dichloroethane-d4	86.2	70-130		%Rec	1	6/30/2019 12:09:05 AM	45877
Surr: Toluene-d8	109	70-130		%Rec	1	6/30/2019 12:09:05 AM	45877
Surr: 4-Bromofluorobenzene	94.3	70-130		%Rec	1	6/30/2019 12:09:05 AM	45877

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-003 **Matrix:** SOIL

Client Sample ID: SP344
Collection Date: 6/26/2019
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	810	60		mg/Kg	20	7/1/2019 1:58:37 PM	45930
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/30/2019 5:02:52 AM	45903
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/30/2019 5:02:52 AM	45903
Surr: DNOP	66.8	70-130	S	%Rec	1	6/30/2019 5:02:52 AM	45903
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/29/2019 11:07:11 PM	45880
Surr: BFB	94.5	73.8-119		%Rec	1	6/29/2019 11:07:11 PM	45880
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	6/29/2019 11:07:11 PM	45880
Toluene	ND	0.048		mg/Kg	1	6/29/2019 11:07:11 PM	45880
Ethylbenzene	ND	0.048		mg/Kg	1	6/29/2019 11:07:11 PM	45880
Xylenes, Total	ND	0.097		mg/Kg	1	6/29/2019 11:07:11 PM	45880
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	6/29/2019 11:07:11 PM	45880

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-004 **Matrix:** SOIL

Client Sample ID: SP345
Collection Date: 6/26/2019
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	400	61		mg/Kg	20	7/1/2019 2:11:02 PM	45930
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	6/30/2019 5:27:12 AM	45903
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/30/2019 5:27:12 AM	45903
Surr: DNOP	46.1	70-130	S	%Rec	1	6/30/2019 5:27:12 AM	45903
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/30/2019 12:19:12 AM	45880
Surr: BFB	101	73.8-119		%Rec	1	6/30/2019 12:19:12 AM	45880
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 12:19:12 AM	45880
Toluene	ND	0.050		mg/Kg	1	6/30/2019 12:19:12 AM	45880
Ethylbenzene	ND	0.050		mg/Kg	1	6/30/2019 12:19:12 AM	45880
Xylenes, Total	ND	0.10		mg/Kg	1	6/30/2019 12:19:12 AM	45880
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	6/30/2019 12:19:12 AM	45880

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-005 **Matrix:** SOIL

Client Sample ID: SP346
Collection Date: 6/26/2019
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	230	60		mg/Kg	20	7/1/2019 2:23:26 PM	45930
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/30/2019 5:51:40 AM	45903
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/30/2019 5:51:40 AM	45903
Surr: DNOP	83.7	70-130		%Rec	1	6/30/2019 5:51:40 AM	45903
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/30/2019 1:32:13 AM	45880
Surr: BFB	96.5	73.8-119		%Rec	1	6/30/2019 1:32:13 AM	45880
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 1:32:13 AM	45880
Toluene	ND	0.050		mg/Kg	1	6/30/2019 1:32:13 AM	45880
Ethylbenzene	ND	0.050		mg/Kg	1	6/30/2019 1:32:13 AM	45880
Xylenes, Total	ND	0.099		mg/Kg	1	6/30/2019 1:32:13 AM	45880
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	6/30/2019 1:32:13 AM	45880

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-006 **Matrix:** SOIL

Client Sample ID: SP347
Collection Date: 6/26/2019
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	250	60		mg/Kg	20	7/1/2019 2:35:50 PM	45930
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	6/30/2019 6:16:09 AM	45903
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/30/2019 6:16:09 AM	45903
Surr: DNOP	83.3	70-130		%Rec	1	6/30/2019 6:16:09 AM	45903
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/30/2019 1:56:18 AM	45880
Surr: BFB	94.3	73.8-119		%Rec	1	6/30/2019 1:56:18 AM	45880
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	6/30/2019 1:56:18 AM	45880
Toluene	ND	0.049		mg/Kg	1	6/30/2019 1:56:18 AM	45880
Ethylbenzene	ND	0.049		mg/Kg	1	6/30/2019 1:56:18 AM	45880
Xylenes, Total	ND	0.097		mg/Kg	1	6/30/2019 1:56:18 AM	45880
Surr: 4-Bromofluorobenzene	99.4	80-120		%Rec	1	6/30/2019 1:56:18 AM	45880

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-007 **Matrix:** SOIL

Client Sample ID: SP348
Collection Date: 6/26/2019
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	120	59		mg/Kg	20	7/1/2019 2:48:15 PM	45930
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	6/30/2019 6:40:37 AM	45903
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	6/30/2019 6:40:37 AM	45903
Surr: DNOP	51.9	70-130	S	%Rec	1	6/30/2019 6:40:37 AM	45903
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/30/2019 2:20:41 AM	45880
Surr: BFB	98.0	73.8-119		%Rec	1	6/30/2019 2:20:41 AM	45880
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	6/30/2019 2:20:41 AM	45880
Toluene	ND	0.049		mg/Kg	1	6/30/2019 2:20:41 AM	45880
Ethylbenzene	ND	0.049		mg/Kg	1	6/30/2019 2:20:41 AM	45880
Xylenes, Total	ND	0.098		mg/Kg	1	6/30/2019 2:20:41 AM	45880
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	6/30/2019 2:20:41 AM	45880

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-008 **Matrix:** SOIL

Client Sample ID: SP349
Collection Date: 6/26/2019
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	220	60		mg/Kg	20	7/1/2019 3:00:40 PM	45930
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/1/2019 10:48:00 AM	45905
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/1/2019 10:48:00 AM	45905
Surr: DNOP	58.6	70-130	S	%Rec	1	7/1/2019 10:48:00 AM	45905
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/30/2019 2:44:54 AM	45880
Surr: BFB	96.8	73.8-119		%Rec	1	6/30/2019 2:44:54 AM	45880
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	6/30/2019 2:44:54 AM	45880
Toluene	ND	0.048		mg/Kg	1	6/30/2019 2:44:54 AM	45880
Ethylbenzene	ND	0.048		mg/Kg	1	6/30/2019 2:44:54 AM	45880
Xylenes, Total	ND	0.096		mg/Kg	1	6/30/2019 2:44:54 AM	45880
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	6/30/2019 2:44:54 AM	45880

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-009 **Matrix:** SOIL

Client Sample ID: SP350
Collection Date: 6/26/2019
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	250	60		mg/Kg	20	7/1/2019 3:37:54 PM	45930
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/1/2019 12:00:21 PM	45905
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/1/2019 12:00:21 PM	45905
Surr: DNOP	79.2	70-130		%Rec	1	7/1/2019 12:00:21 PM	45905
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/30/2019 3:09:07 AM	45880
Surr: BFB	95.1	73.8-119		%Rec	1	6/30/2019 3:09:07 AM	45880
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	6/30/2019 3:09:07 AM	45880
Toluene	ND	0.048		mg/Kg	1	6/30/2019 3:09:07 AM	45880
Ethylbenzene	ND	0.048		mg/Kg	1	6/30/2019 3:09:07 AM	45880
Xylenes, Total	ND	0.096		mg/Kg	1	6/30/2019 3:09:07 AM	45880
Surr: 4-Bromofluorobenzene	99.5	80-120		%Rec	1	6/30/2019 3:09:07 AM	45880

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-010 **Matrix:** SOIL

Client Sample ID: SP351
Collection Date: 6/26/2019
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	330	60		mg/Kg	20	7/1/2019 3:50:18 PM	45930
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/1/2019 12:24:32 PM	45905
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	7/1/2019 12:24:32 PM	45905
Surr: DNOP	78.8	70-130		%Rec	1	7/1/2019 12:24:32 PM	45905
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/30/2019 3:33:25 AM	45880
Surr: BFB	103	73.8-119		%Rec	1	6/30/2019 3:33:25 AM	45880
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	6/30/2019 3:33:25 AM	45880
Toluene	ND	0.048		mg/Kg	1	6/30/2019 3:33:25 AM	45880
Ethylbenzene	ND	0.048		mg/Kg	1	6/30/2019 3:33:25 AM	45880
Xylenes, Total	ND	0.096		mg/Kg	1	6/30/2019 3:33:25 AM	45880
Surr: 4-Bromofluorobenzene	109	80-120		%Rec	1	6/30/2019 3:33:25 AM	45880

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-011 **Matrix:** SOIL

Client Sample ID: SP352
Collection Date: 6/26/2019
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	240	60		mg/Kg	20	7/1/2019 10:43:53 PM	45938
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/1/2019 12:48:46 PM	45905
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/1/2019 12:48:46 PM	45905
Surr: DNOP	80.4	70-130		%Rec	1	7/1/2019 12:48:46 PM	45905
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/30/2019 3:57:37 AM	45880
Surr: BFB	97.7	73.8-119		%Rec	1	6/30/2019 3:57:37 AM	45880
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 3:57:37 AM	45880
Toluene	ND	0.049		mg/Kg	1	6/30/2019 3:57:37 AM	45880
Ethylbenzene	ND	0.049		mg/Kg	1	6/30/2019 3:57:37 AM	45880
Xylenes, Total	ND	0.098		mg/Kg	1	6/30/2019 3:57:37 AM	45880
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	6/30/2019 3:57:37 AM	45880

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-012 **Matrix:** SOIL

Client Sample ID: SP353
Collection Date: 6/26/2019
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	170	60		mg/Kg	20	7/1/2019 10:56:17 PM	45938
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/1/2019 1:13:02 PM	45905
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/1/2019 1:13:02 PM	45905
Surr: DNOP	82.3	70-130		%Rec	1	7/1/2019 1:13:02 PM	45905
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/30/2019 4:21:40 AM	45880
Surr: BFB	97.9	73.8-119		%Rec	1	6/30/2019 4:21:40 AM	45880
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 4:21:40 AM	45880
Toluene	ND	0.050		mg/Kg	1	6/30/2019 4:21:40 AM	45880
Ethylbenzene	ND	0.050		mg/Kg	1	6/30/2019 4:21:40 AM	45880
Xylenes, Total	ND	0.099		mg/Kg	1	6/30/2019 4:21:40 AM	45880
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	6/30/2019 4:21:40 AM	45880

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-013 **Matrix:** SOIL

Client Sample ID: SP354
Collection Date: 6/26/2019 3:15:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	240	60		mg/Kg	20	7/1/2019 11:08:42 PM	45938
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/1/2019 1:37:19 PM	45905
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/1/2019 1:37:19 PM	45905
Surr: DNOP	64.9	70-130	S	%Rec	1	7/1/2019 1:37:19 PM	45905
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/30/2019 6:20:17 AM	45880
Surr: BFB	87.6	73.8-119		%Rec	1	6/30/2019 6:20:17 AM	45880
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 6:20:17 AM	45880
Toluene	ND	0.050		mg/Kg	1	6/30/2019 6:20:17 AM	45880
Ethylbenzene	ND	0.050		mg/Kg	1	6/30/2019 6:20:17 AM	45880
Xylenes, Total	ND	0.099		mg/Kg	1	6/30/2019 6:20:17 AM	45880
Surr: 4-Bromofluorobenzene	94.0	80-120		%Rec	1	6/30/2019 6:20:17 AM	45880

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-014 **Matrix:** SOIL

Client Sample ID: SP355
Collection Date: 6/26/2019 3:15:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	880	60		mg/Kg	20	7/1/2019 11:21:07 PM	45938
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/1/2019 2:01:39 PM	45905
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/1/2019 2:01:39 PM	45905
Surr: DNOP	70.9	70-130		%Rec	1	7/1/2019 2:01:39 PM	45905
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/30/2019 6:43:36 AM	45880
Surr: BFB	85.9	73.8-119		%Rec	1	6/30/2019 6:43:36 AM	45880
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	6/30/2019 6:43:36 AM	45880
Toluene	ND	0.049		mg/Kg	1	6/30/2019 6:43:36 AM	45880
Ethylbenzene	ND	0.049		mg/Kg	1	6/30/2019 6:43:36 AM	45880
Xylenes, Total	ND	0.097		mg/Kg	1	6/30/2019 6:43:36 AM	45880
Surr: 4-Bromofluorobenzene	92.2	80-120		%Rec	1	6/30/2019 6:43:36 AM	45880

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-015 **Matrix:** SOIL

Client Sample ID: SP356
Collection Date: 6/26/2019 3:15:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	150	60		mg/Kg	20	7/1/2019 11:33:32 PM	45938
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/1/2019 2:26:00 PM	45905
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/1/2019 2:26:00 PM	45905
Surr: DNOP	60.7	70-130	S	%Rec	1	7/1/2019 2:26:00 PM	45905
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/30/2019 7:06:59 AM	45880
Surr: BFB	88.6	73.8-119		%Rec	1	6/30/2019 7:06:59 AM	45880
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	6/30/2019 7:06:59 AM	45880
Toluene	ND	0.048		mg/Kg	1	6/30/2019 7:06:59 AM	45880
Ethylbenzene	ND	0.048		mg/Kg	1	6/30/2019 7:06:59 AM	45880
Xylenes, Total	ND	0.097		mg/Kg	1	6/30/2019 7:06:59 AM	45880
Surr: 4-Bromofluorobenzene	94.9	80-120		%Rec	1	6/30/2019 7:06:59 AM	45880

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-016 **Matrix:** SOIL

Client Sample ID: SP357
Collection Date: 6/26/2019 3:15:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	200	60		mg/Kg	20	7/1/2019 11:45:57 PM	45938
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/1/2019 2:50:20 PM	45905
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/1/2019 2:50:20 PM	45905
Surr: DNOP	71.7	70-130		%Rec	1	7/1/2019 2:50:20 PM	45905
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/30/2019 7:30:21 AM	45880
Surr: BFB	86.5	73.8-119		%Rec	1	6/30/2019 7:30:21 AM	45880
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	6/30/2019 7:30:21 AM	45880
Toluene	ND	0.049		mg/Kg	1	6/30/2019 7:30:21 AM	45880
Ethylbenzene	ND	0.049		mg/Kg	1	6/30/2019 7:30:21 AM	45880
Xylenes, Total	ND	0.098		mg/Kg	1	6/30/2019 7:30:21 AM	45880
Surr: 4-Bromofluorobenzene	93.6	80-120		%Rec	1	6/30/2019 7:30:21 AM	45880

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-017 **Matrix:** SOIL

Client Sample ID: SP358
Collection Date: 6/26/2019 3:15:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	210	60		mg/Kg	20	7/2/2019 12:47:59 AM	45938
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	7/1/2019 3:14:41 PM	45905
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/1/2019 3:14:41 PM	45905
Surr: DNOP	63.6	70-130	S	%Rec	1	7/1/2019 3:14:41 PM	45905
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/30/2019 7:53:50 AM	45880
Surr: BFB	87.0	73.8-119		%Rec	1	6/30/2019 7:53:50 AM	45880
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	6/30/2019 7:53:50 AM	45880
Toluene	ND	0.049		mg/Kg	1	6/30/2019 7:53:50 AM	45880
Ethylbenzene	ND	0.049		mg/Kg	1	6/30/2019 7:53:50 AM	45880
Xylenes, Total	ND	0.097		mg/Kg	1	6/30/2019 7:53:50 AM	45880
Surr: 4-Bromofluorobenzene	94.3	80-120		%Rec	1	6/30/2019 7:53:50 AM	45880

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-018 **Matrix:** SOIL

Client Sample ID: SP359
Collection Date: 6/26/2019 3:15:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	260	60		mg/Kg	20	7/2/2019 1:00:24 AM	45938
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/1/2019 3:38:57 PM	45905
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/1/2019 3:38:57 PM	45905
Surr: DNOP	63.7	70-130	S	%Rec	1	7/1/2019 3:38:57 PM	45905
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/30/2019 8:17:12 AM	45880
Surr: BFB	86.5	73.8-119		%Rec	1	6/30/2019 8:17:12 AM	45880
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 8:17:12 AM	45880
Toluene	ND	0.049		mg/Kg	1	6/30/2019 8:17:12 AM	45880
Ethylbenzene	ND	0.049		mg/Kg	1	6/30/2019 8:17:12 AM	45880
Xylenes, Total	ND	0.098		mg/Kg	1	6/30/2019 8:17:12 AM	45880
Surr: 4-Bromofluorobenzene	94.2	80-120		%Rec	1	6/30/2019 8:17:12 AM	45880

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-019 **Matrix:** SOIL

Client Sample ID: SP360
Collection Date: 6/26/2019 3:15:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	220	60		mg/Kg	20	7/2/2019 1:12:48 AM	45938
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/1/2019 4:03:08 PM	45905
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/1/2019 4:03:08 PM	45905
Surr: DNOP	69.4	70-130	S	%Rec	1	7/1/2019 4:03:08 PM	45905
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/30/2019 8:40:44 AM	45880
Surr: BFB	85.8	73.8-119		%Rec	1	6/30/2019 8:40:44 AM	45880
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 8:40:44 AM	45880
Toluene	ND	0.050		mg/Kg	1	6/30/2019 8:40:44 AM	45880
Ethylbenzene	ND	0.050		mg/Kg	1	6/30/2019 8:40:44 AM	45880
Xylenes, Total	ND	0.099		mg/Kg	1	6/30/2019 8:40:44 AM	45880
Surr: 4-Bromofluorobenzene	93.0	80-120		%Rec	1	6/30/2019 8:40:44 AM	45880

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-020 **Matrix:** SOIL

Client Sample ID: SP361
Collection Date: 6/26/2019 3:15:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	120	60		mg/Kg	20	7/2/2019 1:25:13 AM	45938
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/1/2019 4:27:13 PM	45905
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/1/2019 4:27:13 PM	45905
Surr: DNOP	52.8	70-130	S	%Rec	1	7/1/2019 4:27:13 PM	45905
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/30/2019 9:04:04 AM	45880
Surr: BFB	86.8	73.8-119		%Rec	1	6/30/2019 9:04:04 AM	45880
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	6/30/2019 9:04:04 AM	45880
Toluene	ND	0.048		mg/Kg	1	6/30/2019 9:04:04 AM	45880
Ethylbenzene	ND	0.048		mg/Kg	1	6/30/2019 9:04:04 AM	45880
Xylenes, Total	ND	0.096		mg/Kg	1	6/30/2019 9:04:04 AM	45880
Surr: 4-Bromofluorobenzene	94.0	80-120		%Rec	1	6/30/2019 9:04:04 AM	45880

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-021 **Matrix:** SOIL

Client Sample ID: SP362
Collection Date: 6/26/2019 3:15:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	180	60		mg/Kg	20	7/2/2019 1:37:37 AM	45938
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/1/2019 4:51:13 PM	45905
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/1/2019 4:51:13 PM	45905
Surr: DNOP	59.3	70-130	S	%Rec	1	7/1/2019 4:51:13 PM	45905
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/30/2019 9:27:29 AM	45880
Surr: BFB	85.7	73.8-119		%Rec	1	6/30/2019 9:27:29 AM	45880
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	6/30/2019 9:27:29 AM	45880
Toluene	ND	0.049		mg/Kg	1	6/30/2019 9:27:29 AM	45880
Ethylbenzene	ND	0.049		mg/Kg	1	6/30/2019 9:27:29 AM	45880
Xylenes, Total	ND	0.098		mg/Kg	1	6/30/2019 9:27:29 AM	45880
Surr: 4-Bromofluorobenzene	92.0	80-120		%Rec	1	6/30/2019 9:27:29 AM	45880

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-022 **Matrix:** SOIL

Client Sample ID: SP363
Collection Date: 6/26/2019 3:15:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	99	60		mg/Kg	20	7/2/2019 1:50:01 AM	45938
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	7/1/2019 5:15:18 PM	45905
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/1/2019 5:15:18 PM	45905
Surr: DNOP	68.0	70-130	S	%Rec	1	7/1/2019 5:15:18 PM	45905
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/30/2019 9:50:53 AM	45880
Surr: BFB	84.6	73.8-119		%Rec	1	6/30/2019 9:50:53 AM	45880
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 9:50:53 AM	45880
Toluene	ND	0.049		mg/Kg	1	6/30/2019 9:50:53 AM	45880
Ethylbenzene	ND	0.049		mg/Kg	1	6/30/2019 9:50:53 AM	45880
Xylenes, Total	ND	0.099		mg/Kg	1	6/30/2019 9:50:53 AM	45880
Surr: 4-Bromofluorobenzene	91.5	80-120		%Rec	1	6/30/2019 9:50:53 AM	45880

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-023 **Matrix:** SOIL

Client Sample ID: SP364
Collection Date: 6/26/2019 3:15:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	180	60		mg/Kg	20	7/2/2019 2:02:26 AM	45938
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	7/1/2019 5:39:36 PM	45905
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	7/1/2019 5:39:36 PM	45905
Surr: DNOP	71.2	70-130		%Rec	1	7/1/2019 5:39:36 PM	45905
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/30/2019 12:34:42 PM	45881
Surr: BFB	94.8	73.8-119		%Rec	1	6/30/2019 12:34:42 PM	45881
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 12:34:42 PM	45881
Toluene	ND	0.050		mg/Kg	1	6/30/2019 12:34:42 PM	45881
Ethylbenzene	ND	0.050		mg/Kg	1	6/30/2019 12:34:42 PM	45881
Xylenes, Total	ND	0.10		mg/Kg	1	6/30/2019 12:34:42 PM	45881
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	6/30/2019 12:34:42 PM	45881

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-024 **Matrix:** SOIL

Client Sample ID: SP365
Collection Date: 6/26/2019 3:15:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	190	60		mg/Kg	20	7/2/2019 2:14:51 AM	45938
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	7/1/2019 6:04:03 PM	45905
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/1/2019 6:04:03 PM	45905
Surr: DNOP	57.3	70-130	S	%Rec	1	7/1/2019 6:04:03 PM	45905
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/30/2019 1:45:07 PM	45881
Surr: BFB	88.6	73.8-119		%Rec	1	6/30/2019 1:45:07 PM	45881
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 1:45:07 PM	45881
Toluene	ND	0.050		mg/Kg	1	6/30/2019 1:45:07 PM	45881
Ethylbenzene	ND	0.050		mg/Kg	1	6/30/2019 1:45:07 PM	45881
Xylenes, Total	ND	0.10		mg/Kg	1	6/30/2019 1:45:07 PM	45881
Surr: 4-Bromofluorobenzene	94.7	80-120		%Rec	1	6/30/2019 1:45:07 PM	45881

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-025 **Matrix:** SOIL

Client Sample ID: SP366
Collection Date: 6/26/2019 3:20:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	140	60		mg/Kg	20	7/2/2019 2:52:04 AM	45938
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	7/1/2019 6:28:36 PM	45905
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/1/2019 6:28:36 PM	45905
Surr: DNOP	70.8	70-130		%Rec	1	7/1/2019 6:28:36 PM	45905
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/30/2019 2:55:43 PM	45881
Surr: BFB	89.9	73.8-119		%Rec	1	6/30/2019 2:55:43 PM	45881
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 2:55:43 PM	45881
Toluene	ND	0.049		mg/Kg	1	6/30/2019 2:55:43 PM	45881
Ethylbenzene	ND	0.049		mg/Kg	1	6/30/2019 2:55:43 PM	45881
Xylenes, Total	ND	0.099		mg/Kg	1	6/30/2019 2:55:43 PM	45881
Surr: 4-Bromofluorobenzene	96.2	80-120		%Rec	1	6/30/2019 2:55:43 PM	45881

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-026 **Matrix:** SOIL

Client Sample ID: SP367
Collection Date: 6/26/2019 3:20:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	160	60		mg/Kg	20	7/1/2019 10:52:14 PM	45943
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	7/1/2019 6:53:10 PM	45905
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/1/2019 6:53:10 PM	45905
Surr: DNOP	61.4	70-130	S	%Rec	1	7/1/2019 6:53:10 PM	45905
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/30/2019 3:19:17 PM	45881
Surr: BFB	87.0	73.8-119		%Rec	1	6/30/2019 3:19:17 PM	45881
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 3:19:17 PM	45881
Toluene	ND	0.050		mg/Kg	1	6/30/2019 3:19:17 PM	45881
Ethylbenzene	ND	0.050		mg/Kg	1	6/30/2019 3:19:17 PM	45881
Xylenes, Total	ND	0.10		mg/Kg	1	6/30/2019 3:19:17 PM	45881
Surr: 4-Bromofluorobenzene	93.1	80-120		%Rec	1	6/30/2019 3:19:17 PM	45881

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-027 **Matrix:** SOIL

Client Sample ID: SP368
Collection Date: 6/26/2019 3:20:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	180	60		mg/Kg	20	7/1/2019 11:29:28 PM	45943
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/1/2019 7:17:41 PM	45905
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/1/2019 7:17:41 PM	45905
Surr: DNOP	65.7	70-130	S	%Rec	1	7/1/2019 7:17:41 PM	45905
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/30/2019 3:42:54 PM	45881
Surr: BFB	87.1	73.8-119		%Rec	1	6/30/2019 3:42:54 PM	45881
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 3:42:54 PM	45881
Toluene	ND	0.050		mg/Kg	1	6/30/2019 3:42:54 PM	45881
Ethylbenzene	ND	0.050		mg/Kg	1	6/30/2019 3:42:54 PM	45881
Xylenes, Total	ND	0.10		mg/Kg	1	6/30/2019 3:42:54 PM	45881
Surr: 4-Bromofluorobenzene	92.7	80-120		%Rec	1	6/30/2019 3:42:54 PM	45881

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-028 **Matrix:** SOIL

Client Sample ID: SP369
Collection Date: 6/26/2019 3:20:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	170	60		mg/Kg	20	7/1/2019 11:41:52 PM	45943
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	6/29/2019 10:51:13 PM	45906
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/29/2019 10:51:13 PM	45906
Surr: DNOP	37.5	70-130	S	%Rec	1	6/29/2019 10:51:13 PM	45906
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/30/2019 4:06:27 PM	45881
Surr: BFB	89.6	73.8-119		%Rec	1	6/30/2019 4:06:27 PM	45881
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 4:06:27 PM	45881
Toluene	ND	0.050		mg/Kg	1	6/30/2019 4:06:27 PM	45881
Ethylbenzene	ND	0.050		mg/Kg	1	6/30/2019 4:06:27 PM	45881
Xylenes, Total	ND	0.10		mg/Kg	1	6/30/2019 4:06:27 PM	45881
Surr: 4-Bromofluorobenzene	94.8	80-120		%Rec	1	6/30/2019 4:06:27 PM	45881

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-029 **Matrix:** SOIL

Client Sample ID: SP370
Collection Date: 6/26/2019 3:20:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	200	60		mg/Kg	20	7/1/2019 11:54:17 PM	45943
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	6/29/2019 11:15:48 PM	45906
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	6/29/2019 11:15:48 PM	45906
Surr: DNOP	30.6	70-130	S	%Rec	1	6/29/2019 11:15:48 PM	45906
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/30/2019 4:30:06 PM	45881
Surr: BFB	89.5	73.8-119		%Rec	1	6/30/2019 4:30:06 PM	45881
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 4:30:06 PM	45881
Toluene	ND	0.049		mg/Kg	1	6/30/2019 4:30:06 PM	45881
Ethylbenzene	ND	0.049		mg/Kg	1	6/30/2019 4:30:06 PM	45881
Xylenes, Total	ND	0.098		mg/Kg	1	6/30/2019 4:30:06 PM	45881
Surr: 4-Bromofluorobenzene	95.1	80-120		%Rec	1	6/30/2019 4:30:06 PM	45881

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-030 **Matrix:** SOIL

Client Sample ID: SP371
Collection Date: 6/26/2019 3:20:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	240	60		mg/Kg	20	7/2/2019 12:06:42 AM	45943
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/29/2019 11:40:21 PM	45906
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/29/2019 11:40:21 PM	45906
Surr: DNOP	44.6	70-130	S	%Rec	1	6/29/2019 11:40:21 PM	45906
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/30/2019 4:53:47 PM	45881
Surr: BFB	89.8	73.8-119		%Rec	1	6/30/2019 4:53:47 PM	45881
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 4:53:47 PM	45881
Toluene	ND	0.049		mg/Kg	1	6/30/2019 4:53:47 PM	45881
Ethylbenzene	ND	0.049		mg/Kg	1	6/30/2019 4:53:47 PM	45881
Xylenes, Total	ND	0.098		mg/Kg	1	6/30/2019 4:53:47 PM	45881
Surr: 4-Bromofluorobenzene	94.7	80-120		%Rec	1	6/30/2019 4:53:47 PM	45881

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-031 **Matrix:** SOIL

Client Sample ID: SP372
Collection Date: 6/26/2019 3:20:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	230	60		mg/Kg	20	7/2/2019 12:19:07 AM	45943
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	6/30/2019 12:04:55 AM	45906
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/30/2019 12:04:55 AM	45906
Surr: DNOP	37.3	70-130	S	%Rec	1	6/30/2019 12:04:55 AM	45906
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/30/2019 5:17:24 PM	45881
Surr: BFB	90.5	73.8-119		%Rec	1	6/30/2019 5:17:24 PM	45881
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 5:17:24 PM	45881
Toluene	ND	0.049		mg/Kg	1	6/30/2019 5:17:24 PM	45881
Ethylbenzene	ND	0.049		mg/Kg	1	6/30/2019 5:17:24 PM	45881
Xylenes, Total	ND	0.098		mg/Kg	1	6/30/2019 5:17:24 PM	45881
Surr: 4-Bromofluorobenzene	96.5	80-120		%Rec	1	6/30/2019 5:17:24 PM	45881

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-032 **Matrix:** SOIL

Client Sample ID: SP373
Collection Date: 6/26/2019 3:20:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	170	60		mg/Kg	20	7/2/2019 12:31:31 AM	45943
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	6/30/2019 12:29:33 AM	45906
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/30/2019 12:29:33 AM	45906
Surr: DNOP	31.6	70-130	S	%Rec	1	6/30/2019 12:29:33 AM	45906
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/30/2019 5:41:00 PM	45881
Surr: BFB	89.6	73.8-119		%Rec	1	6/30/2019 5:41:00 PM	45881
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 5:41:00 PM	45881
Toluene	ND	0.050		mg/Kg	1	6/30/2019 5:41:00 PM	45881
Ethylbenzene	ND	0.050		mg/Kg	1	6/30/2019 5:41:00 PM	45881
Xylenes, Total	ND	0.099		mg/Kg	1	6/30/2019 5:41:00 PM	45881
Surr: 4-Bromofluorobenzene	95.0	80-120		%Rec	1	6/30/2019 5:41:00 PM	45881

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-033 **Matrix:** SOIL

Client Sample ID: SP374
Collection Date: 6/26/2019 3:20:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	200	60		mg/Kg	20	7/2/2019 12:43:55 AM	45943
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	6/30/2019 12:53:58 AM	45906
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/30/2019 12:53:58 AM	45906
Surr: DNOP	39.8	70-130	S	%Rec	1	6/30/2019 12:53:58 AM	45906
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/30/2019 7:38:34 PM	45881
Surr: BFB	85.7	73.8-119		%Rec	1	6/30/2019 7:38:34 PM	45881
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 7:38:34 PM	45881
Toluene	ND	0.050		mg/Kg	1	6/30/2019 7:38:34 PM	45881
Ethylbenzene	ND	0.050		mg/Kg	1	6/30/2019 7:38:34 PM	45881
Xylenes, Total	ND	0.10		mg/Kg	1	6/30/2019 7:38:34 PM	45881
Surr: 4-Bromofluorobenzene	90.8	80-120		%Rec	1	6/30/2019 7:38:34 PM	45881

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-034 **Matrix:** SOIL

Client Sample ID: SP375
Collection Date: 6/26/2019 3:20:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	210	60		mg/Kg	20	7/2/2019 1:21:09 AM	45943
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	6/30/2019 1:18:38 AM	45906
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/30/2019 1:18:38 AM	45906
Surr: DNOP	37.4	70-130	S	%Rec	1	6/30/2019 1:18:38 AM	45906
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/30/2019 8:02:01 PM	45881
Surr: BFB	84.6	73.8-119		%Rec	1	6/30/2019 8:02:01 PM	45881
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 8:02:01 PM	45881
Toluene	ND	0.050		mg/Kg	1	6/30/2019 8:02:01 PM	45881
Ethylbenzene	ND	0.050		mg/Kg	1	6/30/2019 8:02:01 PM	45881
Xylenes, Total	ND	0.10		mg/Kg	1	6/30/2019 8:02:01 PM	45881
Surr: 4-Bromofluorobenzene	89.5	80-120		%Rec	1	6/30/2019 8:02:01 PM	45881

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-035 **Matrix:** SOIL

Client Sample ID: SP376
Collection Date: 6/26/2019 3:20:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	300	60		mg/Kg	20	7/2/2019 1:33:33 AM	45943
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	6/30/2019 1:43:18 AM	45906
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/30/2019 1:43:18 AM	45906
Surr: DNOP	34.9	70-130	S	%Rec	1	6/30/2019 1:43:18 AM	45906
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/30/2019 8:25:23 PM	45881
Surr: BFB	86.7	73.8-119		%Rec	1	6/30/2019 8:25:23 PM	45881
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 8:25:23 PM	45881
Toluene	ND	0.050		mg/Kg	1	6/30/2019 8:25:23 PM	45881
Ethylbenzene	ND	0.050		mg/Kg	1	6/30/2019 8:25:23 PM	45881
Xylenes, Total	ND	0.10		mg/Kg	1	6/30/2019 8:25:23 PM	45881
Surr: 4-Bromofluorobenzene	92.1	80-120		%Rec	1	6/30/2019 8:25:23 PM	45881

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-036 **Matrix:** SOIL

Client Sample ID: SP377
Collection Date: 6/26/2019 3:20:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	150	60		mg/Kg	20	7/2/2019 1:45:58 AM	45943
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	6/30/2019 2:07:58 AM	45906
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/30/2019 2:07:58 AM	45906
Surr: DNOP	29.8	70-130	S	%Rec	1	6/30/2019 2:07:58 AM	45906
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/30/2019 8:48:45 PM	45881
Surr: BFB	85.6	73.8-119		%Rec	1	6/30/2019 8:48:45 PM	45881
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	6/30/2019 8:48:45 PM	45881
Toluene	ND	0.049		mg/Kg	1	6/30/2019 8:48:45 PM	45881
Ethylbenzene	ND	0.049		mg/Kg	1	6/30/2019 8:48:45 PM	45881
Xylenes, Total	ND	0.098		mg/Kg	1	6/30/2019 8:48:45 PM	45881
Surr: 4-Bromofluorobenzene	90.6	80-120		%Rec	1	6/30/2019 8:48:45 PM	45881

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-037 **Matrix:** SOIL

Client Sample ID: SP378
Collection Date: 6/26/2019 3:30:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	370	60		mg/Kg	20	7/2/2019 1:58:23 AM	45943
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	6/30/2019 2:32:28 AM	45906
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	6/30/2019 2:32:28 AM	45906
Surr: DNOP	38.6	70-130	S	%Rec	1	6/30/2019 2:32:28 AM	45906
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/30/2019 9:12:25 PM	45881
Surr: BFB	87.5	73.8-119		%Rec	1	6/30/2019 9:12:25 PM	45881
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 9:12:25 PM	45881
Toluene	ND	0.050		mg/Kg	1	6/30/2019 9:12:25 PM	45881
Ethylbenzene	ND	0.050		mg/Kg	1	6/30/2019 9:12:25 PM	45881
Xylenes, Total	ND	0.10		mg/Kg	1	6/30/2019 9:12:25 PM	45881
Surr: 4-Bromofluorobenzene	92.8	80-120		%Rec	1	6/30/2019 9:12:25 PM	45881

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-038 **Matrix:** SOIL

Client Sample ID: SP379
Collection Date: 6/26/2019 3:30:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	280	60		mg/Kg	20	7/2/2019 2:10:47 AM	45943
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	6/30/2019 2:57:03 AM	45906
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/30/2019 2:57:03 AM	45906
Surr: DNOP	38.5	70-130	S	%Rec	1	6/30/2019 2:57:03 AM	45906
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/30/2019 9:35:57 PM	45881
Surr: BFB	94.1	73.8-119		%Rec	1	6/30/2019 9:35:57 PM	45881
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 9:35:57 PM	45881
Toluene	ND	0.049		mg/Kg	1	6/30/2019 9:35:57 PM	45881
Ethylbenzene	ND	0.049		mg/Kg	1	6/30/2019 9:35:57 PM	45881
Xylenes, Total	ND	0.099		mg/Kg	1	6/30/2019 9:35:57 PM	45881
Surr: 4-Bromofluorobenzene	99.6	80-120		%Rec	1	6/30/2019 9:35:57 PM	45881

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-039 **Matrix:** SOIL

Client Sample ID: SP380
Collection Date: 6/26/2019 3:30:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	290	60		mg/Kg	20	7/2/2019 2:23:11 AM	45943
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	6/30/2019 3:21:36 AM	45906
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/30/2019 3:21:36 AM	45906
Surr: DNOP	23.3	70-130	S	%Rec	1	6/30/2019 3:21:36 AM	45906
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/30/2019 9:59:29 PM	45881
Surr: BFB	89.1	73.8-119		%Rec	1	6/30/2019 9:59:29 PM	45881
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 9:59:29 PM	45881
Toluene	ND	0.049		mg/Kg	1	6/30/2019 9:59:29 PM	45881
Ethylbenzene	ND	0.049		mg/Kg	1	6/30/2019 9:59:29 PM	45881
Xylenes, Total	ND	0.099		mg/Kg	1	6/30/2019 9:59:29 PM	45881
Surr: 4-Bromofluorobenzene	94.5	80-120		%Rec	1	6/30/2019 9:59:29 PM	45881

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-040 **Matrix:** SOIL

Client Sample ID: SP381
Collection Date: 6/26/2019 3:30:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	240	60		mg/Kg	20	7/5/2019 7:58:59 PM	46027
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	6/30/2019 3:46:16 AM	45906
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/30/2019 3:46:16 AM	45906
Surr: DNOP	36.6	70-130	S	%Rec	1	6/30/2019 3:46:16 AM	45906
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/30/2019 10:23:03 PM	45881
Surr: BFB	91.4	73.8-119		%Rec	1	6/30/2019 10:23:03 PM	45881
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 10:23:03 PM	45881
Toluene	ND	0.050		mg/Kg	1	6/30/2019 10:23:03 PM	45881
Ethylbenzene	ND	0.050		mg/Kg	1	6/30/2019 10:23:03 PM	45881
Xylenes, Total	ND	0.099		mg/Kg	1	6/30/2019 10:23:03 PM	45881
Surr: 4-Bromofluorobenzene	96.7	80-120		%Rec	1	6/30/2019 10:23:03 PM	45881

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-041 **Matrix:** SOIL

Client Sample ID: SP382
Collection Date: 6/26/2019 3:30:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	270	60		mg/Kg	20	7/5/2019 8:36:12 PM	46027
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	6/30/2019 4:10:50 AM	45906
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	6/30/2019 4:10:50 AM	45906
Surr: DNOP	29.9	70-130	S	%Rec	1	6/30/2019 4:10:50 AM	45906
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/30/2019 10:46:31 PM	45881
Surr: BFB	88.6	73.8-119		%Rec	1	6/30/2019 10:46:31 PM	45881
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.024		mg/Kg	1	6/30/2019 10:46:31 PM	45881
Toluene	ND	0.049		mg/Kg	1	6/30/2019 10:46:31 PM	45881
Ethylbenzene	ND	0.049		mg/Kg	1	6/30/2019 10:46:31 PM	45881
Xylenes, Total	ND	0.098		mg/Kg	1	6/30/2019 10:46:31 PM	45881
Surr: 4-Bromofluorobenzene	94.0	80-120		%Rec	1	6/30/2019 10:46:31 PM	45881

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-042 **Matrix:** SOIL

Client Sample ID: SP383
Collection Date: 6/26/2019 3:30:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	310	60		mg/Kg	20	7/5/2019 9:13:25 PM	46027
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	6/30/2019 4:35:29 AM	45906
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/30/2019 4:35:29 AM	45906
Surr: DNOP	44.3	70-130	S	%Rec	1	6/30/2019 4:35:29 AM	45906
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/30/2019 11:09:59 PM	45881
Surr: BFB	90.5	73.8-119		%Rec	1	6/30/2019 11:09:59 PM	45881
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.025		mg/Kg	1	6/30/2019 11:09:59 PM	45881
Toluene	ND	0.049		mg/Kg	1	6/30/2019 11:09:59 PM	45881
Ethylbenzene	ND	0.049		mg/Kg	1	6/30/2019 11:09:59 PM	45881
Xylenes, Total	ND	0.098		mg/Kg	1	6/30/2019 11:09:59 PM	45881
Surr: 4-Bromofluorobenzene	95.4	80-120		%Rec	1	6/30/2019 11:09:59 PM	45881

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-043 **Matrix:** SOIL

Client Sample ID: SP384
Collection Date: 6/26/2019 3:30:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	290	60		mg/Kg	20	7/5/2019 9:25:49 PM	46027
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	6/30/2019 5:00:08 AM	45906
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/30/2019 5:00:08 AM	45906
Surr: DNOP	34.3	70-130	S	%Rec	1	6/30/2019 5:00:08 AM	45906
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/1/2019 10:27:58 AM	45901
Surr: BFB	86.5	73.8-119		%Rec	1	7/1/2019 10:27:58 AM	45901
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/1/2019 10:27:58 AM	45901
Toluene	ND	0.050		mg/Kg	1	7/1/2019 10:27:58 AM	45901
Ethylbenzene	ND	0.050		mg/Kg	1	7/1/2019 10:27:58 AM	45901
Xylenes, Total	ND	0.099		mg/Kg	1	7/1/2019 10:27:58 AM	45901
Surr: 4-Bromofluorobenzene	92.1	80-120		%Rec	1	7/1/2019 10:27:58 AM	45901

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-044 **Matrix:** SOIL

Client Sample ID: SP385
Collection Date: 6/26/2019 3:30:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	270	60		mg/Kg	20	7/5/2019 9:38:14 PM	46027
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	6/30/2019 5:49:23 AM	45906
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/30/2019 5:49:23 AM	45906
Surr: DNOP	29.0	70-130	S	%Rec	1	6/30/2019 5:49:23 AM	45906
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/1/2019 11:38:38 AM	45901
Surr: BFB	86.3	73.8-119		%Rec	1	7/1/2019 11:38:38 AM	45901
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/1/2019 11:38:38 AM	45901
Toluene	ND	0.050		mg/Kg	1	7/1/2019 11:38:38 AM	45901
Ethylbenzene	ND	0.050		mg/Kg	1	7/1/2019 11:38:38 AM	45901
Xylenes, Total	ND	0.10		mg/Kg	1	7/1/2019 11:38:38 AM	45901
Surr: 4-Bromofluorobenzene	91.5	80-120		%Rec	1	7/1/2019 11:38:38 AM	45901

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-045 **Matrix:** SOIL

Client Sample ID: SP386
Collection Date: 6/26/2019 3:30:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	260	60		mg/Kg	20	7/5/2019 9:50:38 PM	46027
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	6/30/2019 6:14:05 AM	45906
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	6/30/2019 6:14:05 AM	45906
Surr: DNOP	32.4	70-130	S	%Rec	1	6/30/2019 6:14:05 AM	45906
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/1/2019 12:49:18 PM	45901
Surr: BFB	88.8	73.8-119		%Rec	1	7/1/2019 12:49:18 PM	45901
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/1/2019 12:49:18 PM	45901
Toluene	ND	0.050		mg/Kg	1	7/1/2019 12:49:18 PM	45901
Ethylbenzene	ND	0.050		mg/Kg	1	7/1/2019 12:49:18 PM	45901
Xylenes, Total	ND	0.10		mg/Kg	1	7/1/2019 12:49:18 PM	45901
Surr: 4-Bromofluorobenzene	93.9	80-120		%Rec	1	7/1/2019 12:49:18 PM	45901

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-046 **Matrix:** SOIL

Client Sample ID: SP387
Collection Date: 6/26/2019 3:30:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	310	60		mg/Kg	20	7/5/2019 10:03:03 PM	46027
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/29/2019 12:09:30 PM	45908
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/29/2019 12:09:30 PM	45908
Surr: DNOP	61.6	70-130	S	%Rec	1	6/29/2019 12:09:30 PM	45908
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/1/2019 1:12:53 PM	45901
Surr: BFB	87.2	73.8-119		%Rec	1	7/1/2019 1:12:53 PM	45901
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/1/2019 1:12:53 PM	45901
Toluene	ND	0.049		mg/Kg	1	7/1/2019 1:12:53 PM	45901
Ethylbenzene	ND	0.049		mg/Kg	1	7/1/2019 1:12:53 PM	45901
Xylenes, Total	ND	0.098		mg/Kg	1	7/1/2019 1:12:53 PM	45901
Surr: 4-Bromofluorobenzene	92.2	80-120		%Rec	1	7/1/2019 1:12:53 PM	45901

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-047 **Matrix:** SOIL

Client Sample ID: SP388
Collection Date: 6/26/2019 3:30:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	260	60		mg/Kg	20	7/5/2019 10:15:27 PM	46027
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	6/29/2019 1:23:48 PM	45908
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/29/2019 1:23:48 PM	45908
Surr: DNOP	47.0	70-130	S	%Rec	1	6/29/2019 1:23:48 PM	45908
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/1/2019 1:36:29 PM	45901
Surr: BFB	88.6	73.8-119		%Rec	1	7/1/2019 1:36:29 PM	45901
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/1/2019 1:36:29 PM	45901
Toluene	ND	0.049		mg/Kg	1	7/1/2019 1:36:29 PM	45901
Ethylbenzene	ND	0.049		mg/Kg	1	7/1/2019 1:36:29 PM	45901
Xylenes, Total	ND	0.098		mg/Kg	1	7/1/2019 1:36:29 PM	45901
Surr: 4-Bromofluorobenzene	93.0	80-120		%Rec	1	7/1/2019 1:36:29 PM	45901

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-048 **Matrix:** SOIL

Client Sample ID: SP389
Collection Date: 6/26/2019 3:30:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	530	60		mg/Kg	20	7/5/2019 10:27:51 PM	46027
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	6/29/2019 1:48:24 PM	45908
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/29/2019 1:48:24 PM	45908
Surr: DNOP	48.6	70-130	S	%Rec	1	6/29/2019 1:48:24 PM	45908
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/1/2019 2:00:06 PM	45901
Surr: BFB	89.0	73.8-119		%Rec	1	7/1/2019 2:00:06 PM	45901
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/1/2019 2:00:06 PM	45901
Toluene	ND	0.049		mg/Kg	1	7/1/2019 2:00:06 PM	45901
Ethylbenzene	ND	0.049		mg/Kg	1	7/1/2019 2:00:06 PM	45901
Xylenes, Total	ND	0.098		mg/Kg	1	7/1/2019 2:00:06 PM	45901
Surr: 4-Bromofluorobenzene	93.8	80-120		%Rec	1	7/1/2019 2:00:06 PM	45901

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-049 **Matrix:** SOIL

Client Sample ID: SP390
Collection Date: 6/26/2019 3:35:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	330	60		mg/Kg	20	7/5/2019 11:05:05 PM	46027
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/29/2019 2:13:03 PM	45908
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	6/29/2019 2:13:03 PM	45908
Surr: DNOP	52.1	70-130	S	%Rec	1	6/29/2019 2:13:03 PM	45908
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/1/2019 2:23:45 PM	45901
Surr: BFB	87.6	73.8-119		%Rec	1	7/1/2019 2:23:45 PM	45901
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/1/2019 2:23:45 PM	45901
Toluene	ND	0.050		mg/Kg	1	7/1/2019 2:23:45 PM	45901
Ethylbenzene	ND	0.050		mg/Kg	1	7/1/2019 2:23:45 PM	45901
Xylenes, Total	ND	0.10		mg/Kg	1	7/1/2019 2:23:45 PM	45901
Surr: 4-Bromofluorobenzene	92.4	80-120		%Rec	1	7/1/2019 2:23:45 PM	45901

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-050 **Matrix:** SOIL

Client Sample ID: SP391
Collection Date: 6/26/2019 3:35:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	250	60		mg/Kg	20	7/5/2019 11:17:30 PM	46027
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	6/29/2019 2:37:51 PM	45908
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/29/2019 2:37:51 PM	45908
Surr: DNOP	51.3	70-130	S	%Rec	1	6/29/2019 2:37:51 PM	45908
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/1/2019 2:47:22 PM	45901
Surr: BFB	89.3	73.8-119		%Rec	1	7/1/2019 2:47:22 PM	45901
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/1/2019 2:47:22 PM	45901
Toluene	ND	0.049		mg/Kg	1	7/1/2019 2:47:22 PM	45901
Ethylbenzene	ND	0.049		mg/Kg	1	7/1/2019 2:47:22 PM	45901
Xylenes, Total	ND	0.099		mg/Kg	1	7/1/2019 2:47:22 PM	45901
Surr: 4-Bromofluorobenzene	93.8	80-120		%Rec	1	7/1/2019 2:47:22 PM	45901

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-051 **Matrix:** SOIL

Client Sample ID: SP392
Collection Date: 6/26/2019 3:35:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	300	60		mg/Kg	20	7/5/2019 11:54:43 PM	46027
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/29/2019 3:02:38 PM	45908
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/29/2019 3:02:38 PM	45908
Surr: DNOP	55.8	70-130	S	%Rec	1	6/29/2019 3:02:38 PM	45908
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/1/2019 3:10:58 PM	45901
Surr: BFB	89.8	73.8-119		%Rec	1	7/1/2019 3:10:58 PM	45901
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/1/2019 3:10:58 PM	45901
Toluene	ND	0.050		mg/Kg	1	7/1/2019 3:10:58 PM	45901
Ethylbenzene	ND	0.050		mg/Kg	1	7/1/2019 3:10:58 PM	45901
Xylenes, Total	ND	0.10		mg/Kg	1	7/1/2019 3:10:58 PM	45901
Surr: 4-Bromofluorobenzene	95.2	80-120		%Rec	1	7/1/2019 3:10:58 PM	45901

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-052 **Matrix:** SOIL

Client Sample ID: SP393
Collection Date: 6/26/2019 3:35:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	310	60		mg/Kg	20	7/6/2019 12:07:08 AM	46027
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	6/29/2019 3:27:36 PM	45908
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/29/2019 3:27:36 PM	45908
Surr: DNOP	56.8	70-130	S	%Rec	1	6/29/2019 3:27:36 PM	45908
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/1/2019 3:34:37 PM	45901
Surr: BFB	88.6	73.8-119		%Rec	1	7/1/2019 3:34:37 PM	45901
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/1/2019 3:34:37 PM	45901
Toluene	ND	0.049		mg/Kg	1	7/1/2019 3:34:37 PM	45901
Ethylbenzene	ND	0.049		mg/Kg	1	7/1/2019 3:34:37 PM	45901
Xylenes, Total	ND	0.098		mg/Kg	1	7/1/2019 3:34:37 PM	45901
Surr: 4-Bromofluorobenzene	93.7	80-120		%Rec	1	7/1/2019 3:34:37 PM	45901

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-053 **Matrix:** SOIL

Client Sample ID: SP394
Collection Date: 6/26/2019 3:35:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	230	60		mg/Kg	20	7/6/2019 12:19:32 AM	46027
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/29/2019 3:52:14 PM	45908
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/29/2019 3:52:14 PM	45908
Surr: DNOP	46.0	70-130	S	%Rec	1	6/29/2019 3:52:14 PM	45908
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/1/2019 4:45:10 PM	45901
Surr: BFB	85.2	73.8-119		%Rec	1	7/1/2019 4:45:10 PM	45901
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/1/2019 4:45:10 PM	45901
Toluene	ND	0.049		mg/Kg	1	7/1/2019 4:45:10 PM	45901
Ethylbenzene	ND	0.049		mg/Kg	1	7/1/2019 4:45:10 PM	45901
Xylenes, Total	ND	0.098		mg/Kg	1	7/1/2019 4:45:10 PM	45901
Surr: 4-Bromofluorobenzene	90.0	80-120		%Rec	1	7/1/2019 4:45:10 PM	45901

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-054 **Matrix:** SOIL

Client Sample ID: SP395
Collection Date: 6/26/2019 3:35:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	220	60		mg/Kg	20	7/6/2019 12:31:56 AM	46027
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/29/2019 4:17:03 PM	45908
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	6/29/2019 4:17:03 PM	45908
Surr: DNOP	60.8	70-130	S	%Rec	1	6/29/2019 4:17:03 PM	45908
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/1/2019 5:08:33 PM	45901
Surr: BFB	84.2	73.8-119		%Rec	1	7/1/2019 5:08:33 PM	45901
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/1/2019 5:08:33 PM	45901
Toluene	ND	0.049		mg/Kg	1	7/1/2019 5:08:33 PM	45901
Ethylbenzene	ND	0.049		mg/Kg	1	7/1/2019 5:08:33 PM	45901
Xylenes, Total	ND	0.098		mg/Kg	1	7/1/2019 5:08:33 PM	45901
Surr: 4-Bromofluorobenzene	89.9	80-120		%Rec	1	7/1/2019 5:08:33 PM	45901

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-055 **Matrix:** SOIL

Client Sample ID: SP396
Collection Date: 6/26/2019 3:35:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	290	60		mg/Kg	20	7/8/2019 12:59:38 PM	46043
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	6/29/2019 4:41:32 PM	45908
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/29/2019 4:41:32 PM	45908
Surr: DNOP	48.6	70-130	S	%Rec	1	6/29/2019 4:41:32 PM	45908
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/1/2019 5:32:00 PM	45901
Surr: BFB	84.0	73.8-119		%Rec	1	7/1/2019 5:32:00 PM	45901
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/1/2019 5:32:00 PM	45901
Toluene	ND	0.049		mg/Kg	1	7/1/2019 5:32:00 PM	45901
Ethylbenzene	ND	0.049		mg/Kg	1	7/1/2019 5:32:00 PM	45901
Xylenes, Total	ND	0.098		mg/Kg	1	7/1/2019 5:32:00 PM	45901
Surr: 4-Bromofluorobenzene	89.5	80-120		%Rec	1	7/1/2019 5:32:00 PM	45901

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-056 **Matrix:** SOIL

Client Sample ID: SP397
Collection Date: 6/26/2019 3:35:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	270	60		mg/Kg	20	7/8/2019 1:12:03 PM	46043
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	6/29/2019 5:06:23 PM	45908
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/29/2019 5:06:23 PM	45908
Surr: DNOP	45.1	70-130	S	%Rec	1	6/29/2019 5:06:23 PM	45908
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/1/2019 5:55:28 PM	45901
Surr: BFB	84.1	73.8-119		%Rec	1	7/1/2019 5:55:28 PM	45901
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/1/2019 5:55:28 PM	45901
Toluene	ND	0.049		mg/Kg	1	7/1/2019 5:55:28 PM	45901
Ethylbenzene	ND	0.049		mg/Kg	1	7/1/2019 5:55:28 PM	45901
Xylenes, Total	ND	0.097		mg/Kg	1	7/1/2019 5:55:28 PM	45901
Surr: 4-Bromofluorobenzene	89.8	80-120		%Rec	1	7/1/2019 5:55:28 PM	45901

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-057 **Matrix:** SOIL

Client Sample ID: SP398
Collection Date: 6/26/2019 3:35:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	280	60		mg/Kg	20	7/8/2019 1:24:27 PM	46043
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	6/29/2019 5:31:10 PM	45908
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/29/2019 5:31:10 PM	45908
Surr: DNOP	36.8	70-130	S	%Rec	1	6/29/2019 5:31:10 PM	45908
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/1/2019 6:18:49 PM	45901
Surr: BFB	85.3	73.8-119		%Rec	1	7/1/2019 6:18:49 PM	45901
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/1/2019 6:18:49 PM	45901
Toluene	ND	0.048		mg/Kg	1	7/1/2019 6:18:49 PM	45901
Ethylbenzene	ND	0.048		mg/Kg	1	7/1/2019 6:18:49 PM	45901
Xylenes, Total	ND	0.096		mg/Kg	1	7/1/2019 6:18:49 PM	45901
Surr: 4-Bromofluorobenzene	90.3	80-120		%Rec	1	7/1/2019 6:18:49 PM	45901

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-058 **Matrix:** SOIL

Client Sample ID: SP399
Collection Date: 6/26/2019 3:35:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	230	60		mg/Kg	20	7/8/2019 1:36:51 PM	46043
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	6/29/2019 5:55:52 PM	45908
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/29/2019 5:55:52 PM	45908
Surr: DNOP	27.3	70-130	S	%Rec	1	6/29/2019 5:55:52 PM	45908
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/1/2019 6:42:12 PM	45901
Surr: BFB	84.6	73.8-119		%Rec	1	7/1/2019 6:42:12 PM	45901
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/1/2019 6:42:12 PM	45901
Toluene	ND	0.049		mg/Kg	1	7/1/2019 6:42:12 PM	45901
Ethylbenzene	ND	0.049		mg/Kg	1	7/1/2019 6:42:12 PM	45901
Xylenes, Total	ND	0.098		mg/Kg	1	7/1/2019 6:42:12 PM	45901
Surr: 4-Bromofluorobenzene	89.6	80-120		%Rec	1	7/1/2019 6:42:12 PM	45901

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-059 **Matrix:** SOIL

Client Sample ID: SP400
Collection Date: 6/26/2019 3:35:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	310	60		mg/Kg	20	7/8/2019 1:49:15 PM	46043
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/29/2019 6:20:26 PM	45908
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/29/2019 6:20:26 PM	45908
Surr: DNOP	26.1	70-130	S	%Rec	1	6/29/2019 6:20:26 PM	45908
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/1/2019 7:05:35 PM	45901
Surr: BFB	82.8	73.8-119		%Rec	1	7/1/2019 7:05:35 PM	45901
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/1/2019 7:05:35 PM	45901
Toluene	ND	0.049		mg/Kg	1	7/1/2019 7:05:35 PM	45901
Ethylbenzene	ND	0.049		mg/Kg	1	7/1/2019 7:05:35 PM	45901
Xylenes, Total	ND	0.097		mg/Kg	1	7/1/2019 7:05:35 PM	45901
Surr: 4-Bromofluorobenzene	87.9	80-120		%Rec	1	7/1/2019 7:05:35 PM	45901

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

Analytical Report
Lab Order **1906E98**
Date Reported: **7/10/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906E98-060 **Matrix:** SOIL

Client Sample ID: SP401
Collection Date: 6/26/2019 3:35:00 PM
Received Date: 6/27/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	410	60		mg/Kg	20	7/8/2019 2:01:39 PM	46043
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	6/29/2019 7:09:33 PM	45908
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/29/2019 7:09:33 PM	45908
Surr: DNOP	26.4	70-130	S	%Rec	1	6/29/2019 7:09:33 PM	45908
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/1/2019 7:28:57 PM	45901
Surr: BFB	85.8	73.8-119		%Rec	1	7/1/2019 7:28:57 PM	45901
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/1/2019 7:28:57 PM	45901
Toluene	ND	0.049		mg/Kg	1	7/1/2019 7:28:57 PM	45901
Ethylbenzene	ND	0.049		mg/Kg	1	7/1/2019 7:28:57 PM	45901
Xylenes, Total	ND	0.099		mg/Kg	1	7/1/2019 7:28:57 PM	45901
Surr: 4-Bromofluorobenzene	91.4	80-120		%Rec	1	7/1/2019 7:28:57 PM	45901

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906E98**
10-Jul-19

Client: WPX Energy
Project: LVP SWD 1

Sample ID: **MB-45930** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **45930** RunNo: **61068**
Prep Date: **7/1/2019** Analysis Date: **7/1/2019** SeqNo: **2068937** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-45930** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **45930** RunNo: **61068**
Prep Date: **7/1/2019** Analysis Date: **7/1/2019** SeqNo: **2068938** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.5	90	110			

Sample ID: **MB-45943** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **45943** RunNo: **61068**
Prep Date: **7/1/2019** Analysis Date: **7/1/2019** SeqNo: **2068978** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-45943** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **45943** RunNo: **61068**
Prep Date: **7/1/2019** Analysis Date: **7/1/2019** SeqNo: **2068979** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.1	90	110			

Sample ID: **MB-45938** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **45938** RunNo: **61084**
Prep Date: **7/1/2019** Analysis Date: **7/1/2019** SeqNo: **2069059** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-45938** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **45938** RunNo: **61084**
Prep Date: **7/1/2019** Analysis Date: **7/1/2019** SeqNo: **2069060** 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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906E98**
10-Jul-19

Client: WPX Energy
Project: LVP SWD 1

Sample ID: **MB-46027** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **46027** RunNo: **61175**
Prep Date: **7/5/2019** Analysis Date: **7/5/2019** SeqNo: **2074389** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-46027** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **46027** RunNo: **61175**
Prep Date: **7/5/2019** Analysis Date: **7/5/2019** SeqNo: **2074390** 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			

Sample ID: **MB-46043** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **46043** RunNo: **61221**
Prep Date: **7/8/2019** Analysis Date: **7/8/2019** SeqNo: **2075393** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-46043** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **46043** RunNo: **61221**
Prep Date: **7/8/2019** Analysis Date: **7/8/2019** SeqNo: **2075394** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.3	90	110			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906E98**
10-Jul-19

Client: WPX Energy
Project: LVP SWD 1

Sample ID: **MB-45906** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **45906** RunNo: **61050**
Prep Date: **6/28/2019** Analysis Date: **6/29/2019** SeqNo: **2067248** 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	8.5		10.00		84.8	70	130			

Sample ID: **MB-45908** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **45908** RunNo: **61050**
Prep Date: **6/28/2019** Analysis Date: **6/29/2019** SeqNo: **2067249** 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	9.6		10.00		95.9	70	130			

Sample ID: **LCS-45906** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **45906** RunNo: **61050**
Prep Date: **6/28/2019** Analysis Date: **6/29/2019** SeqNo: **2067251** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	91.3	63.9	124			
Surr: DNOP	4.1		5.000		82.7	70	130			

Sample ID: **LCS-45908** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **45908** RunNo: **61050**
Prep Date: **6/28/2019** Analysis Date: **6/29/2019** SeqNo: **2067252** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	91.0	63.9	124			
Surr: DNOP	4.3		5.000		85.5	70	130			

Sample ID: **1906E98-046AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP387** Batch ID: **45908** RunNo: **61050**
Prep Date: **6/28/2019** Analysis Date: **6/29/2019** SeqNo: **2067315** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	9.9	49.46	0	80.2	57	142			
Surr: DNOP	2.2		4.946		43.7	70	130			S

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906E98**
10-Jul-19

Client: WPX Energy
Project: LVP SWD 1

Sample ID: **1906E98-046AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP387** Batch ID: **45908** RunNo: **61050**
Prep Date: **6/28/2019** Analysis Date: **6/29/2019** SeqNo: **2067318** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	10	49.85	0	80.7	57	142	1.42	20	
Surr: DNOP	1.9		4.985		38.2	70	130	0	0	S

Sample ID: **MB-45903** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **45903** RunNo: **61002**
Prep Date: **6/28/2019** Analysis Date: **6/29/2019** SeqNo: **2067342** 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	13		10.00		129	70	130			

Sample ID: **LCS-45903** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **45903** RunNo: **61002**
Prep Date: **6/28/2019** Analysis Date: **6/29/2019** SeqNo: **2067343** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	98.7	63.9	124			
Surr: DNOP	5.0		5.000		99.9	70	130			

Sample ID: **MB-45905** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **45905** RunNo: **61066**
Prep Date: **6/28/2019** Analysis Date: **7/1/2019** SeqNo: **2068034** 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		121	70	130			

Sample ID: **LCS-45905** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **45905** RunNo: **61066**
Prep Date: **6/28/2019** Analysis Date: **7/1/2019** SeqNo: **2068035** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	55	10	50.00	0	110	63.9	124			
Surr: DNOP	5.4		5.000		107	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906E98**
10-Jul-19

Client: WPX Energy
Project: LVP SWD 1

Sample ID: **1906E98-008AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP349** Batch ID: **45905** RunNo: **61066**
Prep Date: **6/28/2019** Analysis Date: **7/1/2019** SeqNo: **2068037** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	33	9.7	48.31	0	69.1	57	142			
Surr: DNOP	2.9		4.831		60.8	70	130			S

Sample ID: **1906E98-008AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP349** Batch ID: **45905** RunNo: **61066**
Prep Date: **6/28/2019** Analysis Date: **7/1/2019** SeqNo: **2068038** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	27	9.5	47.44	0	56.3	57	142	22.2	20	RS
Surr: DNOP	2.3		4.744		49.0	70	130	0	0	S

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906E98**
10-Jul-19

Client: WPX Energy
Project: LVP SWD 1

Sample ID: **LCS-45877** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **45877** RunNo: **61018**
Prep Date: **6/27/2019** Analysis Date: **6/28/2019** SeqNo: **2066634** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	100	80.1	123			
Surr: BFB	1100		1000		115	73.8	119			

Sample ID: **MB-45877** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **45877** RunNo: **61018**
Prep Date: **6/27/2019** Analysis Date: **6/28/2019** SeqNo: **2066636** 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		101	73.8	119			

Sample ID: **1906E98-003AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP344** Batch ID: **45880** RunNo: **61043**
Prep Date: **6/27/2019** Analysis Date: **6/29/2019** SeqNo: **2067037** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	24.98	0	90.8	69.1	142			
Surr: BFB	1000		999.0		104	73.8	119			

Sample ID: **1906E98-003AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP344** Batch ID: **45880** RunNo: **61043**
Prep Date: **6/27/2019** Analysis Date: **6/29/2019** SeqNo: **2067038** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	24.80	0	103	69.1	142	11.7	20	
Surr: BFB	1200		992.1		116	73.8	119	0	0	

Sample ID: **1906E98-023AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP364** Batch ID: **45881** RunNo: **61043**
Prep Date: **6/27/2019** Analysis Date: **6/30/2019** SeqNo: **2067059** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	5.0	24.85	0	77.8	69.1	142			
Surr: BFB	980		994.0		98.4	73.8	119			

Sample ID: **1906E98-023AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP364** Batch ID: **45881** RunNo: **61043**
Prep Date: **6/27/2019** Analysis Date: **6/30/2019** SeqNo: **2067060** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906E98**
10-Jul-19

Client: WPX Energy
Project: LVP SWD 1

Sample ID: **1906E98-023AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP364** Batch ID: **45881** RunNo: **61043**
Prep Date: **6/27/2019** Analysis Date: **6/30/2019** SeqNo: **2067060** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	18	5.0	24.98	0	73.7	69.1	142	4.94	20	
Surr: BFB	980		999.0		98.3	73.8	119	0	0	

Sample ID: **LCS-45880** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **45880** RunNo: **61043**
Prep Date: **6/27/2019** Analysis Date: **6/29/2019** SeqNo: **2067070** 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	90.4	80.1	123			
Surr: BFB	1100		1000		109	73.8	119			

Sample ID: **LCS-45881** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **45881** RunNo: **61043**
Prep Date: **6/27/2019** Analysis Date: **6/30/2019** SeqNo: **2067071** 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	84.1	80.1	123			
Surr: BFB	940		1000		94.2	73.8	119			

Sample ID: **MB-45880** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **45880** RunNo: **61043**
Prep Date: **6/27/2019** Analysis Date: **6/29/2019** SeqNo: **2067072** 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	960		1000		96.2	73.8	119			

Sample ID: **MB-45881** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **45881** RunNo: **61043**
Prep Date: **6/27/2019** Analysis Date: **6/30/2019** SeqNo: **2067073** 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		94.5	73.8	119			

Sample ID: **MB-45901** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **45901** RunNo: **61077**
Prep Date: **6/28/2019** Analysis Date: **7/1/2019** SeqNo: **2068461** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906E98**
10-Jul-19

Client: WPX Energy
Project: LVP SWD 1

Sample ID: **MB-45901** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **45901** RunNo: **61077**
Prep Date: **6/28/2019** Analysis Date: **7/1/2019** SeqNo: **2068461** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		88.5	73.8	119			

Sample ID: **LCS-45901** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **45901** RunNo: **61077**
Prep Date: **6/28/2019** Analysis Date: **7/1/2019** SeqNo: **2068462** 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	80.1	123			
Surr: BFB	980		1000		98.2	73.8	119			

Sample ID: **1906E98-043AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP384** Batch ID: **45901** RunNo: **61077**
Prep Date: **6/28/2019** Analysis Date: **7/1/2019** SeqNo: **2068464** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.9	24.46	0	90.6	69.1	142			
Surr: BFB	980		978.5		100	73.8	119			

Sample ID: **1906E98-043AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP384** Batch ID: **45901** RunNo: **61077**
Prep Date: **6/28/2019** Analysis Date: **7/1/2019** SeqNo: **2068465** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.8	24.04	0	87.6	69.1	142	5.16	20	
Surr: BFB	950		961.5		99.0	73.8	119	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906E98**
10-Jul-19

Client: WPX Energy
Project: LVP SWD 1

Sample ID: **MB-45877** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **45877** RunNo: **61018**
Prep Date: **6/27/2019** Analysis Date: **6/28/2019** SeqNo: **2066653** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.94		1.000		93.6	80	120			

Sample ID: **1906E98-004AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP345** Batch ID: **45880** RunNo: **61043**
Prep Date: **6/27/2019** Analysis Date: **6/30/2019** SeqNo: **2067076** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	0.9881	0	96.6	63.9	127			
Toluene	1.0	0.049	0.9881	0.01089	103	69.9	131			
Ethylbenzene	1.1	0.049	0.9881	0	107	71	132			
Xylenes, Total	3.2	0.099	2.964	0	107	71.8	131			
Surr: 4-Bromofluorobenzene	1.1		0.9881		106	80	120			

Sample ID: **1906E98-004AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP345** Batch ID: **45880** RunNo: **61043**
Prep Date: **6/27/2019** Analysis Date: **6/30/2019** SeqNo: **2067077** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	0.9911	0	100	63.9	127	3.95	20	
Toluene	1.1	0.050	0.9911	0.01089	105	69.9	131	2.78	20	
Ethylbenzene	1.1	0.050	0.9911	0	109	71	132	2.35	20	
Xylenes, Total	3.2	0.099	2.973	0	109	71.8	131	2.18	20	
Surr: 4-Bromofluorobenzene	1.1		0.9911		106	80	120	0	0	

Sample ID: **1906E98-024AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP365** Batch ID: **45881** RunNo: **61043**
Prep Date: **6/27/2019** Analysis Date: **6/30/2019** SeqNo: **2067098** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	0.9843	0	100	63.9	127			
Toluene	1.0	0.049	0.9843	0.01060	104	69.9	131			
Ethylbenzene	1.1	0.049	0.9843	0	108	71	132			
Xylenes, Total	3.2	0.098	2.953	0	107	71.8	131			
Surr: 4-Bromofluorobenzene	0.97		0.9843		98.5	80	120			

Sample ID: **1906E98-024AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP365** Batch ID: **45881** RunNo: **61043**
Prep Date: **6/27/2019** Analysis Date: **6/30/2019** SeqNo: **2067099** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906E98**
10-Jul-19

Client: WPX Energy
Project: LVP SWD 1

Sample ID: **1906E98-024AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP365** Batch ID: **45881** RunNo: **61043**
Prep Date: **6/27/2019** Analysis Date: **6/30/2019** SeqNo: **2067099** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	0.9960	0	98.2	63.9	127	0.897	20	
Toluene	1.0	0.050	0.9960	0.01060	102	69.9	131	0.698	20	
Ethylbenzene	1.0	0.050	0.9960	0	105	71	132	1.61	20	
Xylenes, Total	3.1	0.10	2.988	0	104	71.8	131	1.90	20	
Surr: 4-Bromofluorobenzene	0.98		0.9960		98.8	80	120	0	0	

Sample ID: **LCS-45880** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **45880** RunNo: **61043**
Prep Date: **6/27/2019** Analysis Date: **6/29/2019** SeqNo: **2067108** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	98.3	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	104	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID: **LCS-45881** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **45881** RunNo: **61043**
Prep Date: **6/27/2019** Analysis Date: **6/30/2019** SeqNo: **2067109** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	98.3	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	103	80	120			
Xylenes, Total	3.1	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	0.97		1.000		96.6	80	120			

Sample ID: **MB-45880** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **45880** RunNo: **61043**
Prep Date: **6/27/2019** Analysis Date: **6/29/2019** SeqNo: **2067110** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906E98**
10-Jul-19

Client: WPX Energy
Project: LVP SWD 1

Sample ID: **MB-45881** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **45881** RunNo: **61043**
Prep Date: **6/27/2019** Analysis Date: **6/30/2019** SeqNo: **2067111** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Sample ID: **MB-45901** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **45901** RunNo: **61077**
Prep Date: **6/28/2019** Analysis Date: **7/1/2019** SeqNo: **2068490** 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		93.4	80	120			

Sample ID: **LCS-45901** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **45901** RunNo: **61077**
Prep Date: **6/28/2019** Analysis Date: **7/1/2019** SeqNo: **2068491** 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	97.9	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	103	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 4-Bromofluorobenzene	0.98		1.000		98.3	80	120			

Sample ID: **1906E98-044AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP385** Batch ID: **45901** RunNo: **61077**
Prep Date: **6/28/2019** Analysis Date: **7/1/2019** SeqNo: **2068494** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.024	0.9709	0	87.9	63.9	127			
Toluene	0.91	0.049	0.9709	0.01046	93.1	69.9	131			
Ethylbenzene	0.92	0.049	0.9709	0	94.6	71	132			
Xylenes, Total	2.8	0.097	2.913	0	94.6	71.8	131			
Surr: 4-Bromofluorobenzene	0.93		0.9709		95.4	80	120			

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906E98**
10-Jul-19

Client: WPX Energy
Project: LVP SWD 1

Sample ID: **1906E98-044AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP385** Batch ID: **45901** RunNo: **61077**
Prep Date: **6/28/2019** Analysis Date: **7/1/2019** SeqNo: **2068495** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	0.9930	0	95.4	63.9	127	10.4	20	
Toluene	1.0	0.050	0.9930	0.01046	99.2	69.9	131	8.57	20	
Ethylbenzene	1.0	0.050	0.9930	0	102	71	132	10.1	20	
Xylenes, Total	3.0	0.099	2.979	0	102	71.8	131	9.73	20	
Surr: 4-Bromofluorobenzene	0.96		0.9930		96.7	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906E98**
10-Jul-19

Client: WPX Energy
Project: LVP SWD 1

Sample ID: **lcs-45877** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS** Batch ID: **45877** RunNo: **61046**
Prep Date: **6/27/2019** Analysis Date: **6/29/2019** SeqNo: **2067150** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	1.000	0	89.2	70	130			
Toluene	0.96	0.050	1.000	0	96.1	70	130			
Surr: Dibromofluoromethane	0.43		0.5000		86.7	70	130			
Surr: 1,2-Dichloroethane-d4	0.44		0.5000		87.7	70	130			
Surr: Toluene-d8	0.48		0.5000		96.7	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.6	70	130			

Sample ID: **mb-45877** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS** Batch ID: **45877** RunNo: **61046**
Prep Date: **6/27/2019** Analysis Date: **6/29/2019** SeqNo: **2067151** 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: Dibromofluoromethane	0.45		0.5000		89.3	70	130			
Surr: 1,2-Dichloroethane-d4	0.44		0.5000		87.3	70	130			
Surr: Toluene-d8	0.49		0.5000		98.4	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.8	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: 1906E98 RcptNo: 1

Received By: Thom Maybee 6/27/2019 9:00:00 AM

Completed By: Erin Melendrez 6/27/2019 10:07:03 AM

Reviewed By: LB 6/27/19

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° 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: _____

Thm 6-27-19

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:

COC missing collection times for first 12 samples.

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.1	Good	Yes			
2	5.7	Good	Yes			
3	1.3	Good	Yes			

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Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: WPX ENERGY CARLSB Work Order Number: 1906E98 RcptNo: 1

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
4	0.2	Good	Yes			
5	0.1	Good	Yes			

Chain-of-Custody Record

Client: WPX (Carlsbad)

Mailing Address: On file

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day TAT
☐ Standard ☐ Rush

Project Name: LVP SWD #1

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.9+0.2=3.1 5.5+0.2=5.7 1.1+0.2=1.3 0+0.2=0.2 -0.1+0.2=0.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1906E98	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
6/26/2019		soil	SP342	4 oz (1)	ICE	-001	X		X					X							
			SP343			-002															
			SP344			-003															
			SP345			-004															
			SP346			-005															
			SP347			-006															
			SP348			-007															
			SP349			-008															
			SP350			-009															
			SP351			-010															
			SP352			-011															
			SP353			-012															

Date	Time	Relinquished by	Received by	Date	Time
6/26/2019	3:35pm	Kevin Smith		6/26/19	1535
6/26/19	1910		Courier	6-27-19	9:00

Remarks:

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

Chain-of-Custody Record

Client: WPX (Carlsbad)

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day TAT
☐ Standard ☐ **Rush**

Project Name: LUP SWD #1

Project #: ~~LUP SWD #1~~

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.4+0.2=2.6 5.5+0.2=5.7 1.1+0.2=1.3 0+0.2=0.2 -0.1+0.2=0.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1906E98	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F^-, Cl^-, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
6/26/2019	3:15	Soil	SP354	4oz (1)	ICE	-013	X		X					X							
			SP355			-014															
			SP356			-015															
			SP357			-016															
			SP358			-017															
			SP359			-018															
			SP360			-019															
			SP361			-020															
			SP362			-021															
			SP363			-022															
			SP364			-023															
			SP365			-024															

Date	Time	Relinquished by	Received by	Date	Time
6/26/2019	3:35pm	Kevin Smith		6/27/19	1535
6/27/19	1000		courier	6-27-19	9.00

Remarks:

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

Chain-of-Custody Record

Client: WPX (Carlsbad)

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day TAT
☐ Standard ☐ Rush

Project Name: LVP SWD #1

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.9 +0.2=3.1 5.5+0.2=5.7 1.1+0.2=1.3 -0.1+0.2=0.1 0+0.2=0.2

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1906E98	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
6/26/2019	3:20	Soil	SP366	4oz(1)	ICE	-025	X		X					X								
			SP367			-026																
			SP368			-027																
			SP369			-028																
			SP370			-029																
			SP371			-030																
			SP372			-031																
			SP373			-032																
			SP374			-033																
			SP375			-034																
			SP376			-035																
			SP377			-036																

Date:	Time:	Relinquished by:	Received by:	Date	Time
6/26/2019	3:35pm	Kevin Smith		6/26/19	1535
Date:	Time:	Relinquished by:	Received by:	Date	Time
6/26/19	1900		carrier	6-27-19	9:00

Remarks:

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

Chain-of-Custody Record

Client: WPX (Carlsbad)

Mailing Address: On file

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day TAT
☐ Standard ☐ Rush

Project Name: LVP SWD #1

Project #:

Project Manager: Kris Rowe

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.9 +0.2 = 3.1 5.5+0.2=5.7 1.1 +0.2=1.3 0+0.2=0.2 -0.1+0.2=0.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1906E98	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F^-, Cl^-, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
6/26/2019	3:30	Soil	SP378	4oz (1)	ICE	-037	X		X					X								
			SP379			-038																
			SP380			-039																
			SP381			-040																
			SP382			-041																
			SP383			-042																
			SP384			-043																
			SP385			-044																
			SP386			-045																
			SP387			-046																
			SP388			-047																
			SP389			-048																

Date	Time	Relinquished by	Received by	Date	Time
6/26/2019	5:35pm	Kevin Dixon		6/26/19	1535
6/26/19	1900		Courier	6-27-19	9.00

Remarks:

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

5 of 5

Chain-of-Custody Record

Client: WPX (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: LVP SWD #1

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

# of Coolers: 5

Cooler Temp (including CF): 2.9+0.2=3.1 5.5+0.2=5.7 1.1+0.2=1.3 0+0.2=0.2 -4.1+0.2=0.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1906E98	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	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
6/26/2019	3:35	Soil	SP390	4oz (1)	ICE	-049	X	X					X			
			SP391			-050										
			SP392			-051										
			SP393			-052										
			SP394			-053										
			SP395			-054										
			SP396			-055										
			SP397			-056										
			SP398			-057										
			SP399			-058										
			SP400			-059										
			SP401			-060										

Date	Time	Relinquished by	Received by	Via	Date	Time
6/26/2019	3:35pm	Kevin Smith			6/26/19	1535
6/26/19	1900			Via: courier	6/27/19	9:00

Remarks:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

October 21, 2019

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

RE: LVP SWD 1 OrderNo.: 1906G07

Dear Kris Rowe:

Hall Environmental Analysis Laboratory received 63 sample(s) on 6/28/2019 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-001 **Matrix:**

Client Sample ID: SP 402
Collection Date: 6/27/2019 11:40:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	180	60		mg/Kg	20	7/2/2019 11:54:31 AM	45959
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/3/2019 12:27:39 PM	45941
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/3/2019 12:27:39 PM	45941
Surr: DNOP	81.7	70-130		%Rec	1	7/3/2019 12:27:39 PM	45941
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/2/2019 10:00:00 AM	45937
Surr: BFB	101	73.8-119		%Rec	1	7/2/2019 10:00:00 AM	45937
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/2/2019 10:00:00 AM	45937
Toluene	ND	0.049		mg/Kg	1	7/2/2019 10:00:00 AM	45937
Ethylbenzene	ND	0.049		mg/Kg	1	7/2/2019 10:00:00 AM	45937
Xylenes, Total	ND	0.098		mg/Kg	1	7/2/2019 10:00:00 AM	45937
Surr: 4-Bromofluorobenzene	93.6	80-120		%Rec	1	7/2/2019 10:00:00 AM	45937

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-002 **Matrix:**
Client Sample ID: SP403
Collection Date: 6/27/2019 11:40:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	310	60		mg/Kg	20	7/2/2019 12:06:55 PM	45959
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	7/3/2019 12:52:20 PM	45941
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/3/2019 12:52:20 PM	45941
Surr: DNOP	76.0	70-130		%Rec	1	7/3/2019 12:52:20 PM	45941
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/2/2019 11:08:03 AM	45937
Surr: BFB	104	73.8-119		%Rec	1	7/2/2019 11:08:03 AM	45937
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/2/2019 11:08:03 AM	45937
Toluene	ND	0.048		mg/Kg	1	7/2/2019 11:08:03 AM	45937
Ethylbenzene	ND	0.048		mg/Kg	1	7/2/2019 11:08:03 AM	45937
Xylenes, Total	ND	0.097		mg/Kg	1	7/2/2019 11:08:03 AM	45937
Surr: 4-Bromofluorobenzene	95.8	80-120		%Rec	1	7/2/2019 11:08:03 AM	45937

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-003 **Matrix:**
Client Sample ID: SP404
Collection Date: 6/27/2019 11:40:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	340	60		mg/Kg	20	7/2/2019 1:08:59 PM	45959
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/3/2019 1:16:58 PM	45941
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/3/2019 1:16:58 PM	45941
Surr: DNOP	39.5	70-130	S	%Rec	1	7/3/2019 1:16:58 PM	45941
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/2/2019 11:30:46 AM	45937
Surr: BFB	104	73.8-119		%Rec	1	7/2/2019 11:30:46 AM	45937
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/2/2019 11:30:46 AM	45937
Toluene	ND	0.048		mg/Kg	1	7/2/2019 11:30:46 AM	45937
Ethylbenzene	ND	0.048		mg/Kg	1	7/2/2019 11:30:46 AM	45937
Xylenes, Total	ND	0.096		mg/Kg	1	7/2/2019 11:30:46 AM	45937
Surr: 4-Bromofluorobenzene	94.6	80-120		%Rec	1	7/2/2019 11:30:46 AM	45937

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-005 **Matrix:**
Client Sample ID: SP406
Collection Date: 6/27/2019 11:40:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	260	60		mg/Kg	20	7/2/2019 1:21:23 PM	45959
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/3/2019 1:41:47 PM	45941
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	7/3/2019 1:41:47 PM	45941
Surr: DNOP	49.9	70-130	S	%Rec	1	7/3/2019 1:41:47 PM	45941
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/2/2019 11:53:27 AM	45937
Surr: BFB	103	73.8-119		%Rec	1	7/2/2019 11:53:27 AM	45937
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/2/2019 11:53:27 AM	45937
Toluene	ND	0.049		mg/Kg	1	7/2/2019 11:53:27 AM	45937
Ethylbenzene	ND	0.049		mg/Kg	1	7/2/2019 11:53:27 AM	45937
Xylenes, Total	ND	0.097		mg/Kg	1	7/2/2019 11:53:27 AM	45937
Surr: 4-Bromofluorobenzene	93.2	80-120		%Rec	1	7/2/2019 11:53:27 AM	45937

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-006 **Matrix:**
Client Sample ID: SP407
Collection Date: 6/27/2019 11:40:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	280	60		mg/Kg	20	7/2/2019 1:33:48 PM	45959
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/3/2019 2:06:32 PM	45941
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/3/2019 2:06:32 PM	45941
Surr: DNOP	61.8	70-130	S	%Rec	1	7/3/2019 2:06:32 PM	45941
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/2/2019 12:16:10 PM	45937
Surr: BFB	102	73.8-119		%Rec	1	7/2/2019 12:16:10 PM	45937
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/2/2019 12:16:10 PM	45937
Toluene	ND	0.049		mg/Kg	1	7/2/2019 12:16:10 PM	45937
Ethylbenzene	ND	0.049		mg/Kg	1	7/2/2019 12:16:10 PM	45937
Xylenes, Total	ND	0.098		mg/Kg	1	7/2/2019 12:16:10 PM	45937
Surr: 4-Bromofluorobenzene	93.3	80-120		%Rec	1	7/2/2019 12:16:10 PM	45937

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-007 **Matrix:**

Client Sample ID: SP408
Collection Date: 6/27/2019 11:40:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	280	60		mg/Kg	20	7/2/2019 1:46:12 PM	45959
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	7/3/2019 2:31:24 PM	45941
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/3/2019 2:31:24 PM	45941
Surr: DNOP	43.4	70-130	S	%Rec	1	7/3/2019 2:31:24 PM	45941
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/2/2019 12:38:54 PM	45937
Surr: BFB	104	73.8-119		%Rec	1	7/2/2019 12:38:54 PM	45937
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/2/2019 12:38:54 PM	45937
Toluene	ND	0.048		mg/Kg	1	7/2/2019 12:38:54 PM	45937
Ethylbenzene	ND	0.048		mg/Kg	1	7/2/2019 12:38:54 PM	45937
Xylenes, Total	ND	0.096		mg/Kg	1	7/2/2019 12:38:54 PM	45937
Surr: 4-Bromofluorobenzene	95.3	80-120		%Rec	1	7/2/2019 12:38:54 PM	45937

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-009 **Matrix:**
Client Sample ID: SP410
Collection Date: 6/27/2019 11:40:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	210	60		mg/Kg	20	7/2/2019 1:58:36 PM	45959
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/3/2019 2:56:25 PM	45941
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	7/3/2019 2:56:25 PM	45941
Surr: DNOP	45.6	70-130	S	%Rec	1	7/3/2019 2:56:25 PM	45941
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/2/2019 1:01:40 PM	45937
Surr: BFB	102	73.8-119		%Rec	1	7/2/2019 1:01:40 PM	45937
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/2/2019 1:01:40 PM	45937
Toluene	ND	0.050		mg/Kg	1	7/2/2019 1:01:40 PM	45937
Ethylbenzene	ND	0.050		mg/Kg	1	7/2/2019 1:01:40 PM	45937
Xylenes, Total	ND	0.099		mg/Kg	1	7/2/2019 1:01:40 PM	45937
Surr: 4-Bromofluorobenzene	92.6	80-120		%Rec	1	7/2/2019 1:01:40 PM	45937

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-011 **Matrix:**
Client Sample ID: SP412
Collection Date: 6/27/2019 11:40:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	240	60		mg/Kg	20	7/2/2019 2:11:00 PM	45959
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	7/3/2019 4:01:34 PM	45941
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	7/3/2019 4:01:34 PM	45941
Surr: DNOP	58.0	70-130	S	%Rec	1	7/3/2019 4:01:34 PM	45941
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/2/2019 1:24:25 PM	45937
Surr: BFB	102	73.8-119		%Rec	1	7/2/2019 1:24:25 PM	45937
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/2/2019 1:24:25 PM	45937
Toluene	ND	0.048		mg/Kg	1	7/2/2019 1:24:25 PM	45937
Ethylbenzene	ND	0.048		mg/Kg	1	7/2/2019 1:24:25 PM	45937
Xylenes, Total	ND	0.097		mg/Kg	1	7/2/2019 1:24:25 PM	45937
Surr: 4-Bromofluorobenzene	92.5	80-120		%Rec	1	7/2/2019 1:24:25 PM	45937

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-012 **Matrix:**
Client Sample ID: SP413
Collection Date: 6/27/2019 11:40:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	140	60		mg/Kg	20	7/2/2019 2:23:24 PM	45959
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/3/2019 4:26:19 PM	45941
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/3/2019 4:26:19 PM	45941
Surr: DNOP	46.6	70-130	S	%Rec	1	7/3/2019 4:26:19 PM	45941
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/2/2019 1:47:12 PM	45937
Surr: BFB	102	73.8-119		%Rec	1	7/2/2019 1:47:12 PM	45937
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/2/2019 1:47:12 PM	45937
Toluene	ND	0.048		mg/Kg	1	7/2/2019 1:47:12 PM	45937
Ethylbenzene	ND	0.048		mg/Kg	1	7/2/2019 1:47:12 PM	45937
Xylenes, Total	ND	0.097		mg/Kg	1	7/2/2019 1:47:12 PM	45937
Surr: 4-Bromofluorobenzene	92.9	80-120		%Rec	1	7/2/2019 1:47:12 PM	45937

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-013 **Matrix:**

Client Sample ID: SP414
Collection Date: 6/27/2019 11:40:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	150	60		mg/Kg	20	7/2/2019 2:35:48 PM	45959
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/3/2019 4:50:51 PM	45941
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/3/2019 4:50:51 PM	45941
Surr: DNOP	44.4	70-130	S	%Rec	1	7/3/2019 4:50:51 PM	45941
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/2/2019 4:03:53 PM	45937
Surr: BFB	104	73.8-119		%Rec	1	7/2/2019 4:03:53 PM	45937
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/2/2019 4:03:53 PM	45937
Toluene	ND	0.049		mg/Kg	1	7/2/2019 4:03:53 PM	45937
Ethylbenzene	ND	0.049		mg/Kg	1	7/2/2019 4:03:53 PM	45937
Xylenes, Total	ND	0.098		mg/Kg	1	7/2/2019 4:03:53 PM	45937
Surr: 4-Bromofluorobenzene	94.8	80-120		%Rec	1	7/2/2019 4:03:53 PM	45937

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-014 **Matrix:**
Client Sample ID: SP415
Collection Date: 6/27/2019 11:40:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	150	60		mg/Kg	20	7/2/2019 6:06:45 PM	45974
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/3/2019 9:10:11 AM	45958
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/3/2019 9:10:11 AM	45958
Surr: DNOP	69.8	70-130	S	%Rec	1	7/3/2019 9:10:11 AM	45958
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/2/2019 5:12:09 PM	45949
Surr: BFB	101	73.8-119		%Rec	1	7/2/2019 5:12:09 PM	45949
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/2/2019 5:12:09 PM	45949
Toluene	ND	0.050		mg/Kg	1	7/2/2019 5:12:09 PM	45949
Ethylbenzene	ND	0.050		mg/Kg	1	7/2/2019 5:12:09 PM	45949
Xylenes, Total	ND	0.099		mg/Kg	1	7/2/2019 5:12:09 PM	45949
Surr: 4-Bromofluorobenzene	93.2	80-120		%Rec	1	7/2/2019 5:12:09 PM	45949

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-016 **Matrix:**

Client Sample ID: SP417
Collection Date: 6/27/2019 11:40:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	200	60		mg/Kg	20	7/2/2019 6:19:09 PM	45974
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	7/3/2019 10:22:39 AM	45958
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/3/2019 10:22:39 AM	45958
Surr: DNOP	81.7	70-130		%Rec	1	7/3/2019 10:22:39 AM	45958
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/2/2019 6:20:26 PM	45949
Surr: BFB	104	73.8-119		%Rec	1	7/2/2019 6:20:26 PM	45949
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/2/2019 6:20:26 PM	45949
Toluene	ND	0.049		mg/Kg	1	7/2/2019 6:20:26 PM	45949
Ethylbenzene	ND	0.049		mg/Kg	1	7/2/2019 6:20:26 PM	45949
Xylenes, Total	ND	0.098		mg/Kg	1	7/2/2019 6:20:26 PM	45949
Surr: 4-Bromofluorobenzene	94.9	80-120		%Rec	1	7/2/2019 6:20:26 PM	45949

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-017 **Matrix:**
Client Sample ID: SP418
Collection Date: 6/27/2019 11:40:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	260	60		mg/Kg	20	7/2/2019 6:31:33 PM	45974
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/3/2019 10:46:52 AM	45958
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/3/2019 10:46:52 AM	45958
Surr: DNOP	74.8	70-130		%Rec	1	7/3/2019 10:46:52 AM	45958
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/2/2019 7:28:36 PM	45949
Surr: BFB	101	73.8-119		%Rec	1	7/2/2019 7:28:36 PM	45949
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/2/2019 7:28:36 PM	45949
Toluene	ND	0.048		mg/Kg	1	7/2/2019 7:28:36 PM	45949
Ethylbenzene	ND	0.048		mg/Kg	1	7/2/2019 7:28:36 PM	45949
Xylenes, Total	ND	0.096		mg/Kg	1	7/2/2019 7:28:36 PM	45949
Surr: 4-Bromofluorobenzene	91.7	80-120		%Rec	1	7/2/2019 7:28:36 PM	45949

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-018 **Matrix:**
Client Sample ID: SP419
Collection Date: 6/27/2019 11:40:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	280	60		mg/Kg	20	7/2/2019 6:43:58 PM	45974
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	7/3/2019 11:11:06 AM	45958
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/3/2019 11:11:06 AM	45958
Surr: DNOP	79.9	70-130		%Rec	1	7/3/2019 11:11:06 AM	45958
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/2/2019 7:51:17 PM	45949
Surr: BFB	97.6	73.8-119		%Rec	1	7/2/2019 7:51:17 PM	45949
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/2/2019 7:51:17 PM	45949
Toluene	ND	0.050		mg/Kg	1	7/2/2019 7:51:17 PM	45949
Ethylbenzene	ND	0.050		mg/Kg	1	7/2/2019 7:51:17 PM	45949
Xylenes, Total	ND	0.10		mg/Kg	1	7/2/2019 7:51:17 PM	45949
Surr: 4-Bromofluorobenzene	86.4	80-120		%Rec	1	7/2/2019 7:51:17 PM	45949

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-019 **Matrix:**
Client Sample ID: SP420
Collection Date: 6/27/2019 11:40:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	310	60		mg/Kg	20	7/2/2019 6:56:22 PM	45974
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/3/2019 11:35:22 AM	45958
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/3/2019 11:35:22 AM	45958
Surr: DNOP	79.8	70-130		%Rec	1	7/3/2019 11:35:22 AM	45958
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/2/2019 8:14:00 PM	45949
Surr: BFB	103	73.8-119		%Rec	1	7/2/2019 8:14:00 PM	45949
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/2/2019 8:14:00 PM	45949
Toluene	ND	0.049		mg/Kg	1	7/2/2019 8:14:00 PM	45949
Ethylbenzene	ND	0.049		mg/Kg	1	7/2/2019 8:14:00 PM	45949
Xylenes, Total	ND	0.098		mg/Kg	1	7/2/2019 8:14:00 PM	45949
Surr: 4-Bromofluorobenzene	94.4	80-120		%Rec	1	7/2/2019 8:14:00 PM	45949

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-022 **Matrix:**
Client Sample ID: SP423
Collection Date: 6/27/2019 11:40:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	340	60		mg/Kg	20	7/2/2019 7:08:47 PM	45974
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	7/3/2019 11:59:38 AM	45958
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	7/3/2019 11:59:38 AM	45958
Surr: DNOP	75.3	70-130		%Rec	1	7/3/2019 11:59:38 AM	45958
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/2/2019 8:36:38 PM	45949
Surr: BFB	100	73.8-119		%Rec	1	7/2/2019 8:36:38 PM	45949
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/2/2019 8:36:38 PM	45949
Toluene	ND	0.049		mg/Kg	1	7/2/2019 8:36:38 PM	45949
Ethylbenzene	ND	0.049		mg/Kg	1	7/2/2019 8:36:38 PM	45949
Xylenes, Total	ND	0.099		mg/Kg	1	7/2/2019 8:36:38 PM	45949
Surr: 4-Bromofluorobenzene	91.7	80-120		%Rec	1	7/2/2019 8:36:38 PM	45949

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-023 **Matrix:**
Client Sample ID: SP424
Collection Date: 6/27/2019 11:40:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	150	60		mg/Kg	20	7/2/2019 8:10:48 PM	45974
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	7/3/2019 12:29:11 PM	45958
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/3/2019 12:29:11 PM	45958
Surr: DNOP	83.2	70-130		%Rec	1	7/3/2019 12:29:11 PM	45958
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/2/2019 8:59:15 PM	45949
Surr: BFB	101	73.8-119		%Rec	1	7/2/2019 8:59:15 PM	45949
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/2/2019 8:59:15 PM	45949
Toluene	ND	0.049		mg/Kg	1	7/2/2019 8:59:15 PM	45949
Ethylbenzene	ND	0.049		mg/Kg	1	7/2/2019 8:59:15 PM	45949
Xylenes, Total	ND	0.099		mg/Kg	1	7/2/2019 8:59:15 PM	45949
Surr: 4-Bromofluorobenzene	92.2	80-120		%Rec	1	7/2/2019 8:59:15 PM	45949

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-024 **Matrix:**
Client Sample ID: SP425
Collection Date: 6/27/2019 11:40:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	160	60		mg/Kg	20	7/2/2019 8:23:13 PM	45974
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	7/3/2019 12:53:27 PM	45958
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/3/2019 12:53:27 PM	45958
Surr: DNOP	76.9	70-130		%Rec	1	7/3/2019 12:53:27 PM	45958
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/2/2019 9:22:01 PM	45949
Surr: BFB	102	73.8-119		%Rec	1	7/2/2019 9:22:01 PM	45949
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/2/2019 9:22:01 PM	45949
Toluene	ND	0.050		mg/Kg	1	7/2/2019 9:22:01 PM	45949
Ethylbenzene	ND	0.050		mg/Kg	1	7/2/2019 9:22:01 PM	45949
Xylenes, Total	ND	0.099		mg/Kg	1	7/2/2019 9:22:01 PM	45949
Surr: 4-Bromofluorobenzene	93.0	80-120		%Rec	1	7/2/2019 9:22:01 PM	45949

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-025 **Matrix:**
Client Sample ID: SP426
Collection Date: 6/27/2019 11:45:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	270	60		mg/Kg	20	7/2/2019 8:35:37 PM	45974
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/3/2019 3:23:45 PM	45958
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/3/2019 3:23:45 PM	45958
Surr: DNOP	79.2	70-130		%Rec	1	7/3/2019 3:23:45 PM	45958
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/2/2019 10:30:11 PM	45949
Surr: BFB	111	73.8-119		%Rec	1	7/2/2019 10:30:11 PM	45949
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/2/2019 10:30:11 PM	45949
Toluene	ND	0.049		mg/Kg	1	7/2/2019 10:30:11 PM	45949
Ethylbenzene	ND	0.049		mg/Kg	1	7/2/2019 10:30:11 PM	45949
Xylenes, Total	ND	0.099		mg/Kg	1	7/2/2019 10:30:11 PM	45949
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	7/2/2019 10:30:11 PM	45949

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-026 **Matrix:**
Client Sample ID: SP427
Collection Date: 6/27/2019 11:45:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	290	60		mg/Kg	20	7/2/2019 8:48:02 PM	45974
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	7/3/2019 3:48:13 PM	45958
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/3/2019 3:48:13 PM	45958
Surr: DNOP	76.2	70-130		%Rec	1	7/3/2019 3:48:13 PM	45958
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/2/2019 10:52:57 PM	45949
Surr: BFB	108	73.8-119		%Rec	1	7/2/2019 10:52:57 PM	45949
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/2/2019 10:52:57 PM	45949
Toluene	ND	0.049		mg/Kg	1	7/2/2019 10:52:57 PM	45949
Ethylbenzene	ND	0.049		mg/Kg	1	7/2/2019 10:52:57 PM	45949
Xylenes, Total	ND	0.098		mg/Kg	1	7/2/2019 10:52:57 PM	45949
Surr: 4-Bromofluorobenzene	96.9	80-120		%Rec	1	7/2/2019 10:52:57 PM	45949

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-027 **Matrix:**
Client Sample ID: SP428
Collection Date: 6/27/2019 11:45:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	290	60		mg/Kg	20	7/2/2019 9:00:27 PM	45974
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	7/3/2019 4:12:41 PM	45958
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/3/2019 4:12:41 PM	45958
Surr: DNOP	79.4	70-130		%Rec	1	7/3/2019 4:12:41 PM	45958
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/2/2019 11:15:46 PM	45949
Surr: BFB	108	73.8-119		%Rec	1	7/2/2019 11:15:46 PM	45949
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/2/2019 11:15:46 PM	45949
Toluene	ND	0.048		mg/Kg	1	7/2/2019 11:15:46 PM	45949
Ethylbenzene	ND	0.048		mg/Kg	1	7/2/2019 11:15:46 PM	45949
Xylenes, Total	ND	0.096		mg/Kg	1	7/2/2019 11:15:46 PM	45949
Surr: 4-Bromofluorobenzene	97.7	80-120		%Rec	1	7/2/2019 11:15:46 PM	45949

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-029 **Matrix:**
Client Sample ID: SP430
Collection Date: 6/27/2019 11:45:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	350	60		mg/Kg	20	7/2/2019 9:12:51 PM	45974
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	7/3/2019 4:37:12 PM	45958
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/3/2019 4:37:12 PM	45958
Surr: DNOP	83.3	70-130		%Rec	1	7/3/2019 4:37:12 PM	45958
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/2/2019 11:38:34 PM	45949
Surr: BFB	104	73.8-119		%Rec	1	7/2/2019 11:38:34 PM	45949
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/2/2019 11:38:34 PM	45949
Toluene	ND	0.049		mg/Kg	1	7/2/2019 11:38:34 PM	45949
Ethylbenzene	ND	0.049		mg/Kg	1	7/2/2019 11:38:34 PM	45949
Xylenes, Total	ND	0.098		mg/Kg	1	7/2/2019 11:38:34 PM	45949
Surr: 4-Bromofluorobenzene	94.1	80-120		%Rec	1	7/2/2019 11:38:34 PM	45949

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-031 **Matrix:**

Client Sample ID: SP432
Collection Date: 6/27/2019 11:45:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	180	60		mg/Kg	20	7/2/2019 9:25:15 PM	45974
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/3/2019 5:01:44 PM	45958
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/3/2019 5:01:44 PM	45958
Surr: DNOP	84.0	70-130		%Rec	1	7/3/2019 5:01:44 PM	45958
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/3/2019 12:01:32 AM	45949
Surr: BFB	107	73.8-119		%Rec	1	7/3/2019 12:01:32 AM	45949
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/3/2019 12:01:32 AM	45949
Toluene	ND	0.049		mg/Kg	1	7/3/2019 12:01:32 AM	45949
Ethylbenzene	ND	0.049		mg/Kg	1	7/3/2019 12:01:32 AM	45949
Xylenes, Total	ND	0.099		mg/Kg	1	7/3/2019 12:01:32 AM	45949
Surr: 4-Bromofluorobenzene	96.9	80-120		%Rec	1	7/3/2019 12:01:32 AM	45949

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-034 **Matrix:**
Client Sample ID: SP435
Collection Date: 6/27/2019 11:45:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	250	60		mg/Kg	20	7/2/2019 9:37:41 PM	45974
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/3/2019 5:26:30 PM	45958
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/3/2019 5:26:30 PM	45958
Surr: DNOP	63.8	70-130	S	%Rec	1	7/3/2019 5:26:30 PM	45958
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/3/2019 12:24:31 AM	45949
Surr: BFB	103	73.8-119		%Rec	1	7/3/2019 12:24:31 AM	45949
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/3/2019 12:24:31 AM	45949
Toluene	ND	0.048		mg/Kg	1	7/3/2019 12:24:31 AM	45949
Ethylbenzene	ND	0.048		mg/Kg	1	7/3/2019 12:24:31 AM	45949
Xylenes, Total	ND	0.096		mg/Kg	1	7/3/2019 12:24:31 AM	45949
Surr: 4-Bromofluorobenzene	94.0	80-120		%Rec	1	7/3/2019 12:24:31 AM	45949

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-036 **Matrix:**
Client Sample ID: SP437
Collection Date: 6/27/2019 11:45:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	170	60		mg/Kg	20	7/2/2019 9:50:04 PM	45974
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/3/2019 5:51:25 PM	45958
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/3/2019 5:51:25 PM	45958
Surr: DNOP	71.4	70-130		%Rec	1	7/3/2019 5:51:25 PM	45958
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/3/2019 12:47:25 AM	45949
Surr: BFB	105	73.8-119		%Rec	1	7/3/2019 12:47:25 AM	45949
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/3/2019 12:47:25 AM	45949
Toluene	ND	0.048		mg/Kg	1	7/3/2019 12:47:25 AM	45949
Ethylbenzene	ND	0.048		mg/Kg	1	7/3/2019 12:47:25 AM	45949
Xylenes, Total	ND	0.097		mg/Kg	1	7/3/2019 12:47:25 AM	45949
Surr: 4-Bromofluorobenzene	94.8	80-120		%Rec	1	7/3/2019 12:47:25 AM	45949

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-037 **Matrix:**
Client Sample ID: SP438
Collection Date: 6/27/2019 11:45:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	360	60		mg/Kg	20	7/2/2019 10:02:29 PM	45974
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/3/2019 6:16:16 PM	45958
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/3/2019 6:16:16 PM	45958
Surr: DNOP	77.9	70-130		%Rec	1	7/3/2019 6:16:16 PM	45958
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/3/2019 1:10:13 AM	45949
Surr: BFB	104	73.8-119		%Rec	1	7/3/2019 1:10:13 AM	45949
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/3/2019 1:10:13 AM	45949
Toluene	ND	0.049		mg/Kg	1	7/3/2019 1:10:13 AM	45949
Ethylbenzene	ND	0.049		mg/Kg	1	7/3/2019 1:10:13 AM	45949
Xylenes, Total	ND	0.097		mg/Kg	1	7/3/2019 1:10:13 AM	45949
Surr: 4-Bromofluorobenzene	93.0	80-120		%Rec	1	7/3/2019 1:10:13 AM	45949

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-039 **Matrix:**

Client Sample ID: SP440
Collection Date: 6/27/2019 11:45:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	210	60		mg/Kg	20	7/2/2019 11:04:33 PM	45974
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/3/2019 6:41:04 PM	45958
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/3/2019 6:41:04 PM	45958
Surr: DNOP	76.1	70-130		%Rec	1	7/3/2019 6:41:04 PM	45958
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/3/2019 1:33:03 AM	45949
Surr: BFB	107	73.8-119		%Rec	1	7/3/2019 1:33:03 AM	45949
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/3/2019 1:33:03 AM	45949
Toluene	ND	0.048		mg/Kg	1	7/3/2019 1:33:03 AM	45949
Ethylbenzene	ND	0.048		mg/Kg	1	7/3/2019 1:33:03 AM	45949
Xylenes, Total	ND	0.096		mg/Kg	1	7/3/2019 1:33:03 AM	45949
Surr: 4-Bromofluorobenzene	95.7	80-120		%Rec	1	7/3/2019 1:33:03 AM	45949

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-040 **Matrix:**
Client Sample ID: SP441
Collection Date: 6/27/2019 11:45:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	270	60		mg/Kg	20	7/2/2019 11:16:58 PM	45974
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/3/2019 7:05:47 PM	45958
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/3/2019 7:05:47 PM	45958
Surr: DNOP	79.8	70-130		%Rec	1	7/3/2019 7:05:47 PM	45958
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/3/2019 1:55:54 AM	45949
Surr: BFB	106	73.8-119		%Rec	1	7/3/2019 1:55:54 AM	45949
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/3/2019 1:55:54 AM	45949
Toluene	ND	0.050		mg/Kg	1	7/3/2019 1:55:54 AM	45949
Ethylbenzene	ND	0.050		mg/Kg	1	7/3/2019 1:55:54 AM	45949
Xylenes, Total	ND	0.10		mg/Kg	1	7/3/2019 1:55:54 AM	45949
Surr: 4-Bromofluorobenzene	94.1	80-120		%Rec	1	7/3/2019 1:55:54 AM	45949

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-041 **Matrix:**
Client Sample ID: SP442
Collection Date: 6/27/2019 11:45:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	260	60		mg/Kg	20	7/2/2019 11:29:22 PM	45974
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/3/2019 7:30:29 PM	45958
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/3/2019 7:30:29 PM	45958
Surr: DNOP	81.3	70-130		%Rec	1	7/3/2019 7:30:29 PM	45958
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/3/2019 2:41:34 AM	45949
Surr: BFB	107	73.8-119		%Rec	1	7/3/2019 2:41:34 AM	45949
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/3/2019 2:41:34 AM	45949
Toluene	ND	0.049		mg/Kg	1	7/3/2019 2:41:34 AM	45949
Ethylbenzene	ND	0.049		mg/Kg	1	7/3/2019 2:41:34 AM	45949
Xylenes, Total	ND	0.098		mg/Kg	1	7/3/2019 2:41:34 AM	45949
Surr: 4-Bromofluorobenzene	96.7	80-120		%Rec	1	7/3/2019 2:41:34 AM	45949

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-043 **Matrix:**

Client Sample ID: SP444
Collection Date: 6/27/2019 11:45:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	200	60		mg/Kg	20	7/2/2019 11:41:47 PM	45974
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/3/2019 7:55:10 PM	45958
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/3/2019 7:55:10 PM	45958
Surr: DNOP	72.4	70-130		%Rec	1	7/3/2019 7:55:10 PM	45958
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/3/2019 3:04:24 AM	45949
Surr: BFB	105	73.8-119		%Rec	1	7/3/2019 3:04:24 AM	45949
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/3/2019 3:04:24 AM	45949
Toluene	ND	0.049		mg/Kg	1	7/3/2019 3:04:24 AM	45949
Ethylbenzene	ND	0.049		mg/Kg	1	7/3/2019 3:04:24 AM	45949
Xylenes, Total	ND	0.097		mg/Kg	1	7/3/2019 3:04:24 AM	45949
Surr: 4-Bromofluorobenzene	94.8	80-120		%Rec	1	7/3/2019 3:04:24 AM	45949

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-044 **Matrix:**
Client Sample ID: SP445
Collection Date: 6/27/2019 11:45:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	320	60		mg/Kg	20	7/3/2019 2:14:55 PM	45997
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/4/2019 5:04:39 AM	45967
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/4/2019 5:04:39 AM	45967
Surr: DNOP	56.5	70-130	S	%Rec	1	7/4/2019 5:04:39 AM	45967
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/3/2019 9:35:52 AM	45955
Surr: BFB	105	73.8-119		%Rec	1	7/3/2019 9:35:52 AM	45955
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/3/2019 9:35:52 AM	45955
Toluene	ND	0.049		mg/Kg	1	7/3/2019 9:35:52 AM	45955
Ethylbenzene	ND	0.049		mg/Kg	1	7/3/2019 9:35:52 AM	45955
Xylenes, Total	ND	0.098		mg/Kg	1	7/3/2019 9:35:52 AM	45955
Surr: 4-Bromofluorobenzene	96.0	80-120		%Rec	1	7/3/2019 9:35:52 AM	45955

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-045 **Matrix:**
Client Sample ID: SP446
Collection Date: 6/27/2019 11:45:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	260	60		mg/Kg	20	7/3/2019 2:27:19 PM	45997
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/4/2019 6:10:46 AM	45967
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/4/2019 6:10:46 AM	45967
Surr: DNOP	47.0	70-130	S	%Rec	1	7/4/2019 6:10:46 AM	45967
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/3/2019 10:43:43 AM	45955
Surr: BFB	101	73.8-119		%Rec	1	7/3/2019 10:43:43 AM	45955
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/3/2019 10:43:43 AM	45955
Toluene	ND	0.050		mg/Kg	1	7/3/2019 10:43:43 AM	45955
Ethylbenzene	ND	0.050		mg/Kg	1	7/3/2019 10:43:43 AM	45955
Xylenes, Total	ND	0.099		mg/Kg	1	7/3/2019 10:43:43 AM	45955
Surr: 4-Bromofluorobenzene	93.4	80-120		%Rec	1	7/3/2019 10:43:43 AM	45955

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-046 **Matrix:**
Client Sample ID: SP447
Collection Date: 6/27/2019 11:45:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	270	60		mg/Kg	20	7/3/2019 7:25:08 PM	46014
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/4/2019 6:32:48 AM	45967
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/4/2019 6:32:48 AM	45967
Surr: DNOP	47.2	70-130	S	%Rec	1	7/4/2019 6:32:48 AM	45967
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/3/2019 11:51:41 AM	45955
Surr: BFB	103	73.8-119		%Rec	1	7/3/2019 11:51:41 AM	45955
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/3/2019 11:51:41 AM	45955
Toluene	ND	0.050		mg/Kg	1	7/3/2019 11:51:41 AM	45955
Ethylbenzene	ND	0.050		mg/Kg	1	7/3/2019 11:51:41 AM	45955
Xylenes, Total	ND	0.10		mg/Kg	1	7/3/2019 11:51:41 AM	45955
Surr: 4-Bromofluorobenzene	93.8	80-120		%Rec	1	7/3/2019 11:51:41 AM	45955

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-049 **Matrix:**
Client Sample ID: SP450
Collection Date: 6/27/2019 11:45:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	240	60		mg/Kg	20	7/3/2019 8:02:21 PM	46014
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/4/2019 6:55:05 AM	45967
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/4/2019 6:55:05 AM	45967
Surr: DNOP	55.8	70-130	S	%Rec	1	7/4/2019 6:55:05 AM	45967
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/3/2019 12:14:20 PM	45955
Surr: BFB	102	73.8-119		%Rec	1	7/3/2019 12:14:20 PM	45955
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/3/2019 12:14:20 PM	45955
Toluene	ND	0.049		mg/Kg	1	7/3/2019 12:14:20 PM	45955
Ethylbenzene	ND	0.049		mg/Kg	1	7/3/2019 12:14:20 PM	45955
Xylenes, Total	ND	0.097		mg/Kg	1	7/3/2019 12:14:20 PM	45955
Surr: 4-Bromofluorobenzene	91.9	80-120		%Rec	1	7/3/2019 12:14:20 PM	45955

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-050 **Matrix:**
Client Sample ID: SP451
Collection Date: 6/27/2019 11:45:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	260	60		mg/Kg	20	7/3/2019 8:39:34 PM	46014
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/4/2019 7:17:11 AM	45967
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/4/2019 7:17:11 AM	45967
Surr: DNOP	42.5	70-130	S	%Rec	1	7/4/2019 7:17:11 AM	45967
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/3/2019 12:37:02 PM	45955
Surr: BFB	98.5	73.8-119		%Rec	1	7/3/2019 12:37:02 PM	45955
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/3/2019 12:37:02 PM	45955
Toluene	ND	0.049		mg/Kg	1	7/3/2019 12:37:02 PM	45955
Ethylbenzene	ND	0.049		mg/Kg	1	7/3/2019 12:37:02 PM	45955
Xylenes, Total	ND	0.097		mg/Kg	1	7/3/2019 12:37:02 PM	45955
Surr: 4-Bromofluorobenzene	87.9	80-120		%Rec	1	7/3/2019 12:37:02 PM	45955

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-051 **Matrix:**
Client Sample ID: SP452
Collection Date: 6/27/2019 11:45:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	230	60		mg/Kg	20	7/3/2019 8:51:59 PM	46014
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/4/2019 7:39:21 AM	45967
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/4/2019 7:39:21 AM	45967
Surr: DNOP	44.0	70-130	S	%Rec	1	7/4/2019 7:39:21 AM	45967
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/3/2019 12:59:45 PM	45955
Surr: BFB	101	73.8-119		%Rec	1	7/3/2019 12:59:45 PM	45955
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/3/2019 12:59:45 PM	45955
Toluene	ND	0.050		mg/Kg	1	7/3/2019 12:59:45 PM	45955
Ethylbenzene	ND	0.050		mg/Kg	1	7/3/2019 12:59:45 PM	45955
Xylenes, Total	ND	0.099		mg/Kg	1	7/3/2019 12:59:45 PM	45955
Surr: 4-Bromofluorobenzene	91.9	80-120		%Rec	1	7/3/2019 12:59:45 PM	45955

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-052 **Matrix:**
Client Sample ID: SP453
Collection Date: 6/27/2019 11:45:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	330	60		mg/Kg	20	7/3/2019 9:04:24 PM	46014
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/4/2019 8:23:38 AM	45967
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/4/2019 8:23:38 AM	45967
Surr: DNOP	40.7	70-130	S	%Rec	1	7/4/2019 8:23:38 AM	45967
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/3/2019 1:22:26 PM	45955
Surr: BFB	104	73.8-119		%Rec	1	7/3/2019 1:22:26 PM	45955
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/3/2019 1:22:26 PM	45955
Toluene	ND	0.049		mg/Kg	1	7/3/2019 1:22:26 PM	45955
Ethylbenzene	ND	0.049		mg/Kg	1	7/3/2019 1:22:26 PM	45955
Xylenes, Total	ND	0.098		mg/Kg	1	7/3/2019 1:22:26 PM	45955
Surr: 4-Bromofluorobenzene	94.6	80-120		%Rec	1	7/3/2019 1:22:26 PM	45955

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-053 **Matrix:**
Client Sample ID: SP454
Collection Date: 6/27/2019 11:45:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	260	60		mg/Kg	20	7/5/2019 2:36:24 PM	46021
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/4/2019 8:45:48 AM	45967
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/4/2019 8:45:48 AM	45967
Surr: DNOP	47.7	70-130	S	%Rec	1	7/4/2019 8:45:48 AM	45967
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/3/2019 1:45:10 PM	45955
Surr: BFB	104	73.8-119		%Rec	1	7/3/2019 1:45:10 PM	45955
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/3/2019 1:45:10 PM	45955
Toluene	ND	0.048		mg/Kg	1	7/3/2019 1:45:10 PM	45955
Ethylbenzene	ND	0.048		mg/Kg	1	7/3/2019 1:45:10 PM	45955
Xylenes, Total	ND	0.097		mg/Kg	1	7/3/2019 1:45:10 PM	45955
Surr: 4-Bromofluorobenzene	95.2	80-120		%Rec	1	7/3/2019 1:45:10 PM	45955

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-054 **Matrix:**
Client Sample ID: SP455
Collection Date: 6/27/2019 11:45:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	200	60		mg/Kg	20	7/5/2019 2:48:48 PM	46021
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	7/4/2019 9:08:05 AM	45967
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/4/2019 9:08:05 AM	45967
Surr: DNOP	46.2	70-130	S	%Rec	1	7/4/2019 9:08:05 AM	45967
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/3/2019 2:07:52 PM	45955
Surr: BFB	104	73.8-119		%Rec	1	7/3/2019 2:07:52 PM	45955
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/3/2019 2:07:52 PM	45955
Toluene	ND	0.050		mg/Kg	1	7/3/2019 2:07:52 PM	45955
Ethylbenzene	ND	0.050		mg/Kg	1	7/3/2019 2:07:52 PM	45955
Xylenes, Total	ND	0.10		mg/Kg	1	7/3/2019 2:07:52 PM	45955
Surr: 4-Bromofluorobenzene	94.2	80-120		%Rec	1	7/3/2019 2:07:52 PM	45955

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-058 **Matrix:**

Client Sample ID: SW34
Collection Date: 6/27/2019 11:45:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	220	60		mg/Kg	20	7/5/2019 3:01:12 PM	46021
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/4/2019 9:30:14 AM	45967
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/4/2019 9:30:14 AM	45967
Surr: DNOP	39.3	70-130	S	%Rec	1	7/4/2019 9:30:14 AM	45967
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/3/2019 2:30:38 PM	45955
Surr: BFB	103	73.8-119		%Rec	1	7/3/2019 2:30:38 PM	45955
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/3/2019 2:30:38 PM	45955
Toluene	ND	0.049		mg/Kg	1	7/3/2019 2:30:38 PM	45955
Ethylbenzene	ND	0.049		mg/Kg	1	7/3/2019 2:30:38 PM	45955
Xylenes, Total	ND	0.097		mg/Kg	1	7/3/2019 2:30:38 PM	45955
Surr: 4-Bromofluorobenzene	92.8	80-120		%Rec	1	7/3/2019 2:30:38 PM	45955

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-061 **Matrix:**

Client Sample ID: SW37
Collection Date: 6/27/2019 11:45:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	230	60		mg/Kg	20	7/5/2019 3:38:25 PM	46021
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	8.4		mg/Kg	1	7/4/2019 9:52:18 AM	45967
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	7/4/2019 9:52:18 AM	45967
Surr: DNOP	33.0	70-130	S	%Rec	1	7/4/2019 9:52:18 AM	45967
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/3/2019 4:47:26 PM	45955
Surr: BFB	102	73.8-119		%Rec	1	7/3/2019 4:47:26 PM	45955
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/3/2019 4:47:26 PM	45955
Toluene	ND	0.048		mg/Kg	1	7/3/2019 4:47:26 PM	45955
Ethylbenzene	ND	0.048		mg/Kg	1	7/3/2019 4:47:26 PM	45955
Xylenes, Total	ND	0.097		mg/Kg	1	7/3/2019 4:47:26 PM	45955
Surr: 4-Bromofluorobenzene	91.9	80-120		%Rec	1	7/3/2019 4:47:26 PM	45955

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-062 **Matrix:**

Client Sample ID: SW38
Collection Date: 6/27/2019 11:45:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	210	60		mg/Kg	20	7/5/2019 3:50:50 PM	46021
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/4/2019 10:14:20 AM	45967
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/4/2019 10:14:20 AM	45967
Surr: DNOP	36.2	70-130	S	%Rec	1	7/4/2019 10:14:20 AM	45967
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/3/2019 5:10:12 PM	45955
Surr: BFB	102	73.8-119		%Rec	1	7/3/2019 5:10:12 PM	45955
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/3/2019 5:10:12 PM	45955
Toluene	ND	0.049		mg/Kg	1	7/3/2019 5:10:12 PM	45955
Ethylbenzene	ND	0.049		mg/Kg	1	7/3/2019 5:10:12 PM	45955
Xylenes, Total	ND	0.098		mg/Kg	1	7/3/2019 5:10:12 PM	45955
Surr: 4-Bromofluorobenzene	91.7	80-120		%Rec	1	7/3/2019 5:10:12 PM	45955

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

Analytical Report
Lab Order **1906G07**
Date Reported: **10/21/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1906G07-063 **Matrix:**

Client Sample ID: SW39
Collection Date: 6/27/2019 11:45:00 AM
Received Date: 6/28/2019 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	710	60		mg/Kg	20	7/5/2019 4:03:14 PM	46021
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/4/2019 10:36:23 AM	45967
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	7/4/2019 10:36:23 AM	45967
Surr: DNOP	37.8	70-130	S	%Rec	1	7/4/2019 10:36:23 AM	45967
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/3/2019 5:33:00 PM	45955
Surr: BFB	103	73.8-119		%Rec	1	7/3/2019 5:33:00 PM	45955
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/3/2019 5:33:00 PM	45955
Toluene	ND	0.048		mg/Kg	1	7/3/2019 5:33:00 PM	45955
Ethylbenzene	ND	0.048		mg/Kg	1	7/3/2019 5:33:00 PM	45955
Xylenes, Total	ND	0.097		mg/Kg	1	7/3/2019 5:33:00 PM	45955
Surr: 4-Bromofluorobenzene	91.0	80-120		%Rec	1	7/3/2019 5:33:00 PM	45955

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906G07**
21-Oct-19

Client: WPX Energy
Project: LVP SWD 1

Sample ID: **MB-45959** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **45959** RunNo: **61093**
Prep Date: **7/2/2019** Analysis Date: **7/2/2019** SeqNo: **2071403** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-45959** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **45959** RunNo: **61093**
Prep Date: **7/2/2019** Analysis Date: **7/2/2019** SeqNo: **2071404** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.8	90	110			

Sample ID: **MB-45974** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **45974** RunNo: **61093**
Prep Date: **7/2/2019** Analysis Date: **7/2/2019** SeqNo: **2071437** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-45974** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **45974** RunNo: **61093**
Prep Date: **7/2/2019** Analysis Date: **7/2/2019** SeqNo: **2071438** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.7	90	110			

Sample ID: **MB-45997** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **45997** RunNo: **61134**
Prep Date: **7/3/2019** Analysis Date: **7/3/2019** SeqNo: **2072914** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-45997** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **45997** RunNo: **61134**
Prep Date: **7/3/2019** Analysis Date: **7/3/2019** SeqNo: **2072915** 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.	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906G07**
21-Oct-19

Client: WPX Energy
Project: LVP SWD 1

Sample ID: **MB-46014** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **46014** RunNo: **61134**
Prep Date: **7/3/2019** Analysis Date: **7/3/2019** SeqNo: **2072944** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-46014** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **46014** RunNo: **61134**
Prep Date: **7/3/2019** Analysis Date: **7/3/2019** SeqNo: **2072945** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.1	90	110			

Sample ID: **MB-46021** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **46021** RunNo: **61175**
Prep Date: **7/5/2019** Analysis Date: **7/5/2019** SeqNo: **2074356** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-46021** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **46021** RunNo: **61175**
Prep Date: **7/5/2019** Analysis Date: **7/5/2019** SeqNo: **2074357** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.4	90	110			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906G07**
21-Oct-19

Client: WPX Energy
Project: LVP SWD 1

Sample ID: **MB-45958** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **45958** RunNo: **61135**
Prep Date: **7/2/2019** Analysis Date: **7/3/2019** SeqNo: **2071702** 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	8.2		10.00		82.5	70	130			

Sample ID: **LCS-45958** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **45958** RunNo: **61135**
Prep Date: **7/2/2019** Analysis Date: **7/3/2019** SeqNo: **2071703** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	90.4	63.9	124			
Surr: DNOP	4.3		5.000		86.0	70	130			

Sample ID: **1906G07-014AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP415** Batch ID: **45958** RunNo: **61135**
Prep Date: **7/2/2019** Analysis Date: **7/3/2019** SeqNo: **2071704** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	39	9.4	46.90	0	83.4	57	142			
Surr: DNOP	3.5		4.690		75.5	70	130			

Sample ID: **1906G07-014AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP415** Batch ID: **45958** RunNo: **61135**
Prep Date: **7/2/2019** Analysis Date: **7/3/2019** SeqNo: **2071705** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.51	0	87.1	57	142	11.8	20	
Surr: DNOP	4.0		5.051		79.6	70	130	0	0	

Sample ID: **LCS-45941** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **45941** RunNo: **61083**
Prep Date: **7/1/2019** Analysis Date: **7/3/2019** SeqNo: **2071884** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	103	63.9	124			
Surr: DNOP	4.9		5.000		98.2	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906G07**
21-Oct-19

Client: WPX Energy
Project: LVP SWD 1

Sample ID: **MB-45941** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **45941** RunNo: **61083**
Prep Date: **7/1/2019** Analysis Date: **7/3/2019** SeqNo: **2071885** 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		91.9	70	130			

Sample ID: **MB-45967** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **45967** RunNo: **61135**
Prep Date: **7/2/2019** Analysis Date: **7/3/2019** SeqNo: **2072211** 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		89.2	70	130			

Sample ID: **LCS-45967** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **45967** RunNo: **61135**
Prep Date: **7/2/2019** Analysis Date: **7/3/2019** SeqNo: **2072213** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	87.0	63.9	124			
Surr: DNOP	4.3		5.000		85.2	70	130			

Sample ID: **1906G07-044AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP445** Batch ID: **45967** RunNo: **61129**
Prep Date: **7/2/2019** Analysis Date: **7/4/2019** SeqNo: **2073147** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.40	3.403	81.4	57	142			
Surr: DNOP	2.2		5.040		43.4	70	130			S

Sample ID: **1906G07-044AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP445** Batch ID: **45967** RunNo: **61129**
Prep Date: **7/2/2019** Analysis Date: **7/4/2019** SeqNo: **2073148** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	9.3	46.34	3.403	85.4	57	142	3.30	20	
Surr: DNOP	1.6		4.634		34.4	70	130	0	0	S

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906G07**
21-Oct-19

Client: WPX Energy
Project: LVP SWD 1

Sample ID: **MB-45937** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **45937** RunNo: **61098**
Prep Date: **7/1/2019** Analysis Date: **7/2/2019** SeqNo: **2070739** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		100	73.8	119			

Sample ID: **LCS-45937** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **45937** RunNo: **61098**
Prep Date: **7/1/2019** Analysis Date: **7/2/2019** SeqNo: **2070740** 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	99.6	80.1	123			
Surr: BFB	1200		1000		115	73.8	119			

Sample ID: **MB-45949** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **45949** RunNo: **61098**
Prep Date: **7/1/2019** Analysis Date: **7/2/2019** SeqNo: **2070752** 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	73.8	119			

Sample ID: **LCS-45949** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **45949** RunNo: **61098**
Prep Date: **7/1/2019** Analysis Date: **7/2/2019** SeqNo: **2070753** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	102	80.1	123			
Surr: BFB	1200		1000		119	73.8	119			

Sample ID: **1906G07-014AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP415** Batch ID: **45949** RunNo: **61098**
Prep Date: **7/1/2019** Analysis Date: **7/2/2019** SeqNo: **2070758** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	24.95	0	112	69.1	142			
Surr: BFB	1200		998.0		120	73.8	119			S

Sample ID: **1906G07-014AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP415** Batch ID: **45949** RunNo: **61098**
Prep Date: **7/1/2019** Analysis Date: **7/2/2019** SeqNo: **2070759** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906G07**
21-Oct-19

Client: WPX Energy
Project: LVP SWD 1

Sample ID: **1906G07-014AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP415** Batch ID: **45949** RunNo: **61098**
Prep Date: **7/1/2019** Analysis Date: **7/2/2019** SeqNo: **2070759** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.9	24.49	0	110	69.1	142	4.07	20	
Surr: BFB	1200		979.4		120	73.8	119	0	0	S

Sample ID: **MB-45955** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **45955** RunNo: **61137**
Prep Date: **7/2/2019** Analysis Date: **7/3/2019** SeqNo: **2072109** 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		103	73.8	119			

Sample ID: **LCS-45955** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **45955** RunNo: **61137**
Prep Date: **7/2/2019** Analysis Date: **7/3/2019** SeqNo: **2072110** 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	96.6	80.1	123			
Surr: BFB	1200		1000		117	73.8	119			

Sample ID: **1906G07-044AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP445** Batch ID: **45955** RunNo: **61137**
Prep Date: **7/2/2019** Analysis Date: **7/3/2019** SeqNo: **2072112** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.8	24.13	0	108	69.1	142			
Surr: BFB	1100		965.3		115	73.8	119			

Sample ID: **1906G07-044AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP445** Batch ID: **45955** RunNo: **61137**
Prep Date: **7/2/2019** Analysis Date: **7/3/2019** SeqNo: **2072113** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	24.83	0	106	69.1	142	0.591	20	
Surr: BFB	1200		993.0		117	73.8	119	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906G07**
21-Oct-19

Client: WPX Energy
Project: LVP SWD 1

Sample ID: **MB-45937** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **45937** RunNo: **61098**
Prep Date: **7/1/2019** Analysis Date: **7/2/2019** SeqNo: **2070785** 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-45937** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **45937** RunNo: **61098**
Prep Date: **7/1/2019** Analysis Date: **7/2/2019** SeqNo: **2070789** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	102	80	120			
Toluene	0.98	0.050	1.000	0	97.8	80	120			
Ethylbenzene	0.96	0.050	1.000	0	96.3	80	120			
Xylenes, Total	2.8	0.10	3.000	0	93.4	80	120			
Surr: 4-Bromofluorobenzene	0.97		1.000		97.2	80	120			

Sample ID: **1906G07-001AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP 402** Batch ID: **45937** RunNo: **61098**
Prep Date: **7/1/2019** Analysis Date: **7/2/2019** SeqNo: **2070798** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.024	0.9794	0	109	63.9	127			
Toluene	1.1	0.049	0.9794	0	109	69.9	131			
Ethylbenzene	1.1	0.049	0.9794	0	111	71	132			
Xylenes, Total	3.2	0.098	2.938	0	108	71.8	131			
Surr: 4-Bromofluorobenzene	1.0		0.9794		103	80	120			

Sample ID: **1906G07-001AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP 402** Batch ID: **45937** RunNo: **61098**
Prep Date: **7/1/2019** Analysis Date: **7/2/2019** SeqNo: **2070802** 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	112	63.9	127	3.26	20	
Toluene	1.1	0.049	0.9881	0	113	69.9	131	4.17	20	
Ethylbenzene	1.1	0.049	0.9881	0	114	71	132	3.36	20	
Xylenes, Total	3.3	0.099	2.964	0	111	71.8	131	4.03	20	
Surr: 4-Bromofluorobenzene	1.0		0.9881		101	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906G07**
21-Oct-19

Client: WPX Energy
Project: LVP SWD 1

Sample ID: **MB-45949** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **45949** RunNo: **61098**
Prep Date: **7/1/2019** Analysis Date: **7/2/2019** SeqNo: **2070813** 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		94.6	80	120			

Sample ID: **LCS-45949** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **45949** RunNo: **61098**
Prep Date: **7/1/2019** Analysis Date: **7/2/2019** SeqNo: **2070818** 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	0.97	0.050	1.000	0	97.0	80	120			
Ethylbenzene	0.95	0.050	1.000	0	94.6	80	120			
Xylenes, Total	2.7	0.10	3.000	0	91.5	80	120			
Surr: 4-Bromofluorobenzene	0.99		1.000		99.3	80	120			

Sample ID: **1906G07-016AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP417** Batch ID: **45949** RunNo: **61098**
Prep Date: **7/1/2019** Analysis Date: **7/2/2019** SeqNo: **2070829** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9690	0	103	63.9	127			
Toluene	1.0	0.048	0.9690	0	106	69.9	131			
Ethylbenzene	1.0	0.048	0.9690	0	105	71	132			
Xylenes, Total	2.9	0.097	2.907	0	101	71.8	131			
Surr: 4-Bromofluorobenzene	0.97		0.9690		101	80	120			

Sample ID: **1906G07-016AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP417** Batch ID: **45949** RunNo: **61098**
Prep Date: **7/1/2019** Analysis Date: **7/2/2019** SeqNo: **2070830** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	0.9970	0	108	63.9	127	6.88	20	
Toluene	1.1	0.050	0.9970	0	108	69.9	131	4.99	20	
Ethylbenzene	1.1	0.050	0.9970	0	108	71	132	5.64	20	
Xylenes, Total	3.2	0.10	2.991	0	106	71.8	131	7.29	20	
Surr: 4-Bromofluorobenzene	1.0		0.9970		102	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906G07**
21-Oct-19

Client: WPX Energy
Project: LVP SWD 1

Sample ID: **MB-45955** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **45955** RunNo: **61137**
Prep Date: **7/2/2019** Analysis Date: **7/3/2019** SeqNo: **2072155** 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	0.94		1.000		94.0	80	120			

Sample ID: **LCS-45955** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **45955** RunNo: **61137**
Prep Date: **7/2/2019** Analysis Date: **7/3/2019** SeqNo: **2072156** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	95.2	80	120			
Toluene	0.93	0.050	1.000	0	92.8	80	120			
Ethylbenzene	0.92	0.050	1.000	0	92.4	80	120			
Xylenes, Total	2.7	0.10	3.000	0	90.2	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Sample ID: **1906G07-045AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP446** Batch ID: **45955** RunNo: **61137**
Prep Date: **7/2/2019** Analysis Date: **7/3/2019** SeqNo: **2072159** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.024	0.9542	0	113	63.9	127			
Toluene	1.1	0.048	0.9542	0	114	69.9	131			
Ethylbenzene	1.1	0.048	0.9542	0	113	71	132			
Xylenes, Total	3.2	0.095	2.863	0	111	71.8	131			
Surr: 4-Bromofluorobenzene	0.97		0.9542		101	80	120			

Sample ID: **1906G07-045AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP446** Batch ID: **45955** RunNo: **61137**
Prep Date: **7/2/2019** Analysis Date: **7/3/2019** SeqNo: **2072160** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.025	0.9960	0	117	63.9	127	8.25	20	
Toluene	1.2	0.050	0.9960	0	116	69.9	131	6.16	20	
Ethylbenzene	1.2	0.050	0.9960	0	116	71	132	7.50	20	
Xylenes, Total	3.4	0.10	2.988	0	113	71.8	131	6.21	20	
Surr: 4-Bromofluorobenzene	1.0		0.9960		101	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **1906G07** RcptNo: **1**

Received By: **Jevon Campisi** **6/28/2019 10:40:00 AM** Jevon Campisi

Completed By: **Yazmine Garduno** **6/28/2019 12:52:21 PM** Yazmine Garduno

Reviewed By: IO 6/28/19

Chain of Custody

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

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: _____

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	1.8	Good	Yes			
2	1.4	Good	Yes			

Chain-of-Custody Record

Client: WPX (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: LVP SWD #1

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

# of Coolers: 2

Cooler Temp (including CF): 1.8°C / 1.4°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1906G107	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	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
6/27/2019	11:40	soil	SP 402	4oz (1)	ICE	-001	X	X					X			
			SP 403			-002										
			SP 404			-003										
			SP 405			-004										
			SP 406			-005										
			SP 407			-006										
			SP 408			-007										
			SP 409			-008										
			SP 410			-009										
			SP 411			-010										
			SP 412			-011										
			SP 413			-012										

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
6/27/2019	11:45	Kevin Smith			6/27/19	1145
6/27/19	1900			Courier	6-28-19	10:40

Remarks: e mail results to lori
kevin @ HRL
Natalie
Chris Rowe

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

Chain-of-Custody Record

Client: WPX 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: LVP 8WD #1

Project #:

Project Manager: Kris Rowe

Sampler: KS

On Ice: ☑ Yes ☐ No

# of Coolers: 2

Cooler Temp (including CF): 1.8°C / 1.4°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1906G07	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	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
6/27/19	am	Soil	SP 414	4oz 1	ice	-013	X	X								
			SP 415			-014										
			SP 416			-015										
			SP 417			-016										
			SP 418			-017										
			SP 419			-018										
			SP 420			-019										
			SP 421			-020										
			SP 422			-021										
			SP 423			-022										
			SP 424			-023										
			SP 425			-024										

Date	Time	Relinquished by	Received by	Via	Date	Time
6/27/2019	11:46	Kevin Dunn	[signature]		6/27/19	1146
6/27/19	1900	[signature]	[signature]	Courier	6-28-19	10:40

Remarks:

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

Chain-of-Custody Record

Client: WPX (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: LVP SWD #1

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

# of Coolers: 2

Cooler Temp (including CF): 1.8°C / 1.4°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1906G07	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	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
6/27/2019	11:45am	Soil	SP 426	4oz (1)	ICE	-025	X	X					X			
			SP 427			-024										
			SP 428			-027										
			SP 429			-028										
			SP 430			-029										
			SP 431			-030										
			SP 432			-031										
			SP 433			-032										
			SP 434			-033										
			SP 435			-034										
			SP 436			-035										
			SP 437			-036										

Date	Time	Relinquished by	Received by	Via	Date	Time
6/27/2019	11:45	Kevin Smith	[signature]		6/27/19	1145
6/27/19	1940	[signature]	[signature]	Courier	6-28-19	10:40

Remarks:

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

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Client: WPX 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: LVP SWD #1

Project #:

Project Manager: Kris Rowe

Sampler: KS.

On Ice: ☑ Yes ☐ No

# of Coolers: 2

Cooler Temp (including CF): 1.8°C / 1.4°C

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1906G07	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	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
6/22/19	am	soil	SP 438	4oz 1	ice	-037	X	X								
			SP 439			-038										
			SP 440			-039										
			SP 441			-040										
			SP 442			-041										
			SP 443			-042										
			SP 444			-043										
			SP 445			-044										
			SP 446			-045										
			SP 447			-046										
			SP 448			-047										
			SP 449			-048										

Date	Time	Relinquished by	Received by	Via	Date	Time
6/22/2019	11:48am	[signature]	[signature]		6/22/19	1148
6/22/19	1900	[signature]	[signature]	Courier	6-28-19	10:48

Remarks:

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

Chain-of-Custody Record

Client: WPX 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: LVP SWD #1

Project #:

Project Manager: Kris Rowe

Sampler: KS.

On Ice: ☑ Yes ☐ No

# of Coolers: 2

Cooler Temp (including CF): 1.8°C / 1.4°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1906G07	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	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
6/27/19	am	soil	SP 450	4oz 1	ice	-049	X	X								
			SP 451			-050										
			SP 452			-051										
			SP 453			-052										
			SP 454			-053										
			SP 455			-054										
			SW 31			-055										
			SW 32			-056										
			SW 33			-057										
			SW 34			-058										
			SW 35			-059										
			SW 36			-040										

Date	Time	Relinquished by	Received by	Via	Date	Time
6/27/2019	11:47	[signature]	[signature]		6/27/19	1147
6/27/19	1900	[signature]	[signature]	Courier	6-28-19	10:40

Remarks:

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

Chain-of-Custody Record

Client: WPX 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: LVP SWD #1

Project #:

Project Manager: Kris Rowe

Sampler: KS

On Ice: ☑ Yes ☐ No

# of Coolers: 2

Cooler Temp(including CF): 1.8°C / 1.4°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1904907	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	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
6/27/19	am	Soil	SW37	4oz g	ice	-061	X	X					✓			
			SW38			-062	✓	✓								
			SW39			-063										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
6/27/2019	11:48	Kevin Amin	[signature]		6/27/19	1148
6/27/19	1800	[signature]	[signature]	Courier	6-28-19	10:40

Remarks:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

July 11, 2019

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

RE: LVP SWD 1 OrderNo.: 1907199

Dear Kris Rowe:

Hall Environmental Analysis Laboratory received 20 sample(s) on 7/3/2019 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1907199**
Date Reported: **7/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1907199-001 **Matrix:** SOIL

Client Sample ID: SP405
Collection Date: 7/2/2019
Received Date: 7/3/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	280	60		mg/Kg	20	7/9/2019 6:34:24 PM	46086
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/9/2019 5:40:41 PM	46056
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/9/2019 5:40:41 PM	46056
Surr: DNOP	74.2	70-130		%Rec	1	7/9/2019 5:40:41 PM	46056
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/7/2019 10:37:22 AM	46032
Surr: BFB	91.6	73.8-119		%Rec	1	7/7/2019 10:37:22 AM	46032
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/7/2019 10:37:22 AM	46032
Toluene	ND	0.050		mg/Kg	1	7/7/2019 10:37:22 AM	46032
Ethylbenzene	ND	0.050		mg/Kg	1	7/7/2019 10:37:22 AM	46032
Xylenes, Total	ND	0.099		mg/Kg	1	7/7/2019 10:37:22 AM	46032
Surr: 4-Bromofluorobenzene	95.6	80-120		%Rec	1	7/7/2019 10:37:22 AM	46032

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

Analytical Report
Lab Order **1907199**
Date Reported: **7/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1907199-002 **Matrix:** SOIL

Client Sample ID: SP409
Collection Date: 7/2/2019
Received Date: 7/3/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	190	60		mg/Kg	20	7/9/2019 6:46:49 PM	46086
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	7/9/2019 6:55:36 PM	46056
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/9/2019 6:55:36 PM	46056
Surr: DNOP	103	70-130		%Rec	1	7/9/2019 6:55:36 PM	46056
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/7/2019 11:47:34 AM	46032
Surr: BFB	89.5	73.8-119		%Rec	1	7/7/2019 11:47:34 AM	46032
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/7/2019 11:47:34 AM	46032
Toluene	ND	0.049		mg/Kg	1	7/7/2019 11:47:34 AM	46032
Ethylbenzene	ND	0.049		mg/Kg	1	7/7/2019 11:47:34 AM	46032
Xylenes, Total	ND	0.098		mg/Kg	1	7/7/2019 11:47:34 AM	46032
Surr: 4-Bromofluorobenzene	94.5	80-120		%Rec	1	7/7/2019 11:47:34 AM	46032

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

Analytical Report
Lab Order **1907199**
Date Reported: **7/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1907199-003 **Matrix:** SOIL

Client Sample ID: SP411
Collection Date: 7/2/2019
Received Date: 7/3/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	190	60		mg/Kg	20	7/9/2019 6:59:13 PM	46086
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/9/2019 7:20:41 PM	46056
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/9/2019 7:20:41 PM	46056
Surr: DNOP	92.6	70-130		%Rec	1	7/9/2019 7:20:41 PM	46056
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/7/2019 12:57:49 PM	46032
Surr: BFB	92.8	73.8-119		%Rec	1	7/7/2019 12:57:49 PM	46032
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/7/2019 12:57:49 PM	46032
Toluene	ND	0.049		mg/Kg	1	7/7/2019 12:57:49 PM	46032
Ethylbenzene	ND	0.049		mg/Kg	1	7/7/2019 12:57:49 PM	46032
Xylenes, Total	ND	0.098		mg/Kg	1	7/7/2019 12:57:49 PM	46032
Surr: 4-Bromofluorobenzene	97.5	80-120		%Rec	1	7/7/2019 12:57:49 PM	46032

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

Analytical Report
Lab Order **1907199**
Date Reported: **7/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1907199-004 **Matrix:** SOIL

Client Sample ID: SP416
Collection Date: 7/2/2019
Received Date: 7/3/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	190	60		mg/Kg	20	7/9/2019 7:11:38 PM	46086
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/9/2019 7:45:37 PM	46056
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/9/2019 7:45:37 PM	46056
Surr: DNOP	56.5	70-130	S	%Rec	1	7/9/2019 7:45:37 PM	46056
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/7/2019 1:21:16 PM	46032
Surr: BFB	90.6	73.8-119		%Rec	1	7/7/2019 1:21:16 PM	46032
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/7/2019 1:21:16 PM	46032
Toluene	ND	0.049		mg/Kg	1	7/7/2019 1:21:16 PM	46032
Ethylbenzene	ND	0.049		mg/Kg	1	7/7/2019 1:21:16 PM	46032
Xylenes, Total	ND	0.099		mg/Kg	1	7/7/2019 1:21:16 PM	46032
Surr: 4-Bromofluorobenzene	94.5	80-120		%Rec	1	7/7/2019 1:21:16 PM	46032

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

Analytical Report
Lab Order **1907199**
Date Reported: **7/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1907199-005 **Matrix:** SOIL

Client Sample ID: SP421
Collection Date: 7/2/2019
Received Date: 7/3/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	170	60		mg/Kg	20	7/9/2019 7:24:02 PM	46086
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	7/9/2019 8:10:32 PM	46056
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/9/2019 8:10:32 PM	46056
Surr: DNOP	78.2	70-130		%Rec	1	7/9/2019 8:10:32 PM	46056
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/7/2019 1:44:45 PM	46032
Surr: BFB	90.7	73.8-119		%Rec	1	7/7/2019 1:44:45 PM	46032
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/7/2019 1:44:45 PM	46032
Toluene	ND	0.049		mg/Kg	1	7/7/2019 1:44:45 PM	46032
Ethylbenzene	ND	0.049		mg/Kg	1	7/7/2019 1:44:45 PM	46032
Xylenes, Total	ND	0.098		mg/Kg	1	7/7/2019 1:44:45 PM	46032
Surr: 4-Bromofluorobenzene	95.2	80-120		%Rec	1	7/7/2019 1:44:45 PM	46032

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

Analytical Report
Lab Order **1907199**
Date Reported: **7/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1907199-006 **Matrix:** SOIL

Client Sample ID: SP422
Collection Date: 7/2/2019
Received Date: 7/3/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	180	60		mg/Kg	20	7/9/2019 7:36:26 PM	46086
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/9/2019 8:35:21 PM	46056
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/9/2019 8:35:21 PM	46056
Surr: DNOP	89.8	70-130		%Rec	1	7/9/2019 8:35:21 PM	46056
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/7/2019 2:08:16 PM	46032
Surr: BFB	90.2	73.8-119		%Rec	1	7/7/2019 2:08:16 PM	46032
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/7/2019 2:08:16 PM	46032
Toluene	ND	0.049		mg/Kg	1	7/7/2019 2:08:16 PM	46032
Ethylbenzene	ND	0.049		mg/Kg	1	7/7/2019 2:08:16 PM	46032
Xylenes, Total	ND	0.098		mg/Kg	1	7/7/2019 2:08:16 PM	46032
Surr: 4-Bromofluorobenzene	94.3	80-120		%Rec	1	7/7/2019 2:08:16 PM	46032

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

Analytical Report
Lab Order **1907199**
Date Reported: **7/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1907199-007 **Matrix:** SOIL

Client Sample ID: SP429
Collection Date: 7/2/2019
Received Date: 7/3/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	190	60		mg/Kg	20	7/9/2019 7:48:50 PM	46086
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/9/2019 9:00:21 PM	46056
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/9/2019 9:00:21 PM	46056
Surr: DNOP	81.3	70-130		%Rec	1	7/9/2019 9:00:21 PM	46056
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/7/2019 2:31:43 PM	46032
Surr: BFB	100	73.8-119		%Rec	1	7/7/2019 2:31:43 PM	46032
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/7/2019 2:31:43 PM	46032
Toluene	ND	0.050		mg/Kg	1	7/7/2019 2:31:43 PM	46032
Ethylbenzene	ND	0.050		mg/Kg	1	7/7/2019 2:31:43 PM	46032
Xylenes, Total	ND	0.099		mg/Kg	1	7/7/2019 2:31:43 PM	46032
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	7/7/2019 2:31:43 PM	46032

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

Analytical Report
Lab Order **1907199**
Date Reported: **7/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1907199-008 **Matrix:** SOIL

Client Sample ID: SP431
Collection Date: 7/2/2019
Received Date: 7/3/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	210	60		mg/Kg	20	7/9/2019 2:26:14 PM	46066
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/9/2019 9:25:07 PM	46056
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/9/2019 9:25:07 PM	46056
Surr: DNOP	77.6	70-130		%Rec	1	7/9/2019 9:25:07 PM	46056
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/7/2019 2:55:10 PM	46032
Surr: BFB	93.3	73.8-119		%Rec	1	7/7/2019 2:55:10 PM	46032
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/7/2019 2:55:10 PM	46032
Toluene	ND	0.050		mg/Kg	1	7/7/2019 2:55:10 PM	46032
Ethylbenzene	ND	0.050		mg/Kg	1	7/7/2019 2:55:10 PM	46032
Xylenes, Total	ND	0.099		mg/Kg	1	7/7/2019 2:55:10 PM	46032
Surr: 4-Bromofluorobenzene	98.5	80-120		%Rec	1	7/7/2019 2:55:10 PM	46032

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

Analytical Report
Lab Order **1907199**
Date Reported: **7/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1907199-009 **Matrix:** SOIL

Client Sample ID: SP433
Collection Date: 7/2/2019
Received Date: 7/3/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	210	60		mg/Kg	20	7/9/2019 2:38:38 PM	46066
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/9/2019 9:49:50 PM	46056
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/9/2019 9:49:50 PM	46056
Surr: DNOP	64.3	70-130	S	%Rec	1	7/9/2019 9:49:50 PM	46056
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/7/2019 4:05:29 PM	46032
Surr: BFB	88.1	73.8-119		%Rec	1	7/7/2019 4:05:29 PM	46032
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/7/2019 4:05:29 PM	46032
Toluene	ND	0.049		mg/Kg	1	7/7/2019 4:05:29 PM	46032
Ethylbenzene	ND	0.049		mg/Kg	1	7/7/2019 4:05:29 PM	46032
Xylenes, Total	ND	0.099		mg/Kg	1	7/7/2019 4:05:29 PM	46032
Surr: 4-Bromofluorobenzene	91.7	80-120		%Rec	1	7/7/2019 4:05:29 PM	46032

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

Analytical Report
Lab Order **1907199**
Date Reported: **7/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1907199-010 **Matrix:** SOIL

Client Sample ID: SP434
Collection Date: 7/2/2019
Received Date: 7/3/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	170	60		mg/Kg	20	7/9/2019 2:51:03 PM	46066
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	7/9/2019 10:14:35 PM	46056
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/9/2019 10:14:35 PM	46056
Surr: DNOP	88.7	70-130		%Rec	1	7/9/2019 10:14:35 PM	46056
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/7/2019 4:28:54 PM	46032
Surr: BFB	99.7	73.8-119		%Rec	1	7/7/2019 4:28:54 PM	46032
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/7/2019 4:28:54 PM	46032
Toluene	ND	0.050		mg/Kg	1	7/7/2019 4:28:54 PM	46032
Ethylbenzene	ND	0.050		mg/Kg	1	7/7/2019 4:28:54 PM	46032
Xylenes, Total	ND	0.10		mg/Kg	1	7/7/2019 4:28:54 PM	46032
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	7/7/2019 4:28:54 PM	46032

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

Analytical Report
Lab Order **1907199**
Date Reported: **7/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1907199-011 **Matrix:** SOIL

Client Sample ID: SP436
Collection Date: 7/2/2019
Received Date: 7/3/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	190	60		mg/Kg	20	7/9/2019 3:03:27 PM	46066
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/9/2019 10:39:36 PM	46056
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/9/2019 10:39:36 PM	46056
Surr: DNOP	88.8	70-130		%Rec	1	7/9/2019 10:39:36 PM	46056
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/7/2019 4:52:19 PM	46032
Surr: BFB	88.0	73.8-119		%Rec	1	7/7/2019 4:52:19 PM	46032
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/7/2019 4:52:19 PM	46032
Toluene	ND	0.050		mg/Kg	1	7/7/2019 4:52:19 PM	46032
Ethylbenzene	ND	0.050		mg/Kg	1	7/7/2019 4:52:19 PM	46032
Xylenes, Total	ND	0.099		mg/Kg	1	7/7/2019 4:52:19 PM	46032
Surr: 4-Bromofluorobenzene	91.7	80-120		%Rec	1	7/7/2019 4:52:19 PM	46032

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

Analytical Report
Lab Order **1907199**
Date Reported: **7/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1907199-012 **Matrix:** SOIL

Client Sample ID: SP439
Collection Date: 7/2/2019
Received Date: 7/3/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	280	60		mg/Kg	20	7/9/2019 3:40:41 PM	46066
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/9/2019 11:04:19 PM	46056
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/9/2019 11:04:19 PM	46056
Surr: DNOP	59.1	70-130	S	%Rec	1	7/9/2019 11:04:19 PM	46056
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/7/2019 5:15:42 PM	46032
Surr: BFB	89.4	73.8-119		%Rec	1	7/7/2019 5:15:42 PM	46032
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/7/2019 5:15:42 PM	46032
Toluene	ND	0.049		mg/Kg	1	7/7/2019 5:15:42 PM	46032
Ethylbenzene	ND	0.049		mg/Kg	1	7/7/2019 5:15:42 PM	46032
Xylenes, Total	ND	0.099		mg/Kg	1	7/7/2019 5:15:42 PM	46032
Surr: 4-Bromofluorobenzene	92.8	80-120		%Rec	1	7/7/2019 5:15:42 PM	46032

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

Analytical Report
Lab Order **1907199**
Date Reported: **7/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1907199-013 **Matrix:** SOIL

Client Sample ID: SP443
Collection Date: 7/2/2019
Received Date: 7/3/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	190	60		mg/Kg	20	7/9/2019 3:53:05 PM	46066
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/9/2019 11:29:06 PM	46056
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/9/2019 11:29:06 PM	46056
Surr: DNOP	59.6	70-130	S	%Rec	1	7/9/2019 11:29:06 PM	46056
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/7/2019 5:39:08 PM	46032
Surr: BFB	88.8	73.8-119		%Rec	1	7/7/2019 5:39:08 PM	46032
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/7/2019 5:39:08 PM	46032
Toluene	ND	0.049		mg/Kg	1	7/7/2019 5:39:08 PM	46032
Ethylbenzene	ND	0.049		mg/Kg	1	7/7/2019 5:39:08 PM	46032
Xylenes, Total	ND	0.099		mg/Kg	1	7/7/2019 5:39:08 PM	46032
Surr: 4-Bromofluorobenzene	93.4	80-120		%Rec	1	7/7/2019 5:39:08 PM	46032

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

Analytical Report
Lab Order **1907199**
Date Reported: **7/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1907199-014 **Matrix:** SOIL

Client Sample ID: SP448
Collection Date: 7/2/2019
Received Date: 7/3/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	200	60		mg/Kg	20	7/9/2019 4:05:30 PM	46066
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/9/2019 11:53:48 PM	46056
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/9/2019 11:53:48 PM	46056
Surr: DNOP	70.9	70-130		%Rec	1	7/9/2019 11:53:48 PM	46056
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/7/2019 6:02:33 PM	46032
Surr: BFB	90.5	73.8-119		%Rec	1	7/7/2019 6:02:33 PM	46032
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/7/2019 6:02:33 PM	46032
Toluene	ND	0.049		mg/Kg	1	7/7/2019 6:02:33 PM	46032
Ethylbenzene	ND	0.049		mg/Kg	1	7/7/2019 6:02:33 PM	46032
Xylenes, Total	ND	0.099		mg/Kg	1	7/7/2019 6:02:33 PM	46032
Surr: 4-Bromofluorobenzene	94.6	80-120		%Rec	1	7/7/2019 6:02:33 PM	46032

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

Analytical Report
Lab Order **1907199**
Date Reported: **7/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1907199-015 **Matrix:** SOIL

Client Sample ID: SP449
Collection Date: 7/2/2019
Received Date: 7/3/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	210	60		mg/Kg	20	7/9/2019 4:17:55 PM	46066
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/10/2019 12:18:48 AM	46056
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/10/2019 12:18:48 AM	46056
Surr: DNOP	74.3	70-130		%Rec	1	7/10/2019 12:18:48 AM	46056
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/7/2019 6:25:59 PM	46032
Surr: BFB	91.7	73.8-119		%Rec	1	7/7/2019 6:25:59 PM	46032
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/7/2019 6:25:59 PM	46032
Toluene	ND	0.050		mg/Kg	1	7/7/2019 6:25:59 PM	46032
Ethylbenzene	ND	0.050		mg/Kg	1	7/7/2019 6:25:59 PM	46032
Xylenes, Total	ND	0.099		mg/Kg	1	7/7/2019 6:25:59 PM	46032
Surr: 4-Bromofluorobenzene	95.7	80-120		%Rec	1	7/7/2019 6:25:59 PM	46032

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

Analytical Report
Lab Order **1907199**
Date Reported: **7/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1907199-016 **Matrix:** SOIL

Client Sample ID: SW31
Collection Date: 7/2/2019
Received Date: 7/3/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	180	60		mg/Kg	20	7/9/2019 4:30:20 PM	46066
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/10/2019 12:43:32 AM	46056
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/10/2019 12:43:32 AM	46056
Surr: DNOP	65.3	70-130	S	%Rec	1	7/10/2019 12:43:32 AM	46056
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/7/2019 6:49:25 PM	46032
Surr: BFB	90.2	73.8-119		%Rec	1	7/7/2019 6:49:25 PM	46032
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/7/2019 6:49:25 PM	46032
Toluene	ND	0.049		mg/Kg	1	7/7/2019 6:49:25 PM	46032
Ethylbenzene	ND	0.049		mg/Kg	1	7/7/2019 6:49:25 PM	46032
Xylenes, Total	ND	0.099		mg/Kg	1	7/7/2019 6:49:25 PM	46032
Surr: 4-Bromofluorobenzene	94.5	80-120		%Rec	1	7/7/2019 6:49:25 PM	46032

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

Analytical Report
Lab Order **1907199**
Date Reported: **7/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1907199-017 **Matrix:** SOIL

Client Sample ID: SW32
Collection Date: 7/2/2019
Received Date: 7/3/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	120	60		mg/Kg	20	7/9/2019 4:42:44 PM	46066
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/10/2019 1:08:24 AM	46056
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/10/2019 1:08:24 AM	46056
Surr: DNOP	74.1	70-130		%Rec	1	7/10/2019 1:08:24 AM	46056
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/7/2019 7:12:49 PM	46032
Surr: BFB	89.7	73.8-119		%Rec	1	7/7/2019 7:12:49 PM	46032
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/7/2019 7:12:49 PM	46032
Toluene	ND	0.050		mg/Kg	1	7/7/2019 7:12:49 PM	46032
Ethylbenzene	ND	0.050		mg/Kg	1	7/7/2019 7:12:49 PM	46032
Xylenes, Total	ND	0.10		mg/Kg	1	7/7/2019 7:12:49 PM	46032
Surr: 4-Bromofluorobenzene	93.9	80-120		%Rec	1	7/7/2019 7:12:49 PM	46032

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

Analytical Report
Lab Order **1907199**
Date Reported: **7/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1907199-018 **Matrix:** SOIL

Client Sample ID: SW33
Collection Date: 7/2/2019
Received Date: 7/3/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	240	60		mg/Kg	20	7/9/2019 4:55:09 PM	46066
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/10/2019 1:33:11 AM	46056
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/10/2019 1:33:11 AM	46056
Surr: DNOP	70.8	70-130		%Rec	1	7/10/2019 1:33:11 AM	46056
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/7/2019 7:36:12 PM	46032
Surr: BFB	89.3	73.8-119		%Rec	1	7/7/2019 7:36:12 PM	46032
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	7/7/2019 7:36:12 PM	46032
Toluene	ND	0.049		mg/Kg	1	7/7/2019 7:36:12 PM	46032
Ethylbenzene	ND	0.049		mg/Kg	1	7/7/2019 7:36:12 PM	46032
Xylenes, Total	ND	0.098		mg/Kg	1	7/7/2019 7:36:12 PM	46032
Surr: 4-Bromofluorobenzene	93.1	80-120		%Rec	1	7/7/2019 7:36:12 PM	46032

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

Analytical Report
Lab Order **1907199**
Date Reported: **7/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1907199-019 **Matrix:** SOIL

Client Sample ID: SW35
Collection Date: 7/2/2019
Received Date: 7/3/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	160	60		mg/Kg	20	7/9/2019 8:01:15 PM	46086
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/10/2019 1:58:10 AM	46056
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/10/2019 1:58:10 AM	46056
Surr: DNOP	62.5	70-130	S	%Rec	1	7/10/2019 1:58:10 AM	46056
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/7/2019 8:23:04 PM	46032
Surr: BFB	88.2	73.8-119		%Rec	1	7/7/2019 8:23:04 PM	46032
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/7/2019 8:23:04 PM	46032
Toluene	ND	0.050		mg/Kg	1	7/7/2019 8:23:04 PM	46032
Ethylbenzene	ND	0.050		mg/Kg	1	7/7/2019 8:23:04 PM	46032
Xylenes, Total	ND	0.10		mg/Kg	1	7/7/2019 8:23:04 PM	46032
Surr: 4-Bromofluorobenzene	92.5	80-120		%Rec	1	7/7/2019 8:23:04 PM	46032

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

Analytical Report
Lab Order **1907199**
Date Reported: **7/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVP SWD 1
Lab ID: 1907199-020 **Matrix:** SOIL

Client Sample ID: SW36
Collection Date: 7/2/2019
Received Date: 7/3/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	140	60		mg/Kg	20	7/9/2019 8:38:28 PM	46086
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/10/2019 2:22:54 AM	46056
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/10/2019 2:22:54 AM	46056
Surr: DNOP	53.8	70-130	S	%Rec	1	7/10/2019 2:22:54 AM	46056
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/7/2019 8:46:34 PM	46032
Surr: BFB	87.8	73.8-119		%Rec	1	7/7/2019 8:46:34 PM	46032
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/7/2019 8:46:34 PM	46032
Toluene	ND	0.050		mg/Kg	1	7/7/2019 8:46:34 PM	46032
Ethylbenzene	ND	0.050		mg/Kg	1	7/7/2019 8:46:34 PM	46032
Xylenes, Total	ND	0.10		mg/Kg	1	7/7/2019 8:46:34 PM	46032
Surr: 4-Bromofluorobenzene	91.6	80-120		%Rec	1	7/7/2019 8:46:34 PM	46032

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1907199**
11-Jul-19

Client: WPX Energy
Project: LVP SWD 1

Sample ID: **MB-46066** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **46066** RunNo: **61239**
Prep Date: **7/9/2019** Analysis Date: **7/9/2019** SeqNo: **2076918** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-46066** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **46066** RunNo: **61239**
Prep Date: **7/9/2019** Analysis Date: **7/9/2019** SeqNo: **2076919** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.7	90	110			

Sample ID: **MB-46086** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **46086** RunNo: **61239**
Prep Date: **7/9/2019** Analysis Date: **7/9/2019** SeqNo: **2078063** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-46086** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **46086** RunNo: **61239**
Prep Date: **7/9/2019** Analysis Date: **7/9/2019** SeqNo: **2078064** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.3	90	110			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1907199**
11-Jul-19

Client: WPX Energy
Project: LVP SWD 1

Sample ID: **1907199-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP405** Batch ID: **46056** RunNo: **61237**
Prep Date: **7/8/2019** Analysis Date: **7/9/2019** SeqNo: **2077192** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	30	9.7	48.64	0	62.2	57	142			
Surr: DNOP	2.3		4.864		47.7	70	130			S

Sample ID: **1907199-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SP405** Batch ID: **46056** RunNo: **61237**
Prep Date: **7/8/2019** Analysis Date: **7/9/2019** SeqNo: **2077193** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.8	49.07	0	97.7	57	142	45.2	20	R
Surr: DNOP	4.5		4.907		91.4	70	130	0	0	

Sample ID: **LCS-46056** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **46056** RunNo: **61237**
Prep Date: **7/8/2019** Analysis Date: **7/9/2019** SeqNo: **2077221** 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	100	63.9	124			
Surr: DNOP	4.6		5.000		91.5	70	130			

Sample ID: **MB-46056** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **46056** RunNo: **61237**
Prep Date: **7/8/2019** Analysis Date: **7/9/2019** SeqNo: **2077222** 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		92.1	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1907199**
11-Jul-19

Client: WPX Energy
Project: LVP SWD 1

Sample ID: **MB-46032** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **46032** RunNo: **61189**
Prep Date: **7/6/2019** Analysis Date: **7/7/2019** SeqNo: **2074004** 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		94.1	73.8	119			

Sample ID: **LCS-46032** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **46032** RunNo: **61189**
Prep Date: **7/6/2019** Analysis Date: **7/7/2019** SeqNo: **2074005** 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	89.0	80.1	123			
Surr: BFB	1000		1000		102	73.8	119			

Sample ID: **1907199-001AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP405** Batch ID: **46032** RunNo: **61189**
Prep Date: **7/6/2019** Analysis Date: **7/7/2019** SeqNo: **2074007** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	24.90	0	100	69.1	142			
Surr: BFB	1100		996.0		114	73.8	119			

Sample ID: **1907199-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SP405** Batch ID: **46032** RunNo: **61189**
Prep Date: **7/6/2019** Analysis Date: **7/7/2019** SeqNo: **2074008** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.9	24.51	0	95.2	69.1	142	6.66	20	
Surr: BFB	1000		980.4		104	73.8	119	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1907199**
11-Jul-19

Client: WPX Energy
Project: LVP SWD 1

Sample ID: **MB-46032** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **46032** RunNo: **61189**
Prep Date: **7/6/2019** Analysis Date: **7/7/2019** SeqNo: **2074034** 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		98.8	80	120			

Sample ID: **LCS-46032** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **46032** RunNo: **61189**
Prep Date: **7/6/2019** Analysis Date: **7/7/2019** SeqNo: **2074035** 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	97.5	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	104	80	120			
Xylenes, Total	3.1	0.10	3.000	0	104	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Sample ID: **1907199-002AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP409** Batch ID: **46032** RunNo: **61189**
Prep Date: **7/6/2019** Analysis Date: **7/7/2019** SeqNo: **2074038** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	0.9921	0	102	63.9	127			
Toluene	1.1	0.050	0.9921	0.009744	107	69.9	131			
Ethylbenzene	1.1	0.050	0.9921	0	109	71	132			
Xylenes, Total	3.2	0.099	2.976	0	109	71.8	131			
Surr: 4-Bromofluorobenzene	0.97		0.9921		97.4	80	120			

Sample ID: **1907199-002AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SP409** Batch ID: **46032** RunNo: **61189**
Prep Date: **7/6/2019** Analysis Date: **7/7/2019** SeqNo: **2074039** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	0.9823	0	103	63.9	127	0.0771	20	
Toluene	1.1	0.049	0.9823	0.009744	109	69.9	131	0.882	20	
Ethylbenzene	1.1	0.049	0.9823	0	112	71	132	1.77	20	
Xylenes, Total	3.3	0.098	2.947	0	111	71.8	131	0.802	20	
Surr: 4-Bromofluorobenzene	0.97		0.9823		98.7	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: 1907199 RcptNo: 1

Received By: Leah Baca 7/3/2019 8:55:00 AM Leah Baca
Completed By: Isaiah Ortiz 7/3/2019 3:24:15 PM I-OK
Reviewed By: AS 07/05/19

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° 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 7/5/19

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	2.6	Good	Yes			
2	3.9	Good	Yes			

Chain-of-Custody Record

Client: WPX (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:
☒ Standard ☐ Rush

Project Name: LVP SWD #1

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

# of Coolers: 2

Cooler Temp (including CF): 2.1 +0.5 = 2.6C 3.4 CF 0.5 = 3.9C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1907199	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	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
7/2/2019		Soil	SP405	4oz (1)	ICE	-001	X	X					X			
			SP409			-002										
			SP411			-003										
			SP416			-004										
			SP421			-005										
			SP422			-006										
			SP429			-007										
			SP431			-008										
			SP433			-009										
			SP434			-010										
			SP436			-011										
			SP439			-012										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
7/2/19	15:00	Kevin Smith	[signature]		7/2/19	1500
7/2/19	1900	[signature]	Leah Baca	Courier	7/3/19	0855

Remarks:

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

Chain-of-Custody Record

Client: WPX (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:
☒ Standard ☐ Rush

Project Name: LUP SWD #1

Project #:

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp (including CF):

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1907199	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	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
7/2/2019		Soil	SP 443	4oz (1)	ICE	-013	X	X					X			
			SP 448			-014										
			SP 449			-015										
			SW 31			-016										
			SW 32			-017										
			SW 33			-018										
			SW 35			-019										
			SW 36			-020										

Date	Time	Relinquished by	Received by	Via	Date	Time
7/2/2019	15:00	Kevin Smith	[signature]		7/2/19	1500
7/2/19	1900	[signature]				

Remarks:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

July 19, 2019

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

RE: LVPSWD 1 OrderNo.: 1907885

Dear Deborah Watson:

Hall Environmental Analysis Laboratory received 3 sample(s) on 7/18/2019 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order: **1907885**
Date Reported: **7/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WPX Energy
Project: LVPSWD 1
Lab Order: 1907885

Lab ID: 1907885-001 **Collection Date:** 7/17/2019 9:00:00 AM
Client Sample ID: SP344 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	160	60		mg/Kg	20	7/18/2019 10:46:28 AM	46249

Lab ID: 1907885-002 **Collection Date:** 7/17/2019 9:00:00 AM
Client Sample ID: SP355 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	230	60		mg/Kg	20	7/18/2019 10:58:53 AM	46249

Lab ID: 1907885-003 **Collection Date:** 7/17/2019 9:00:00 AM
Client Sample ID: SW39 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	180	60		mg/Kg	20	7/18/2019 11:11:18 AM	46249

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1907885**
19-Jul-19

Client: WPX Energy
Project: LVPSWD 1

Sample ID: **MB-46249** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **46249** RunNo: **61478**
Prep Date: **7/18/2019** Analysis Date: **7/18/2019** SeqNo: **2085062** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-46249** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **46249** RunNo: **61478**
Prep Date: **7/18/2019** Analysis Date: **7/18/2019** SeqNo: **2085063** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.8	90	110			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **1907885** RcptNo: 1

Received By: **Desiree Dominguez** **7/18/2019 8:40:00 AM** DD

Completed By: **Desiree Dominguez** **7/18/2019 8:50:34 AM** DD

Reviewed By: DAD 7/18/19

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° 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: ENM 7/18/19 ENH 7/18/19

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	3.2	Good	Not Present			

Chain-of-Custody Record

Client: WPX 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: Same day
☐ Standard ☒ Rush

Project Name: LVPSWD#1

Project #: L

Project Manager: Kris Rowe

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 3.3 -0.1 = 3.2°c

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1907885	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	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
7/17/2019	9 am	Soil	SP344	4oz(1)	ice	-001							X			
			SP355			-002										
			SW 39			-003										

Date	Time	Relinquished by	Received by	Via	Date	Time
7/17/19	0900	Kevin Smith			7/17/19	0900
7/17/19	1900			Courier	7/18/19	8:40

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

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

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

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-4891
Contact mailing address: 5315 Buena Vista Drive, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.33332 Longitude -104.08521
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: LVP SWD #001	Site Type: Well Pad
Date Release Discovered: July 18, 2018	API# *(if applicable)* 30-015-42234

Unit Letter	Section	Township	Range	County
I	04	23S	28E	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)

☐ Crude Oil	Volume Released (bbls)less than 1,000 bbl	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) less than 4,750 bbl	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
Cause of Release Fire at the facility.		

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

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

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

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Deborah Watson

Title: HSE Specialist

Signature: Deborah Watson

Date: December 20, 2019

email: deborah.watson@wpxenergy.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: Ashley Maxwell

Date: 3/29/2023

Printed Name: Ashley Maxwell

Title: Environmental Specialist

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 200976

CONDITIONS

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 200976
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	None	3/29/2023