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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☒ Final Report

Name of Company WPX Energy Production, LLC	Contact Deborah Watson
Address PO Box 640	Telephone No. 505-333-1880
Facility Name NW Lybrook Unit #143H	Facility Type Well Site

Surface Owner State	Mineral Owner State	API No. 30-045-35474

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	36	24N	08W	782	South	244	East	San Juan

Latitude N36.264965 **Longitude** W107.624919

NATURE OF RELEASE

Type of Release crude oil and produced water	Volume of Release 89 bbl	Volume Recovered 88.5 bbl
Source of Release BGT overflow	Date and Hour of Occurrence 2/9/17 13:30	Date and Hour of Discovery 2/9/17 13:30
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required Notice given within 24 hours of release.	If YES, To Whom? Brandon Foley (NMSLO) Cory Smith (NMOCD) Vanessa Fields (NMOCD)	
By Whom? N/A	Date and Hour 2/10/17 5:45 AM/ email at 5:50 AM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

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

Describe Cause of Problem and Remedial Action Taken.*
A valve on a production tank was inadvertently left open, causing the BGT to overflow into lined secondary containment. The valve was closed and a spec truck was called to the location to recover fluids.

Describe Area Affected and Cleanup Action Taken.*

- A spec truck recovered 88.5 bbl of released fluids.
- Most of the fluids remained within the lined secondary containment, all released fluids remained on the well pad.
- Cleanup consisted of recovery of released fluids, washing of liner/equipment, and removal and disposal of impacted soil. Cory Smith, NMOCD was on location during a portion of the cleanup on February 10, 2017.
- On 2/15/17, three confirmation soil samples were collected from the remediated area. The samples were analyzed for BTEX, TPH (GRO/DRO/MRO), and chlorides.
- Confirmation sampling results were reported below NMOCD Recommended Remediation Action Levels, no further action is required. (Report which includes the laboratory analytical report is enclosed.)

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: Deborah Watson	OIL CONSERVATION DIVISION
Printed Name: Deborah Watson	Approved by Environmental Specialist: Vanessa Fields
Title: Environmental Specialist	Approval Date: 3/14/2017 Expiration Date:
E-mail Address: deborah.watson@wpxenergy.com	Conditions of Approval: NVF1704127181 Attached ☐
Date: 02/24/2017 Phone: 505-333-1880	

* Attach Additional Sheets If Necessary

NW Lybrook Unit #143H Release Report
Unit Letter P, Section 36, Township 24N, Range 8W
San Juan County, NM

February 24, 2017

NW Lybrook Unit #143H Release Report
February 2017

1.0 Introduction

On February 9, 2017, a release of approximately 78 barrels of crude oil and 11 barrels of produced water occurred at the NW Lybrook Unit #143H, located in Section 36, Township 24N, Range 8W, San Juan County, New Mexico. A valve on a production tank was inadvertently left open, causing the below grade tank (BGT) to overflow into lined secondary containment. A spec truck was called to the location to recover the released fluids. Several small holes were discovered in the liner during cleanup. Cleanup at the location consisted of recovery of released fluids, washing of liner and equipment, and removal and disposal of impacted soil.

A topographic map of the location is included as Figure 1 and an aerial map is included as Figure 2.

2.0 Release Summary

Well Location: NW Lybrook Unit #143H
*API #:*30-045-35474
Location Description: Unit Letter P, Section 36, Township 24N, Range 8W
Wellhead Latitude/Longitude: N36.2656975, W107.6250381
Release Latitude/Longitude: N36.264965, W107.624919
Release Discovery: February 9, 2017
Land Jurisdiction: State of New Mexico
Agency Notification: New Mexico State Land Office (NMSLO) and New Mexico Oil Conservation Division (NMOCD)
Agency Notification Date(s): February 10, 2017
Source of Release: Overflow of BGT
Release Contents: Crude oil and Produced Water
Volume Released: approximately 89 barrels (78 barrels crude oil and 11 barrels produced water)
Volume Recovered: approximately 88.5 barrels
NMOCD Ranking: 20

3.0 NMOCD Ranking

In accordance with *NMOCD Guidelines for Remediation of Leaks, Spills, and Releases (*August 1993), this location was assigned a ranking score of 20. Recommended Remediation Action Levels (RRAL) for impacted soils at the location are as follows: 10 mg/kg benzene, 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX), and 100 mg/kg total petroleum hydrocarbons (TPH) as gasoline range organics (GRO) and diesel range organics (DRO).

- *Groundwater:* Depth to groundwater at the location is 82 feet below ground surface (bgs) based on the April 2014 ground bed drilling log for the NW Lybrook Unit #143H.
- *Water Wells:* A review was completed of the New Mexico Office of the State Engineer Online New Mexico Water Rights Reporting System and no water wells were identified within a 1,000 feet radius of the location.
- *Surface Water:* An unnamed wash is located approximately 213 feet South of the release. Blanco Wash is located approximately 570 feet Southwest of the release.

NW Lybrook Unit #143H Release Report
February 2017

4.0 Field Activities

A spec truck was called to the location upon discovery and an estimated 88.5 barrels of fluids were recovered. On February 9, 2017, a wash crew was called to the location to clean the liner and impacted equipment. On February 10, 2017, a portion of the liner was cut and crews began removing impacted soil from within secondary containment and from a small area outside the containment wall. Mr. Cory Smith, NMOCD, was onsite during a portion of the cleanup on February 10, 2017. Removal of impacted soils continued on February 14, 2017. Approximately 30 cubic yards of soil were removed from the location and transported to Envirotech Landfarm for disposal.

5.0 Soil Sampling

On February 15, 2017, WPX received permission from NMOCD to proceed with confirmation soil sampling at the location. Heather Woods, Rule Engineering, collected three confirmation soil samples (SC-1 through SC-3) from within the remediated area. Soil samples composited for laboratory analysis were placed into laboratory supplied glassware, labeled, and shipped on ice to Hall Environmental Analysis Laboratory. Each sample was analyzed for the following:

- BTEX per U.S. Environmental Protection Agency (USEPA) Method 8021B,
- TPH (GRO/DRO/MRO) per USEPA Method 8015M/D, and
- Chlorides per USEPA Method 300.0.

6.0 Analytical Results

Laboratory analytical results for soil confirmation samples (SC-1 through SC-3) reported benzene and BTEX concentrations below NMOCD RRAL of 10 mg/kg and 50 mg/kg, respectively. All soil confirmation samples reported TPH concentrations below the NMOCD RRAL of 100 mg/kg. Chloride concentrations were reported at less than 30 mg/kg (SC-1), less than 30 mg/kg (SC-2), and 610 mg/kg (SC-3).

Sample locations and summary of analytical results are included as Figure 3. The analytical laboratory report is attached.

7.0 Conclusions

On February 9, 2017, the BGT overflowed at the NW Lybrook Unit #143H, located in Section 36, Township 24N, Range 8W, San Juan County, New Mexico. Cleanup consisted of greater than 95 percent recovery of released fluids and removal of impacted soils from the location. Confirmation samples were collected from the location on February 15, 2017. Laboratory analytical results for confirmation samples SC-1 through SC-3 reported benzene, total BTEX, and TPH (GRO/DRO) concentrations below the applicable NMOCD RRAL.

On February 15, 2017, following confirmation sample collection, WPX backfilled the excavation. Repairs to the liner were completed on February 16, 2017. No further work is recommended.

For additional information or questions regarding location conditions, please contact me at 505-333-1880.

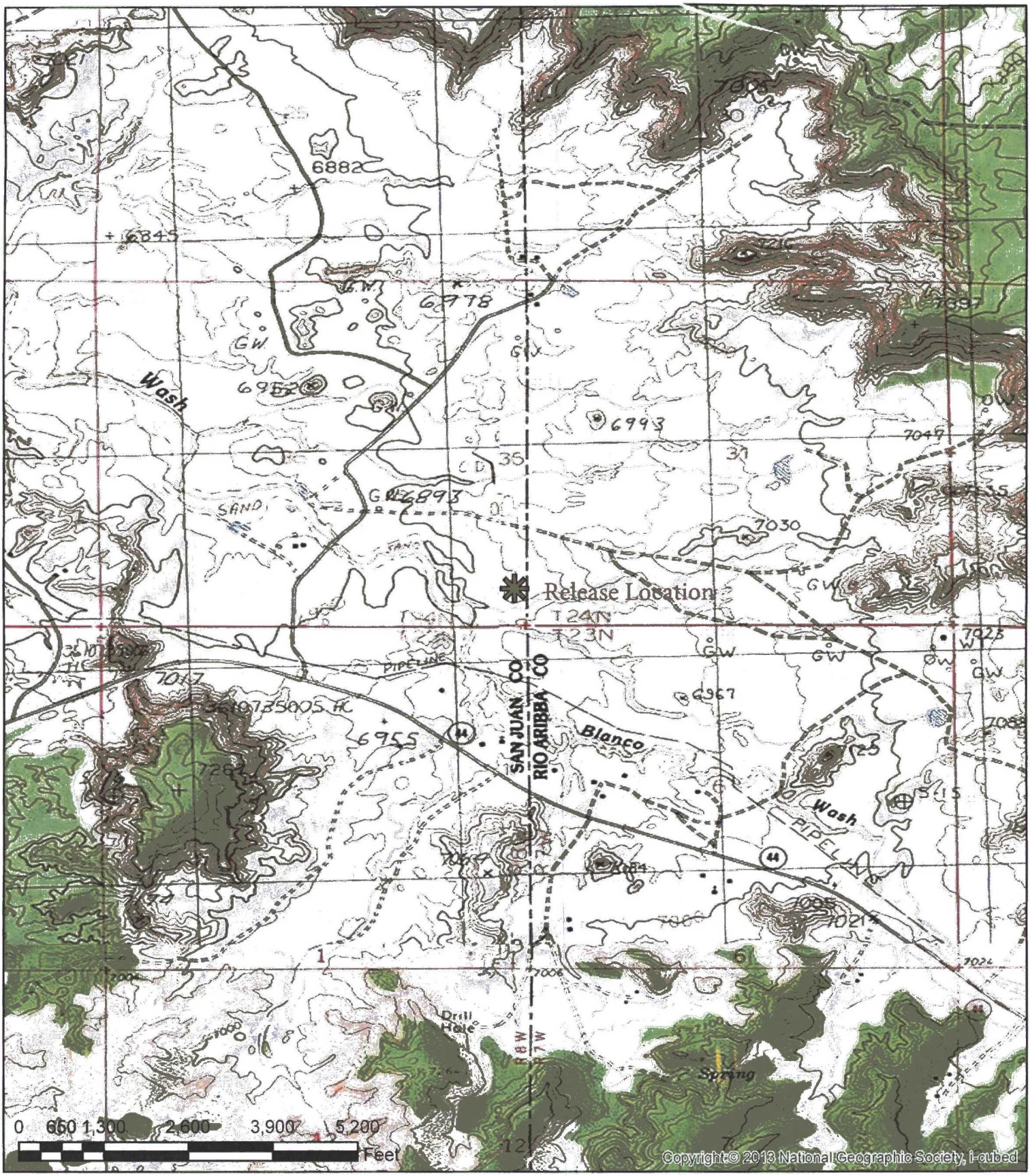
NW Lybrook Unit #143H Release Report
February 2017

Sincerely,

Deborah Watson

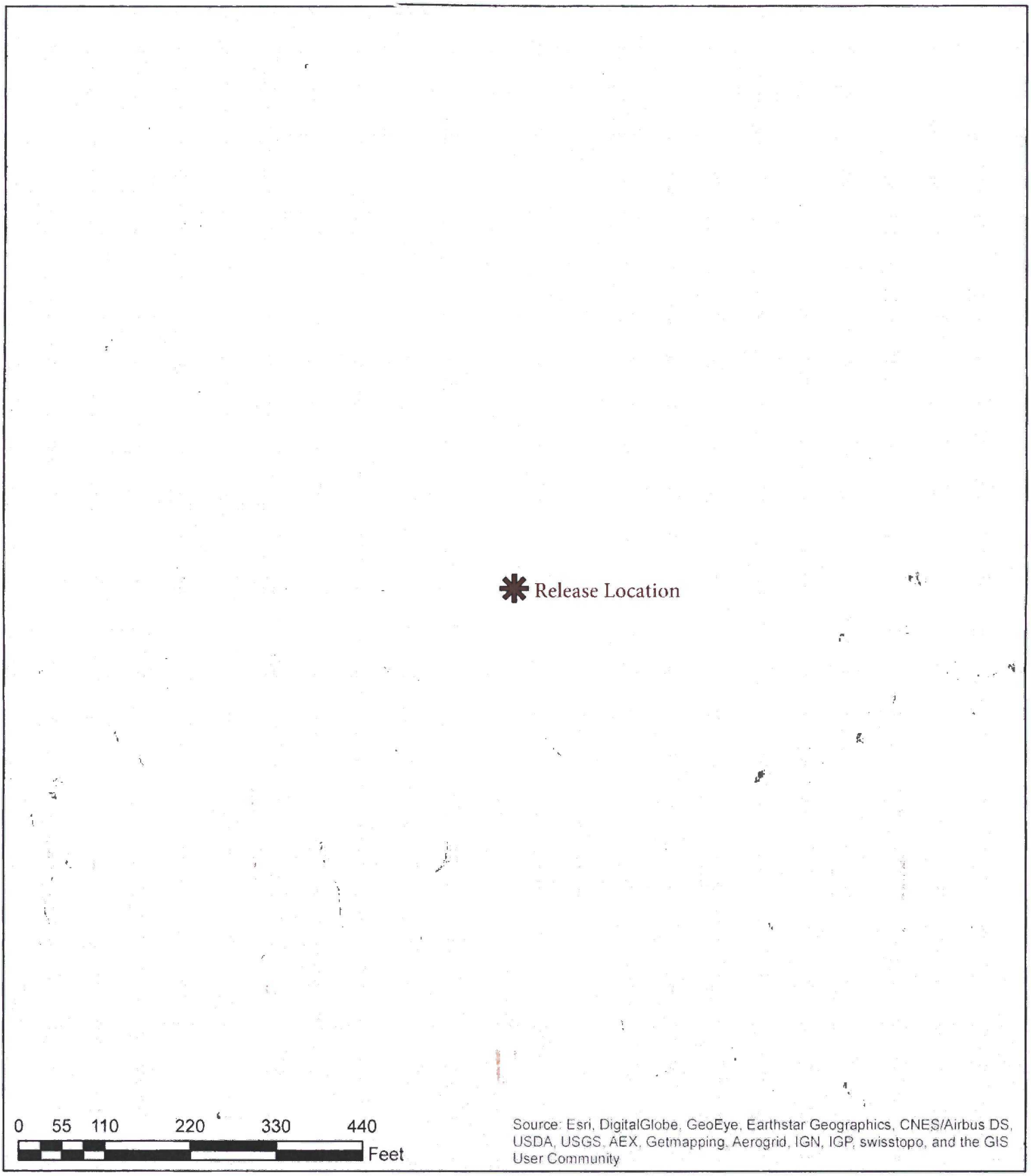
Deborah Watson
Environmental Specialist

Attachments
Figure 1. Topographic Map
Figure 2. Aerial Map
Figure 3. Soil Sample Location Map
Hall Analytical Laboratory Report (Order #1702724)



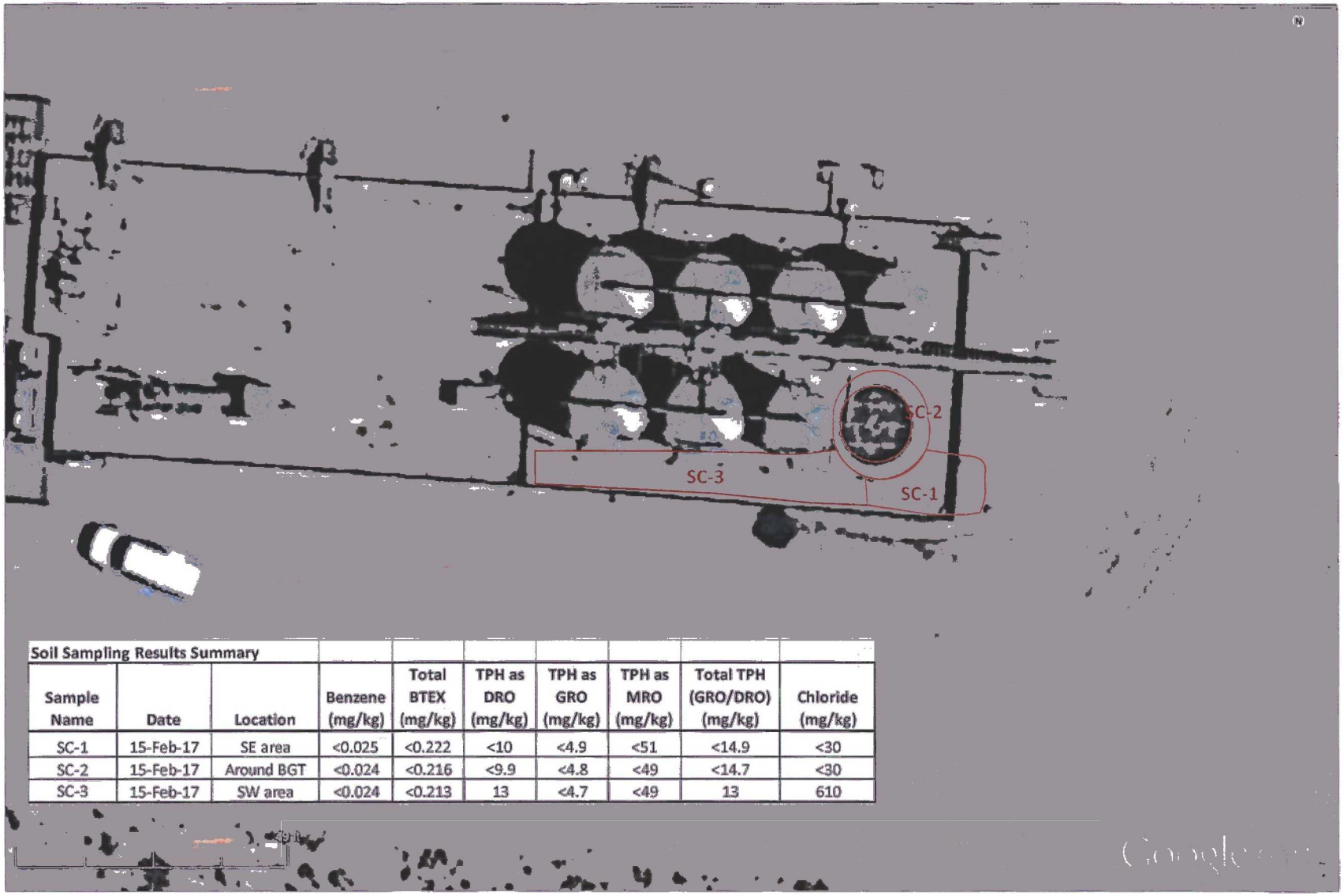
NW Lybrook Unit #143H
Figure 1. Topographic Map

Section 36, Township 24N, Range 8W
N36.264965, W107.624919
San Juan County, NM



NW Lybrook Unit #143H
Figure 2. Aerial Map

Section 36, Township 24N, Range 8W
N36.264965, W107.624919
San Juan County, NM



Soil Sampling Results Summary

Sample Name	Date	Location	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH as DRO (mg/kg)	TPH as GRO (mg/kg)	TPH as MRO (mg/kg)	Total TPH (GRO/DRO) (mg/kg)	Chloride (mg/kg)
SC-1	15-Feb-17	SE area	<0.025	<0.222	<10	<4.9	<51	<14.9	<30
SC-2	15-Feb-17	Around BGT	<0.024	<0.216	<9.9	<4.8	<49	<14.7	<30
SC-3	15-Feb-17	SW area	<0.024	<0.213	13	<4.7	<49	13	610

NW Lybrook Unit #143H
Figure 3. Soil Sample Location Map

Section 36, Township 24N, Range 8W
N36.264965, W107.624919
San Juan County, NM

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

February 22, 2017

Heather Woods
Rule Engineering LLC
501 Airport Dr., Ste 205
Farmington, NM 87401
TEL: (505) 860-2712
FAX

RE: WPX NW Lybrook #143H OrderNo.: 1702724

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 3 sample(s) on 2/16/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to 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 qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1702724**
Date Reported: **2/22/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC
Client Sample ID: SC-1
Project: WPX NW Lybrook #143H
Collection Date: 2/15/2017 11:30:00 AM
Lab ID: 1702724-001 **Matrix:** SOIL **Received Date:** 2/16/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	2/20/2017 2:43:59 PM	30302
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	2/21/2017 1:07:18 PM	30282
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	2/21/2017 1:07:18 PM	30282
Surr: DNOP	103	70-130		%Rec	1	2/21/2017 1:07:18 PM	30282
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/21/2017 12:43:01 PM	30297
Surr: BFB	86.1	54-150		%Rec	1	2/21/2017 12:43:01 PM	30297
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	2/21/2017 12:43:01 PM	30297
Toluene	ND	0.049		mg/Kg	1	2/21/2017 12:43:01 PM	30297
Ethylbenzene	ND	0.049		mg/Kg	1	2/21/2017 12:43:01 PM	30297
Xylenes, Total	ND	0.099		mg/Kg	1	2/21/2017 12:43:01 PM	30297
Surr: 4-Bromofluorobenzene	91.6	80-120		%Rec	1	2/21/2017 12:43:01 PM	30297

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC
Client Sample ID: SC-2
Project: WPX NW Lybrook #143H
Collection Date: 2/15/2017 11:42:00 AM
Lab ID: 1702724-002 **Matrix:** SOIL **Received Date:** 2/16/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	2/20/2017 2:56:23 PM	30302
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	2/21/2017 1:29:08 PM	30282
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/21/2017 1:29:08 PM	30282
Surr: DNOP	107	70-130		%Rec	1	2/21/2017 1:29:08 PM	30282
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/21/2017 2:01:28 PM	30297
Surr: BFB	81.5	54-150		%Rec	1	2/21/2017 2:01:28 PM	30297
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	2/21/2017 2:01:28 PM	30297
Toluene	ND	0.048		mg/Kg	1	2/21/2017 2:01:28 PM	30297
Ethylbenzene	ND	0.048		mg/Kg	1	2/21/2017 2:01:28 PM	30297
Xylenes, Total	ND	0.096		mg/Kg	1	2/21/2017 2:01:28 PM	30297
Surr: 4-Bromofluorobenzene	88.5	80-120		%Rec	1	2/21/2017 2:01:28 PM	30297

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC
Client Sample ID: SC-3
Project: WPX NW Lybrook #143H
Collection Date: 2/15/2017 11:54:00 AM
Lab ID: 1702724-003 **Matrix:** SOIL **Received Date:** 2/16/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	610	30		mg/Kg	20	2/20/2017 3:08:47 PM	30302
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	13	9.8		mg/Kg	1	2/21/2017 1:51:02 PM	30282
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/21/2017 1:51:02 PM	30282
Surr: DNOP	108	70-130		%Rec	1	2/21/2017 1:51:02 PM	30282
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	2/21/2017 3:19:59 PM	30297
Surr: BFB	83.5	54-150		%Rec	1	2/21/2017 3:19:59 PM	30297
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	2/21/2017 3:19:59 PM	30297
Toluene	ND	0.047		mg/Kg	1	2/21/2017 3:19:59 PM	30297
Ethylbenzene	ND	0.047		mg/Kg	1	2/21/2017 3:19:59 PM	30297
Xylenes, Total	ND	0.095		mg/Kg	1	2/21/2017 3:19:59 PM	30297
Surr: 4-Bromofluorobenzene	90.0	80-120		%Rec	1	2/21/2017 3:19:59 PM	30297

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1702724**

22-Feb-17

Client: Rule Engineering LLC

Project: WPX NW Lybrook #143H

Sample ID	**MB-30302**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**30302**	RunNo:	**40857**					
Prep Date:	**2/20/2017**	Analysis Date:	**2/20/2017**	SeqNo:	**1280199**	Units:	**mg/Kg**			

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

Sample ID	**LCS-30302**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**30302**	RunNo:	**40857**					
Prep Date:	**2/20/2017**	Analysis Date:	**2/20/2017**	SeqNo:	**1280200**	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:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1702724**

22-Feb-17

Client: Rule Engineering LLC
Project: WPX NW Lybrook #143H

Sample ID **LCS-30308**	SampType: **LCS**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **LCSS**	Batch ID: **30308**			RunNo: **40865**					
Prep Date: **2/21/2017**	Analysis Date: **2/21/2017**			SeqNo: **1280194**		Units: **%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.9		5.000		97.9	70	130			

Sample ID **MB-30308**	SampType: **MBLK**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **PBS**	Batch ID: **30308**			RunNo: **40865**					
Prep Date: **2/21/2017**	Analysis Date: **2/21/2017**			SeqNo: **1280195**		Units: **%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		102	70	130			

Sample ID **MB-30282**	SampType: **MBLK**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **PBS**	Batch ID: **30282**			RunNo: **40870**					
Prep Date: **2/20/2017**	Analysis Date: **2/21/2017**			SeqNo: **1280393**		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		91.6	70	130			

Sample ID **LCS-30282**	SampType: **LCS**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **LCSS**	Batch ID: **30282**			RunNo: **40870**					
Prep Date: **2/20/2017**	Analysis Date: **2/21/2017**			SeqNo: **1280404**		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	63.8	116			
Surr: DNOP	4.5		5.000		90.7	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1702724**

22-Feb-17

Client: Rule Engineering LLC
Project: WPX NW Lybrook #143H

Sample ID **MB-30297**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **30297**	RunNo: **40879**
Prep Date: **2/20/2017**	Analysis Date: **2/21/2017**	SeqNo: **1280787** 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	700		1000		70.4	54	150			

Sample ID **LCS-30297**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **30297**	RunNo: **40879**
Prep Date: **2/20/2017**	Analysis Date: **2/21/2017**	SeqNo: **1280788** 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	76.4	125			
Surr: BFB	990		1000		99.2	54	150			

Sample ID **1702724-002AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SC-2**	Batch ID: **30297**	RunNo: **40879**
Prep Date: **2/20/2017**	Analysis Date: **2/21/2017**	SeqNo: **1280795** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	4.7	23.28	0	121	61.3	150			
Surr: BFB	890		931.1		95.5	54	150			

Sample ID **1702724-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SC-2**	Batch ID: **30297**	RunNo: **40879**
Prep Date: **2/20/2017**	Analysis Date: **2/21/2017**	SeqNo: **1280797** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	4.8	24.04	0	122	61.3	150	4.30	20	
Surr: BFB	890		961.5		92.2	54	150	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1702724**

22-Feb-17

Client: Rule Engineering LLC
Project: WPX NW Lybrook #143H

Sample ID **MB-30297** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **30297** RunNo: **40879**
Prep Date: **2/20/2017** Analysis Date: **2/21/2017** SeqNo: **1280834** 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	0.77		1.000		76.6	80	120			S

Sample ID **LCS-30297** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **30297** RunNo: **40879**
Prep Date: **2/20/2017** Analysis Date: **2/21/2017** SeqNo: **1280836** 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	96.9	75.2	115			
Toluene	0.98	0.050	1.000	0	97.7	80.7	112			
Ethylbenzene	0.96	0.050	1.000	0	96.0	78.9	117			
Xylenes, Total	2.9	0.10	3.000	0	97.4	79.2	115			
Surr: 4-Bromofluorobenzene	0.76		1.000		75.8	80	120			S

Sample ID **1702724-001AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SC-1** Batch ID: **30297** RunNo: **40879**
Prep Date: **2/20/2017** Analysis Date: **2/21/2017** SeqNo: **1280844** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.024	0.9497	0	104	61.5	138			
Toluene	1.0	0.047	0.9497	0.007016	106	71.4	127			
Ethylbenzene	1.1	0.047	0.9497	0.007411	111	70.9	132			
Xylenes, Total	3.3	0.095	2.849	0	114	76.2	123			
Surr: 4-Bromofluorobenzene	0.83		0.9497		87.0	80	120			

Sample ID **1702724-001AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SC-1** Batch ID: **30297** RunNo: **40879**
Prep Date: **2/20/2017** Analysis Date: **2/21/2017** SeqNo: **1280846** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.023	0.9398	0	112	61.5	138	6.54	20	
Toluene	1.1	0.047	0.9398	0.007016	117	71.4	127	8.90	20	
Ethylbenzene	1.1	0.047	0.9398	0.007411	121	70.9	132	7.79	20	
Xylenes, Total	3.5	0.094	2.820	0	126	76.2	123	8.32	20	S
Surr: 4-Bromofluorobenzene	0.90		0.9398		96.2	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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: RULE ENGINEERING LL Work Order Number: 1702724 RcptNo: 1

Received by/date: AT 02/16/17

Logged By: Anne Thorne 2/16/2017 7:10:00 AM Anne Thorne

Completed By: Anne Thorne 2/16/2017 9:21:40 AM Anne Thorne

Reviewed By: JAG 02/16/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: ____ (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? ____
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: ____

Special Handling (if applicable)

16. 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: ____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.4	Good	Yes			

Chain-of-Custody Record

Client: Rule Engineering, LLC

Mailing Address: 501 Airport Dr, Suite 205
Farmington, NM 87401

Phone #: (505) 716-2787

email or Fax#: hwoods@ruleengineering.com
Deborah.Watson@wpxenergy.com

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: WPX NW Lybrook #143H

Project #:

Project Manager: Heather Woods

Sampler: Heather Woods

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.4

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. 1702724	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)
2/15/17	1130	Soil	SC-1	(1) 4oz Glass	Cold	001	X		X					X								
2/15/17	1142	Soil	SC-2	(1) 4oz Glass	Cold	002	X		X					X								
2/15/17	1154	Soil	SC-3	(1) 4oz Glass	Cold	003	X		X					X								

Date:	Time:	Relinquished by:	Received by:	Date	Time	Remarks:
2/15/17	1705	Heath M. Woods	Christine Walker	2/15/17	1705	Direct bill to WPX, c/o Debbie Watson
2/15/17	1804	Christine Walker		02/16/17	0710	

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.