

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, 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

Form C-141  
Revised August 8, 2011

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

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

**Release Notification and Corrective Action**

**OPERATOR**

☐ Initial Report ☒ Final Report

Name of Company <b>Burlington Resources, a Wholly Owned Subsidiary of ConocoPhillips Company</b>	Contact <b>Bobby Spearman</b>
Address <b>3401 East 30<sup>th</sup> St, Farmington, NM</b>	Telephone No. <b>(505) 320-3045</b>
Facility Name: <b>Hunsaker 1</b>	Facility Type: <b>Gas Well</b>

Surface Owner <b>BLM</b>	Mineral Owner <b>FED</b>	API No. <b>3004510249</b>
--------------------------	--------------------------	---------------------------

**LOCATION OF RELEASE**

Unit Letter <b>N</b>	Section <b>25</b>	Township <b>31</b>	Range <b>9</b>	Feet from the <b>990</b>	North/South Line <b>South</b>	Feet from the <b>1650</b>	East/West Line <b>West</b>	County <b>San Juan</b>
-------------------------	----------------------	-----------------------	-------------------	-----------------------------	----------------------------------	------------------------------	-------------------------------	---------------------------

Latitude **36.86454** Longitude **-107.75341**

**NATURE OF RELEASE**

Type of Release <b>Oil</b>	Volume of Release <b>8BBL</b>	Volume Recovered <b>6BBL</b>
Source of Release <b>Pit tank</b>	Date and Hour of Occurrence <b>3-12-16 12:45P</b>	Date and Hour of Discovery <b>Same</b>
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse	

**OIL CONS. DIV DIST. 3**

If a Watercourse was Impacted, Describe Fully.\*

**AUG 11 2016**

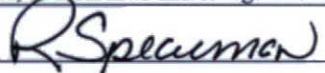

Describe Cause of Problem and Remedial Action Taken.\*

**Tank had run over the top due to operator error. Pumping unit was shut down and the pit and containment was pulled of free liquids.**

Describe Area Affected and Cleanup Action Taken.\*

**Hydrocarbon impacted soil was excavated on 6-28-16. The excavation was 16'x 16' x 4' and app. 35yds of soil was transported to IEI land farm and 35 yds of clean soil was transported from Aztec machine and placed in the excavation site. Analytical results were below regulatory standards. The soil sampling report is attached for review.**

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: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: <b>Robert Spearman</b>	Approved by Environmental Specialist: 	
Title: <b>Field Environmental Specialist</b>	Approval Date: <b>10/5/2016</b>	Expiration Date:
E-mail Address: <b>robert.e.spearman@cop.com</b>	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <b>12-18-16</b> Phone: <b>505-320-3045</b>	<b>NVF 1608235105</b>	

\* Attach Additional Sheets If Necessary

## **Hunsaker #1 Release Report**

Unit Letter N, Section 26, Township 31 North, Range 9 West  
San Juan County, New Mexico

August 8, 2016

Prepared for:  
ConocoPhillips  
5525 Highway 64  
Farmington, New Mexico 87401

Prepared by:  
Rule Engineering, LLC  
501 Airport Drive, Suite 205  
Farmington, New Mexico 87401

# ConocoPhillips Hunsaker #1 Release Report

Prepared for:

ConocoPhillips  
5525 Highway 64  
Farmington, New Mexico 87401

Prepared by:

Rule Engineering, LLC  
501 Airport Drive, Suite 205  
Farmington, New Mexico 87401



---

Heather M. Woods, P.G., Area Manager

Reviewed by:



---

Russell Knight, PG, Principal Hydrogeologist

August 8, 2016

## Table of Contents

1.0	Introduction.....	1
2.0	Release Summary.....	1
3.0	NMOCD Site Ranking.....	1
4.0	Field Activities .....	2
5.0	Field Activities .....	2
6.0	Laboratory Analytical Results .....	3
7.0	Conclusions.....	3
8.0	Closure and Limitations .....	3

## Tables

Table 1	NMOCD Site Ranking Determination
Table 2	Laboratory Analytical Results

## Figures

Figure 1	Topographic Map
Figure 2	Aerial Site Map

## Appendices

Appendix A	Analytical Laboratory Reports
------------	-------------------------------



## 1.0 Introduction

The ConocoPhillips Hunsaker #1 release site is located in Unit Letter N, Section 26, Township 31 North, Range 9 West, in San Juan County, New Mexico. The release of an estimated 8 barrels (bbls) of oil, discovered on March 12, 2016, was the result of overtopping of the below grade tank (BGT). Approximately 6 bbls of the oil was recovered.

A topographic map of the location reproduced from the United States Geological Society quadrangle map of the area is included as Figure 1 and an aerial site map is included as Figure 2.

## 2.0 Release Summary

<b>Site Name</b>	Hunsaker #1		
<b>Site Location Description</b>	Unit Letter N, Section 26, Township 31 North, Range 9 West		
<b>Wellhead GPS Location</b>	N36.86452 and W107.75376	<b>Release GPS Location</b>	N36.86454 and W107.75341
<b>Land Jurisdiction</b>	Bureau of Land Management (BLM)	<b>Discovery Date</b>	March 12, 2016
<b>Release Source</b>	Below Grade Tank	<b>Substance(s) Released</b>	Oil
<b>Volume Released</b>	8 barrels	<b>Volume Recovered</b>	6 barrels
<b>NMOCD Site Rank</b>	20		
<b>Distance to Nearest Surface Water</b>	The wash in Sidro Canyon located approximately 380 feet to the southwest of the release location		
<b>Estimated Depth to Groundwater</b>	Estimated to be 50 to 100 feet below grade surface (bgs)	<b>Distance to Nearest Water Well or Spring</b>	Greater than 1,000 feet

## 3.0 NMOCD Site Ranking

In accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills, and Releases (August 1993), this site was assigned a ranking score of 20 (Table 1).

Depth to groundwater at the site is estimated to be between approximately 50 and 100 feet bgs based on elevation differential between nearby hydrologic features and the release location. A review was completed of the New Mexico Office of the State Engineer (NMOSE) online New Mexico Water Rights Reporting System (NMWRRS) and no water wells were identified within a 1,000 foot radius of the location. No water wells were observed within a 1,000 foot radius of the location during a visual inspection. The wash

of Sidro Canyon traverses the area approximately 380 feet southwest of the release location.

Based on the ranking score of 20, action levels for remediated soils at the site are as follows: 10 milligrams per kilogram (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).

#### **4.0 Field Activities**

On June 28, 2016, ConocoPhillips initiated remedial excavation of the impacted soils present in the base of the BGT cellar. Rule personnel provided excavation guidance and collected confirmation samples from the resultant excavation.

The maximum extent of the excavation measured approximately 16 feet by 16 feet by 7 to 8 feet in depth (3 to 4 feet below the original depth) in the BGT cellar area. The impacted soils were transported to the Envirotech Landfarm near Bloomfield, New Mexico for disposal/remediation and the excavation was backfilled with clean, imported material. A depiction of the final excavation with sample locations is included on Figure 2.

#### **5.0 Field Activities**

Rule collected four composite confirmation soil samples (SC-1 and SC-4) from the final excavation for laboratory analysis. Each confirmation soil sample is a representative composite comprised of five equivalent portions of soil collected from the sampled area.

A portion of each sample was field screened for VOCs and TPH. Field screening for VOC vapors was conducted with a PID. Prior to field screening, the PID was calibrated with 100 ppm isobutylene gas. Field analysis for TPH was conducted for selected samples per USEPA Method 418.1, utilizing a total hydrocarbon analyzer. Prior to field analysis, the machine was calibrated following the manufacturer's procedure which includes calculation of a calibration curve using known concentration standards.

Soil samples collected for laboratory analysis were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico. All samples were analyzed for BTEX per USEPA Method 8021B, TPH (GRO/DRO) per USEPA Method 8015D and 418.1, and chlorides per USEPA Method 300.0.

Laboratory analytical results are summarized in Table 3. The analytical laboratory reports are included in Appendix A.



## 6.0 Laboratory Analytical Results

Laboratory analytical results for excavation confirmation samples SC-1 through SC-4 reported benzene and total BTEX concentrations below the laboratory reporting limits, which are below the NMOCD action levels of 10 mg/kg and 50 mg/kg, respectively. Concentrations of TPH (GRO/DRO) per Method 8015D for samples SC-1 through SC-4 ranged from below the laboratory reporting limits to 40 mg/kg, which are below the NMOCD action level of 100 mg/kg for a site rank of 20. TPH concentrations per Method 418.1 ranged from below laboratory reporting limits to 68 mg/kg, which are also below the NMOCD action level. Chloride concentrations for samples SC-1 through SC-4 were reported below the laboratory reporting limit of 30 mg/kg.

Laboratory analytical results are summarized in Table 2. The analytical laboratory reports are included in Appendix A.

## 7.0 Conclusions

The ConocoPhillips Hunsaker #1 release site is located in Unit Letter N, Section 26, Township 31 North, Range 9 West, in San Juan County, New Mexico. The release of an estimated 8 bbls of oil, discovered on March 12, 2016, was the result of over-topping of the BGT. Following the removal of hydrocarbon impacted soils from the base of the BGT cellar, confirmation samples SC-1 through SC-4 were collected from the resultant excavation which measured approximately 16 feet by 16 feet by 7 to 8 feet in depth (3 to 4 feet below the original depth) in the BGT cellar area. Laboratory analytical results for confirmation samples SC-1 through SC-4 reported benzene, total BTEX, and total TPH concentrations below the applicable NMOCD action levels for a site rank of 20. The impacted soils were transported to the Envirotech Landfarm for disposal/remediation and the excavation was backfilled with clean, imported material.

Based on laboratory analytical results of the confirmation soil samples, no further work is recommended at this time.

## 8.0 Closure and Limitations

This report has been prepared for the exclusive use of ConocoPhillips and is subject to the terms, conditions, and limitations stated in Rule's report and Service Agreement with ConocoPhillips. All work has been performed in accordance with generally accepted professional environmental consulting practices. No other warranty is expressed or implied.

## Tables

**Rule**

ConocoPhillips  
Hunsaker #1  
Release Report  
Table 1: Hunsaker #1 and 2000M-1 Start



**Table 1. NMOCD Site Ranking Determination**

**ConocoPhillips**

**Hunsaker #1**

**San Juan County, New Mexico**

Ranking Criteria	Ranking Score	Site-Based Ranking Score	Basis for Determination	Data Sources
Depth to Groundwater				
<50 feet	20	10	Elevation differential information derived from the topographic map of the area.	NMOCD Online database, Turley Quadrangle, Google Earth, and Visual Inspection
50-99 feet	10			
>100 feet	0			
Wellhead Protection Area				
<1,000 feet from a water source, or <200 feet from private domestic water source	20 (Yes)	0	No water source or recorded water wells within 1,000 foot radius of location.	NMOSE NMWRRS, Turley Quadrangle, Google Earth, and Visual Inspection
	0 (No)			
Distance to Surface Water Body				
<200 horizontal feet	20	10	The wash in Sidro Canyon is located approximately 380 feet southwest of release location.	Turley Quadrangle, Google Earth, and Visual Inspection
200 to 1,000 horizontal feet	10			
>1,000 horizontal feet	0			
Site Based Total Ranking Score		20		

**Table 2. Laboratory Analytical Results**  
**ConocoPhillips**  
**Hunsaker #1**  
**San Juan County, New Mexico**

Sample Name	Date	Approximate Sample Depth (ft bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH as GRO (mg/kg)	TPH as DRO (mg/kg)	TPH by 418.1 (mg/kg)	Chloride (mg/kg)
NMOCD Action Level*			10	NE	NE	NE	50	100		100	--
SC-1	6/28/2016	7 to 8	<0.023	<0.046	<0.046	<0.091	<0.206	<4.5	28	68	<30
SC-2	6/28/2016	7 to 8	<0.023	<0.047	<0.047	<0.094	<0.211	<4.7	40	22	<30
SC-3	6/28/2016	7 to 8	<0.024	<0.048	<0.048	<0.097	<0.217	<4.8	<10	<20	<30
SC-4	6/28/2016	7 to 8	<0.024	<0.049	<0.049	<0.097	<0.219	<4.9	<9.5	<19	<30

Notes: NMOCD - New Mexico Oil Conservation Division  
ft bgs - feet below grade surface  
mg/kg - milligrams per kilogram  
BTEX - benzene, toluene, ethylbenzene, and xylenes  
TPH - total petroleum hydrocarbons  
GRO - gasoline range organics  
DRO - diesel range organics  
\*Based on the NMOCD *Guidelines for Remediation of Leaks, Spills and Releases (August 1993)*  
\*\*Based on a site ranking of 20.

## Figures



## Site Location



Bloomfield

### Legend



Hunsaker #1 Wellhead

Source: Copyright: © 2013 National Geographic Society, I-cubed  
Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

**Rule Engineering, LLC**  
Solutions to Regulations for Industry

## Solutions to Regulations for Industry

0 0.225 0.45 0.9 Miles

Turley Quadrangle  
1:24,000



N-S26-T31N-R09W  
N36.86452, W107.75376  
San Juan County, NM  
API: 30-045-10249

**Figure 1**  
**Topographic Site Map**  
**Hunsaker #1**



## Legend

- ★ Hunsaker #1 Wellhead
- ◇ Composite Sample Locations
- Excavation
- Berm

Below Grade Tank  
(Release Location)  
GPS: N36.86454 W107.75341

AGT

SC-3

SC-2

SC-4

SC-1

Pumpjack

Separator

Hunsaker #1 Wellhead  
GPS: N36.86452, W107.75376

Source: Google Maps

**Rule** Engineering, LLC  
Solutions to Regulations for Industry

0 5 10 20 30 40 50 60 Feet  
1 inch = 25 feet

**ConocoPhillips**

N-S26-T31N-R09W  
N36.86452, W107.75376  
San Juan County, NM  
API: 30-045-10249

**Figure 2**  
**Aerial Site Map**  
Hunsaker #1

## Appendix A

### Analytical Laboratory Reports





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

July 11, 2016

Heather Woods

Rule Engineering LLC

501 Airport Dr., Ste 205

Farmington, NM 87401

TEL: (505) 325-1055

FAX

RE: Hunsaker 1

OrderNo.: 1606G10

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 3 sample(s) on 6/29/2016 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](http://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 #NM0190

Sincerely,

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

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Rule Engineering LLC

**Client Sample ID:** SC-1

**Project:** Hunsaker 1

**Collection Date:** 6/28/2016 2:00:00 PM

**Lab ID:** 1606G10-001

**Matrix:** SOIL

**Received Date:** 6/29/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 418.1: TPH</b>							Analyst: <b>KJH</b>
Petroleum Hydrocarbons, TR	68	19		mg/Kg	1	7/6/2016	26214
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	7/7/2016 2:05:38 PM	26268
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	28	10		mg/Kg	1	7/1/2016 4:23:34 PM	26178
Surr: DNOP	96.2	70-130		%Rec	1	7/1/2016 4:23:34 PM	26178
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	6/30/2016 10:29:11 AM	26147
Surr: BFB	90.0	80-120		%Rec	1	6/30/2016 10:29:11 AM	26147
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.023		mg/Kg	1	6/30/2016 10:29:11 AM	26147
Toluene	ND	0.046		mg/Kg	1	6/30/2016 10:29:11 AM	26147
Ethylbenzene	ND	0.046		mg/Kg	1	6/30/2016 10:29:11 AM	26147
Xylenes, Total	ND	0.091		mg/Kg	1	6/30/2016 10:29:11 AM	26147
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	6/30/2016 10:29:11 AM	26147

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times 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.****Analytical Report**

Lab Order 1606G10

Date Reported: 7/11/2016

**CLIENT:** Rule Engineering LLC**Client Sample ID:** SC-3**Project:** Hunsaker 1**Collection Date:** 6/28/2016 2:15:00 PM**Lab ID:** 1606G10-002**Matrix:** SOIL**Received Date:** 6/29/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 418.1: TPH</b>							Analyst: <b>KJH</b>
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	7/6/2016	26214
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	7/7/2016 2:18:03 PM	26268
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/1/2016 4:45:12 PM	26178
Surr: DNOP	96.7	70-130		%Rec	1	7/1/2016 4:45:12 PM	26178
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/30/2016 11:42:21 AM	26147
Surr: BFB	85.6	80-120		%Rec	1	6/30/2016 11:42:21 AM	26147
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	6/30/2016 11:42:21 AM	26147
Toluene	ND	0.048		mg/Kg	1	6/30/2016 11:42:21 AM	26147
Ethylbenzene	ND	0.048		mg/Kg	1	6/30/2016 11:42:21 AM	26147
Xylenes, Total	ND	0.097		mg/Kg	1	6/30/2016 11:42:21 AM	26147
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	6/30/2016 11:42:21 AM	26147

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E Value above quantitation range
H	Holding times 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.****Analytical Report**

Lab Order 1606G10

Date Reported: 7/11/2016

**CLIENT:** Rule Engineering LLC**Client Sample ID:** SC-4**Project:** Hunsaker 1**Collection Date:** 6/28/2016 2:30:00 PM**Lab ID:** 1606G10-003**Matrix:** SOIL**Received Date:** 6/29/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 418.1: TPH</b>							Analyst: <b>KJH</b>
Petroleum Hydrocarbons, TR	ND	19		mg/Kg	1	7/6/2016	26214
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	7/7/2016 3:20:06 PM	26268
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/1/2016 5:06:46 PM	26178
Surr: DNOP	98.8	70-130		%Rec	1	7/1/2016 5:06:46 PM	26178
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/30/2016 12:55:28 PM	26147
Surr: BFB	85.3	80-120		%Rec	1	6/30/2016 12:55:28 PM	26147
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	6/30/2016 12:55:28 PM	26147
Toluene	ND	0.049		mg/Kg	1	6/30/2016 12:55:28 PM	26147
Ethylbenzene	ND	0.049		mg/Kg	1	6/30/2016 12:55:28 PM	26147
Xylenes, Total	ND	0.097		mg/Kg	1	6/30/2016 12:55:28 PM	26147
Surr: 4-Bromofluorobenzene	98.3	80-120		%Rec	1	6/30/2016 12:55:28 PM	26147

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times 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#: 1606G10

11-Jul-16

Client: Rule Engineering LLC

Project: Hunsaker 1

Sample ID	MB-26268	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions
Client ID:	PBS	Batch ID:	26268	RunNo:	35474
Prep Date:	7/6/2016	Analysis Date:	7/6/2016	SeqNo:	1098081 Units: mg/Kg
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	1.5			

Sample ID	LCS-26268	SampType:	LCS	TestCode:	EPA Method 300.0: Anions
Client ID:	LCSS	Batch ID:	26268	RunNo:	35474
Prep Date:	7/6/2016	Analysis Date:	7/6/2016	SeqNo:	1098082 Units: mg/Kg
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	14	1.5	15.00	0	95.7 90 110

Sample ID	MB-26268	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions
Client ID:	PBS	Batch ID:	26268	RunNo:	35519
Prep Date:	7/6/2016	Analysis Date:	7/7/2016	SeqNo:	1099749 Units: mg/Kg
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	1.5			

Sample ID	LCS-26268	SampType:	LCS	TestCode:	EPA Method 300.0: Anions
Client ID:	LCSS	Batch ID:	26268	RunNo:	35519
Prep Date:	7/6/2016	Analysis Date:	7/7/2016	SeqNo:	1099750 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

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1606G10

11-Jul-16

Client: Rule Engineering LLC

Project: Hunsaker 1

Sample ID	MB-26214	SampType:	MBLK	TestCode:	EPA Method 418.1: TPH					
Client ID:	PBS	Batch ID:	26214	RunNo:	35450					
Prep Date:	7/5/2016	Analysis Date:	7/6/2016	SeqNo:	1097109	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	ND	20								

Sample ID	LCS-26214		SampType:	LCS		TestCode:	EPA Method 418.1: TPH				
Client ID:	LCSS		Batch ID:	26214		RunNo:	35450				
Prep Date:	7/5/2016		Analysis Date:	7/6/2016		SeqNo:	1097110		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Petroleum Hydrocarbons, TR	100	20	100.0	0	101	83.4	127				

Sample ID	LCSD-26214	SampType:	LCSD	TestCode:	EPA Method 418.1: TPH					
Client ID:	LCSS02	Batch ID:	26214	RunNo:	35450					
Prep Date:	7/5/2016	Analysis Date:	7/6/2016	SeqNo:	1097111	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	97	20	100.0	0	97.3	83.4	127	3.88	20	

## Qualifiers:

- |   |   |
|---|---|
| * Value exceeds Maximum Contaminant Level.              | B Analyte detected in the associated Method Blank           |
| D Sample Diluted Due to Matrix                          | E Value above quantitation range                            |
| H Holding times 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#: 1606G10

11-Jul-16

Client: Rule Engineering LLC

Project: Hunsaker 1

Sample ID	LCS-26178	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics						
Client ID:	LCSS	Batch ID:	26178	RunNo:	35381						
Prep Date:	6/30/2016	Analysis Date:	7/1/2016	SeqNo:	1095928	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	62.6	124				
Surr: DNOP	4.6		5.000		91.1	70	130				

Sample ID	MB-26178	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics						
Client ID:	PBS	Batch ID:	26178	RunNo:	35381						
Prep Date:	6/30/2016	Analysis Date:	7/1/2016	SeqNo:	1095929	Units:	mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	ND	10									
Surr: DNOP	9.0		10.00		90.4	70	130				

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1606G10

11-Jul-16

Client: Rule Engineering LLC

Project: Hunsaker 1

Sample ID	MB-26147	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	26147	RunNo:	35363					
Prep Date:	6/29/2016	Analysis Date:	6/30/2016	SeqNo:	1093871	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	860		1000		85.9	80	120			

Sample ID	LCS-26147	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	26147	RunNo:	35363					
Prep Date:	6/29/2016	Analysis Date:	6/30/2016	SeqNo:	1093872	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	120			
Surr: BFB	870		1000		86.9	80	120			

Sample ID	1606G10-002AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	SC-3	Batch ID:	26147	RunNo:	35363					
Prep Date:	6/29/2016	Analysis Date:	6/30/2016	SeqNo:	1093876	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	35	5.0	24.95	0	141	59.3	143			
Surr: BFB	930		998.0		93.5	80	120			

Sample ID	1606G10-002AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	SC-3	Batch ID:	26147	RunNo:	35363					
Prep Date:	6/29/2016	Analysis Date:	6/30/2016	SeqNo:	1093877	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	35	4.9	24.53	0	142	59.3	143	1.23	20	
Surr: BFB	910		981.4		92.4	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                                    |
| 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#: 1606G10

11-Jul-16

Client: Rule Engineering LLC

Project: Hunsaker 1

Sample ID	MB-26147		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 26147		RunNo: 35363					
Prep Date:	6/29/2016		Analysis Date: 6/30/2016		SeqNo: 1093895		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.98		1.000		97.6	80	120			

Sample ID	LCS-26147		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 26147		RunNo: 35363					
Prep Date:	6/29/2016		Analysis Date: 6/30/2016		SeqNo: 1093896		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	105	75.3	123			
Toluene	0.96	0.050	1.000	0	95.9	80	124			
Ethylbenzene	0.95	0.050	1.000	0	95.2	82.8	121			
Xylenes, Total	2.8	0.10	3.000	0	93.0	83.9	122			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Sample ID	1606G10-001AMS		SampType: MS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	SC-1		Batch ID: 26147		RunNo: 35363					
Prep Date:	6/29/2016		Analysis Date: 6/30/2016		SeqNo: 1093899		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	0.9930	0	115	71.5	122			
Toluene	1.0	0.050	0.9930	0	105	71.2	123			
Ethylbenzene	1.1	0.050	0.9930	0.007377	110	75.2	130			
Xylenes, Total	3.3	0.099	2.979	0.05109	109	72.4	131			
Surr: 4-Bromofluorobenzene	0.97		0.9930		97.5	80	120			

Sample ID	1606G10-001AMSD		SampType:	MSD		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	SC-1		Batch ID:	26147		RunNo:	35363				
Prep Date:	6/29/2016		Analysis Date:	6/30/2016		SeqNo:	1093900		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	1.0	0.023	0.9302	0	112	71.5	122	8.90	20		
Toluene	0.95	0.047	0.9302	0	102	71.2	123	9.71	20		
Ethylbenzene	0.99	0.047	0.9302	0.007377	106	75.2	130	9.96	20		
Xylenes, Total	3.0	0.093	2.791	0.05109	107	72.4	131	8.35	20		
Surr: 4-Bromofluorobenzene	0.89		0.9302		96.0	80	120	0	0		

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified



## Sample Log-In Check List

Client Name: **RULE ENGINEERING LL**

Work Order Number: **1606G10**

RcptNo: **1**

Received by/date:

Logged By: **Ashley Gallegos**

**6/29/2016 7:45:00 AM**

Completed By: **Ashley Gallegos**

**6/29/2016 10:49:52 AM**

Reviewed By:

### 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  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ?

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?

Yes ☒

No ☐

(Note discrepancies on chain of custody)

13. Are matrices correctly identified on Chain of Custody?

Yes ☒

No ☐

14. Is it clear what analyses were requested?

Yes ☒

No ☐

15. 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)

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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

## HALL ENVIRONMENTAL ANALYSIS LABORATORY

[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

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

## Analysis Request

	X	X	X	BTEX + <del>MTHB</del> + <del>IBAS</del> (8021)
				BTEX + MTBE + TPH (Gas only)
	X	X	X	TPH 8015B (GRO / DRO / <del>SIMS</del> )
	X	X	X	TPH (Method 418.1)
				EDB (Method 504.1)
				PAH's (8310 or 8270 SIMS)
				RCRA 8 Metals
	X	X	X	Anions <del>P Chlorides</del> <del>VOCs</del> <del>POC</del> <del>8021</del>
				8081 Pesticides / 8082 PCB's
				8260B (VOA)
				8270 (Semi-VOA)
				Air Bubbles (Y or N)

EDD (Type)

Sample Temperature: 1.0

3/6	2:00	Soil	SC-1	1) 4oz Glass	Cold	-001
3/6	2:15	Soil	SC-3	1) 4oz Glass	Cold	-002
3/6	2:30	Soil	SC-4	1) 4oz Glass	Cold	-003

ate:	Time:	Relinquished by:	Received by:	Date	Time
8/16	1710	[Signature]	[Signature]	8/16	1710
ate:	Time:	Relinquished by:	Received by:	Date	Time
28/6	1940	[Signature]	[Signature]	28/6	1940

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  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

June 30, 2016

Heather Woods

Rule Engineering LLC  
501 Airport Dr., Ste 205  
Farmington, NM 87401  
TEL: (505) 325-1055  
FAX

RE: Hunsaker 1

OrderNo.: 1606F84

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/29/2016 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](http://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 #NM0190

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109



# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: SC-2

Project: Hunsaker I

Collection Date: 6/28/2016 3:15:00 PM

Lab ID: 1606F84-001

Matrix: SOIL

Received Date: 6/29/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 418.1: TPH</b>							Analyst: KJH
Petroleum Hydrocarbons, TR	22	20		mg/Kg	1	6/29/2016 12:00:00 PM	26139
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: LGT
Chloride	ND	30		mg/Kg	20	6/29/2016 9:48:31 AM	26161
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	40	10		mg/Kg	1	6/29/2016 10:30:03 AM	26141
Surr: DNOP	89.1	70-130		%Rec	1	6/29/2016 10:30:03 AM	26141
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	6/29/2016 10:11:50 AM	A35308
Surr: BFB	95.5	80-120		%Rec	1	6/29/2016 10:11:50 AM	A35308
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	6/29/2016 10:11:50 AM	B35308
Toluene	ND	0.047		mg/Kg	1	6/29/2016 10:11:50 AM	B35308
Ethylbenzene	ND	0.047		mg/Kg	1	6/29/2016 10:11:50 AM	B35308
Xylenes, Total	ND	0.094		mg/Kg	1	6/29/2016 10:11:50 AM	B35308
Surr: 4-Bromofluorobenzene	98.3	80-120		%Rec	1	6/29/2016 10:11:50 AM	B35308

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times 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#: 1606F84

30-Jun-16

Client: Rule Engineering LLC

Project: Hunsaker 1

Sample ID	MB-26161	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	26161	RunNo:	35326					
Prep Date:	6/30/2016	Analysis Date:	6/29/2016	SeqNo:	1092908	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-26161	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	26161	RunNo:	35326					
Prep Date:	6/30/2016	Analysis Date:	6/29/2016	SeqNo:	1092909	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.1	90	110			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1606F84

30-Jun-16

Client: Rule Engineering LLC

Project: Hunsaker 1

Sample ID	MB-26139	SampType	MBLK	TestCode	EPA Method 418.1: TPH					
Client ID	PBS	Batch ID	26139	RunNo	35304					
Prep Date	6/29/2016	Analysis Date	6/29/2016	SeqNo	1091905	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	ND	20								

Sample ID	LCS-26139	SampType	LCS	TestCode	EPA Method 418.1: TPH					
Client ID	LCSS	Batch ID	26139	RunNo	35304					
Prep Date	6/29/2016	Analysis Date	6/29/2016	SeqNo	1091929	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	110	20	100.0	0	110	83.4	127			

Sample ID	LCSD-26139	SampType	LCSD	TestCode	EPA Method 418.1: TPH					
Client ID	LCSS02	Batch ID	26139	RunNo	35304					
Prep Date	6/29/2016	Analysis Date	6/29/2016	SeqNo	1091930	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	110	20	100.0	0	113	83.4	127	2.38	20	

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified



# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1606F84

30-Jun-16

Client: Rule Engineering LLC

Project: Hunsaker 1

Sample ID	LCS-26141	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	26141	RunNo:	35297					
Prep Date:	6/29/2016	Analysis Date:	6/29/2016	SeqNo:	1091683	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.00	0	83.1	62.6	124			
Surr: DNOP	4.5		5.000		89.3	70	130			

Sample ID	MB-26141	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	26141	RunNo:	35297					
Prep Date:	6/29/2016	Analysis Date:	6/29/2016	SeqNo:	1091684	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.3		10.00		93.5	70	130			

Sample ID	LCS-26125	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	26125	RunNo:	35299					
Prep Date:	6/28/2016	Analysis Date:	6/29/2016	SeqNo:	1092068	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.7		5.000		93.3	70	130			

Sample ID	MB-26125	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	26125	RunNo:	35299					
Prep Date:	6/28/2016	Analysis Date:	6/29/2016	SeqNo:	1092069	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.2		10.00		82.5	70	130			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1606F84

30-Jun-16

Client: Rule Engineering LLC

Project: Hunsaker 1

Sample ID	5ML RB	SampType	MBLK	TestCode	EPA Method 8015D: Gasoline Range					
Client ID	PBS	Batch ID	A35308	RunNo	35308					
Prep Date		Analysis Date	6/29/2016	SeqNo	1092185	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	80	120			

Sample ID	2.5UG GRO LCS	SampType	LCS	TestCode	EPA Method 8015D: Gasoline Range					
Client ID	LCSS	Batch ID	A35308	RunNo	35308					
Prep Date		Analysis Date	6/29/2016	SeqNo	1092186	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	5.0	25.00	0	115	80	120			
Surr: BFB	940		1000		94.2	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                                    |
| 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#: 1606F84

30-Jun-16

Client: Rule Engineering LLC

Project: Hunsaker 1

Sample ID	1606F84-001AMS		SampType:	MS		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	SC-2		Batch ID:	B35308		RunNo:	35308				
Prep Date:			Analysis Date:	6/29/2016		SeqNo:	1092001		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	0.97	0.023	0.9355	0	104	71.5	122				
Toluene	0.84	0.047	0.9355	0	89.6	71.2	123				
Ethylbenzene	0.84	0.047	0.9355	0.008887	89.3	75.2	130				
Xylenes, Total	2.6	0.094	2.806	0.05940	89.9	72.4	131				
Surr: 4-Bromofluorobenzene	0.92		0.9355		98.6	80	120				

Sample ID	1606F84-001AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	SC-2	Batch ID:	B35308	RunNo:	35308					
Prep Date:		Analysis Date:	6/29/2016	SeqNo:	1092002	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.023	0.9355	0	101	71.5	122	2.56	20	
Toluene	0.82	0.047	0.9355	0	87.6	71.2	123	2.31	20	
Ethylbenzene	0.82	0.047	0.9355	0.008887	86.8	75.2	130	2.80	20	
Xylenes, Total	2.5	0.094	2.806	0.05940	86.5	72.4	131	3.77	20	
Surr: 4-Bromofluorobenzene	0.90		0.9355		96.1	80	120	0	0	

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	B35308	RunNo:	35308					
Prep Date:		Analysis Date:	6/29/2016	SeqNo:	1092199	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	B35308	RunNo:	35308					
Prep Date:		Analysis Date:	6/29/2016	SeqNo:	1092200	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	105	75.3	123			
Toluene	1.0	0.050	1.000	0	100	80	124			
Ethylbenzene	0.98	0.050	1.000	0	97.8	82.8	121			
Xylenes, Total	2.9	0.10	3.000	0	96.9	83.9	122			
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                                    |
| 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.  
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: 1606F84

RcptNo: 1

Received by/date:

AT 6/29/16

Logged By: Anne Thorne

6/29/2016 7:45:00 AM

*Anne Thorne*

Completed By: Anne Thorne

6/29/2016

*Anne Thorne*

Reviewed By:

*AT*

6/29/16

### 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  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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 ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
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 ☐

# of preserved  
bottles checked  
for pH:

( $<2$  or  $>12$  unless noted)

Adjusted? \_\_\_\_\_

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	1.0	Good	Yes			

