

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

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 to
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

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

Surface Owner BLM	Mineral Owner FED	API No. 3004510249
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LOCATION OF RELEASE

Unit Letter N	Section 25	Township 31	Range 9	Feet from the 990	North/South Line South	Feet from the 1650	East/West Line West	County San Juan
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Latitude **36.86454** Longitude **-107.75341**

NATURE OF RELEASE

Type of Release Oil	Volume of Release 8BBL	Volume Recovered 6BBL
Source of Release Pit tank	Date and Hour of Occurrence 3-12-16 12:45P	Date and Hour of Discovery Same
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 1 1 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: <i>R. Spearman</i>	OIL CONSERVATION DIVISION	
Printed Name: Robert Spearman	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Field Environmental Specialist	Approval Date: 10/5/2016	Expiration Date:
E-mail Address: robert.e.spearman@cop.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 12-18-16 Phone: 505-320-3045	NVF 1608235105	

* 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

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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 over-topping 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

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

2016 RELEASE UNDER E.O. 14176

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	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



Legend

- ★ Hunsaker #1 Wellhead
- ◊ Composite Sample Locations
- ▭ Excavation
- ▭ Berm

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

AGT

SC-3

SC-4

SC-2

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

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 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

Analytical Report

Lab Order 1606G10

Date Reported: 7/11/2016

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
EPA METHOD 418.1: TPH							Analyst: KJH
Petroleum Hydrocarbons, TR	68	19		mg/Kg	1	7/6/2016	26214
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	ND	30		mg/Kg	20	7/7/2016 2:05:38 PM	26268
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

Analytical Report

Lab Order 1606G10

Date Reported: 7/11/2016

Hall Environmental Analysis Laboratory, Inc.

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
EPA METHOD 418.1: TPH							Analyst: KJH
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	7/6/2016	26214
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	ND	30		mg/Kg	20	7/7/2016 2:18:03 PM	26268
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

Analytical Report

Lab Order 1606G10

Date Reported: 7/11/2016

Hall Environmental Analysis Laboratory, Inc.**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
EPA METHOD 418.1: TPH							Analyst: KJH
Petroleum Hydrocarbons, TR	ND	19		mg/Kg	1	7/6/2016	26214
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	ND	30		mg/Kg	20	7/7/2016 3:20:06 PM	26268
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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



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: 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°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 °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			



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

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.**Analytical Report**

Lab Order 1606F84

Date Reported: 6/30/2016

CLIENT: Rule Engineering LLC**Client Sample ID:** SC-2**Project:** Hunsaker 1**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
EPA METHOD 418.1: TPH							Analyst: KJH
Petroleum Hydrocarbons, TR	22	20		mg/Kg	1	6/29/2016 12:00:00 PM	26139
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	ND	30		mg/Kg	20	6/29/2016 9:48:31 AM	26161
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							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
EPA METHOD 8015D: GASOLINE RANGE							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
EPA METHOD 8021B: VOLATILES							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. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times 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-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.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times 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	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. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times 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	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.
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	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 |

Sample Log-In Check List

Client Name: RULE ENGINEERING LL

Work Order Number: 1606F84

RcptNo: 1

Received by/date: AT 46/29/16

Logged By: Anne Thorne

6/29/2016 7:45:00 AM

Done In

Completed By: Anne Thorne

6/29/2016

Anne Hume

Reviewed By:

6129116

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 <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 6. Sample(s) in proper container(s)? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 7. Sufficient sample volume for indicated test(s)? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 8. Are samples (except VOA and ONG) properly preserved? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 9. Was preservative added to bottles? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | NA <input type="checkbox"/> |
| 10. VOA vials have zero headspace? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | No VOA Vials <input checked="" type="checkbox"/> |
| 11. Were any sample containers received broken? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | |
| 12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 13. Are matrices correctly identified on Chain of Custody? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 14. Is it clear what analyses were requested? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 15. Were all holding times able to be met?
(If no, notify customer for authorization.) | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
- # of preserved bottles checked for pH: (<2)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

17. Additional remarks:

18. Cooler Information

Cooler No.	Temp °C	Condition	Seal Intact	Seal No.	Seal Date	Signed By
1	1.0	Good	Yes			

