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 Oil &Gas Co.	Contact **Bobby Spearman**
Address 3401 East 30th St, Farmington, NM	Telephone No.(505)-320-3045
Facility Name: Riddle B 5E	Facility Type: Gas well

Surface Owner: FED	Mineral Owner: FED	API No. 3004526513

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	**23**	**30N**	**10W**	**1800**	**North**	**1720**	**East**	**San Juan**

Latitude 36.800002__Longitude -107.85083

NATURE OF RELEASE

Type of Release Produce water	Volume of Release 14 BBL	Volume Recovered 0
Source of Release Production Tank	Date and Hour of Occurrence	Date and Hour of Discovery **12/15/16**
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

OIL CONS. DIV DIST. 3
JUL 20 2017

Describe Cause of Problem and Remedial Action Taken.*

Production tank leaking due to corrosion

Describe Area Affected and Cleanup Action Taken.*
Excavation was 33 x 16 x7' Deep. 137 c/yds of soil was removed 137 /yds of clean soil was placed in the excavation site. Analytical results were below the regulatory standards – no further action required. 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: RSpearman	OIL CONSERVATION DIVISION Approved by Environmental Specialist:	
Printed Name: **Bobby Spearman**		
Title: **Field Environmental Specialist**	Approval Date: 7/25/17	Expiration Date:
E-mail Address: **Robert.E.Spearman**@conocophillips.com	Conditions of Approval: —	Attached ☐
Date: 7-18-17 Phone: (505) 320-3045		

* Attach Additional Sheets If Necessary

NVF1702028 93

Riddle B #5E Release Report

Unit Letter G, Section 23, Township 30 North, Range 10 West
San Juan County, New Mexico

July 17, 2017

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

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

Rule Engineering, LLC
Solutions to Regulations for Industry

ConocoPhillips
Riddle B #5E 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

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

Reviewed by:

Russell Knight, PG, Principal Hydrogeologist

July 17, 2017

Table of Contents

Tables

Figures

Appendices

1.0 Introduction

The ConocoPhillips Riddle B #5E release site is located in Unit Letter G, Section 23, Township 30 North, Range 10 West, in San Juan County, New Mexico. A release of produced water was discovered at the site on December 15, 2016.

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	Riddle B #5E		
Site Location Description	Unit Letter G, Section 23, Township 30 North, Range 10 West		
Wellhead GPS Location	N36.79989 and W107.85063	***Release GPS Location***	N36.80002 and W107.85083
Land Jurisdiction	Bureau of Land Management	***Discovery Date***	December 15, 2016
Release Source	Integrity failure of the above ground tank due to corrosion		
NMOCD Site Rank	30		
Distance to Nearest Surface Water	A small, ephemeral wash is located approximately 130 feet east of the release location		
Estimated Depth to Groundwater	Approximately 50 feet below ground 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 30 (Table 1).

Depth to groundwater at the site is estimated to be 50 feet bgs based on cathodic reports for this site.

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.

A small, ephemeral wash is located approximately 130 feet east of the release location.

Based on the ranking score of 30, 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).

4.0 Site Assessment

4.1 Field Activities

A site assessment was conducted to determine the approximate horizontal and vertical extents of the release. On February 17, 2017, Rule personnel advanced five soil borings (SB-1 through SB-5) in the release area utilizing a hand auger. Soil borings were advanced to approximately 4 to 8 feet bgs where refusal was encountered on sandstone or gravel.

Soil boring locations are illustrated on Figure 2.

4.2 Soil Sampling

Rule collected soil samples from each soil boring at selected intervals or at changes in lithology or contamination. The lithology encountered at the site included interbedded clayey sand and poorly graded sand with clay underlain by sandstone to the maximum depths reached.

A portion of each sample was field screened for VOCs and selected samples were also field analyzed for TPH. Field screening for VOC vapors was conducted with a MiniRAE 3000 photoionization detector (PID). Prior to field screening, the PID was calibrated with 100 parts per million (ppm) isobutylene gas. Field analysis for TPH was conducted for selected samples per United States Environmental Protection Agency (USEPA) Method 418.1, utilizing a Buck Scientific HC-404 total hydrocarbon analyzer. Prior to field analysis, the analyzer was calibrated following the manufacturer's procedure which includes calculation of a calibration curve using known concentration standards. Rule's practical quantitation limit for USEPA Method 418.1 is 20 mg/kg.

Site assessment field screening results are summarized in Table 2.

4.3 Field Screening Results

Field screening results for samples collected from soil borings SB-1 through SB-5 indicated VOC concentrations ranging from 0.0 ppm to 2,753 ppm. Field screening results for sample SB-1 at 4.5 feet in indicated a TPH concentration greater than 5,000 mg/kg.

5.0 Excavation Confirmation Sampling

5.1 Field Activities

Rule personnel collected five excavation confirmation samples (SC-1 through SC-5) on June 14, 2017, from the final excavation measuring approximately 33 feet by 16.5 feet by 7 feet in depth. Excavated hydrocarbon impacted soils were transported to a local NMOCD approved landfarm 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 3.

5.2 Soil Sampling

Rule collected five composite confirmation soil samples (SC-1 through SC-5) on June 14, 2017. 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 field analyzed for TPH utilizing the same methods as described in Section 4.2.

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

Field screening and laboratory analytical results are summarized in Table 3. The analytical laboratory reports are included in Appendix A.

5.3 Field Screening Results

Field screening results for soil confirmation samples SC-1 through SC-5 indicated VOC concentrations ranging from 1.5 ppm to 195 ppm. Field TPH concentration results for these samples ranged from 53 mg/kg to 139 mg/kg.

5.4 Laboratory Analytical Results

Laboratory analytical results for final excavation confirmation samples SC-1 through SC-5 reported benzene and total BTEX concentrations below the laboratory reporting limits, which are below the applicable NMOCD action levels. Laboratory analytical results for final excavation samples SC-1 though SC-5 reported TPH concentrations below the laboratory reporting limits except for sample SC-5 with a TPH concentration of 25 mg/kg, which are below the NMOCD action level of 100 for a site rank of 30.

6.0 Conclusions

Hydrocarbon impacted soils associated with a release discovered December 15, 2016, at the ConocoPhillips Riddle B #5E have been excavated and transported to an NMOCD approved landfarm for disposal/remediation. Field screening and laboratory analytical results for samples collected from the final excavation sidewalls and base indicate that concentrations of benzene, total BTEX, and TPH are below NMOCD action levels for a site rank of 30. Therefore, no further work is recommended at this time.

7.0 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

Table 1. NMOCD Site Ranking Determination
ConocoPhillips
Riddle B #5E
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 information derived from the topographic map of the area and reported depth to groundwater for registered water wells and cathodic wells in the area.	NMOCD Online database, NMOSE NMWRRS, 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	20	A small, ephermal wash is located approximatley 130 east of the 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		**30**		

Rule Engineering, LLC
Solutions to Regulations for Industry

Table 2. Field Screening Results - VOCs and TPH
ConocoPhillips
Riddle B #5E
San Juan County, New Mexico

Sample Name	Date	Approximate Sample Depth (ft bgs)	Field VOCs by PID (ppm)	Field TPH by 418.1 (mg/kg)
NMOCD Action Level*			100	100**
SB-1	2/17/2017	1	**1,342**	--
		2.75	**1,959**	--
		4	**1,720**	--
		4.5	**2,753**	**>5,000**
SB-2	2/17/2017	1	2.6	--
		2.75	2.9	--
		4	0.3	--
		5.5	1.8	--
SB-3	2/17/2017	1	1.4	--
		2.5	0.0	--
		4	0.0	--
		6	0.0	--
		8	0.0	--
SB-4	2/17/2017	1.5	4.0	--
		2.75	0.0	--
		4	0.0	--
		6	1.6	--
		8	0.0	--
SB-5	2/17/2017	1	0.0	--
		2.5	0.0	--
		4	0.0	--

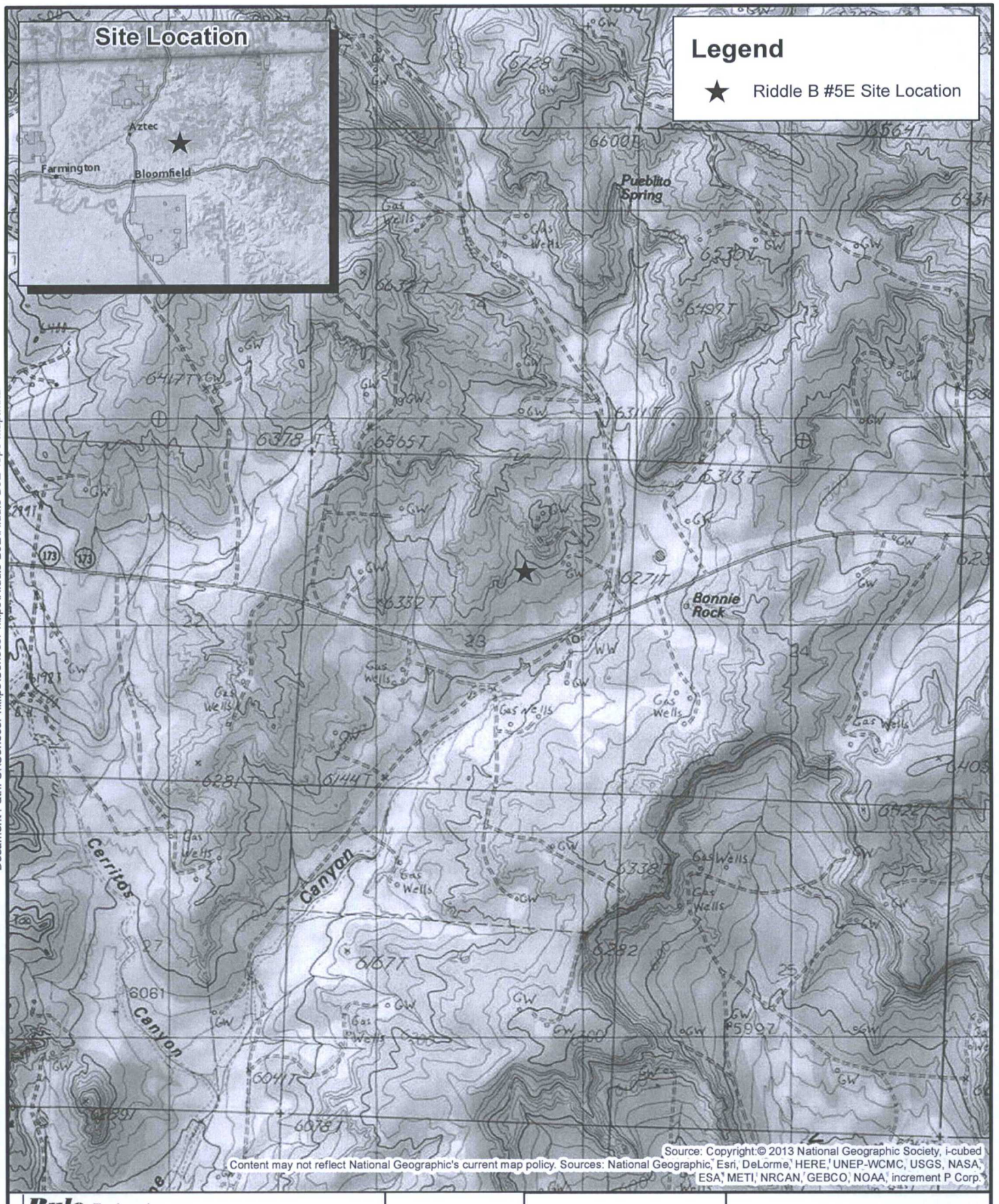
Notes: All borings were terminated at auger refusal on weathered sandstone or gravel.
VOCs - volatile organic compounds
PID - photoionization detector
ft bgs - feet below grade surface
ppm - parts per million
mg/kg - milligrams per kilogram
TPH - total petroleum hydrocarbons
NMOCD - New Mexico Oil Conservation Division
*Based on the NMOCD *Guidelines for Remediation of Leaks, Spills and Releases (August 1993)*
**Based on a site ranking of 30.

Table 3. Excavation Confirmation Field Screening and Laboratory Analytical Results
ConocoPhillips
Riddle B #5E
San Juan County, New Mexico

Sample Name	Date	Approximate Sample Depth (ft bgs)	Sample Location	Field VOCs by PID (ppm)	Field TPH by 418.1 (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylben-zene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH as GRO (mg/kg)	TPH as DRO (mg/kg)	TPH as MRO (mg/kg)
NMOCD Action Level*				100	100**	10	NE	NE	NE	50	100**		
SC-1	6/14/2017	0 to 7	North Wall	1.5	69	<0.024	<0.048	<0.048	<0.096	ND	<4.8	<9.8	<49
SC-2	6/14/2017	0 to 7	West Wall	15.6	53	<0.023	<0.047	<0.047	<0.094	ND	<4.7	<9.5	<47
SC-3	6/14/2017	0 to 7	East Wall	1.2	101	<0.024	<0.047	<0.047	<0.095	ND	<4.7	<9.4	<47
SC-4	6/14/2017	0 to 7	South Wall	195	139	<0.091	<0.18	<0.18	<0.36	ND	<18	25	<49
SC-5	6/14/2017	0 to 7	Base	74.2	85	<0.025	<0.050	<0.050	<0.099	ND	<5.0	<9.5	<48

Notes:
VOCs - volatile organic compounds
PID - photoionization detector
ft bgs - feet below grade surface
ppm - parts per million
mg/kg - milligrams per kilogram
NE - not-established
ND - not detected above laboratory reporting limits
BTEX - benzene, toluene, ethylbenzene, and xylenes
TPH - total petroleum hydrocarbons
GRO - gasoline range organics
DRO - diesel range organics
NMOCD - New Mexico Oil Conservation Division
*Based on the NMOCD *Guidelines for Remediation of Leaks, Spills and Releases (August 1993)*
**Based on a site ranking of 30.

Figures



Document Path: U:\ConocoPhillips\ConocoPhilips\Riddle B5E\Riddle B5E Topo Map.mxd

Rule Engineering, LLC
Solutions to Regulations for Industry

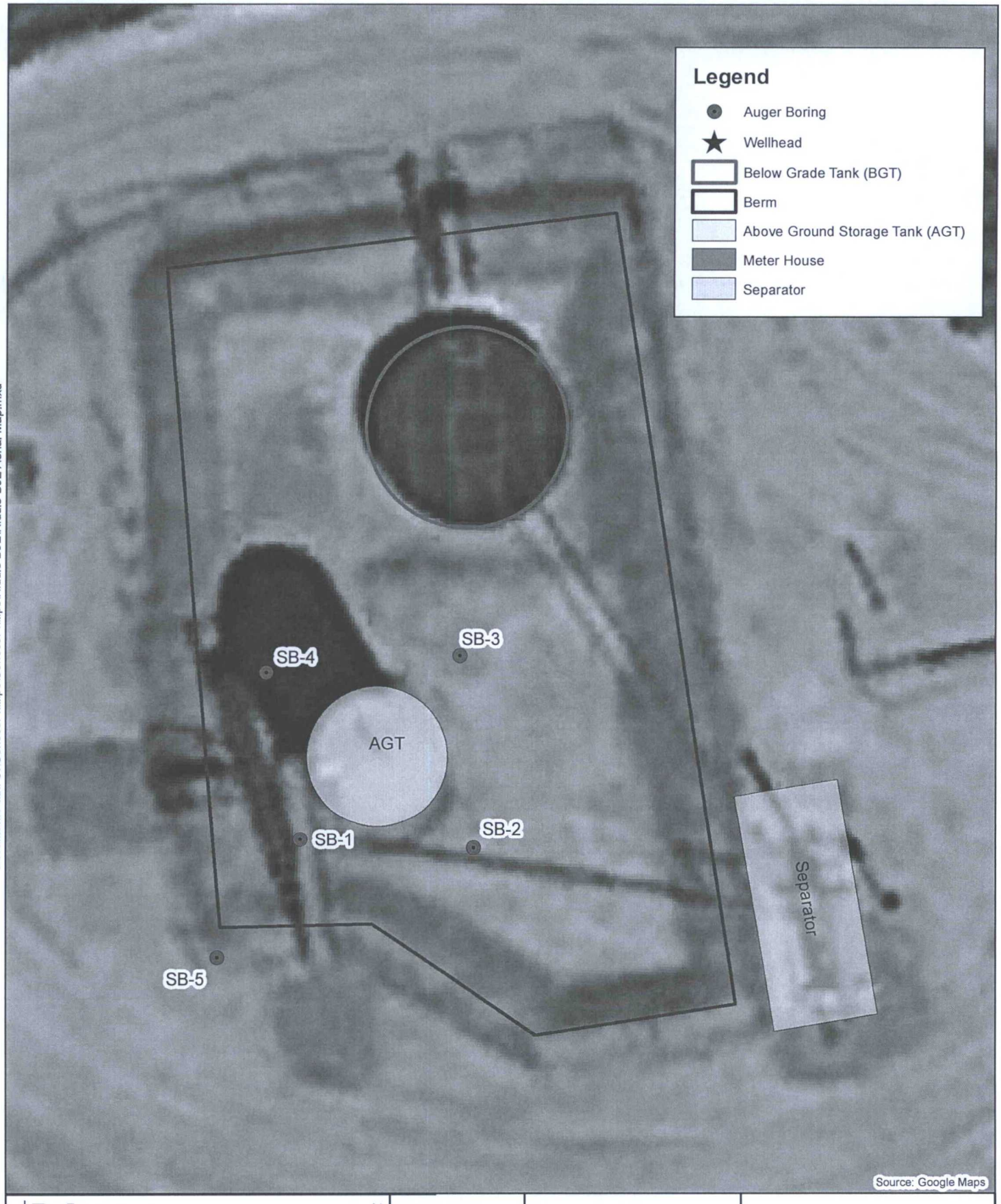
0 0.2 0.4 0.8 Miles

Turley Quadrangle
1:24,000

ConocoPhillips

G-S23-T30N-R10W
N36.79989, W107.85015
San Juan County, NM
API: 30-045-26513

Figure 1
Topographic Site Map
Riddle B #5E



Document Path: U:\ConocoPhillips\ConocoPhillips\Riddle B5E\Riddle B5E Aerial Map.mxd

Rule Engineering, LLC
Solutions to Regulations for Industry

0 2.5 5 10 15 20 Feet
1 inch = 10 feet

N

ConocoPhillips

G-S23-T30N-R10W
N36.79989, W107.85015
San Juan County, NM
API: 30-045-26513

Figure 2
Site Assessment Map
Riddle B #5E

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706845**

19-Jun-17

Client: Rule Engineering LLC
Project: RIDDLE B #5

Sample ID **MB-32311**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **32311**	RunNo: **43568**
Prep Date: **6/15/2017**	Analysis Date: **6/16/2017**	SeqNo: **1373066** 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	1.2		1.000		124	66.6	132			

Sample ID **LCS-32311**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **32311**	RunNo: **43568**
Prep Date: **6/15/2017**	Analysis Date: **6/16/2017**	SeqNo: **1373067** 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	107	80	120			
Toluene	1.1	0.050	1.000	0	108	80	120			
Ethylbenzene	1.1	0.050	1.000	0	109	80	120			
Xylenes, Total	3.3	0.10	3.000	0	110	80	120			
Surr: 4-Bromofluorobenzene	1.3		1.000		126	66.6	132			

Sample ID **1706845-001AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SC-1**	Batch ID: **32311**	RunNo: **43568**
Prep Date: **6/15/2017**	Analysis Date: **6/16/2017**	SeqNo: **1373074** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.024	0.9699	0	113	61.5	138			
Toluene	1.1	0.048	0.9699	0	116	71.4	127			
Ethylbenzene	1.1	0.048	0.9699	0	118	70.9	132			
Xylenes, Total	3.5	0.097	2.910	0	120	76.2	123			
Surr: 4-Bromofluorobenzene	1.3		0.9699		130	66.6	132			

Sample ID **1706845-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SC-1**	Batch ID: **32311**	RunNo: **43568**
Prep Date: **6/15/2017**	Analysis Date: **6/16/2017**	SeqNo: **1373076** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.024	0.9737	0	118	61.5	138	5.16	20	
Toluene	1.2	0.049	0.9737	0	120	71.4	127	4.14	20	
Ethylbenzene	1.2	0.049	0.9737	0	124	70.9	132	5.19	20	
Xylenes, Total	3.6	0.097	2.921	0	125	76.2	123	4.71	20	S
Surr: 4-Bromofluorobenzene	1.3		0.9737		129	66.6	132	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706845**

19-Jun-17

Client: Rule Engineering LLC
Project: RIDDLE B #5

Sample ID	**MB-32311**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**PBS**	Batch ID:	**32311**		RunNo:	**43568**				
Prep Date:	**6/15/2017**	Analysis Date:	**6/16/2017**		SeqNo:	**1373048**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	970		1000		96.9	54	150			

Sample ID	**LCS-32311**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**LCSS**	Batch ID:	**32311**		RunNo:	**43568**				
Prep Date:	**6/15/2017**	Analysis Date:	**6/16/2017**		SeqNo:	**1373049**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	102	76.4	125			
Surr: BFB	1100		1000		108	54	150			

Sample ID	**1706845-002AMS**	SampType:	**MS**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**SC-2**	Batch ID:	**32311**		RunNo:	**43568**				
Prep Date:	**6/15/2017**	Analysis Date:	**6/16/2017**		SeqNo:	**1373059**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.7	23.65	0	116	77.8	128			
Surr: BFB	1100		946.1		114	54	150			

Sample ID	**1706845-002AMSD**	SampType:	**MSD**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**SC-2**	Batch ID:	**32311**		RunNo:	**43568**				
Prep Date:	**6/15/2017**	Analysis Date:	**6/16/2017**		SeqNo:	**1373060**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	4.9	24.56	0	81.7	77.8	128	31.0	20	R
Surr: BFB	1000		982.3		106	54	150	0	0	

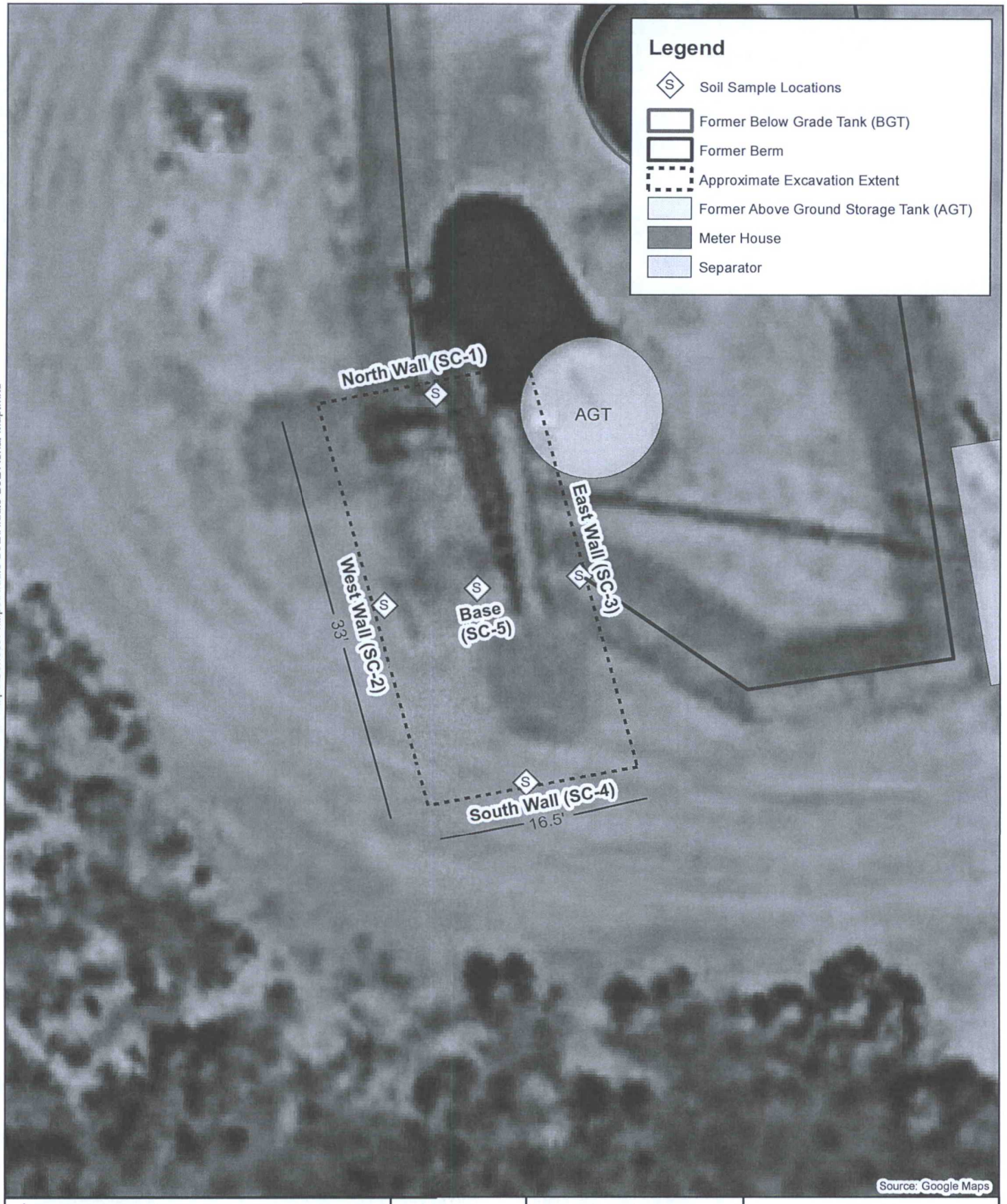
Qualifiers:

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

Appendix A

Analytical Laboratory Reports

Rule



Document Path: U:\ConocoPhillips\ConocoPhillips\Riddle B5E\Riddle B5E Aerial Map.mxd

Rule Engineering, LLC
Solutions to Regulations for Industry

0 2.5 5 10 15 20 Feet
1 inch = 10 feet

N

ConocoPhillips

G-S23-T30N-R10W
N36.79989, W107.85015
San Juan County, NM
API: 30-045-26513

Figure 3
Excavation Conformation Sample Location Map
Riddle B #5E

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

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

June 19, 2017

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

RE: RIDDLE B #5 OrderNo.: 1706845

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 4 sample(s) on 6/15/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data 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

Analytical Report
Lab Order **1706845**
Date Reported: **6/19/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC
Project: RIDDLE B #5
Lab ID: 1706845-001 **Matrix:** SOIL

Client Sample ID: SC-1
Collection Date: 6/14/2017 9:30:00 AM
Received Date: 6/15/2017 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	6/16/2017 5:07:57 PM	32315
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/16/2017 5:07:57 PM	32315
Surr: DNOP	98.0	70-130		%Rec	1	6/16/2017 5:07:57 PM	32315
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/16/2017 7:34:16 PM	32311
Surr: BFB	102	54-150		%Rec	1	6/16/2017 7:34:16 PM	32311
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	6/16/2017 7:34:16 PM	32311
Toluene	ND	0.048		mg/Kg	1	6/16/2017 7:34:16 PM	32311
Ethylbenzene	ND	0.048		mg/Kg	1	6/16/2017 7:34:16 PM	32311
Xylenes, Total	ND	0.096		mg/Kg	1	6/16/2017 7:34:16 PM	32311
Surr: 4-Bromofluorobenzene	127	66.6-132		%Rec	1	6/16/2017 7:34:16 PM	32311

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC
Client Sample ID: SC-2
Project: RIDDLE B #5
Collection Date: 6/14/2017 9:45:00 AM
Lab ID: 1706845-002 **Matrix:** SOIL **Received Date:** 6/15/2017 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	6/16/2017 5:30:34 PM	32315
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/16/2017 5:30:34 PM	32315
Surr: DNOP	98.8	70-130		%Rec	1	6/16/2017 5:30:34 PM	32315
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	6/16/2017 7:58:32 PM	32311
Surr: BFB	101	54-150		%Rec	1	6/16/2017 7:58:32 PM	32311
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	6/16/2017 7:58:32 PM	32311
Toluene	ND	0.047		mg/Kg	1	6/16/2017 7:58:32 PM	32311
Ethylbenzene	ND	0.047		mg/Kg	1	6/16/2017 7:58:32 PM	32311
Xylenes, Total	ND	0.094		mg/Kg	1	6/16/2017 7:58:32 PM	32311
Surr: 4-Bromofluorobenzene	126	66.6-132		%Rec	1	6/16/2017 7:58:32 PM	32311

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

Qualifiers:

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

Analytical Report
Lab Order **1706845**
Date Reported: **6/19/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC
Client Sample ID: SC-3
Project: RIDDLE B #5
Collection Date: 6/14/2017 9:55:00 AM
Lab ID: 1706845-003 **Matrix:** SOIL **Received Date:** 6/15/2017 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	6/16/2017 5:53:11 PM	32315
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/16/2017 5:53:11 PM	32315
Surr: DNOP	104	70-130		%Rec	1	6/16/2017 5:53:11 PM	32315
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	6/16/2017 8:22:45 PM	32311
Surr: BFB	98.4	54-150		%Rec	1	6/16/2017 8:22:45 PM	32311
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	6/16/2017 8:22:45 PM	32311
Toluene	ND	0.047		mg/Kg	1	6/16/2017 8:22:45 PM	32311
Ethylbenzene	ND	0.047		mg/Kg	1	6/16/2017 8:22:45 PM	32311
Xylenes, Total	ND	0.095		mg/Kg	1	6/16/2017 8:22:45 PM	32311
Surr: 4-Bromofluorobenzene	124	66.6-132		%Rec	1	6/16/2017 8:22:45 PM	32311

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC
Project: RIDDLE B #5
Lab ID: 1706845-004 **Matrix:** SOIL

Client Sample ID: SC-5
Collection Date: 6/14/2017 10:15:00 AM
Received Date: 6/15/2017 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	6/16/2017 7:00:34 PM	32315
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/16/2017 7:00:34 PM	32315
Surr: DNOP	98.4	70-130		%Rec	1	6/16/2017 7:00:34 PM	32315
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/16/2017 8:46:58 PM	32311
Surr: BFB	101	54-150		%Rec	1	6/16/2017 8:46:58 PM	32311
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	6/16/2017 8:46:58 PM	32311
Toluene	ND	0.050		mg/Kg	1	6/16/2017 8:46:58 PM	32311
Ethylbenzene	ND	0.050		mg/Kg	1	6/16/2017 8:46:58 PM	32311
Xylenes, Total	ND	0.099		mg/Kg	1	6/16/2017 8:46:58 PM	32311
Surr: 4-Bromofluorobenzene	124	66.6-132		%Rec	1	6/16/2017 8:46:58 PM	32311

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706845**

19-Jun-17

Client: Rule Engineering LLC
Project: RIDDLE B #5

Sample ID	**MB-32315**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**32315**		RunNo:	**43560**				
Prep Date:	**6/15/2017**	Analysis Date:	**6/16/2017**		SeqNo:	**1372149**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.6		10.00		96.0	70	130			

Sample ID	**LCS-32315**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**32315**		RunNo:	**43560**				
Prep Date:	**6/15/2017**	Analysis Date:	**6/16/2017**		SeqNo:	**1372317**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	99.8	73.2	114			
Surr: DNOP	4.8		5.000		95.6	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: RULE ENGINEERING LL Work Order Number: 1706845 RcptNo: 1

Received By: Anne Thorne 6/15/2017 9:00:00 AM Anne Thorne
Completed By: Anne Thorne 6/15/2017 10:47:12 AM Anne Thorne
Reviewed By: aJ 6/15/17

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
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	2.3	Good	Yes			

Chain-of-Custody Record

Client: Rule Engineering, LLC

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

Phone #: 505 793 9480

email or Fax#: jubber@ruleengineering.com

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

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

Turn-Around Time:
☐ Standard ☑ Rush 3 DAY

Project Name: RIDDLE B #5

Project #:

Project Manager: Heather Woods

Sampler: Justin Vabber

On Ice: ☑ Yes ☐ No

Sample Temperature: 2.3

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1706845	BTEX + ~~MBE~~ + ~~TMB's~~ (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
6/14/17	930	Soil	SC-1	4) 4oz Glass	Cold	-001	X		X													
	945		SC-2			-002	X		X													
	955		SC-3			-003	X		X													
↓	1015	↓	SC-5	↓	↓	-004	X		X													

Date:	Time:	Relinquished by:	Received by:	Date	Time
6/14/17	1615			6/14/17	1615
Date:	Time:	Relinquished by:	Received by:	Date	Time
6/14/17	1910			06/15/17	0900

Remarks: Direct Bill to Conoco Phillips

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

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

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

June 16, 2017

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

RE: RIDDLE B #5 OrderNo.: 1706835

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/15/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data 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

Analytical Report
Lab Order **1706835**
Date Reported: **6/16/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC
Client Sample ID: SC-4
Project: RIDDLE B #5
Collection Date: 6/14/2017 10:05:00 AM
Lab ID: 1706835-001 **Matrix:** SOIL **Received Date:** 6/15/2017 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	25	9.9		mg/Kg	1	6/15/2017 10:54:56 AM	32302
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/15/2017 10:54:56 AM	32302
Surr: DNOP	99.3	70-130		%Rec	1	6/15/2017 10:54:56 AM	32302
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	18		mg/Kg	5	6/15/2017 10:51:43 AM	32286
Surr: BFB	103	54-150		%Rec	5	6/15/2017 10:51:43 AM	32286
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.091		mg/Kg	5	6/15/2017 10:51:43 AM	32286
Toluene	ND	0.18		mg/Kg	5	6/15/2017 10:51:43 AM	32286
Ethylbenzene	ND	0.18		mg/Kg	5	6/15/2017 10:51:43 AM	32286
Xylenes, Total	ND	0.36		mg/Kg	5	6/15/2017 10:51:43 AM	32286
Surr: 4-Bromofluorobenzene	127	66.6-132		%Rec	5	6/15/2017 10:51:43 AM	32286

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706835**

16-Jun-17

Client: Rule Engineering LLC

Project: RIDDLE B #5

Sample ID **LCS-32302**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **32302**	RunNo: **43528**
Prep Date: **6/15/2017**	Analysis Date: **6/15/2017**	SeqNo: **1371104** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.7	73.2	114			
Surr: DNOP	4.7		5.000		94.7	70	130			

Sample ID **MB-32302**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **32302**	RunNo: **43528**
Prep Date: **6/15/2017**	Analysis Date: **6/15/2017**	SeqNo: **1371105** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.5		10.00		95.4	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706835**

16-Jun-17

Client: Rule Engineering LLC
Project: RIDDLE B #5

Sample ID **MB-32286**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **32286**	RunNo: **43526**
Prep Date: **6/14/2017**	Analysis Date: **6/15/2017**	SeqNo: **1371437** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	960		1000		96.5	54	150			

Sample ID **LCS-32286**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **32286**	RunNo: **43526**
Prep Date: **6/14/2017**	Analysis Date: **6/15/2017**	SeqNo: **1371438** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.7	76.4	125			
Surr: BFB	1100		1000		107	54	150			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706835**

16-Jun-17

Client: Rule Engineering LLC
Project: RIDDLE B #5

Sample ID **MB-32286**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **32286**	RunNo: **43526**
Prep Date: **6/14/2017**	Analysis Date: **6/15/2017**	SeqNo: **1371467** 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	1.2		1.000		122	66.6	132			

Sample ID **LCS-32286**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **32286**	RunNo: **43526**
Prep Date: **6/14/2017**	Analysis Date: **6/15/2017**	SeqNo: **1371469** 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	107	80	120			
Toluene	1.1	0.050	1.000	0	109	80	120			
Ethylbenzene	1.1	0.050	1.000	0	109	80	120			
Xylenes, Total	3.3	0.10	3.000	0	111	80	120			
Surr: 4-Bromofluorobenzene	1.3		1.000		126	66.6	132			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: RULE ENGINEERING LL Work Order Number: 1706835 RcptNo: 1

Received By: Anne Thorne 6/15/2017 9:00:00 AM Anne Thorne
Completed By: Anne Thorne 6/15/2017 9:32:50 AM Anne Thorne
Reviewed By: AJ 6/15/17

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: ____ Date ____
By Whom: ____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: ____
Client Instructions: ____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.3	Good	Yes			

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client: Rule Engineering, LLC

Mailing Address: 501 Airport Drive Suite D5 Farmington, NM 87401

Phone #: 505 793 9480

Email or Fax#: jwalker@ruleengineering.com

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

Accreditation: NELAP ☐ Other

EDD (Type)

Turn-Around Time: ☐ Standard ☑ Rush Same Day

Project Name: RIDDLE B # 5

Project #:

Project Manager: Heather Woods

Sampler: Justin Walker

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.3

Date	Time	Matrix	Sample Request ID	Container Type and # (6/13/17 MeoH Kit)	Preservative Type	HEAL No.
6/17	1005	Soil	SC-4	4oz Glass	Cold	1706835-001

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
X		X													

Date	Time	Relinquished by:	Received by:	Date	Time
6/14/17	1615			6/14/17	1615
6/14/17	1910			06/15/17	0900

Remarks: Direct Bill to ConoCo Phillips

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.