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 **ConocoPhillips Company**	Contact **Lisa Hunter**
Address **3401 East 30th St, Farmington, NM**	Telephone No. **(505) 258-1607**
Facility Name: **San Juan 28-7 Unit 155E**	Facility Type: **Gas Well**

Surface Owner **BLM**	Mineral Owner **BLM**	API No. **3003926460**

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	**22**	**27N**	**07W**	**1035**	**North**	**1830**	**West**	**Rio Arriba**

Latitude 36.56382 Longitude -107. 56563

NATURE OF RELEASE

Type of Release **Hydocarbon/Produced Water**	Volume of Release **14bbls/3bbl**	Volume Recovered **0**
Source of Release **Production Tank**	Date and Hour of Occurrence **Unknown**	Date and Hour of Discovery **06/21/16 @ 1:55p.m.**
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? **N/A**	
By Whom? **N/A**	Date and Hour **N/A**	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. **N/A**	

OIL CONS. DIV DIST. 3
JAN 09 2017

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

Describe Cause of Problem and Remedial Action Taken.*
Leak due to corrosion at bottom of production tank was discovered during tank gauging activities. Well was shut in, tank was drained into pit tank, and truck was called to transfer oil to another tank.

Describe Area Affected and Cleanup Action Taken.*
Excavation was 35' x 43' x 5-7' Deep. Analytical results were below NMOCD Action Levels – 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:	OIL CONSERVATION DIVISION Approved by Environmental Specialist:	
Printed Name: **Lisa Hunter**		
Title: **Field Environmental Specialist**	Approval Date: 2/2/2017	Expiration Date:
E-mail Address: **Lisa.Hunter@cop.com**	Conditions of Approval: NCS1618829024	Attached ☐
Date: **January 3, 2017** Phone: **(505) 258-1607**		

* Attach Additional Sheets If Necessary

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San Juan 28-7 #155E Release Report

Unit Letter C, Section 22, Township 27 North, Range 7 West
Rio Arriba County, New Mexico

January 3, 2017

OIL CONS. DIV DIST. 3
JAN 09 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
San Juan 28-7 #155E 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

January 3, 2017

Table of Contents

Tables

Figures

Appendices

1.0 Introduction

The ConocoPhillips San Juan 28-7 #155E release site is located in Unit Letter C, Section 22, Township 27 North, Range 7 West, in Rio Arriba County, New Mexico. The release of approximately 14 barrels (bbls) of condensate and 3 bbls of produced water from the above grade storage tank was discovered on June 21, 2016. The release was contained within the berm surrounding the tank.

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	San Juan 28-7 #155E		
Site Location Description	Unit Letter C, Section 22, Township 27 North, Range 7 West		
Wellhead GPS Location	N36.56392 and W107.56532	***Release GPS Location***	N36.56382 and W107.56563
Land Jurisdiction	Bureau of Land Management	***Discovery Date***	June 21, 2016
Release Source	Above Grade Storage Tank	***Substance(s) Released***	Condensate and Produced Water
Estimated Volume Released	14 bbls condensate/ 3 bbls produced water	***Volume Recovered***	0 bbls
NMOCD Site Rank	10		
Distance to Nearest Surface Water	A small, ephemeral wash is located approximately 375 feet west of the release location, which drains to Cuervo Canyon		
Estimated Depth to Groundwater	Greater than 100 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 10 (Table 1).

Depth to groundwater at the site is greater than 100 feet bgs based on the elevation differential between the location and Cuervo Canyon and the cathodic well report for San Juan 28-7 #153M reported "no groundwater encountered".

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 375 feet west of the release location, which drains to Cuervo Canyon.

Based on the ranking score of 10, 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 1,000 mg/kg total petroleum hydrocarbons (TPH).

4.0 Site Assessment

4.1 Field Activities

On July 15, 2016, Rule Engineering, LLC (Rule) personnel conducted a site assessment to delineate the extent of the release which included advancing nine soil borings (SB-1 through SB-9) utilizing a hand auger. Soil borings were advanced to depths ranging from approximately 0.5 to 4 feet bgs where refusal was encountered on hard soils, sandstone, or shale. Boring locations are illustrated on Figure 2.

4.2 Soil Sampling

Rule collected soil samples from the soil borings at 0.5 to 2 foot intervals with an approximately 0.5 foot sample length at each interval. A five part composite sample (SC-1) was also collected from a depth of approximately 0.5 feet bgs within the visible release area. The lithology encountered at the site included interbedded clayey sand and poorly graded sand underlain by sandstone or shale to the maximum depths of the soil borings.

A portion of each sample was field screened for volatile organic compounds (VOCs) and selected samples were 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 machine 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.

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 and TPH per USEPA 8015D.

Initial site assessment field screening and laboratory analytical results are summarized in Table 2. The analytical laboratory report is included in Appendix A.

4.3 Field Screening Results

Field screening results for samples collected from soil borings SB-1 through SB-9 and composite sample SC-1 indicated VOC concentrations ranging from 4.5 ppm to 2,030 ppm. Field TPH results for samples collected from soil borings SB-1 through SB-9 and composite sample SC-1 indicated TPH concentrations ranging from 35.7 mg/kg to greater than 5,000 mg/kg. Field screening results are summarized in Table 2.

4.4 Laboratory Analytical Results

Laboratory analytical results for site assessment sample SB-3 at 1 foot reported the benzene concentration below the laboratory reporting limit of 0.048 mg/kg, total BTEX concentration of 0.39 mg/kg, and TPH concentration of 86 mg/kg.

Site assessment field screening and laboratory analytical results are summarized in Table 2. The analytical laboratory report is included in Appendix A.

5.0 Excavation Confirmation Sampling

5.1 Field Activities

Following the excavation of hydrocarbon impacted soils, Rule personnel returned to the site on October 3, 2016, to collect confirmation samples from the excavation sidewalls and base. The maximum extent of the final excavation measured approximately 43 feet by 35 feet by 5 to 7 feet in depth. Excavated hydrocarbon impacted soils and rock 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 October 3, 2016. 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 selected samples were also field analyzed for 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. Rule's practical quantitation limit for USEPA Method 418.1 is 20 mg/kg.

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, 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 70.6 ppm to 2,600 ppm. The field TPH concentration results for these samples ranged from below the reporting limit of 20 mg/kg to 368 mg/kg. Field screening results are summarized in Table 3.

5.4 Laboratory Analytical Results

Laboratory analytical results for the excavation confirmation samples (SC-1 through SC-5) reported benzene concentrations ranging from below the laboratory reporting limit to 0.16 mg/kg, which are below the NMOCD action level of 10 mg/kg. Total BTEX concentrations for the excavation confirmation samples ranged from below the laboratory reporting limit to 9.8 mg/kg, which were below the NMOCD action level of 50 mg/kg. Laboratory analytical results for the excavation confirmation samples indicate that TPH concentrations range from below the laboratory reporting limit to 255 mg/kg, which are below the NMOCD action level of 1,000 for a site rank of 10.

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

6.0 Conclusions

The ConocoPhillips San Juan 28-7 #155E release site is located in Unit Letter C, Section 22, Township 27 North, Range 7 West, in Rio Arriba County, New Mexico. The release of approximately 14 bbls of condensate and 3 bbls of produced water from the above grade storage tank was discovered on June 21, 2016. The release was contained within the berm surrounding the tank. A site assessment was conducted utilizing hand-auger soil borings to delineate the extent of the hydrocarbon impact. Following the excavation of impacted soils, confirmation samples SC-1 through SC-5 were collected from the excavation which measured approximately 43 feet by 35 feet by 5 to 7 feet in depth. Laboratory analytical results for confirmation samples SC-1 through SC-5 reported benzene, total BTEX, and TPH concentrations below the applicable NMOCD action levels for a site rank of 10. Excavated hydrocarbon impacted soils and rock were transported to a local NMOCD approved landfarm for disposal/remediation and the excavation was backfilled with clean, imported material.

Based on laboratory analytical results of the excavation confirmation samples, no further work is recommended.

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
San Juan 28-7 #155E
Rio Arriba County, New Mexico

Ranking Criteria	Ranking Score	Site-Based Ranking Score	Basis for Determination	Data Sources
Depth to Groundwater				
<50 feet	20	0	Elevation differential between location and Cuervo Canyon derived from the topographic map of the area and no groundwater encountered on cathodic well report for the San Juan 28-7 #153M.	NMOCD Online database, Gould Pass 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, Gould Pass Quadrangle, Google Earth, and Visual Inspection
	0 (No)			
Distance to Surface Water Body				
<200 horizontal feet	20	10	A small, ephemeral wash is located approximately 375 feet west of the release location, which drains to Cuervo Canyon.	Gould Pass Quadrangle, Google Earth, and Visual Inspection
200 to 1,000 horizontal feet	10			
>1,000 horizontal feet	0			
Site Based Total Ranking Score		**10**		

Table 2. Site Assessment Field Screening and Laboratory Analytical Results
ConocoPhillips
San Juan 27-8 #155E
Rio Arriba County, New Mexico

Sample Name	Date	Approximate Sample Depth (ft bgs)	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)
NMOCD Action Level*			100	1,000**	10	NE	NE	NE	50	1,000**	
SC-1	7/15/2016	0.5 (Composite)	**1,936**	**>5,000**	--	--	--	--	--	--	--
SB-1	7/15/2016	1	**1,798**	--	--	--	--	--	--	--	--
		3	**1,496**	--	--	--	--	--	--	--	--
		3.5	**1,679**	**2,060**	--	--	--	--	--	--	--
SB-2	7/15/2016	0.5	**1,949**	--	--	--	--	--	--	--	--
		2	**2,013**	--	--	--	--	--	--	--	--
		2.5	**940**	--	--	--	--	--	--	--	--
		3	**2,030**	--	--	--	--	--	--	--	--
SB-3	7/15/2016	0.5	**1,624**	--	--	--	--	--	--	--	--
		1	**1,569**	290	<0.048	<0.095	0.10	0.29	0.39	30	56
SB-4	7/15/2016	0.5	11.4	--	--	--	--	--	--	--	--
		1	14.7	--	--	--	--	--	--	--	--
SB-5	7/15/2016	0.5	7.8	--	--	--	--	--	--	--	--
		1	6.9	--	--	--	--	--	--	--	--
		3	17.1	--	--	--	--	--	--	--	--
		3.25	25.7	--	--	--	--	--	--	--	--
SB-6	7/15/2016	0.5	43.9	--	--	--	--	--	--	--	--
		2.5	72.8	--	--	--	--	--	--	--	--
		4	**492**	35.7	--	--	--	--	--	--	--
SB-7	7/15/2016	1	34.5	--	--	--	--	--	--	--	--
		2	37.5	--	--	--	--	--	--	--	--
SB-8	7/15/2016	0.5	7.6	--	--	--	--	--	--	--	--
SB-9	7/15/2016	1	4.9	--	--	--	--	--	--	--	--
		2.5	4.5	--	--	--	--	--	--	--	--
		3	5.8	--	--	--	--	--	--	--	--

Notes: All borings were terminated at auger refusal on shale or sandstone.

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)*

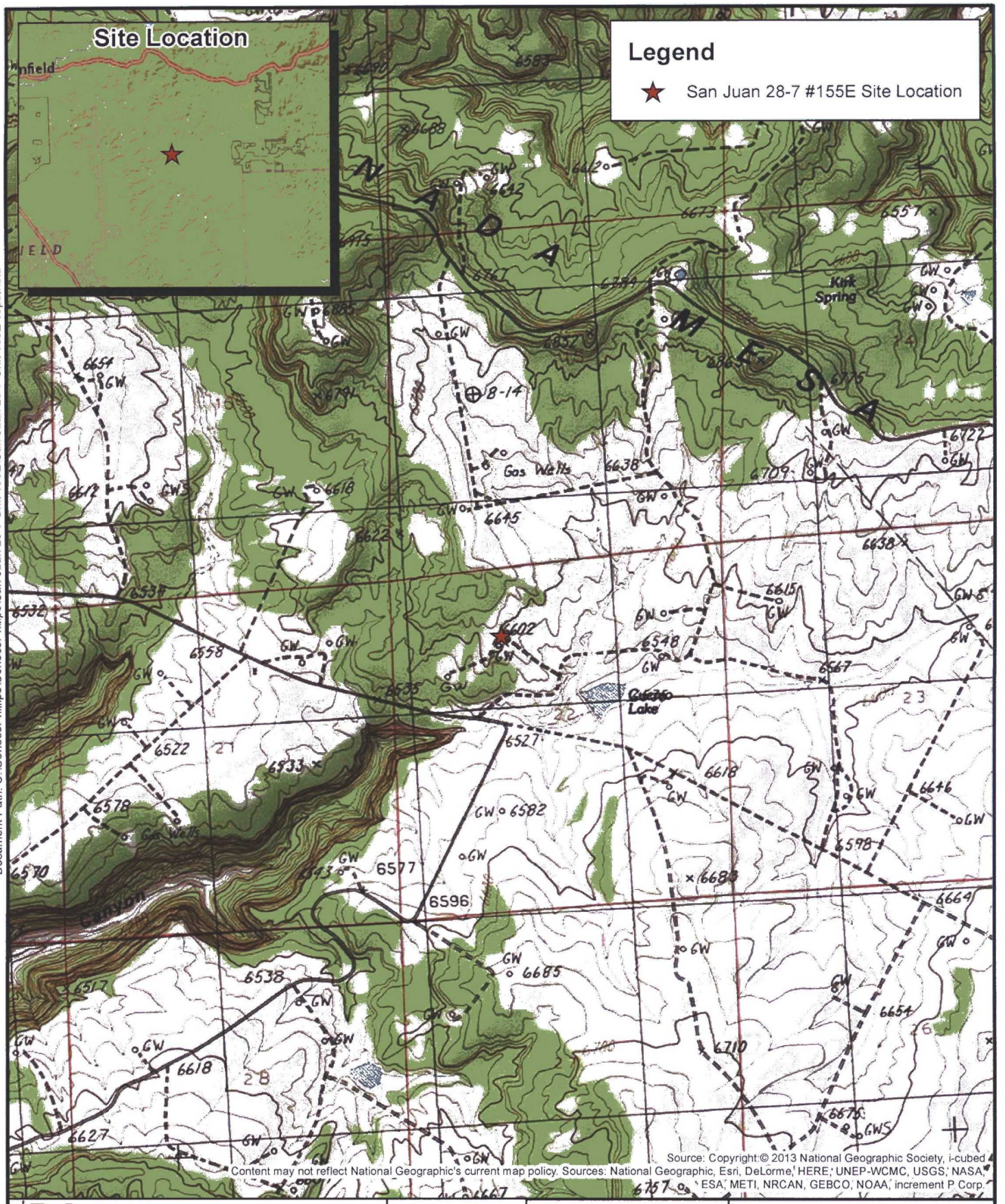
**Based on a site ranking of 10.

Table 3. Excavation Confirmation Field Screening and Laboratory Analytical Results
ConocoPhillips
San Juan 28-7 #155E
Rio Arriba County, New Mexico

Sample Name	Date	Location	Approximate Sample Depth (ft bgs)	Field Screening Results		Laboratory Analytical Results							
				OVM by PID (ppm)	TPH per 418.1	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**	**1,000****	**10**	**NE**	**NE**	**NE**	**50**	**1,000****		
Excavation Confirmation Samples													
SC-1	10/3/2016	West Wall	0.5 to 7	70.6	<20	<0.024	<0.049	<0.049	<0.098	ND	<4.9	<9.2	<46
SC-2	10/3/2016	North Wall	0.5 to 7	**2,600**	293	0.16	2.3	0.43	6.9	9.8	190	65	<49
SC-3	10/3/2016	East Wall	0.5 to 7	**1,712**	368	<0.089	<0.18	<0.18	<0.36	ND	<18	29	<49
SC-4	10/3/2016	South Wall	0.5 to 7	**997**	45.9	<0.025	<0.050	<0.050	<0.099	ND	<5.0	<10	<50
SC-5	10/3/2016	Base	5 to 7	**495**	37.8	<0.024	<0.049	<0.049	<0.097	ND	<4.9	<9.8	<49

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
NMOCD - New Mexico Oil Conservation Division
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
MRO - mineral oil range organics
*Based on the NMOCD *Guidelines for Remediation of Leaks, Spills and Releases (August 1993)*
**Based on a site ranking of 10.

Figures



Rule Engineering, LLC
Solutions to Regulations for Industry

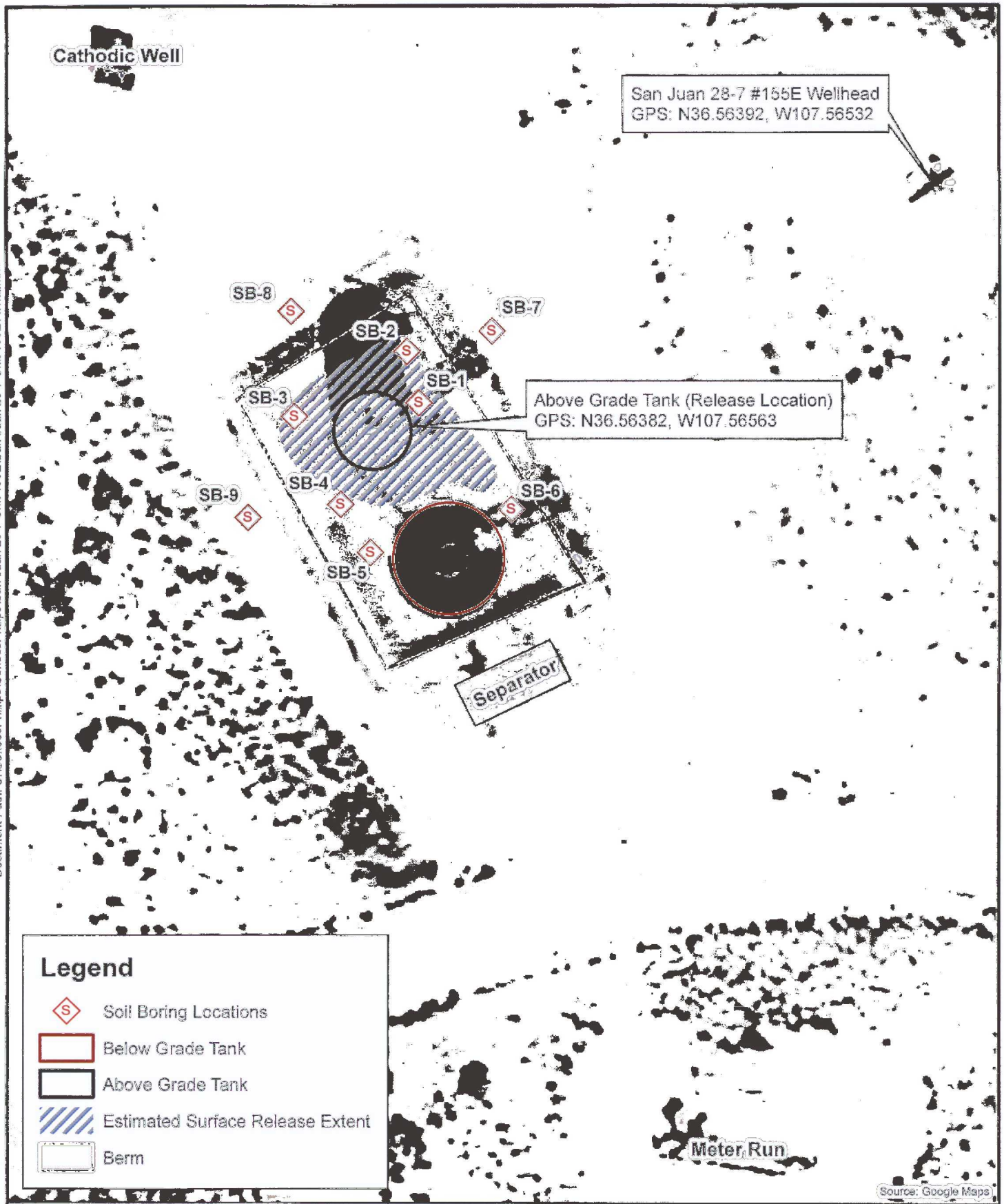
0 0.2 0.4 0.8 Miles

Gould Pass Quadrangle
1:24,000

ConocoPhillips

C-S22-T27N-R07W
N36.56392, W107.56532
Rio Arriba County, NM
API: 30-039-26460

Figure 1
Topographic Site Map
San Juan 28-7 #155E



Document Path: U:\ConocoPhillips\ConocoPhillips\San Juan 28-7 Unit 155E\San Juan 28-7 Unit 155E Aerial.mxd

Rule Engineering, LLC
Solutions to Regulations for Industry

ConocoPhillips

C-S22-T27N-R07W
N36.56392, W107.56532
Rio Arriba County, NM
API: 30-039-26460

Figure 2
Aerial Site Map
San Juan 28-7 #155E

Rule Engineering, LLC
Solutions to Regulations for Industry

ConocoPhillips

C-S22-T27N-R07W
N36.56392, W107.56532
Rio Arriba County, NM
API: 30-039-26460

Figure 3
Excavation Confirmation Sample Location Map
San Juan 28-7 #155E

Appendix A

Analytical Laboratory Reports

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

July 25, 2016

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

RE: CoP San Juan 28-7 # 155E OrderNo.: 1607754

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 1 sample(s) on 7/16/2016 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 qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC
Client Sample ID: SB-3@1
Project: CoP San Juan 28-7 # 155E
Collection Date: 7/15/2016 1:40:00 PM
Lab ID: 1607754-001 **Matrix:** SOIL **Received Date:** 7/16/2016 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	56	9.4		mg/Kg	1	7/21/2016 11:30:28 PM	26455
Surr: DNOP	86.2	70-130		%Rec	1	7/21/2016 11:30:28 PM	26455
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	30	9.5		mg/Kg	2	7/19/2016 1:21:10 PM	26442
Surr: BFB	174	80-120	S	%Rec	2	7/19/2016 1:21:10 PM	26442
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	2	7/19/2016 1:21:10 PM	26442
Toluene	ND	0.095		mg/Kg	2	7/19/2016 1:21:10 PM	26442
Ethylbenzene	0.10	0.095		mg/Kg	2	7/19/2016 1:21:10 PM	26442
Xylenes, Total	0.29	0.19		mg/Kg	2	7/19/2016 1:21:10 PM	26442
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	2	7/19/2016 1:21:10 PM	26442

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times 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#: **1607754**

25-Jul-16

Client: Rule Engineering LLC
Project: CoP San Juan 28-7 # 155E

Sample ID **LCS-26455** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **26455** RunNo: **35794**
Prep Date: **7/18/2016** Analysis Date: **7/20/2016** SeqNo: **1108851** 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	95.3	62.6	124			
Surr: DNOP	5.0		5.000		99.7	70	130			

Sample ID **MB-26455** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **26455** RunNo: **35794**
Prep Date: **7/18/2016** Analysis Date: **7/20/2016** SeqNo: **1108853** 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	10		10.00		102	70	130			

Sample ID **MB-26465** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **26465** RunNo: **35794**
Prep Date: **7/19/2016** Analysis Date: **7/20/2016** SeqNo: **1110143** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		101	70	130			

Sample ID **LCS-26443** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **26443** RunNo: **35827**
Prep Date: **7/18/2016** Analysis Date: **7/20/2016** SeqNo: **1110532** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.5		5.000		89.6	70	130			

Sample ID **MB-26443** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **26443** RunNo: **35827**
Prep Date: **7/18/2016** Analysis Date: **7/20/2016** SeqNo: **1110534** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.8		10.00		87.5	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#: **1607754**

25-Jul-16

Client: Rule Engineering LLC

Project: CoP San Juan 28-7 # 155E

Sample ID **MB-26442**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **26442**	RunNo: **35812**
Prep Date: **7/18/2016**	Analysis Date: **7/19/2016**	SeqNo: **1108256** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	900		1000		89.8	80	120			

Sample ID **LCS-26442**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **26442**	RunNo: **35812**
Prep Date: **7/18/2016**	Analysis Date: **7/19/2016**	SeqNo: **1108257** 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	116	80	120			
Surr: BFB	900		1000		90.0	80	120			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1607754**

25-Jul-16

Client: Rule Engineering LLC
Project: CoP San Juan 28-7 # 155E

Sample ID **MB-26442**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **26442**	RunNo: **35812**
Prep Date: **7/18/2016**	Analysis Date: **7/19/2016**	SeqNo: **1108288** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Sample ID **LCS-26442**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **26442**	RunNo: **35812**
Prep Date: **7/18/2016**	Analysis Date: **7/19/2016**	SeqNo: **1108297** 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	113	75.3	123			
Toluene	0.98	0.050	1.000	0	97.8	80	124			
Ethylbenzene	0.96	0.050	1.000	0	95.5	82.8	121			
Xylenes, Total	2.9	0.10	3.000	0	96.0	83.9	122			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Sample ID **1607754-001AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SB-3@1**	Batch ID: **26442**	RunNo: **35812**
Prep Date: **7/18/2016**	Analysis Date: **7/19/2016**	SeqNo: **1108307** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.049	0.9728	0	103	71.5	122			
Toluene	0.86	0.097	0.9728	0	88.5	71.2	123			
Ethylbenzene	0.95	0.097	0.9728	0.1006	87.0	75.2	130			
Xylenes, Total	3.0	0.19	2.918	0.2894	93.4	72.4	131			
Surr: 4-Bromofluorobenzene	2.0		1.946		101	80	120			

Sample ID **1607754-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SB-3@1**	Batch ID: **26442**	RunNo: **35812**
Prep Date: **7/18/2016**	Analysis Date: **7/19/2016**	SeqNo: **1108308** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.048	0.9579	0	101	71.5	122	2.76	20	
Toluene	0.85	0.096	0.9579	0	89.0	71.2	123	0.958	20	
Ethylbenzene	0.94	0.096	0.9579	0.1006	87.2	75.2	130	1.15	20	
Xylenes, Total	2.9	0.19	2.874	0.2894	91.3	72.4	131	3.48	20	
Surr: 4-Bromofluorobenzene	2.1		1.916		108	80	120	0	0	

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: RULE ENGINEERING LL Work Order Number: 1607754 RcptNo: 1

Received by/date: 07/16/16

Logged By: Lindsay Mangin 7/16/2016 8:45:00 AM

Completed By: Lindsay Mangin 7/16/2016 9:14:09 AM

Reviewed By: aJ 07/18/16

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° 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	3.8	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 Dr, Suite 205
Farmington, NM 87401

Phone #: (505) 716-2787

Email or Fax#: hwoods@ruleengineering.com

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

Accreditation
NELAP ☐ Other _____

EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____

Project Name: CoP San Juan 28-7 #155E

Project #:

Project Manager: Heather Woods

Sampler: Heather Woods / Justin Valdez

On Ice: ☑ Yes ☐ No

Sample Temperature: 3.8

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
5/16	1340	Soil	SB-3@1	(1) 4oz Glass	Cold	1607784-001	X		X													

Date	Time	Relinquished by:	Received by:	Date	Time
7/16	1715	Heather M. Woods	Christine Walters	7/15/16	1715
7/16	1841	Christine Walters		07/16/16	0845

Remarks: Direct Bill to ConocoPhillips
WO: 21541153
User: MCINNSK
Supervisor: Erin Wyckoff
Ordered by: Lisa Hunter

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

October 06, 2016

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

RE: San Juan 28-7 155E OrderNo.: 1610087

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 3 sample(s) on 10/4/2016 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 qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC
Project: San Juan 28-7 155E
Lab ID: 1610087-001 **Matrix:** SOIL

Client Sample ID: SC-1
Collection Date: 10/3/2016 10:15:00 AM
Received Date: 10/4/2016 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	10/5/2016 1:12:41 PM	27886
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/5/2016 1:12:41 PM	27886
Surr: DNOP	94.8	70-130		%Rec	1	10/5/2016 1:12:41 PM	27886
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/5/2016 2:52:00 PM	27885
Surr: BFB	88.2	68.3-144		%Rec	1	10/5/2016 2:52:00 PM	27885
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	10/5/2016 2:52:00 PM	27885
Toluene	ND	0.049		mg/Kg	1	10/5/2016 2:52:00 PM	27885
Ethylbenzene	ND	0.049		mg/Kg	1	10/5/2016 2:52:00 PM	27885
Xylenes, Total	ND	0.098		mg/Kg	1	10/5/2016 2:52:00 PM	27885
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	10/5/2016 2:52:00 PM	27885

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC
Client Sample ID: SC-4
Project: San Juan 28-7 155E
Collection Date: 10/3/2016 10:30:00 AM
Lab ID: 1610087-002 **Matrix:** SOIL **Received Date:** 10/4/2016 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/5/2016 1:37:16 PM	27886
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/5/2016 1:37:16 PM	27886
Surr: DNOP	101	70-130		%Rec	1	10/5/2016 1:37:16 PM	27886
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/5/2016 4:02:32 PM	27885
Surr: BFB	86.2	68.3-144		%Rec	1	10/5/2016 4:02:32 PM	27885
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	10/5/2016 4:02:32 PM	27885
Toluene	ND	0.050		mg/Kg	1	10/5/2016 4:02:32 PM	27885
Ethylbenzene	ND	0.050		mg/Kg	1	10/5/2016 4:02:32 PM	27885
Xylenes, Total	ND	0.099		mg/Kg	1	10/5/2016 4:02:32 PM	27885
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	10/5/2016 4:02:32 PM	27885

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC
Project: San Juan 28-7 155E
Lab ID: 1610087-003 **Matrix:** SOIL

Client Sample ID: SC-5
Collection Date: 10/3/2016 10:35:00 AM
Received Date: 10/4/2016 7:10:00 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	10/5/2016 1:59:05 PM	27886
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/5/2016 1:59:05 PM	27886
Surr: DNOP	101	70-130		%Rec	1	10/5/2016 1:59:05 PM	27886
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/5/2016 5:12:38 PM	27885
Surr: BFB	89.0	68.3-144		%Rec	1	10/5/2016 5:12:38 PM	27885
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	10/5/2016 5:12:38 PM	27885
Toluene	ND	0.049		mg/Kg	1	10/5/2016 5:12:38 PM	27885
Ethylbenzene	ND	0.049		mg/Kg	1	10/5/2016 5:12:38 PM	27885
Xylenes, Total	ND	0.097		mg/Kg	1	10/5/2016 5:12:38 PM	27885
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	10/5/2016 5:12:38 PM	27885

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times 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#: **1610087**

06-Oct-16

Client: Rule Engineering LLC

Project: San Juan 28-7 155E

Sample ID **LCS-27886**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **27886**	RunNo: **37693**
Prep Date: **10/4/2016**	Analysis Date: **10/5/2016**	SeqNo: **1174187** 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	84.3	62.6	124			
Surr: DNOP	4.0		5.000		80.5	70	130			

Sample ID **MB-27886**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **27886**	RunNo: **37693**
Prep Date: **10/4/2016**	Analysis Date: **10/5/2016**	SeqNo: **1174188** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.7		10.00		86.8	70	130			

Sample ID **1610087-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SC-1**	Batch ID: **27886**	RunNo: **37693**
Prep Date: **10/4/2016**	Analysis Date: **10/5/2016**	SeqNo: **1174301** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	9.6	47.76	3.203	78.6	33.9	141			
Surr: DNOP	3.8		4.776		80.6	70	130			

Sample ID **1610087-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SC-1**	Batch ID: **27886**	RunNo: **37693**
Prep Date: **10/4/2016**	Analysis Date: **10/5/2016**	SeqNo: **1174388** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.5	47.57	3.203	87.8	33.9	141	9.87	20	
Surr: DNOP	4.0		4.757		84.3	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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#: **1610087**

06-Oct-16

Client: Rule Engineering LLC
Project: San Juan 28-7 155E

Sample ID	**MB-27885**	SampType: **MBLK**			TestCode: **EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID: **27885**			RunNo: **37701**					
Prep Date:	**10/4/2016**	Analysis Date: **10/5/2016**			SeqNo: **1174827**		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	850		1000		84.7	68.3	144			

Sample ID	**LCS-27885**	SampType: **LCS**			TestCode: **EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID: **27885**			RunNo: **37701**					
Prep Date:	**10/4/2016**	Analysis Date: **10/5/2016**			SeqNo: **1174828**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	30	5.0	25.00	0	118	74.6	123			
Surr: BFB	920		1000		92.4	68.3	144			

Sample ID	**1610087-002AMS**	SampType: **MS**			TestCode: **EPA Method 8015D: Gasoline Range**					
Client ID:	**SC-4**	Batch ID: **27885**			RunNo: **37701**					
Prep Date:	**10/4/2016**	Analysis Date: **10/5/2016**			SeqNo: **1174831**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	30	5.0	24.85	0	120	59.3	143			
Surr: BFB	970		994.0		97.9	68.3	144			

Sample ID	**1610087-002AMSD**	SampType: **MSD**			TestCode: **EPA Method 8015D: Gasoline Range**					
Client ID:	**SC-4**	Batch ID: **27885**			RunNo: **37701**					
Prep Date:	**10/4/2016**	Analysis Date: **10/5/2016**			SeqNo: **1174832**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	36	4.9	24.70	0	145	59.3	143	18.6	20	S
Surr: BFB	950		988.1		96.6	68.3	144	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610087**

06-Oct-16

Client: Rule Engineering LLC

Project: San Juan 28-7 155E

Sample ID **MB-27885**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **27885**	RunNo: **37701**
Prep Date: **10/4/2016**	Analysis Date: **10/5/2016**	SeqNo: **1174838** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		100	80	120			

Sample ID **LCS-27885**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **27885**	RunNo: **37701**
Prep Date: **10/4/2016**	Analysis Date: **10/5/2016**	SeqNo: **1174839** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	95.3	75.2	115			
Toluene	0.97	0.050	1.000	0	97.0	80.7	112			
Ethylbenzene	1.0	0.050	1.000	0	101	78.9	117			
Xylenes, Total	3.0	0.10	3.000	0	99.8	79.2	115			
Surr: 4-Bromofluorobenzene	1.1		1.000		105	80	120			

Sample ID **1610087-001AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SC-1**	Batch ID: **27885**	RunNo: **37701**
Prep Date: **10/4/2016**	Analysis Date: **10/5/2016**	SeqNo: **1174841** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	0.9843	0	95.5	71.5	122			
Toluene	1.0	0.049	0.9843	0	104	71.2	123			
Ethylbenzene	1.1	0.049	0.9843	0	112	75.2	130			
Xylenes, Total	3.3	0.098	2.953	0	110	72.4	131			
Surr: 4-Bromofluorobenzene	1.1		0.9843		107	80	120			

Sample ID **1610087-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SC-1**	Batch ID: **27885**	RunNo: **37701**
Prep Date: **10/4/2016**	Analysis Date: **10/5/2016**	SeqNo: **1174842** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.024	0.9569	0	103	71.5	122	4.91	20	
Toluene	1.0	0.048	0.9569	0	104	71.2	123	2.56	20	
Ethylbenzene	1.0	0.048	0.9569	0	107	75.2	130	6.58	20	
Xylenes, Total	3.0	0.096	2.871	0	105	72.4	131	7.42	20	
Surr: 4-Bromofluorobenzene	1.0		0.9569		107	80	120	0	0	

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: RULE ENGINEERING LL Work Order Number: 1610087 RcptNo: 1

Received by/date: AT 10/04/16

Logged By: Anne Thorne 10/4/2016 7:10:00 AM Anne Thorne

Completed By: Anne Thorne 10/4/2016 Anne Thorne

Reviewed By: JC 10/4/16

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° 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	1.0	Good	Yes			

Chain-of-Custody Record

Client: Rule Engineering, LLC

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

Phone #: 505 793 9496

email or Fax#: jvaldez@ruleengineering.com

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____

Project Name:
San Juan 28-7 155E

Project #:

Project Manager:
Heather Woods

Sampler: Justin Valdez

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.0

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1610187	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)
10/3/16	1015	Soil	SC-1	4oz Glass	Cold	-001	X		X													
10/3/16	1030	Soil	SC-4	↓	↓	-002	X		X													
10/3/16	1035	Soil	SC-5	↓	↓	-003	X		X													

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
10/3/16	4:18	Justin Valdez	Heather M. Woods	10/3/16	1618
10/3/16	1644	Heather M. Woods	Christine Walker	10/3/16	1644
10/3/16	1851	Christine Walker	Anne Thom	10/04/16	0710

Remarks:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

October 06, 2016

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

RE: San Juan 28-7 155E OrderNo.: 1610082

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 2 sample(s) on 10/4/2016 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 qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC
Client Sample ID: SC-2
Project: San Juan 28-7 155E
Collection Date: 10/3/2016 12:30:00 PM
Lab ID: 1610082-001 **Matrix:** SOIL **Received Date:** 10/4/2016 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	65	9.8		mg/Kg	1	10/4/2016 9:57:32 AM	27865
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/4/2016 9:57:32 AM	27865
Surr: DNOP	88.5	70-130		%Rec	1	10/4/2016 9:57:32 AM	27865
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	190	17		mg/Kg	5	10/4/2016 11:24:15 AM	27846
Surr: BFB	184	68.3-144	S	%Rec	5	10/4/2016 11:24:15 AM	27846
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	0.16	0.085		mg/Kg	5	10/4/2016 11:24:15 AM	27846
Toluene	2.3	0.17		mg/Kg	5	10/4/2016 11:24:15 AM	27846
Ethylbenzene	0.43	0.17		mg/Kg	5	10/4/2016 11:24:15 AM	27846
Xylenes, Total	6.9	0.34		mg/Kg	5	10/4/2016 11:24:15 AM	27846
Surr: 4-Bromofluorobenzene	115	80-120		%Rec	5	10/4/2016 11:24:15 AM	27846

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC
Client Sample ID: SC-3
Project: San Juan 28-7 155E
Collection Date: 10/3/2016 12:40:00 PM
Lab ID: 1610082-002 **Matrix:** SOIL **Received Date:** 10/4/2016 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	29	9.8		mg/Kg	1	10/4/2016 10:19:09 AM	27865
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/4/2016 10:19:09 AM	27865
Surr: DNOP	93.4	70-130		%Rec	1	10/4/2016 10:19:09 AM	27865
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	18		mg/Kg	5	10/4/2016 11:47:50 AM	27846
Surr: BFB	99.4	68.3-144		%Rec	5	10/4/2016 11:47:50 AM	27846
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.089		mg/Kg	5	10/4/2016 11:47:50 AM	27846
Toluene	ND	0.18		mg/Kg	5	10/4/2016 11:47:50 AM	27846
Ethylbenzene	ND	0.18		mg/Kg	5	10/4/2016 11:47:50 AM	27846
Xylenes, Total	ND	0.36		mg/Kg	5	10/4/2016 11:47:50 AM	27846
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	5	10/4/2016 11:47:50 AM	27846

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times 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#: **1610082**

06-Oct-16

Client: Rule Engineering LLC

Project: San Juan 28-7 155E

Sample ID **LCS-27865**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **27865**	RunNo: **37650**
Prep Date: **10/4/2016**	Analysis Date: **10/4/2016**	SeqNo: **1172655** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	85.4	62.6	124			
Surr: DNOP	4.1		5.000		82.7	70	130			

Sample ID **MB-27865**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **27865**	RunNo: **37650**
Prep Date: **10/4/2016**	Analysis Date: **10/4/2016**	SeqNo: **1172656** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.0		10.00		80.2	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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#: **1610082**

06-Oct-16

Client: Rule Engineering LLC

Project: San Juan 28-7 155E

Sample ID **MB-27846**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **27846**	RunNo: **37668**
Prep Date: **10/3/2016**	Analysis Date: **10/4/2016**	SeqNo: **1173372** 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	850		1000		84.5	68.3	144			

Sample ID **LCS-27846**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **27846**	RunNo: **37668**
Prep Date: **10/3/2016**	Analysis Date: **10/4/2016**	SeqNo: **1173373** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	30	5.0	25.00	0	119	74.6	123			
Surr: BFB	930		1000		92.5	68.3	144			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times 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#: **1610082**

06-Oct-16

Client: Rule Engineering LLC

Project: San Juan 28-7 155E

Sample ID **MB-27846**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **27846**	RunNo: **37668**
Prep Date: **10/3/2016**	Analysis Date: **10/4/2016**	SeqNo: **1173383** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		99.9	80	120			

Sample ID **LCS-27846**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **27846**	RunNo: **37668**
Prep Date: **10/3/2016**	Analysis Date: **10/4/2016**	SeqNo: **1173384** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.025	1.000	0	88.3	75.2	115			
Toluene	0.95	0.050	1.000	0	94.9	80.7	112			
Ethylbenzene	1.0	0.050	1.000	0	102	78.9	117			
Xylenes, Total	3.1	0.10	3.000	0	102	79.2	115			
Surr: 4-Bromofluorobenzene	1.1		1.000		105	80	120			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: 1610082 RcptNo: 1

Received by/date: AT 10/04/16

Logged By: Anne Thorne 10/4/2016 7:10:00 AM Anne Thorne

Completed By: Anne Thorne 10/4/2016 Anne Thorne

Reviewed By: aJ 10/4/16

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
5. Were all samples received at a temperature of >0° 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	1.0	Good	Yes			

Chain-of-Custody Record

Client: Rule Engineering, LLC

Mailing Address: 501 Airport Dr. Suite D5 Farmington, NM 87401

Phone #: ~~719~~ 505 793 9486

email or Fax#: jvalder2@ruleengineering.com

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☐ Standard ☑ Rush Same Day

Project Name:
San Juan 28-7 155E

Project #:

Project Manager:
Heather Woods

Sampler: Justin Valder

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.0°

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and # (AT 10/04/16 MeOH Kit)	Preservative Type	HEAL No. 1610082	BTEX + ~~MTBE~~ + TMBs (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)
10/3/16	1230	Soil	SC-2	4oz Glass	Cold	001	X		X													
10/3/16	1240	Soil	SC-3	MeOH Kit 4oz Glass	Cold	002	X		X													

Date:	Time:	Relinquished by:	Received by:	Date	Time
10/3/16	4:33	Justin Valder	Heather M. Woods	10/3/16	1633
10/3/16	11:44	Heather M. Woods	Christine Walters	10/3/16	1644

Remarks:

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