

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: State Com AD 26	Facility Type: Gas Well

Surface Owner State	Mineral Owner State (B-10644-48)	API No. 3004507604
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LOCATION OF RELEASE

Unit Letter N	Section 36	Township 29N	Range 11W	Feet from the 790	North/South Line South	Feet from the 1650	East/West Line West	County San Juan
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Latitude **36.67784** Longitude **-107.94608**

NATURE OF RELEASE

Type of Release Hydrocarbon	Volume of Release Unknown	Volume Recovered 260 c/yds
Source of Release BGT – Historic Contamination	Date and Hour of Occurrence Unknown	Date and Hour of Discovery 01-13-17
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? OCD Specialists via email	
By Whom? Lisa Hunter	Date and Hour 01-16-2017 @ 11:08 a.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. N/A	

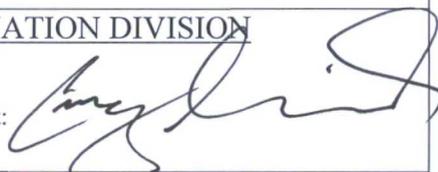
OIL CONS. DIV DIST. 3
MAR 13 2017

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

Describe Cause of Problem and Remedial Action Taken.*
Contamination was discovered during P&A facility strip – BGT Closure activities on the State Com AD #26. As of 01/13/17, approximately 170 yards of soil was removed during sampling and assessment by contractors, and we are currently waiting for lab results of base before proceeding any further.

Describe Area Affected and Cleanup Action Taken.*
Excavation was at approximately 20ft x 25ft x 10ft deep when samples were collected. Wall samples cleared in the field and samples sent to lab. Base samples were above NMOCD Action Levels and were rushed in the lab. 01/16/17, lab results were still high for base, additional contaminated soil will be removed, and base resampled. 01/31/17 an additional 3-5 feet had been removed from base and base resampled. The final excavation was approximately 20' x 25' x 14' in depth and approximately 260 c/yds contaminated soil was transported to IEI land farm. 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: 	OIL CONSERVATION DIVISION	
Printed Name: Lisa Hunter	Approved by Environmental Specialist: 	
Title: Field Environmental Specialist	Approval Date: 7/25/17	Expiration Date:
E-mail Address: Lisa.Hunter@cop.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: March 7, 2017	Phone: (505) 258-1607	

* Attach Additional Sheets If Necessary

#NCS1701827868

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State Com AD #26 Release Report

Unit Letter N, Section 36, Township 29 North, Range 11 West
San Juan County, New Mexico

March 6, 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

ConocoPhillips State Com AD #26 Release Report

Prepared for:

ConocoPhillips
5525 Highway 64
Farmington, New Mexico 87401

Prepared by:

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



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

Reviewed by:



Russell Knight, PG, Principal Hydrogeologist

March 6, 2017

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1.0 Introduction

The ConocoPhillips State Com AD #26 release site is located in Unit Letter N, Section 36, Township 29 North, Range 11 West, in San Juan County, New Mexico. A historical release was discovered on January 11, 2017, during below grade tank (BGT) closure sampling when stained soils were observed in the southern base of the BGT cellar.

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	State Com AD #26		
Site Location Description	Unit Letter N, Section 36, Township 29 North, Range 11 West		
Wellhead GPS Location	N36.67749 and W107.94654	Release GPS Location	N36.67784 and W107.94608
Land Jurisdiction	New Mexico State Land Office	Discovery Date	January 11, 2017
Release Source	Unknown/Historical		
NMOCD Site Rank	10		
Distance to Nearest Surface Water	The wash of Sullivan Canyon is located approximately 860 feet east of the location.		
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 local drainages and the depths to groundwater reported on local cathodic well reports.

A review was completed of the New Mexico Office of the State Engineer (NMOSE) online New Mexico Water Rights Reporting System (NMWRRS) and no water wells were identified within a 1,000 foot radius of the location. No water wells were observed within a 1,000 foot radius of the location during a visual inspection.

The wash of Sullivan Canyon is located approximately 860 feet east of the location.

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 Below Grade Tank Closure Sampling

As outlined in 19.15.17.13 New Mexico Administrative Code (NMAC), BGT closure standards for the State Com AD #26 are as follows: 0.2 mg/kg benzene, 50 mg/kg total BTEX, 100 mg/kg TPH, and 250 mg/kg chlorides.

4.1 Field Activities

On January 11, 2017, Rule Engineering, LLC (Rule) personnel conducted a visual inspection for surface/subsurface indications of a release. Staining was observed in the southern base of the BGT cellar. Rule personnel then collected one composite soil sample (BGT-1) from the base of the BGT cellar. Soil sample locations are illustrated on Figure 2.

4.2 Soil Sampling

Rule collected a five-point composite sample (BGT-1) from approximately 0.5 feet below the base of the BGT cellar. A portion of the sample was field screened for volatile organic compounds (VOCs) and chlorides, and 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. Field screening for chloride was conducted using the Hach chloride low range test kit. Chloride concentrations were determined by drop count titration method using silver nitrate titrant.

The soil sample collected for laboratory analysis was placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico. The sample was analyzed for BTEX per USEPA Method 8021B, TPH per USEPA Method 8015M/D and 418.1, and chlorides per USEPA Method 300.0.

Field and laboratory results for BGT-1 are summarized in Table 2, and the analytical report is included in Appendix A.

4.3 Field Screening Results

Field sampling results for soil composite sample BGT-1 indicated a VOC concentration of 608 ppm and a TPH concentration of 1,450 mg/kg. Field chloride concentration was recorded at 60 mg/kg.

4.4 Laboratory Analytical Results

Laboratory analytical results for sample BGT-1 reported a benzene concentration below the laboratory reporting limit of 0.096 mg/kg and a total BTEX concentration below the laboratory reporting limit of 0.86 mg/kg, which are below the BGT closure standards and NMOCD action levels. Laboratory analytical results for sample BGT-1 reported TPH concentrations of 210 mg/kg as GRO per USEPA Method 8015 M/D, 1,500 mg/kg DRO per USEPA Method 8015 M/D, and 1,400 mg/kg per USEPA Method 418.1, which exceed the BGT closure standards and NMOCD action levels. The laboratory analytical result for sample BGT-1 for chloride concentration was below the laboratory reporting limit of 7.5 mg/kg, which is below the BGT closure standard.

5.0 Site Assessment

5.1 Field Activities

On the same day of BGT closure activities, a site assessment to determine the horizontal and vertical extents of the release was initiated. Rule personnel provided guidance and field analysis of soil samples collected from five backhoe test pits (TP-1 through TP-5). Test pits were advanced to depths ranging from approximately 10 to 12 feet bgs where refusal was encountered on sandstone or the limit of the equipment was reached. Test pit locations are illustrated on Figure 2.

5.2 Soil Sampling

Rule collected soil samples from the test pits at selected intervals or at changes in lithology or contamination. The lithology encountered at the site included interbedded clayey sand and poorly graded sand underlain by sandstone to the maximum depths of the test pits.

A portion of each sample was field screened for VOCs and selected samples were also field analyzed for TPH utilizing the same methods as described in Section 4.2.

Site assessment field screening results are summarized in Table 2.

5.3 Field Screening Results

Field screening results for samples collected from test pits TP-1 through TP-5 indicated VOC concentrations ranging from 0.0 ppm to 591 ppm. Field TPH results for samples collected from test pit TP-1 indicated TPH concentrations ranging from 971 mg/kg to 2,670 mg/kg. Field screening results for VOCs and TPH indicated limited horizontal

impacts and vertical impacts diminishing to near NMOCD action levels around 11 feet bgs.

6.0 Excavation Confirmation Sampling

6.1 Field Activities

Hydrocarbon impacted soils were excavated prior to January 13, 2017, when Rule personnel returned to the site to collect confirmation samples from the resultant excavation which measured approximately 28.5 feet by 25 feet by 10 feet in depth. Field and laboratory analysis indicated TPH concentrations in excess of NMOCD action levels from the sample collected from the base of the excavation. An additional 3 to 5 feet of material was removed from the base of the excavation and resampling of the base measuring approximately 13 to 15 feet in depth was conducted on January 31, 2017. 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.

6.2 Soil Sampling

Rule collected five composite confirmation soil samples (SC-1 through SC-5) on January 13, 2017, and one additional sample (SC-6) on January 31, 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 in Albuquerque, New Mexico. All excavation confirmation 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.

6.3 Field Screening Results

Field screening results for soil confirmation samples SC-1 through SC-6 indicated VOC concentrations ranging from 0.2 ppm to 743 ppm. Field TPH concentration results for these samples ranged from below the reporting limit of 20 mg/kg to 1,833 mg/kg.

6.4 Laboratory Analytical Results

Sample Removed by Excavation: Sample SC-5, representing the base of the excavation at approximately 10 feet in depth, was removed by excavation due to exceedance of the NMOCD action level for TPH. Laboratory analytical results for this sample reported a benzene concentration below the laboratory reporting limit of 0.091 mg/kg, a total BTEX concentration of 6.9 mg/kg, and a TPH concentration of 1,710 mg/kg.

Final Excavation Confirmation Samples: Samples collected for final excavation confirmation include SC-1, SC-2, SC-3, SC-4, and SC-6. Laboratory analytical results for final excavation confirmation samples reported benzene and total BTEX concentrations below the laboratory reporting limits, which are below the applicable NMOCD action levels. Laboratory analytical results for the final excavation samples reported TPH concentrations ranging from below the laboratory reporting limits to 70 mg/kg, which are below the NMOCD action level for a site rank of 10.

7.0 Conclusions

Hydrocarbon impacted soils associated with a historical release discovered during BGT closure activities at the ConocoPhillips State Com AD #26 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 10. Therefore, no further work is recommended at this time.

8.0 Closure and Limitations

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

Tables

Table 1. NMOCD Site Ranking Determination
ConocoPhillips
State Com AD #26
San Juan County, New Mexico

Ranking Criteria	Ranking Score	Site-Based Ranking Score	Basis for Determination	Data Sources
Depth to Groundwater				
<50 feet	20	0	Depth to groundwater is estimated to be greater than 100 feet below ground surface based on elevation differential between location and local drainages and the depths to groundwater reported on local cathodic well reports.	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	The wash of Sullivan Canyon is located approximately 860 feet east of the location.	Bloomfield 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
State Com AD #26
San Juan County, New Mexico

Sample Name	Date	Approximate Sample Depth (ft bgs)	Field Results			Laboratory Results					
			Field VOCs by PID (ppm)	Field TPH by 418.1 (mg/kg)	Field Chlorides (mg/kg)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH as GRO (mg/kg)	TPH as DRO (mg/kg)	TPH by 418.1 (mg/kg)	Chloride (mg/kg)
BGT Closure Standards*			--	100	250	0.2	50	100		100	250
NMOCD Action Level**			100	1,000	--	10	50	1,000		1,000	--
BGT-1	1/11/2017	4.5	608	1,450	60	<0.096	<0.86	210	1,500	1,400	<7.5
TP-1	1/11/2017	6	269	2,020	--	--	--	--	--	--	--
		9	591	2,670	--	--	--	--	--	--	--
		11	150	971	--	--	--	--	--	--	--
TP-2	1/11/2017	4	0.1	--	--	--	--	--	--	--	--
		8	0.0	--	--	--	--	--	--	--	--
		10	0.2	--	--	--	--	--	--	--	--
TP-3	1/11/2017	6.5	0.2	--	--	--	--	--	--	--	--
		9	0.2	--	--	--	--	--	--	--	--
		12	0.2	--	--	--	--	--	--	--	--
TP-4	1/11/2017	6	0.1	--	--	--	--	--	--	--	--
		9.5	0.1	--	--	--	--	--	--	--	--
		11	0.5	--	--	--	--	--	--	--	--
TP-5	1/11/2017	7	0.5	--	--	--	--	--	--	--	--
		11	0.2	--	--	--	--	--	--	--	--

Notes: VOCs - volatile organic compounds
 PID - photoionization detector
 ft bgs - feet below grade surface
 ppm - parts per million
 mg/kg - milligrams per kilogram
 *19.15.17.13 NMAC

TPH - total petroleum hydrocarbons
 GRO - gasoline range organics
 DRO - diesel range organics
 BTEX - benzene, toluene, ethylbenzene, and xylenes
 NMOCD - New Mexico Oil Conservation Division

**Based on the NMOCD Guidelines for Remediation of Leaks, Spills and Releases (August 1993)

**Table 3. Excavation Confirmation Field Screening and Laboratory Analytical Results
ConocoPhillips
State Com AD #26
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)	Ethylbenzene (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**		
Samples Removed by Excavation													
SC-5	1/13/2017	10	Base	743	1,833	<0.091	<0.18	<0.18	6.9	6.9	510	1,200	<97
Excavation Confirmation Samples													
SC-1	1/13/2017	0 to 10	North Wall	0.2	111	<0.024	<0.047	<0.047	<0.095	ND	<4.7	<9.9	<49
SC-2	1/13/2017	0 to 10	East Wall	0.4	<20	<0.023	<0.046	<0.046	<0.092	ND	<4.6	<9.8	<49
SC-3	1/13/2017	0 to 10	South Wall	2.6	27.1	<0.024	<0.047	<0.047	<0.095	ND	<4.7	<10	<50
SC-4	1/13/2017	0 to 10	West Wall	0.9	29.8	<0.023	<0.047	<0.047	<0.094	ND	<4.7	21	49
SC-6	1/31/2017	13 to 15	Base	0.5	<20	<0.024	<0.049	<0.049	<0.097	ND	<4.9	<10	<50

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

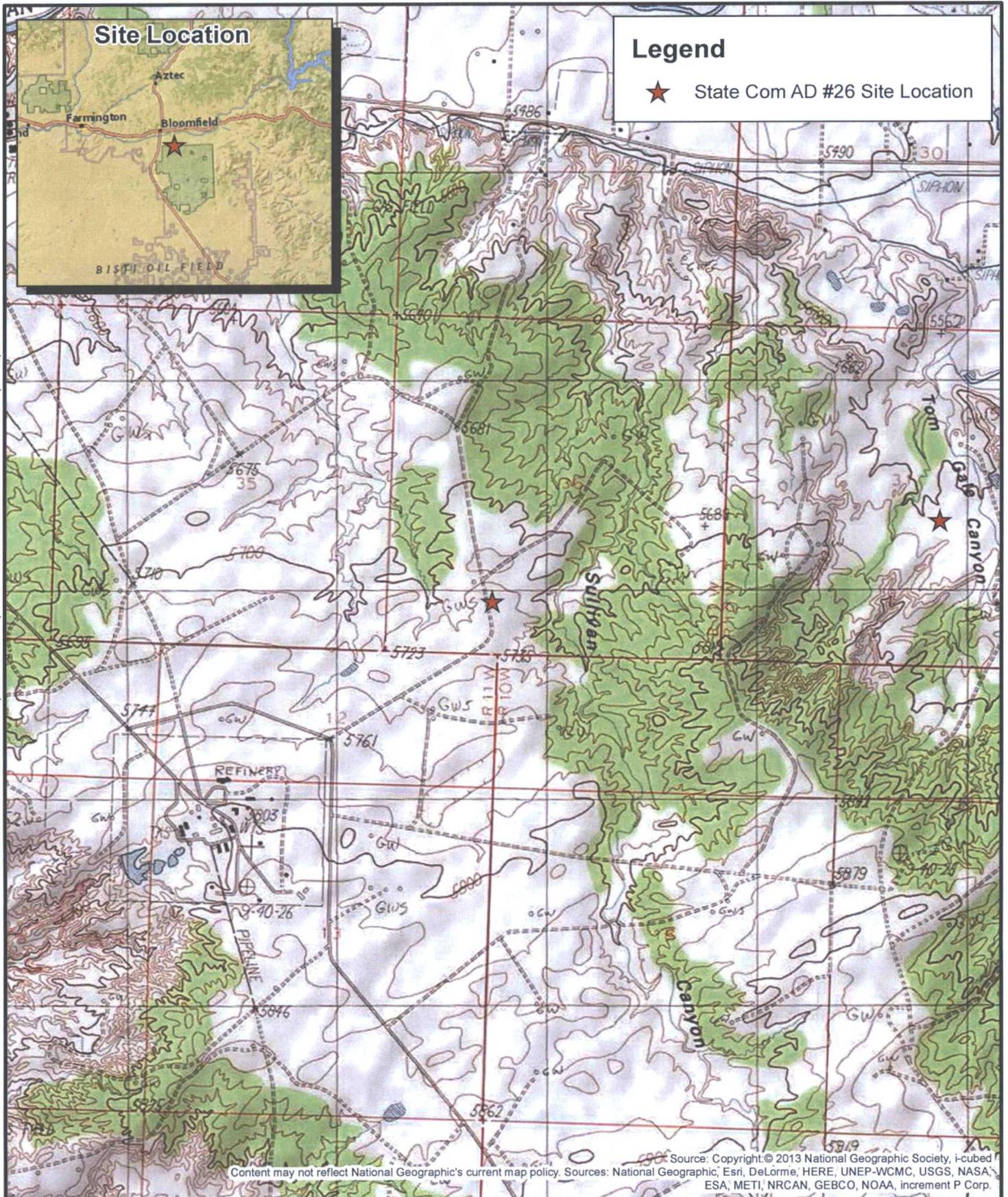
ND - not detected above laboratory reporting limits
 BTEX - benzene, toluene, ethylbenzene, and xylenes
 TPH - total petroleum hydrocarbons
 GRO - gasoline range organics
 DRO - diesel range organics
 NMOCD - New Mexico Oil Conservation Division

*Based on the NMOCD *Guidelines for Remediation of Leaks, Spills and Releases (August 1993)*

**Based on a site ranking of 10.

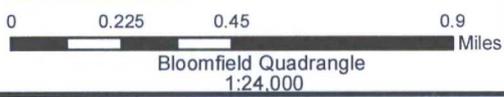
Figures

Document Path: U:\ConocoPhillips\ConocoPhillips\State Com AD 26\State Com AD 26 Topo Map.mxd



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

Rule Engineering, LLC
Solutions to Regulations for Industry



N-S36-T29N-R11W
N36.67784, W107.94608
San Juan County, NM
API: 30-045-07604

Figure 1
Topographic Site Map
State Com AD #26

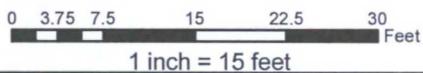
Legend

-  BGT Soil Sample Location
-  Below Grade Tank (BGT)
-  Berm
-  Test Pit
-  Above Ground Storage Tank (AGT)
-  Meter House
-  Separator



Source: Google Maps

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ConocoPhillips

N-S36-T29N-R11W
N36.67784, W107.94608
San Juan County, NM
API: 30-045-07604

Figure 2
Aerial Site Map
State Com AD #26

Document Path: U:\ConocoPhillips\ConocoPhillips\State Com AD 26\State Com AD 26 Excavation Map.mxd

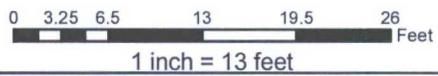
Legend

-  Soil Sample Location
-  Below Grade Tank (BGT)
-  Berm
-  Approximate Excavation Extent
-  Above Ground Storage Tank (AGT)
-  Meter House
-  Separator



Source: Google Maps

Rule Engineering, LLC
Solutions to Regulations for Industry



N-S36-T29N-R11W
 N36.67784, W107.94608
 San Juan County, NM
 API: 30-045-07604

Figure 3
Excavation Sample
Location Map
 State Com AD #26

Appendix A
Analytical Laboratory Reports



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

January 23, 2017

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

RE: COP State Com AD #26

OrderNo.: 1701452

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 1 sample(s) on 1/12/2017 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,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a white background.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 1701452

Date Reported: 1/23/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: BGT-1

Project: COP State Com AD #26

Collection Date: 1/11/2017 10:35:00 AM

Lab ID: 1701452-001

Matrix: SOIL

Received Date: 1/12/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 418.1: TPH							Analyst: MAB
Petroleum Hydrocarbons, TR	1400	190		mg/Kg	10	1/18/2017	29730
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	ND	7.5		mg/Kg	5	1/19/2017 2:33:34 PM	29791
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	1500	19		mg/Kg	2	1/17/2017 2:21:20 AM	29664
Motor Oil Range Organics (MRO)	ND	95		mg/Kg	2	1/17/2017 2:21:20 AM	29664
Surr: DNOP	106	70-130		%Rec	2	1/17/2017 2:21:20 AM	29664
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	210	19		mg/Kg	4	1/13/2017 2:03:40 PM	29660
Surr: BFB	502	68.3-144	S	%Rec	4	1/13/2017 2:03:40 PM	29660
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.096		mg/Kg	4	1/13/2017 2:03:40 PM	29660
Toluene	ND	0.19		mg/Kg	4	1/13/2017 2:03:40 PM	29660
Ethylbenzene	ND	0.19		mg/Kg	4	1/13/2017 2:03:40 PM	29660
Xylenes, Total	ND	0.38		mg/Kg	4	1/13/2017 2:03:40 PM	29660
Surr: 4-Bromofluorobenzene	119	80-120		%Rec	4	1/13/2017 2:03:40 PM	29660

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#: 1701452

23-Jan-17

Client: Rule Engineering LLC
Project: COP State Com AD #26

Sample ID	MB-29791	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	29791	RunNo:	40154					
Prep Date:	1/19/2017	Analysis Date:	1/19/2017	SeqNo:	1258757	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-29791	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	29791	RunNo:	40154					
Prep Date:	1/19/2017	Analysis Date:	1/19/2017	SeqNo:	1258758	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.8	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1701452

23-Jan-17

Client: Rule Engineering LLC
Project: COP State Com AD #26

Sample ID	MB-29730	SampType:	MBLK	TestCode:	EPA Method 418.1: TPH					
Client ID:	PBS	Batch ID:	29730	RunNo:	40093					
Prep Date:	1/17/2017	Analysis Date:	1/18/2017	SeqNo:	1256594	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	ND	20								

Sample ID	LCS-29730	SampType:	LCS	TestCode:	EPA Method 418.1: TPH					
Client ID:	LCSS	Batch ID:	29730	RunNo:	40093					
Prep Date:	1/17/2017	Analysis Date:	1/18/2017	SeqNo:	1256595	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	89	20	100.0	0	88.7	80.7	121			

Sample ID	LCSD-29730	SampType:	LCSD	TestCode:	EPA Method 418.1: TPH					
Client ID:	LCSS02	Batch ID:	29730	RunNo:	40093					
Prep Date:	1/17/2017	Analysis Date:	1/18/2017	SeqNo:	1256596	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	94	20	100.0	0	93.7	80.7	121	5.49	20	

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1701452
 23-Jan-17

Client: Rule Engineering LLC
Project: COP State Com AD #26

Sample ID	LCS-29664	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	29664	RunNo:	39995					
Prep Date:	1/12/2017	Analysis Date:	1/13/2017	SeqNo:	1253532	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.2	63.8	116			
Surr: DNOP	4.6		5.000		92.7	70	130			

Sample ID	MB-29664	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	29664	RunNo:	39995					
Prep Date:	1/12/2017	Analysis Date:	1/13/2017	SeqNo:	1253533	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	12		10.00		116	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#: 1701452
 23-Jan-17

Client: Rule Engineering LLC
Project: COP State Com AD #26

Sample ID MB-29660	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 29660	RunNo: 39999								
Prep Date: 1/12/2017	Analysis Date: 1/13/2017	SeqNo: 1253665	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	860		1000		86.4	68.3	144			

Sample ID LCS-29660	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 29660	RunNo: 39999								
Prep Date: 1/12/2017	Analysis Date: 1/13/2017	SeqNo: 1253666	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	108	74.6	123			
Surr: BFB	950		1000		94.7	68.3	144			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1701452
 23-Jan-17

Client: Rule Engineering LLC
Project: COP State Com AD #26

Sample ID	MB-29660	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	29660	RunNo:	39999					
Prep Date:	1/12/2017	Analysis Date:	1/13/2017	SeqNo:	1253686	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.95		1.000		94.9	80	120			

Sample ID	LCS-29660	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	29660	RunNo:	39999					
Prep Date:	1/12/2017	Analysis Date:	1/13/2017	SeqNo:	1253687	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	96.7	80.7	112			
Ethylbenzene	0.98	0.050	1.000	0	97.7	78.9	117			
Xylenes, Total	2.9	0.10	3.000	0	97.9	79.2	115			
Surr: 4-Bromofluorobenzene	0.99		1.000		99.2	80	120			

Qualifiers:

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

Sample Log-In Check List

Client Name: RULE ENGINEERING LL

Work Order Number: 1701452

RcptNo: 1

Received by/date: aj 1/12/17

Logged By: **Andy Jansson** 1/12/2017 7:00:00 AM *aj/jan*

Completed By: Andy Jansson 1/12/17

Reviewed By: [Signature] 01/12/17

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? Yes No
(Note discrepancies on chain of custody)
- 13. Are matrices correctly identified on Chain of Custody? Yes No
- 14. Is it clear what analyses were requested? Yes No
- 15. Were all holding times able to be met? Yes No
(If no, notify customer for authorization.)

of preserved bottles checked for pH: _____
 (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

By Whom: _____ Via: eMail Phone Fax In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

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, Ste 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 State Com AD #26

Project #:

Project Manager:
Heather Woods

Sampler: Heather Woods

On Ice: Yes No

Sample Temperature: 1.0°C



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.	BTEX + MTBE + TPH'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)	
11/17	1035	Soil	BGT-1	(1) 4oz Glass	Cold	170145Z -001	X		X	X				X					
<i>NFS</i>																			

Date: 11/17	Time: 1730	Relinquished by: <u>Heather M. Woods</u>	Received by: <u>Christina Waters</u>	Date: 11/17	Time: 1730	Remarks: Direct bill to ConocoPhillips WO: 10392207 Area Supervisor: Fasho Trujillo USr: KAITLW Ordered by: Lisa Hunder Area: 2
Date: 11/17	Time: 1864	Relinquished by: <u>Christina Waters</u>	Received by: <u>am</u>	Date: 11/17	Time: 0700	

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 noted on the analytical report.



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

January 20, 2017

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

RE: CoP State Com AD 26

OrderNo.: 1701599

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 4 sample(s) on 1/14/2017 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,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a white background.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: SC-1

Project: CoP State Com AD 26

Collection Date: 1/13/2017 8:30:00 AM

Lab ID: 1701599-001

Matrix: SOIL

Received Date: 1/14/2017 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	9.9		mg/Kg	1	1/18/2017 2:56:37 PM	29732
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/18/2017 2:56:37 PM	29732
Surr: DNOP	103	70-130		%Rec	1	1/18/2017 2:56:37 PM	29732
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/17/2017 10:53:54 PM	29710
Surr: BFB	85.8	68.3-144		%Rec	1	1/17/2017 10:53:54 PM	29710
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	1/17/2017 10:53:54 PM	29710
Toluene	ND	0.047		mg/Kg	1	1/17/2017 10:53:54 PM	29710
Ethylbenzene	ND	0.047		mg/Kg	1	1/17/2017 10:53:54 PM	29710
Xylenes, Total	ND	0.095		mg/Kg	1	1/17/2017 10:53:54 PM	29710
Surr: 4-Bromofluorobenzene	89.7	80-120		%Rec	1	1/17/2017 10:53:54 PM	29710

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.

Analytical Report
 Lab Order 1701599
 Date Reported: 1/20/2017

CLIENT: Rule Engineering LLC **Client Sample ID:** SC-2
Project: CoP State Com AD 26 **Collection Date:** 1/13/2017 8:34:00 AM
Lab ID: 1701599-002 **Matrix:** SOIL **Received Date:** 1/14/2017 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	1/18/2017 4:06:28 PM	29732
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/18/2017 4:06:28 PM	29732
Surr: DNOP	104	70-130		%Rec	1	1/18/2017 4:06:28 PM	29732
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/18/2017 12:03:47 AM	29710
Surr: BFB	83.3	68.3-144		%Rec	1	1/18/2017 12:03:47 AM	29710
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	1/18/2017 12:03:47 AM	29710
Toluene	ND	0.046		mg/Kg	1	1/18/2017 12:03:47 AM	29710
Ethylbenzene	ND	0.046		mg/Kg	1	1/18/2017 12:03:47 AM	29710
Xylenes, Total	ND	0.092		mg/Kg	1	1/18/2017 12:03:47 AM	29710
Surr: 4-Bromofluorobenzene	90.5	80-120		%Rec	1	1/18/2017 12:03:47 AM	29710

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

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

Analytical Report

Lab Order 1701599

Date Reported: 1/20/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: SC-3

Project: CoP State Com AD 26

Collection Date: 1/13/2017 10:20:00 AM

Lab ID: 1701599-003

Matrix: SOIL

Received Date: 1/14/2017 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	10		mg/Kg	1	1/18/2017 4:29:38 PM	29732
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/18/2017 4:29:38 PM	29732
Surr: DNOP	100	70-130		%Rec	1	1/18/2017 4:29:38 PM	29732
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/18/2017 1:13:50 AM	29710
Surr: BFB	82.6	68.3-144		%Rec	1	1/18/2017 1:13:50 AM	29710
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	1/18/2017 1:13:50 AM	29710
Toluene	ND	0.047		mg/Kg	1	1/18/2017 1:13:50 AM	29710
Ethylbenzene	ND	0.047		mg/Kg	1	1/18/2017 1:13:50 AM	29710
Xylenes, Total	ND	0.095		mg/Kg	1	1/18/2017 1:13:50 AM	29710
Surr: 4-Bromofluorobenzene	88.5	80-120		%Rec	1	1/18/2017 1:13:50 AM	29710

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.

Analytical Report

Lab Order 1701599

Date Reported: 1/20/2017

CLIENT: Rule Engineering LLC

Client Sample ID: SC-4

Project: CoP State Com AD 26

Collection Date: 1/13/2017 8:22:00 AM

Lab ID: 1701599-004

Matrix: SOIL

Received Date: 1/14/2017 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)	21	9.6		mg/Kg	1	1/18/2017 2:33:25 PM	29732
Motor Oil Range Organics (MRO)	49	48		mg/Kg	1	1/18/2017 2:33:25 PM	29732
Surr: DNOP	97.3	70-130		%Rec	1	1/18/2017 2:33:25 PM	29732
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/18/2017 1:37:10 AM	29710
Surr: BFB	82.4	68.3-144		%Rec	1	1/18/2017 1:37:10 AM	29710
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	1/18/2017 1:37:10 AM	29710
Toluene	ND	0.047		mg/Kg	1	1/18/2017 1:37:10 AM	29710
Ethylbenzene	ND	0.047		mg/Kg	1	1/18/2017 1:37:10 AM	29710
Xylenes, Total	ND	0.094		mg/Kg	1	1/18/2017 1:37:10 AM	29710
Surr: 4-Bromofluorobenzene	87.4	80-120		%Rec	1	1/18/2017 1:37:10 AM	29710

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#: 1701599
20-Jan-17

Client: Rule Engineering LLC
Project: CoP State Com AD 26

Sample ID	MB-29732	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	29732	RunNo:	40106					
Prep Date:	1/17/2017	Analysis Date:	1/18/2017	SeqNo:	1257309	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	11		10.00		106	70	130			

Sample ID	LCS-29732	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	29732	RunNo:	40106					
Prep Date:	1/17/2017	Analysis Date:	1/18/2017	SeqNo:	1257323	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	90.3	63.8	116			
Surr: DNOP	5.6		5.000		113	70	130			

Sample ID	1701599-001AMS	SampType:	MS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	SC-1	Batch ID:	29732	RunNo:	40101					
Prep Date:	1/17/2017	Analysis Date:	1/18/2017	SeqNo:	1257367	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.8	49.02	3.623	84.8	51.6	130			
Surr: DNOP	4.9		4.902		99.9	70	130			

Sample ID	1701599-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	SC-1	Batch ID:	29732	RunNo:	40101					
Prep Date:	1/17/2017	Analysis Date:	1/18/2017	SeqNo:	1257562	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	9.6	48.12	3.623	84.3	51.6	130	2.21	20	
Surr: DNOP	4.9		4.812		102	70	130	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1701599

20-Jan-17

Client: Rule Engineering LLC

Project: CoP State Com AD 26

Sample ID	MB-29710	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	29710	RunNo:	40079					
Prep Date:	1/16/2017	Analysis Date:	1/17/2017	SeqNo:	1256313	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		85.2	68.3	144			

Sample ID	LCS-29710	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	29710	RunNo:	40079					
Prep Date:	1/16/2017	Analysis Date:	1/17/2017	SeqNo:	1256314	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	98.4	74.6	123			
Surr: BFB	1000		1000		101	68.3	144			

Sample ID	1701599-002AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	SC-2	Batch ID:	29710	RunNo:	40079					
Prep Date:	1/16/2017	Analysis Date:	1/18/2017	SeqNo:	1256318	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.8	23.99	0	103	61.3	150			
Surr: BFB	880		959.7		92.1	68.3	144			

Sample ID	1701599-002AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	SC-2	Batch ID:	29710	RunNo:	40079					
Prep Date:	1/16/2017	Analysis Date:	1/18/2017	SeqNo:	1256319	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.8	24.06	0	108	61.3	150	5.05	20	
Surr: BFB	880		962.5		91.8	68.3	144	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1701599

20-Jan-17

Client: Rule Engineering LLC

Project: CoP State Com AD 26

Sample ID	MB-29710	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	29710	RunNo:	40079					
Prep Date:	1/16/2017	Analysis Date:	1/17/2017	SeqNo:	1256343	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.92		1.000		92.5	80	120			

Sample ID	LCS-29710	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	29710	RunNo:	40079					
Prep Date:	1/16/2017	Analysis Date:	1/17/2017	SeqNo:	1256344	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	110	75.2	115			
Toluene	1.0	0.050	1.000	0	101	80.7	112			
Ethylbenzene	0.96	0.050	1.000	0	95.7	78.9	117			
Xylenes, Total	2.9	0.10	3.000	0	95.9	79.2	115			
Surr: 4-Bromofluorobenzene	0.96		1.000		95.9	80	120			

Sample ID	1701599-001AMS	SampType:	MS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	SC-1	Batch ID:	29710	RunNo:	40079					
Prep Date:	1/16/2017	Analysis Date:	1/17/2017	SeqNo:	1256347	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.024	0.9615	0	110	61.5	138			
Toluene	1.0	0.048	0.9615	0	105	71.4	127			
Ethylbenzene	1.0	0.048	0.9615	0	104	70.9	132			
Xylenes, Total	3.0	0.096	2.885	0	104	76.2	123			
Surr: 4-Bromofluorobenzene	0.90		0.9615		93.8	80	120			

Sample ID	1701599-001AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	SC-1	Batch ID:	29710	RunNo:	40079					
Prep Date:	1/16/2017	Analysis Date:	1/17/2017	SeqNo:	1256348	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.025	0.9833	0	119	61.5	138	10.1	20	
Toluene	1.1	0.049	0.9833	0	107	71.4	127	4.18	20	
Ethylbenzene	1.0	0.049	0.9833	0	103	70.9	132	1.04	20	
Xylenes, Total	3.1	0.098	2.950	0	104	76.2	123	2.17	20	
Surr: 4-Bromofluorobenzene	0.92		0.9833		93.8	80	120	0	0	

Qualifiers:

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



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

Sample Log-In Check List

Client Name: RULE ENGINEERING LL

Work Order Number: 1701599

RcptNo: 1

Received by/date:

[Signature]

01/14/17

Logged By: Lindsay Mangin

1/14/2017 9:00:00 AM

[Signature]

Completed By: Lindsay Mangin

1/16/2017 8:15:43 AM

[Signature]

Reviewed By:

[Signature] 01/16/17

Chain of Custody

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

Log In

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

Chain-of-Custody Record

Client: Rule Engineering, LLC

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

Phone #: (505) 716-2787

Email or Fax#: hwoods@ruleengineering.com

A/QC Package:
 Standard Level 4 (Full Validation)

Accreditation:
 NELAP Other _____

EDD (Type) _____

Turn-Around Time:
 Standard Rush

Project Name: COP State Com AD #26

Project #: _____

Project Manager: Heather Woods

Sampler: Heather Woods
On Ice: Yes No

Sample Temperature: Ice



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.	BTEX + MTBE + TPB'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)	
13/17	0830	Soil	SC-1	(1) 4oz Glass	cold	-001	X	X											
13/17	0834	Soil	SC-2	(1) 4oz Glass	cold	-002	X	X											
13/17	1020	Soil	SC-3	(1) 4oz Glass	cold	-003	X	X											
13/17	0822	Soil	SC-4	(1) 4oz Glass	cold	-004	X	X											

Date: 3/17 Time: 1740 Relinquished by: Heather M. Woods

Received by: [Signature] Date: 3/17 Time: 1740

Remarks: Direct bill to ConocoPhillips
WO: 10392207
Area: 2

Date: 3/17 Time: 1814 Relinquished by: [Signature]

Received by: [Signature] Date: 01/14/17 Time: 0900

User: KAITLW Supervisor: Fasho Trujillo
Entered 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
4901 Hawkins NE
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TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 17, 2017

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

RE: CoP State Com AD #26

OrderNo.: 1701590

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 1 sample(s) on 1/14/2017 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,

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

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order **1701590**

Date Reported: 1/17/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: SC-5

Project: CoP State Com AD #26

Collection Date: 1/13/2017 8:26:00 AM

Lab ID: 1701590-001

Matrix: MEOH (SOIL)

Received Date: 1/14/2017 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)	1200	19		mg/Kg	2	1/16/2017 11:51:06 AM	29698
Motor Oil Range Organics (MRO)	ND	97		mg/Kg	2	1/16/2017 11:51:06 AM	29698
Surr: DNOP	125	70-130		%Rec	2	1/16/2017 11:51:06 AM	29698
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	510	18		mg/Kg	5	1/16/2017 10:31:40 AM	G40040
Surr: BFB	1270	68.3-144	S	%Rec	5	1/16/2017 10:31:40 AM	G40040
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.091		mg/Kg	5	1/16/2017 10:31:40 AM	B40040
Toluene	ND	0.18		mg/Kg	5	1/16/2017 10:31:40 AM	B40040
Ethylbenzene	ND	0.18		mg/Kg	5	1/16/2017 10:31:40 AM	B40040
Xylenes, Total	6.9	0.36		mg/Kg	5	1/16/2017 10:31:40 AM	B40040
Surr: 4-Bromofluorobenzene	185	80-120	S	%Rec	5	1/16/2017 10:31:40 AM	B40040

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#: 1701590
 17-Jan-17

Client: Rule Engineering LLC
Project: CoP State Com AD #26

Sample ID	MB-29674	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	29674	RunNo:	40030					
Prep Date:	1/13/2017	Analysis Date:	1/16/2017	SeqNo:	1254788	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		105	70	130			

Sample ID	LCS-29674	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	29674	RunNo:	40030					
Prep Date:	1/13/2017	Analysis Date:	1/16/2017	SeqNo:	1254824	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.5		5.000		109	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1701590

17-Jan-17

Client: Rule Engineering LLC
Project: CoP State Com AD #26

Sample ID RB	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: G40040		RunNo: 40040							
Prep Date:	Analysis Date: 1/16/2017		SeqNo: 1254956		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	860		1000		86.4	68.3	144			

Sample ID 2.5UG GRO LCS	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: G40040		RunNo: 40040							
Prep Date:	Analysis Date: 1/16/2017		SeqNo: 1254957		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	99.8	74.6	123			
Surr: BFB	1000		1000		99.8	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#: 1701590
 17-Jan-17

Client: Rule Engineering LLC
Project: CoP State Com AD #26

Sample ID RB	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: B40040		RunNo: 40040							
Prep Date:	Analysis Date: 1/16/2017		SeqNo: 1254972		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.93		1.000		92.8	80	120			

Sample ID 100NG BTEX LCS	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: B40040		RunNo: 40040							
Prep Date:	Analysis Date: 1/16/2017		SeqNo: 1254973		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	109	75.2	115			
Toluene	0.97	0.050	1.000	0	96.9	80.7	112			
Ethylbenzene	0.94	0.050	1.000	0	94.3	78.9	117			
Xylenes, Total	2.8	0.10	3.000	0	93.9	79.2	115			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Qualifiers:

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



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: **1701590**

RcptNo: **1**

Received by/date: *[Signature]* **01/14/17**

Logged By: **Lindsay Mangin** **1/14/2017 9:00:00 AM** *[Signature]*

Completed By: **Lindsay Mangin** **1/14/2017 10:07:15 AM** *[Signature]*

Reviewed By: *as* **1/16/17**

Chain of Custody

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

Log In

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

Chain-of-Custody Record

Client: Rule Engineering, LLC

Mailing Address: 501 Airport Dr, Ste 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 Same Day

Project Name: CoP State Com AD #26

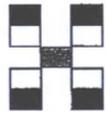
Project #:

Project Manager: Heather Woods

Sampler: Heather Woods

On Ice: Yes No

Sample Temperature: 1.6 °C



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

BTEX + MEQEs + STAB'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	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
1/13/17	0826	Soil	SC-5	(1) 4oz Glass	Cold	1701590-001
NEE #51						

Date: <u>1/13/17</u>	Time: <u>1740</u>	Relinquished by: <u>Heather M. Woods</u>	Received by: <u>Chit Walt</u>	Date: <u>1/13/17</u>	Time: <u>1730</u>	Remarks: Direct bill to ConocoPhillips WO: 10392207 User: KAITLW Supervisor: Fasho Trujillo Area: 2 ordered by: Lisa Hunter
Date: <u>1/13/17</u>	Time: <u>1814</u>	Relinquished by: <u>Chit Walt</u>	Received by: <u>[Signature]</u>	Date: <u>01/14/17</u>	Time: <u>0900</u>	

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 noted on the analytical report.



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

February 03, 2017

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

RE: COP State Com AD #26

OrderNo.: 1702008

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 1 sample(s) on 2/1/2017 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,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a white background.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1702008

Date Reported: 2/3/2017

CLIENT: Rule Engineering LLC

Client Sample ID: SC-6

Project: COP State Com AD #26

Collection Date: 1/31/2017 2:25:00 PM

Lab ID: 1702008-001

Matrix: SOIL

Received Date: 2/1/2017 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	2/2/2017 6:16:18 PM	29993
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/2/2017 6:16:18 PM	29993
Surr: DNOP	106	70-130		%Rec	1	2/2/2017 6:16:18 PM	29993
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/2/2017 5:28:28 PM	29991
Surr: BFB	88.8	68.3-144		%Rec	1	2/2/2017 5:28:28 PM	29991
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	2/2/2017 5:28:28 PM	29991
Toluene	ND	0.049		mg/Kg	1	2/2/2017 5:28:28 PM	29991
Ethylbenzene	ND	0.049		mg/Kg	1	2/2/2017 5:28:28 PM	29991
Xylenes, Total	ND	0.097		mg/Kg	1	2/2/2017 5:28:28 PM	29991
Surr: 4-Bromofluorobenzene	91.5	80-120		%Rec	1	2/2/2017 5:28:28 PM	29991

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#: 1702008

03-Feb-17

Client: Rule Engineering LLC
Project: COP State Com AD #26

Sample ID	LCS-29993	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	29993	RunNo:	40459					
Prep Date:	2/1/2017	Analysis Date:	2/2/2017	SeqNo:	1268814	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	96.0	63.8	116			
Surr: DNOP	5.2		5.000		104	70	130			

Sample ID	MB-29993	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	29993	RunNo:	40459					
Prep Date:	2/1/2017	Analysis Date:	2/2/2017	SeqNo:	1268815	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	12		10.00		117	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1702008
 03-Feb-17

Client: Rule Engineering LLC
Project: COP State Com AD #26

Sample ID	MB-29991	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	29991	RunNo:	40468					
Prep Date:	2/1/2017	Analysis Date:	2/2/2017	SeqNo:	1268779	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		89.7	68.3	144			

Sample ID	LCS-29991	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	29991	RunNo:	40468					
Prep Date:	2/1/2017	Analysis Date:	2/2/2017	SeqNo:	1268780	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	108	74.6	123			
Surr: BFB	990		1000		99.0	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#: 1702008

03-Feb-17

Client: Rule Engineering LLC
Project: COP State Com AD #26

Sample ID	MB-29991	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	29991	RunNo:	40468					
Prep Date:	2/1/2017	Analysis Date:	2/2/2017	SeqNo:	1268797	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.93		1.000		92.8	80	120			

Sample ID	LCS-29991	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	29991	RunNo:	40468					
Prep Date:	2/1/2017	Analysis Date:	2/2/2017	SeqNo:	1268798	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	106	75.2	115			
Toluene	0.92	0.050	1.000	0	91.6	80.7	112			
Ethylbenzene	0.88	0.050	1.000	0	87.5	78.9	117			
Xylenes, Total	2.6	0.10	3.000	0	87.6	79.2	115			
Surr: 4-Bromofluorobenzene	0.97		1.000		97.1	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 |
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| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |



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

Sample Log-In Check List

Client Name: RULE ENGINEERING LL

Work Order Number: 1702008

RcptNo: 1

Received by/date: AJ 2/1/17

Logged By: Andy Jansson 2/1/2017 8:00:00 AM

Completed By: Andy Jansson 2/1/17

Reviewed By: WAG 02/01/17

Chain of Custody

- Custody seals intact on sample bottles? Yes No Not Present
- Is Chain of Custody complete? Yes No Not Present
- How was the sample delivered? Courier

Log In

- Was an attempt made to cool the samples? Yes No NA
- Were all samples received at a temperature of >0° C to 6.0°C? Yes No NA
- Sample(s) in proper container(s)? Yes No
- Sufficient sample volume for indicated test(s)? Yes No
- Are samples (except VOA and ONG) properly preserved? Yes No
- Was preservative added to bottles? Yes No NA
- VOA vials have zero headspace? Yes No No VOA Vials
- Were any sample containers received broken? Yes No
- Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes No
- Are matrices correctly identified on Chain of Custody? Yes No
- Is it clear what analyses were requested? Yes No
- 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)

- 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) 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 State Com AD #216

Project #:

Project Manager: Heather Woods

Sampler: Heather Woods

Office: Yes No

Sample Temperature: 0°C



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	BTEX + MTBE + TCE + PCE + DCE + VC (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MIRO)	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)	
1/31/17	1425	Soil	SC-16	(1) 4oz Glass	cold	-001	X	X											
None																			

Date: <u>1/31/17</u>	Time: <u>1821</u>	Relinquished by: <u>Heather M. Woods</u>	Received by: <u>Christa Walth</u>	Date: <u>1/31/17</u>	Time: <u>1821</u>	Remarks: Direct Bill to Cenocophillips WO: 10392207 Ordered by: Lisa Hunter Approver: KAITLW Area: 2
Date: <u>1/31/17</u>	Time: <u>1847</u>	Relinquished by: <u>Christa Walth</u>	Received by: <u>[Signature]</u>	Date: <u>2/1/17</u>	Time: <u>0800</u>	

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.