#### 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.

1220 S. St. Fran	1220 S. St. Francis Dr., Santa Fe, NM 87505 Santa Fe, NM 87505											
<b>Release Notification and Corrective Action</b>												
	<b>OPERATOR</b> Initial Report Final Report											
Name of Co	ompany Co	onocoPhillips	Compan	ly		Contact L	isa Hunter	1607				
Facility Na	me: State	Com AD 26	ington, r	NIVI		Facility Ty	No. (505) 258	100/				
	Ct t			10					ADIN	2004505	(0.4	
Surface Ow	vner State			Mineral Ov	vner	State (B-I)	J644-48)		APING	. 3004507	604	
<b>TT * T</b>			D	LOCA	ΓΙΟ	N OF RE	LEASE					
Unit Letter N	Section 36	29N	Range 11W	Feet from the <b>790</b>	North	South Line South	Feet from the 1650	East/	West Line West	San Juan		
				Latitude 36.0	67784	Longitud	e <u>-107. 94608</u>					
				NATU	JRE	OF REL	EASE					
Type of Rele	ease Hydi	rocarbon				Volume of	Release Unk	nown	Volume I	Recovered	260	c/yds
Source of Re	elease <b>BG</b>	Г – Historic (	Contamin	ation		Date and I	Hour of Occurrent	ce	Date and 01-13-17	Hour of Dis	covery	
Was Immedi	iate Notice G	iven?	Yes 🗌	] No 🗌 Not Req	uired	If YES, To OCD Spe	Whom? cialists via email	s	01 10 17	OIL CON	2	
By Whom?	Lisa Hu	nter				Date and H	Hour 01-16-2017	a 11:	08 a.m.	A	DIV	Dios
Was a Water	course Reac	hed?	Yes 🛛 1	No		If YES, V N/A	olume Impacting	the Wat	ercourse.	MARI	3 201	7 3
If a Waterco	urse was Imp	pacted, Descr	ibe Fully.'	*								/
Describe Car	use of Proble	em and Reme	dial Actio	n Taken.*								
Contaminat yards of soil any further.	tion was disc l was remov	covered durin ed during sa	ng P&A f mpling ar	acility strip – BGT ad assessment by c	Clos ontra	ure activities ctors, and w	on the State Co e are currently w	m AD # vaiting f	26. As of for lab resu	01/13/17, ap ilts of base l	oproxin before	nately 170 proceeding
Describe Are Excavation Base sample contaminate The final e IEI land fa attached for	ea Affected a was at appr es were abov ed soil will b xcavation urm. Analy or review.	nd Cleanup A oximately 20 /e NMOCD A he removed, a was approx /tical result	Action Tak ft x 25ft x Action Le and base r imately 2 s were be	ten.* a 10ft deep when sa vels and were rush resampled. 01/31/2 20' x 25' x 14' in elow the regulate	ample aed in 17 an dept ory st	s were collec the lab. 01/ additional h and appr andards – 1	ted. Wall sampl 16/17, lab results 3-5 feet had be oximately 260 no further actio	es clear were s en rem c/yds c on requ	red in the fr till high for noved fror ontaminat uired. The	eld and san base, addit n base and ted soil wa e soil samp	nples so tional base t s trans ling ro	ent to lab. resampled. sported to eport is
I hereby cert regulations a public health should their or the enviro federal, state	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 fordered extension of a complete term.											
							OIL CON	SERV	ATION	DIVISIO	N	
Signature:	Signature: Julit						5					
Printed Nam	e: Lisa Hu	nter				Approved by	Environmental S	pecialis		5-		
Title: Field	Environme	ntal Specialis	t			Approval Da	te: 7/25/1	٦	Expiration	Date:		
E-mail Addr	ess: Lisa.Hu	nter@cop.co	m			Conditions o	f Approval:			Attached		
Date: March 7, 2017 Phone: (505) 258-1607												
Attach Addi	itional Shee	ts If Necess	ary	#NCS1	70	182-	7868					

## 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. Wood

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.

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         Release GPS         N36.67784 and           W107.94654         Location         W107.94608								
Land Jurisdiction	New Mexico State Land Office	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)	Greater than 1,000 feet							

#### 2.0 Release Summary

#### 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.

Rule

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	Site-Based	Basis for Determination	Data	
	Score	Ranking Score		Sources	
Depth to Groundwater					
<50 feet	20		Depth to groundwater is estimated to be greater than 100 feet below ground surface based on elevation	NMOCD Online database,	
50-99 feet	10	0	differential between location and local drainages and the depths to groundwater reported on local cathodic	Gould Pass Quadrangle, Google Earth, and Visual	
>100 feet	0		well reports.	Inspection	
Wellhead Protection Area					
<1,000 feet from a water source, or <200 feet from private domestic water source	20 (Yes) 0 (No)	- 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	
Distance to Surface Water Body					
<200 horizontal feet	20			Bloomfield Quadrangle,	
200 to 1,000 horizontal feet	10	10	860 feet east of the location.	Google Earth, and Visual	
>1,000 horizontal feet	0			пъресноп	
Site Based Total Rank	ing Score	10	]		



# Table 2. Site Assessment Field Screening and Laboratory Analytical ResultsConocoPhillipsState Com AD #26San Juan County, New Mexico

1201100	No. 1997	Approximato	N.S. OFFICE	Field Results		Laboratory Results							
Sample Name	Date	Sample Depth (ft bgs)	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 1		100		250		
( generation)	NMOCD	Action Level**	100	1,000	186 <b>-</b> 197	10	50	1,0	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		
		6	269	2,020									
TP-1	1/11/2017	1/11/2017	9	591	2,670								
		11	150	971						-			
				4	0.1								
TP-2	1/11/2017	8	0.0										
		10	0.2										
		6.5	0.2										
TP-3	1/11/2017	9	0.2										
		12	0.2										
		6	0.1										
TP-4	1/11/2017	9.5	0.1										
		11	0.5										
TP-5	1/11/2017	7	0.5										
IP-5	1/11/2017	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)	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)
的王治派的法		NMOC	D Action Level*	100	1,000**	10	NE	NE	NE	50	WS GERMAN	1,000**	
Sand State	Produkter.			N. Sandara	Samp	les Removed	by Excavation	on		E destrice_2000		Sec. March	12.29
SC-5	1/13/2017	10	Base	743	1,833	<0.091	<0.18	<0.18	6.9	6.9	510	1,200	<97
1. 2. 2. 2. 10	STATE AND			S. V. A. Bard	Excav	ation Confirm	nation Sampl	les	A LINE CALL	系统 <b>进行</b> 2014年3月		a la la sub la sub	REAMERICA
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

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

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 a site ranking of 10.



Figures





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





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 <u>www.hallenvironmental.com</u> 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

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		
Project:	COP State Com AD #26		
Lab ID:	1701452-001	Matrix:	SOIL

Client Sample ID: BGT-1 Collection Date: 1/11/2017 10:35:00 AM 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	ORGANIC	S			Analyst:	том
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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 1 of 6
	ND	Not Detected at the Reporting Limit	Р	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 LLCProject: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								
	Samprype. LOS	resicode. EPA wethod	300.0: Anions						
Client ID: LCSS	Batch ID: 29791	RunNo: 40154	300.0: Anions						
Client ID: LCSS Prep Date: 1/19/2017	Batch ID: 29791 Analysis Date: 1/19/2017	RunNo: 40154 SeqNo: 1258758	Units: mg/Kg						
Client ID: LCSS Prep Date: 1/19/2017 Analyte	Batch ID: 29791 Analysis Date: 1/19/2017 Result PQL SPK value	RunNo: 40154 SeqNo: 1258758 SPK Ref Val %REC LowLimit	Units: <b>mg/Kg</b> HighLimit %RPD	RPDLimit Qual					

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

WO#: 1701452 23-Jan-17

Page 2 of 6

Hall Environmental Analysis Laboratory, Inc.

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

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23-Jan-17

WO#: 1701452

1701452 23-Jan-17

WO#:

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Hall Environmental	Analysis	Laboratory, Inc.	
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## Client:Rule Engineering LLCProject:COP State Com AD #26

Sample ID LCS-29664	SampT	ype: LC	s	Tes	TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID: LCSS	Batcl	Batch ID: 29664 RunNo: 39995								
Prep Date: 1/12/2017	Analysis D	ate: 1/	13/2017	S	SeqNo: 1	253532	Units: mg/K	g		
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	SampT	уре: М	BLK	Tes	tCode: El	PA Method	8015M/D: Di	esel Range	e Organics	
Sample ID MB-29664 Client ID: PBS	Samp1 Batcl	ype: ME 1 ID: 29	3LK 664	Tes	tCode: El RunNo: 3	PA Method 9995	8015M/D: Die	esel Range	e Organics	
Sample ID MB-29664 Client ID: PBS Prep Date: 1/12/2017	SampT Batcl Analysis D	ype: ME 1D: 29 ate: 1/	3LK 664 13/2017	Tes F S	tCode: El RunNo: 3 SeqNo: 1	PA Method 9995 253533	8015M/D: Die Units: mg/K	esel Rango	e Organics	
Sample ID MB-29664 Client ID: PBS Prep Date: 1/12/2017 Analyte	SampT Batcl Analysis D Result	ype: ME ID: 29 ate: 1/ PQL	3LK 664 13/2017 SPK value	Tes F S SPK Ref Val	tCode: El RunNo: 3 SeqNo: 1 %REC	PA Method 9995 253533 LowLimit	8015M/D: Die Units: mg/K HighLimit	esel Rango (g %RPD	e Organics	Qual
Sample ID MB-29664 Client ID: PBS Prep Date: 1/12/2017 Analyte Diesel Range Organics (DRO)	SampT Batcl Analysis D Result ND	ype: MB n ID: 29 Date: 1/ PQL 10	3LK 664 13/2017 SPK value	Tes F S SPK Ref Val	tCode: El RunNo: 3 SeqNo: 1 %REC	PA Method 9995 253533 LowLimit	8015M/D: Die Units: mg/K HighLimit	esel Rango (g %RPD	e Organics	Qual
Sample ID MB-29664 Client ID: PBS Prep Date: 1/12/2017 Analyte Diesel Range Organics (DRO) Motor Oil Range Organics (MRO)	SampT Batcl Analysis E Result ND ND	ype: ME n ID: 29 Date: 1/ PQL 10 50	3LK 664 13/2017 SPK value	Tes F S SPK Ref Val	tCode: El RunNo: 3 SeqNo: 1 %REC	PA Method 9995 253533 LowLimit	8015M/D: Die Units: mg/K HighLimit	esel Rango (g %RPD	e Organics	Qual

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, Inc.

Client:Rule Engineering LLCProject:COP State Com AD #26

Sample ID MB-29660	SampT	SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch	Batch ID: 29660 RunNo: 39999								
Prep Date: 1/12/2017	Analysis D	ate: 1/	13/2017	S	SeqNo: 1	253665	Units: mg/k	g		
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	SampT	ype: LC	S	Tes	tCode: El	PA Method	8015D: Gasc	line Rang	e	
Sample ID LCS-29660 Client ID: LCSS	SampT Batch	ype: LC	:S 660	Tes	tCode: El	PA Method 9999	8015D: Gasc	line Rang	e	
Sample ID LCS-29660 Client ID: LCSS Prep Date: 1/12/2017	SampT Batch Analysis D	ype: LC n ID: 29 Date: 1/	:S 660 13/2017	Tes F	tCode: El RunNo: 3 SeqNo: 1	PA Method 9999 253666	8015D: Gaso Units: mg/M	oline Rang	e	
Sample ID LCS-29660 Client ID: LCSS Prep Date: 1/12/2017 Analyte	SampT Batch Analysis D Result	ype: LC n ID: 29 Date: 1/ PQL	S 660 13/2017 SPK value	Tes F S SPK Ref Val	tCode: El RunNo: 3 SeqNo: 1 %REC	PA Method 9999 253666 LowLimit	8015D: Gasc Units: mg/M HighLimit	oline Rang Kg %RPD	e RPDLimit	Qual
Sample ID LCS-29660 Client ID: LCSS Prep Date: 1/12/2017 Analyte Gasoline Range Organics (GRO)	SampT Batch Analysis D Result 27	ype: LC n ID: 29 Date: 1/ PQL 5.0	5 660 13/2017 SPK value 25.00	Tes F S SPK Ref Val 0	tCode: Ef RunNo: 3 SeqNo: 1 %REC 108	PA Method 9999 253666 LowLimit 74.6	8015D: Gaso Units: mg/F HighLimit 123	vline Rang Kg %RPD	e RPDLimit	Qual

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

WO#: 1701452 23-Jan-17

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Hall Environmental Analysis Laboratory, Inc.

## Client:Rule Engineering LLCProject:COP State Com AD #26

Sample ID MB-29660	Samp	Гуре: МЕ	BLK	TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batc	h ID: 29	660	F	RunNo: 3					
Prep Date: 1/12/2017	Analysis [	Date: 1/	13/2017	S	SeqNo: 1	253686	Units: mg/K	g		
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			
	0.00				0 110					
Sample ID LCS-29660	Samp	Type: LC	S	Tes	tCode: El	PA Method	8021B: Volat	iles		
Sample ID LCS-29660 Client ID: LCSS	Samp <sup>¬</sup> Batc	Гуре: LC h ID: 29	S 660	Tes	tCode: El	PA Method	8021B: Volat	iles		
Sample ID LCS-29660 Client ID: LCSS Prep Date: 1/12/2017	Samp Batcl Analysis [	Type: LC h ID: 29 Date: 1/	S 660 13/2017	Tes R S	tCode: El RunNo: 3 GeqNo: 1	PA Method 9999 253687	8021B: Volat	iles g		
Sample ID LCS-29660 Client ID: LCSS Prep Date: 1/12/2017 Analyte	Samp Batc Analysis [ Result	Type: <b>LC</b> h ID: <b>29</b> Date: <b>1</b> / PQL	55 660 13/2017 SPK value	Tes F S SPK Ref Val	tCode: El RunNo: 3 SeqNo: 1 %REC	PA Method 9999 253687 LowLimit	8021B: Volat Units: mg/K HighLimit	iles g %RPD	RPDLimit	Qual
Sample ID LCS-29660 Client ID: LCSS Prep Date: 1/12/2017 Analyte Benzene	Samp Batc Analysis I Result 0.95	Type: LC h ID: 29 Date: 1/ PQL 0.025	S 660 13/2017 SPK value 1.000	Tes R S SPK Ref Val 0	tCode: El RunNo: 3 GeqNo: 1 <u>%REC</u> 95.3	PA Method 9999 253687 LowLimit 75.2	8021B: Volat Units: mg/K HighLimit 115	iles g %RPD	RPDLimit	Qual
Sample ID LCS-29660 Client ID: LCSS Prep Date: 1/12/2017 Analyte Benzene Toluene	Samp <sup>¬</sup> Batcl Analysis E Result 0.95 0.97	Type: LC h ID: 29 Date: 1/ PQL 0.025 0.050	S 660 13/2017 SPK value 1.000 1.000	Tes R S SPK Ref Val 0 0	tCode: El RunNo: 3 BeqNo: 1 %REC 95.3 96.7	PA Method 9999 253687 LowLimit 75.2 80.7	8021B: Volat Units: mg/K HighLimit 115 112	iles g %RPD	RPDLimit	Qual
Sample ID LCS-29660 Client ID: LCSS Prep Date: 1/12/2017 Analyte Benzene Toluene Ethylbenzene	Samp <sup>¬</sup> Batcl Analysis E Result 0.95 0.97 0.98	Fype: LC h ID: 29 Date: 1/ PQL 0.025 0.050 0.050	S 660 13/2017 SPK value 1.000 1.000 1.000	Tes F SPK Ref Val 0 0 0 0	tCode: El RunNo: 3 SeqNo: 1 %REC 95.3 96.7 97.7	PA Method 99999 253687 LowLimit 75.2 80.7 78.9	8021B: Volat Units: mg/K HighLimit 115 112 117	iles g %RPD	RPDLimit	Qual
Sample ID LCS-29660 Client ID: LCSS Prep Date: 1/12/2017 Analyte Benzene Toluene Ethylbenzene Xylenes, Total	Samp <sup>¬</sup> Batcl Analysis E Result 0.95 0.97 0.98 2.9	Fype: LC h ID: 29 Date: 1/ PQL 0.025 0.050 0.050 0.10	S 660 13/2017 SPK value 1.000 1.000 1.000 3.000	Tes F SPK Ref Val 0 0 0 0 0 0	tCode: El RunNo: 3 SeqNo: 1 %REC 95.3 96.7 97.7 97.9	PA Method 9999 253687 LowLimit 75.2 80.7 78.9 79.2	8021B: Volat Units: mg/K HighLimit 115 112 117 115	iles g %RPD	RPDLimit	Qual

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

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23-Jan-17

WO#: 1701452

HALL Ha ENVIRONMENTAL ANALYSIS LABORATORY	ll Environmental Analysis Laboratory 4901 Hawkins NL Albuquerque, NM 87109 L: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com	<sup>y</sup> Sam	iple Log-In Ch	eck List
Client Name: RULE ENGINEERING LL Work	Order Number: 1701452		RcptNo: 1	1
Received by/date: all [12	17			
Logged By: Andy Jansson 1/12/20	17 7:00:00 AM	anyman		
Completed By: Andy Jansson 1(12	17			
Reviewed By: 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			
<u>Log In</u>				
4. Was an attempt made to cool the samples?	Yes 🖌	No 🗌	NA 🗆	
5. Were all samples received at a temperature of >0° 0	C to 6.0°C Yes 🗹	No 🗌		
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 preser	ved? 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 🗹		18
-			# of preserved bottles checked	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 🗹	No 🗀	(<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 🗌		
<ol> <li>Were all holding times able to be met? (If no, notify customer for authorization.)</li> </ol>	Yes 🗹	No 🗌	Checked by:	
Special Handling (if applicable)			<u> </u>	
16. Was client notified of all discrepancies with this order	? Yes 🗌	No 🗌	NA 🗹	
Person Notified:	Date			
By whom:	via: 📋 eMail 🗋 Pho	në 📋 Fax		
Client Instructions:				
17. Additional remarks:				
18 Cooler Information				
Cooler No Temp °C Condition Seal Intact	Seal No Seal Date Si	gned By	I	

Page 1 of 1

1.0

Good

Yes

1

Chain-of-Custody Record				Turn-Around	Time:					Н	A	LL	E	NV	IF	20	NP	1E	NT	AL	
	Kule I	Ingine	ering, LLC	Standard						A	N	AL	YS	SIS	5 L	AE	30	RA	TC	R	
				Project Name						١	www	v.hall	lenv	ironr	nent	al.co	m				
Mailing	g Address: 501 Airport Dr. Ste 205 Cop State Com AD # 26				4901 Hawkins NE - Albuquerque, NM 87109																
Farm	inston	NM	87401	Project #:			Tel. 505-345-3975 Fax 505-345-4107														
Phone #	1: (505	)716-	2787	1								А	naly	sis	Req	uest					
email or	Fax#:	woods@	ruleencineering. com	Project Mana	ger:			()	Ô					(4)					Т	T	
QA/QC F	Package:		0		0		021	s on	MR			()		SC,	B's						
Stan	dard		Level 4 (Full Validation)	Heather	Woods		s (8	(Ga;	ò			SIMS		PO	PC						
Accredit	tation			Sampler: He	athar lit	ods		H	DE	=	=	202	d	03	082						
	٩P	□ Othe	r	On Ice:	LV Yes	M No	民 +	F +	8	18.	8	82	0	03'V	\$ / 8		(A)				or N
	(Type)			Sample Tem	perature	1.0°C	5	ВШ	Ð	d 4	d 5	0 or	itals	NA	ides	a	5				E
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO. 1701452	BTEX + N	BTEX + MT	TPH 8015B	TPH (Metho	EDB (Metho	PAH's (8310	RCRA 8 Me	Anions (FC	8081 Pestic	8260B (VO/	8270 (Semi-				Air Bubbles
1/17	1035	Sell	BGT-1	(1) YOTE GIRSS	Coud	-001	×		x	x				X							
																			-	+	+
	-						$\vdash$			-								-	+	+	
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			NES																		
				HW.														-			
							-				_								+	+	
					-			-	-		-					-		-	+	+	++
							-												+	+	
																-			+	-	
						1 mar 10	-												$\rightarrow$	$\rightarrow$	
						· · · ·															
Date: Time: Relinquished by: 11/17 1730 Heatth M. Woods Date: Time: Relinquished by: 11/17 18(4 C. MOTHER J. h. h. h.			Received by: Date Time Mustuchaste /11/17 1730 Received by: Date Time au 1/12/17 0700			Rer Di US Are	nark vect 0.11	s: bill 034 KAI	to ( 727	Con Z O W	000 7	Phil A Or	nip: rea rdive	s Supe ed k	y:	us.	a Hi	s Tra unde	ijilk V	6	
H	necessary,	samples sub	mitted to Hall Environmental may be sub	contracted to other a	ccredited laboratori	es. This serves as notice of this	s possi	bility.	Any su	ub-cont	racte	d data	will be	e clear	ty not	ated or	n the a	nalytica	l repor	t.	

## HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

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 <u>www.hallenvironmental.com</u> 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical	Report
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#### Lab Order 1701599

Date Reported: 1/20/2017

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT:	Rule Engineering LLC			Client Sampl	e ID: SC	2-1					
<b>Project:</b>	CoP State Com AD 26	Collection Date: 1/13/2017 8:30:00 AM									
Lab ID:	1701599-001	Matrix:	SOIL	Received	Date: 1/1	4/2017 9:00:00 AM					
Analyses		Result	PQL Qu	al Units	DF	Date Analyzed	Batch				
EPA MET	HOD 8015M/D: DIESEL RAM	NGE ORGANIC	S			Analyst	том				
Diesel R	ange Organics (DRO)	ND	9.9	mg/Kg	1	1/18/2017 2:56:37 PM	29732				
Motor Oi	I 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 MET	HOD 8015D: GASOLINE RA	NGE				Analyst	NSB				
Gasoline	Range Organics (GRO)	ND	4.7	mg/Kg	1	1/17/2017 10:53:54 PM	29710				
Surr: E	3FB	85.8	68.3-144	%Rec	1	1/17/2017 10:53:54 PM	29710				
EPA MET	HOD 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				
Ethylben	zene	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				

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 Page 1 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit
- 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-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

RGANIC	S			Analyst:	TOM
ND	9.8	mg/Kg	1	1/18/2017 4:06:28 PM	29732
ND	49	mg/Kg	1	1/18/2017 4:06:28 PM	29732
104	70-130	%Rec	1	1/18/2017 4:06:28 PM	29732
				Analyst:	NSB
ND	4.6	mg/Kg	1	1/18/2017 12:03:47 AM	29710
83.3	68.3-144	%Rec	1	1/18/2017 12:03:47 AM	29710
				Analyst:	NSB
ND	0.023	mg/Kg	1	1/18/2017 12:03:47 AM	29710
ND	0.046	mg/Kg	1	1/18/2017 12:03:47 AM	29710
ND	0.046	mg/Kg	1	1/18/2017 12:03:47 AM	29710
ND	0.092	mg/Kg	1	1/18/2017 12:03:47 AM	29710
90.5	80-120	%Rec	1	1/18/2017 12:03:47 AM	29710
	ND ND 104 ND 83.3 ND ND ND ND ND 90.5	ND         9.8           ND         49           104         70-130           ND         4.6           83.3         68.3-144           ND         0.023           ND         0.046           ND         0.046           ND         0.046           ND         0.023	ND         9.8         mg/Kg           ND         49         mg/Kg           104         70-130         %Rec           ND         4.6         mg/Kg           83.3         68.3-144         %Rec           ND         0.023         mg/Kg           ND         0.046         mg/Kg           ND         0.046         mg/Kg           ND         0.092         mg/Kg           90.5         80-120         %Rec	ND         9.8         mg/Kg         1           ND         49         mg/Kg         1           104         70-130         %Rec         1           ND         4.6         mg/Kg         1           ND         4.6         mg/Kg         1           ND         0.023         mg/Kg         1           ND         0.023         mg/Kg         1           ND         0.046         mg/Kg         1           ND         0.046         mg/Kg         1           ND         0.092         mg/Kg         1           ND         0.092         mg/Kg         1           90.5         80-120         %Rec         1	INCS         Analyst:           ND         9.8         mg/Kg         1         1/18/2017 4:06:28 PM           ND         49         mg/Kg         1         1/18/2017 4:06:28 PM           104         70-130         %Rec         1         1/18/2017 4:06:28 PM           ND         49         mg/Kg         1         1/18/2017 4:06:28 PM           ND         70-130         %Rec         1         1/18/2017 4:06:28 PM           ND         4.6         mg/Kg         1         1/18/2017 4:06:28 PM           ND         4.6         mg/Kg         1         1/18/2017 4:06:28 PM           ND         4.6         mg/Kg         1         1/18/2017 12:03:47 AM           83.3         68.3-144         %Rec         1         1/18/2017 12:03:47 AM           ND         0.023         mg/Kg         1         1/18/2017 12:03:47 AM           ND         0.046         mg/Kg         1         1/18/2017 12:03:47 AM           ND         0.046         mg/Kg         1         1/18/2017 12:03:47 AM           ND         0.092         mg/Kg         1         1/18/2017 12:03:47 AM           ND         0.092         mg/Kg         1         1/18/2017 12:03:47 AM

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank	
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of	f7
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	1 /
	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 specifie	d

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 PANCE OPGANICS Analyses Analyses Analyses

EPA METHOD 8015M/D: DIESEL RANGE C	RGANIC	S			Analyst:	том
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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 3 of 7
	ND	Not Detected at the Reporting Limit	Р	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-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 Direct/Date: 1/14/2017 2:23:25 PM 20723

EPA METHOD 8015M/D: DIESEL RANGE O	RGANIC	S			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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 4 of 7
	ND	Not Detected at the Reporting Limit	Р	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

**Client:** 

Hall Environmental Analysis Laboratory, Inc.

Rule Engineering LLC

Project:	CoP State	e Com AE	26								
Sample ID	MB-29732	Samp	Туре: М	BLK	Tes	tCode: E	PA Method	8015M/D: D	iesel Rang	e Organics	
Client ID:	PBS	Batc	h ID: 29	732	F	RunNo: 4	0106				
Prep Date:	1/17/2017	Analysis [	Date: 1	/18/2017	5	SeqNo: 1	257309	Units: mg/l	Kg		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range	Organics (DRO)	ND	10								
Motor Oil Rang	ge Organics (MRO)	ND	50								
Surr: DNOP		11		10.00		106	70	130			
Sample ID	LCS-29732	Samp	Type: LO	CS	Tes	tCode: El	PA Method	8015M/D: Di	iesel Rang	e Organics	
Client ID:	LCSS	Batc	h ID: 29	732	F	RunNo: 4	0106				
Prep Date:	1/17/2017	Analysis [	Date: 1	/18/2017	5	SeqNo: 1	257323	Units: mg/l	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	Samp	Гуре: М	S	Tes	tCode: El	PA Method	8015M/D: Di	iesel Rang	e Organics	
Client ID:	SC-1	Batc	h ID: 29	732	F	RunNo: 4	0101				
Prep Date:	1/17/2017	Analysis [	Date: 1	/18/2017	5	SeqNo: 1	257367	Units: mg/l	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	1701599-001AMS	Samp	Гуре: М	SD	Tes	tCode: El	PA Method	8015M/D: Di	iesel Rang	e Organics	
Client ID:	SC-1	Batc	h ID: 29	732	F	RunNo: 4	0101				
Prep Date:	1/17/2017	Analysis [	Date: 1	/18/2017	5	SeqNo: 1	257562	Units: mg/l	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

1701599

WO#:

Page 5 of 7

20-Jan-17

## QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

#### Han Environmental Analysis Laborato

## Client:Rule Engineering LLCProject:CoP State Com AD 26

Sample ID MB-29710	Samp	Гуре: МЕ	BLK	Tes	tCode: E	PA Method	8015D: Gas	oline Rang	е	
Client ID: PBS	Batc	h ID: 29	710	F	RunNo: 4	0079				
Prep Date: 1/16/2017	Analysis [	Date: 1/	17/2017	5	SeqNo: 1	256313	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	Batc	h ID: 29	710	F	RunNo: 4	0079				
Prep Date: 1/16/2017	Analysis [	Date: 1/	17/2017	5	SeqNo: 1	256314	Units: mg/l	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			
O DED	1000		1000		101	68.3	144			
Surr: BFB	1000		1000		101	00.0	1-4-4			
Sample ID 1701599-002AM	IS Samp	Type: MS	1000	Tes	tCode: El	PA Method	8015D: Gas	oline Rang	0	
Sample ID 1701599-002AM	IS Samp1	Гуре: MS	3	Tes	tCode: El	PA Method	8015D: Gas	oline Rang	e	
Sample ID 1701599-002AM Client ID: SC-2	IS SampT Batcl	Гуре: <b>МS</b> h ID: <b>29</b>	3 710	Tes	tCode: El RunNo: 4	PA Method	8015D: Gas	oline Rang	e	
Sample ID <b>1701599-002AM</b> Client ID: <b>SC-2</b> Prep Date: <b>1/16/2017</b>	IS Samp Batcl Analysis E	Type: MS h ID: 29 Date: 1/	5 710 18/2017	Tes F S	tCode: El RunNo: 4 SeqNo: 1	PA Method 0079 256318	8015D: Gas	oline Rang Kg	e	
Surr: BFB Sample ID 1701599-002AM Client ID: SC-2 Prep Date: 1/16/2017 Analyte	IS SampT Batcl Analysis E Result	Гуре: <b>МS</b> h ID: <b>29</b> Date: <b>1</b> / PQL	710 18/2017 SPK value	Tes F S SPK Ref Val	tCode: El RunNo: 4 SeqNo: 1 %REC	PA Method 0079 256318 LowLimit	8015D: Gas Units: mg/l HighLimit	oline Rang Kg %RPD	e RPDLimit	Qual
Surr: BFB Sample ID <b>1701599-002AM</b> Client ID: <b>SC-2</b> Prep Date: <b>1/16/2017</b> Analyte Gasoline Range Organics (GRO)	IS SampT Batcl Analysis D Result 25	Fype: MS h ID: 29 Date: 1/ PQL 4.8	5 710 18/2017 SPK value 23.99	Tes F S SPK Ref Val 0	tCode: El RunNo: 4 SeqNo: 1 %REC 103	PA Method 0079 256318 LowLimit 61.3	8015D: Gas Units: mg/l HighLimit 150	oline Rang Kg %RPD	e RPDLimit	Qual
Surr: BFB Sample ID <b>1701599-002AM</b> Client ID: <b>SC-2</b> Prep Date: <b>1/16/2017</b> Analyte Gasoline Range Organics (GRO) Surr: BFB	IS SampT Batcl Analysis E Result 25 880	Type: <b>MS</b> h ID: <b>29</b> Date: <b>1</b> / PQL 4.8	5 710 18/2017 SPK value 23.99 959.7	Tes F SPK Ref Val 0	tCode: El RunNo: 4 SeqNo: 1 %REC 103 92.1	PA Method 0079 256318 LowLimit 61.3 68.3	8015D: Gas Units: mg/l HighLimit 150 144	oline Rang Kg %RPD	e RPDLimit	Qual
Surr: BFB Sample ID 1701599-002AM Client ID: SC-2 Prep Date: 1/16/2017 Analyte Gasoline Range Organics (GRO) Surr: BFB Sample ID 1701599-002AM	IS SampT Batcl Analysis D Result 25 880 SD SampT	Type: MS h ID: 29 Date: 1/ PQL 4.8	5 710 18/2017 SPK value 23.99 959.7 SD	Tes F SPK Ref Val 0 Tes	tCode: El RunNo: 4 SeqNo: 1 %REC 103 92.1 tCode: El	PA Method 0079 256318 LowLimit 61.3 68.3 PA Method	8015D: Gas Units: mg/l HighLimit 150 144 8015D: Gas	oline Rang Kg %RPD oline Rang	e RPDLimit	Qual
Surr: BFB Sample ID 1701599-002AM Client ID: SC-2 Prep Date: 1/16/2017 Analyte Gasoline Range Organics (GRO) Surr: BFB Sample ID 1701599-002AM Client ID: SC-2	IS SampT Batcl Analysis D Result 25 880 SD SampT Batcl	Fype: MS h ID: 29 Date: 1/ PQL 4.8	5 710 18/2017 SPK value 23.99 959.7 5D 710	Tes F SPK Ref Val 0 Tes F	tCode: El RunNo: 4 SeqNo: 1 %REC 103 92.1 tCode: El RunNo: 4	PA Method 0079 256318 LowLimit 61.3 68.3 PA Method 0079	8015D: Gas Units: mg/l HighLimit 150 144 8015D: Gas	oline Rang Kg %RPD oline Rang	e RPDLimit e	Qual
Surr: BFB Sample ID 1701599-002AM Client ID: SC-2 Prep Date: 1/16/2017 Analyte Gasoline Range Organics (GRO) Surr: BFB Sample ID 1701599-002AM Client ID: SC-2 Prep Date: 1/16/2017	IS Samp] Batcl Analysis I Result 25 880 SD Samp] Batcl Analysis I	Fype: MS h ID: 29 Date: 1/ PQL 4.8 Fype: MS h ID: 29 Date: 1/	5 710 18/2017 SPK value 23.99 959.7 5D 710 18/2017	Tes F SPK Ref Val 0 Tes F S	tCode: El RunNo: 4 SeqNo: 1 %REC 103 92.1 tCode: El RunNo: 4 SeqNo: 1	PA Method 0079 256318 LowLimit 61.3 68.3 PA Method 0079 256319	8015D: Gas Units: mg/l HighLimit 150 144 8015D: Gas	oline Rang Kg %RPD oline Rang Kg	e RPDLimit e	Qual
Surr: BFB Sample ID 1701599-002AM Client ID: SC-2 Prep Date: 1/16/2017 Analyte Gasoline Range Organics (GRO) Surr: BFB Sample ID 1701599-002AM Client ID: SC-2 Prep Date: 1/16/2017 Analyte	IS Samp] Batcl Analysis E Result 25 880 SD Samp] Batcl Analysis E Result	Fype: MS h ID: 29' Date: 1/ PQL 4.8 Fype: MS h ID: 29' Date: 1/ PQL	5 710 18/2017 SPK value 23.99 959.7 5D 710 18/2017 SPK value	Tes F SPK Ref Val 0 Tes F SPK Ref Val	tCode: El RunNo: 4 SeqNo: 1 %REC 103 92.1 tCode: El RunNo: 4 SeqNo: 1 %REC	PA Method 0079 256318 LowLimit 61.3 68.3 PA Method 0079 256319 LowLimit	8015D: Gas Units: mg/l HighLimit 150 144 8015D: Gas Units: mg/l HighLimit	oline Rang Kg %RPD oline Rang Kg %RPD	e RPDLimit e RPDLimit	Qual
Surr: BFB Sample ID 1701599-002AM Client ID: SC-2 Prep Date: 1/16/2017 Analyte Gasoline Range Organics (GRO) Surr: BFB Sample ID 1701599-002AM Client ID: SC-2 Prep Date: 1/16/2017 Analyte Gasoline Range Organics (GRO)	IS Samp] Batcl Analysis E Result 25 880 SD Samp] Batcl Analysis E Result 26	Fype: MS h ID: 29' Date: 1/ PQL 4.8 Fype: MS h ID: 29' Date: 1/ PQL 4.8	5 710 18/2017 SPK value 23.99 959.7 5D 710 18/2017 SPK value 24.06	Tes F SPK Ref Val 0 Tes F SPK Ref Val 0	tCode: El RunNo: 4 SeqNo: 1 %REC 103 92.1 tCode: El RunNo: 4 SeqNo: 1 %REC 108	PA Method 0079 256318 LowLimit 61.3 68.3 PA Method 0079 256319 LowLimit 61.3	8015D: Gas Units: mg/l HighLimit 150 144 8015D: Gas Units: mg/l HighLimit 150	oline Rang Kg %RPD oline Rang Kg %RPD 5.05	e RPDLimit e RPDLimit 20	Qual

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

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WO#: 1701599 20-Jan-17

Hall Environmental Analysis Laboratory, Inc.											1701599 20-Jan-17
Client: Project:	Rule Engi CoP State	ineering L Com AD	LLC ) 26								
Sample ID	MB-29710	Samp	Туре: МІ	BLK	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID:	PBS	Batc	h ID: 29	710	F	RunNo: 4	40079				
Prep Date:	1/16/2017	Analysis [	Date: 1	17/2017	5	SeqNo: 1	1256343	Units: mg/k	٢g		
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-Bromo	ofluorobenzene	0.92		1.000		92.5	80	120			
Sample ID	LCS-29710	Samp	Type: LC	s	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID: I	LCSS	Batc	h ID: 29	710	F	RunNo: 4	10079				
Prep Date:	1/16/2017	Analysis [	Date: 1/	17/2017	5	SeqNo: 1	256344	Units: mg/k	٢g		
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-Bromo	ofluorobenzene	0.96		1.000		95.9	80	120			
Sample ID '	1701599-001AMS	Samp	Туре: М	5	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID:	SC-1	Batc	h ID: 29	710	F	RunNo: 4	0079				
Prep Date:	1/16/2017	Analysis E	Date: 1/	17/2017	5	SeqNo: 1	256347	Units: mg/k	٢g		
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-Bromo	ofluorobenzene	0.90		0.9615		93.8	80	120			
Sample ID '	1701599-001AMSD	) Samp1	Гуре: МЗ	SD	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID:	SC-1	Batc	h ID: 29	710	F	RunNo: 4	0079				
Prep Date:	1/16/2017	Analysis D	Date: 1/	17/2017	S	SeqNo: 1	256348	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	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-Bromo	ofluorobenzene	0.92		0.9833		93.8	80	120	0	0	

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

QC SUMMARY REPORT

D Sample Diluted Due to Matrix

Surr: 4-Bromofluorobenzene

- Η 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
- Analyte detected in the associated Method Blank В
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Page 7 of 7

- Р Sample pH Not In Range RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

HALL Hall Environmental ENVIRONMENTAL ANALYSIS LABORATORY TEL: 505-345-3975 Website: www.ha	Analysis 4901 uquerque FAX: 50 allenviron	s Laborator Hawkins N 2, NM 8710 05-345-410 nmental.com	Sam	ple Log-In Check Lis	t
Client Name: RULE ENGINEERING LL Work Order Number:	17015	99		RcptNo: 1	
Received by/date: DA DI/14/17					
Logged By: Lindery Mannin 1/14/2017 9:00:00 AM			American Harting		
Completed By: Lindsay Mangin 1/16/2017 8:15:43 AM		L	Aunter Aller		
		C	J. J. Do		
Chain of Createdy					
Criatin of Custody	Vee		No	Not Procent	
Custody seals intact on sample bottles?	Yes		No []	Not Present	
2. How was the sample delivered?	Couri	or		Hot I lesont I. I	
5, now was the sample delivered?	Coun				
Log In					
4. Was an attempt made to cool the samples?	Yes		No 🗌	NA [_]	
-					
<ol><li>Were all samples received at a temperature of &gt;0° C to 6.0°C</li></ol>	Yes		No	NA L.J	
6. Sample(s) in proper container(s)?	Yes		No 🗌		
7. Sufficient sample volume for Indicated test(s)?	Yes	$\checkmark$	No []		
8. Are samples (except VOA and ONG) properly preserved?	Yes	$\checkmark$	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 []	# of preserved bottles checked for pH:	
(Note discrepancies on chain of custody)				(<2 or >12 unless no Adjusted?	oted)
13. Are matrices correctly identified on Chain of Custody?	Yes		No []	Adjusiou	
15. Were all holding times able to be met?	Yes		No []	Checked by:	
(If no, notify customer for authorization.)					
Special Handling (if applicable)					
16. Was client notified of all discrepancies with this order?	Yes		No 🗌	NA	
Person Notified: Date:					
By Whom: Via:	eMai	I 📋 Pho	ne [] Fax	In Person	
Regarding:					
Client Instructions:					
17. Additional remarks:					
18. Cooler Information	Seal De		abed By		
1 1.6 Good Yes	Joan Da		Succ. Dy		
Page 1 of 1				a salat salat ito i substanti s	0

C	Chain-of-Custody Record			Turn-Around Time:						н			=NI	/TE	20		AFP	AT L	1	
lient:	Rule	Eneine	ering LLC	⊠/ Standard	🗆 Rush						NA		ST	SI	AF	30	RA'	ТО	RY	<u>.</u>
		0	0,	Project Name	):							hallo	nviron	mon	tal co	m				
ailing	Address:	501 A		C. P 51	ale Com	AD HOI		400	14 14	v	VVVVV.		lbug				100			
		501 H	mport Dr. Ste 200	Project #:																
Far	mingot	n, NA	4 87401				Tel. 505-345-3975 Fax 505-345-4107													
hone	#: (505	)716	-2+87				Analysis Request													
mail o	Fax#: h	woods (	Pruleengineering. Com	Project Mana	ger:		51)	only	IRO				S04	co.						
A/QC I	Package:			11.11			(80	Sas				(SN	04,6	CB						
Stan	ccreditation			Hearnar	Woods		Sig	9) T	ЯI			S	)2,P	82 F						
		C Othe	ir.	Sampler: He	ampler: Heather Words				5	3.1)	4.1)	270	N.	80						Î
EDD			a	Sample Temi	A res		÷.	+ Ш	GRO	418	20	8 	NO <sub>3</sub>	es		VOA				Yor
	(1998)			Outriple Terri		0		ATB	B	pou	hoo	20	CI,	ticic	OA)	-in				) se
Data	Time	Matrix	Sample Request ID	Container	Preservative	HEAL No.	+	+	301	Met	Met	8	s (F	Pes	S	(Sei				lddi
Date	Time	IVIAUIA	Sample Request ID	Type and #	Туре	IS OLECIO	μ	<u>ا</u> ظ	H	H (	B	HH G		181	E60E	10				L BU
						1-101047	m	'n	F	Ë.			ř A	80	82	8			+	Ā
13/17	0830	Soil	5C-1	(1)402Glass	Cold	-001	X		×											
13/17	0834	5011	50-2	(1) for GLAUS	Coid	-002	×		X											
Dit	1020	Soil	SC-3	(1) 402. Gus,	Cold	-003	X		X											
13/17	0822	Soil	SC-if	(1) HOZGIANS	Coid	-004	X		X											
											+							+	+	$\square$
										-	-	+	+				-	+	+	Η
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7/17	17 BIN / At Jack		- P 01/4/17 0900)			) Supervisor: Fasho Trujillo														
	fnecessary	samples sub	mitted to Hall Environmental may be subo	ontracted to other a	ccredited laboratorie	es. This serves as notice of thi	s possi	bility.	Any su	b-contr	acted	lata wi	l be clea	rly not	ated or	n the ar	alytical	report.		

## HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

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 <u>www.hallenvironmental.com</u> 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

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.

Analyses		Result	PQL Qua	I Units	DF Date Analyzed	Batch				
Lab ID:	1701590-001	Matrix:	MEOH (SOIL)	Received	Date: 1/14/2017 9:00:00 AM					
Project:	CoP State Com AD #26	Collection Date: 1/13/2017 8:26:00 AM								
CLIENT:	Rule Engineering LLC	Client Sample ID: SC-5								

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	Н	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 Page 1 of 4
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

WO#: 1701590

17-Jan-17

Hall Environmenta	<b>I</b> Analysis	Laboratory,	Inc.
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## Client:Rule Engineering LLCProject:CoP State Com AD #26

Sample ID MB-29674 Client ID: PBS	SampType: MBLK Batch ID: 29674	TestCode: EPA Method RunNo: 40030	8015M/D: Diesel Range Organics
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
Sample ID LCS-29674 Client ID: LCSS	SampType: LCS Batch ID: 29674	TestCode: EPA Method RunNo: 40030	8015M/D: Diesel Range Organics
Sample ID LCS-29674 Client ID: LCSS Prep Date: 1/13/2017	SampType: LCS Batch ID: 29674 Analysis Date: 1/16/2017	TestCode: EPA Method RunNo: 40030 SeqNo: 1254824	8015M/D: Diesel Range Organics Units: %Rec
Sample IDLCS-29674Client ID:LCSSPrep Date:1/13/2017AnalyteImage: Content of the second secon	SampType: LCS Batch ID: 29674 Analysis Date: 1/16/2017 Result PQL SPK value	TestCode: EPA Method RunNo: 40030 SeqNo: 1254824 SPK Ref Val %REC LowLimit	8015M/D: Diesel Range Organics Units: %Rec HighLimit %RPD RPDLimit Qual

#### 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

Page 2 of 4

## QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

## Client:Rule Engineering LLCProject:CoP State Com AD #26

Sample ID RB	Samp	Гуре: МЕ	BLK	Tes	tCode: El	PA Method	8015D: Gase	line Rang	e	
Client ID: PBS	Batc	h ID: G4	0040	F	RunNo: 4	0040				
Prep Date:	Analysis [	Date: 1/	16/2017	S	SeqNo: 1	254956	Units: <b>mg/k</b>	(g		
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	Samp	Гуре: LC	s	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e	
Sample ID 2.5UG GRO LCS Client ID: LCSS	Samp <sup>¬</sup> Batc	Гуре: LC h ID: G4	:S 10040	Tes F	tCode: El RunNo: 4	PA Method 0040	8015D: Gaso	oline Rang	e	
Sample ID 2.5UG GRO LCS Client ID: LCSS Prep Date:	Samp <sup>-</sup> Batc Analysis [	Гуре: LC h ID: G4 Date: 1/	S 10040 16/2017	Tes F S	tCode: El RunNo: 4 SeqNo: 1	PA Method 0040 254957	8015D: Gaso Units: mg/F	bline Rang	e	
Sample ID 2.5UG GRO LCS Client ID: LCSS Prep Date: Analyte	Samp Batc Analysis I Result	Fype: LC h ID: G4 Date: 1/ PQL	:S 10040 16/2017 SPK value	Tes F S SPK Ref Val	tCode: El RunNo: 4 SeqNo: 1 %REC	PA Method 0040 254957 LowLimit	8015D: Gaso Units: mg/H HighLimit	line Rang (g %RPD	e RPDLimit	Qual
Sample ID 2.5UG GRO LCS Client ID: LCSS Prep Date: Analyte Gasoline Range Organics (GRO)	Samp Batc Analysis I Result 25	Fype: LC h ID: G4 Date: 1/ PQL 5.0	S 10040 16/2017 SPK value 25.00	Tes F S SPK Ref Val 0	tCode: El RunNo: 4 SeqNo: 1 %REC 99.8	PA Method 0040 254957 LowLimit 74.6	8015D: Gaso Units: mg/k HighLimit 123	oline Rang (g %RPD	e RPDLimit	Qual

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

WO#: 1701590

17-Jan-17

Page 3 of 4

## QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

## Client: Rule Engineering LLC

Project: CoP State Com AD #26

Sample ID RB	Samp	Гуре: МЕ	BLK	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID: PBS	Batc	h ID: B4	0040	F	RunNo: 4	0040				
Prep Date:	Analysis [	Date: 1/	16/2017	S	SeqNo: 1	254972	Units: mg/M	g		
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	Samp	Type: LC	S	Tes	tCode: E	PA Method	8021B: Volat	tiles		
Client ID: LCSS	Batc	h ID: B4	0040	F	RunNo: 4	0040				
Prep Date:	Analysis [	Date: 1/	16/2017	S	SeqNo: 1	254973	Units: mg/K	g		
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			
Curri A Dromofluorohonzono	10		1 000		103	20	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

Page 4 of 4

17-Jan-17

1701590

WO#:

HALL Ha ENVIRONMENTAL ANALYSIS LABORATORY TI	all Environmental Analysi 4901 Albuquerqu EL: 505-345-3975 FAX: 5 Website: www.hallenviro	is Laboratory Hawkins NE e, NM 87109 05-345-4107 onmental.com	Sam	ple Log-In Check List	
Client Name: RULE ENGINEERING LL Work	Order Number: 1701	590		RcptNo: 1	
Received by/date:	11:3				]
Logged By: Lindsay Mangin 1/14/20	017 9:00:00 AM	0*	in the second		
Completed By: Lindsay Mangin 1/14/20	017 10:07:15 AM 人 リーフ	0ª	and the for		
Reviewed By:	P 11 /				·
Chain of Custody					
1. Custody seals intact on sample bottles?	Yes	[7]	No	Not Present	
2. Is Chain of Custody complete?	Yes		No	Not Present	
3. How was the sample delivered?	Cour	ier			
Log In					
4. Was an attempt made to cool the samples?	Yes		No [_]	na 🗇	
5. Were all samples received at a temperature of $>0^{\circ}$	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 prese	rved? Yes	$\checkmark$	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 note	ed)
13. Are matrices correctly identified on Chain of Custody	Y? Yes	Ý	No 🗋	Adjusted?	
14. Is it clear what analyses were requested?	Yes	$\checkmark$	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 orde	r? Yes		No 🗌	NA	
Person Notified: By Whom: Regarding:	Date: Date: Via: [] eMa	II [] Phone	[] Fax	[_] In Person	
17. Additional remarks:					
18. <u>Cooler Information</u> Cooler No Temp °C Condition Seal Intac 1 1.6 Good Yes	t Seal No Seal Da	ite Sign	ed By		. 7.
Page 1 of 1					

С	hain-	of-Cu	stody Record	Turn-Around	Time:					н				/15	20		AF	ΝТ	41	
Client:	Rule 1	- 10 Pino P	ariat 110	□ Standard	Rusi	Same Dan					NA		ST	2 I	AF	30	RA	ТО	RY	,
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Fan	ninado		RAUCI	Project #:				Те	al. 50	5-34	5-397	75	Fax	505-	345	-4107	7			
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email or	Fax#:h	woods @	cultansinescine. Com	Project Mana	der:			(y	Ô				()							
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	AP	□ Othe	r	On Ice:	A Yes	D No	厌+	F +	0	18.	04.	82	03,N	\$/8		F				or N
	(Type)			Sample Tem	erature y		E	BE	<u>(</u>	d 4	0 2	o or	N/N	ides	a	8				ž
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type		BTEX + NE	BTEX + MT	TPH 8015B	TPH (Metho	EDB (Metho	PAH's (831)	Anions (F,C	8081 Pestic	8260B (VO/	8270 (Semi-				Air Bubbles
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lf	necessary,	samples sub	mitted to Hall Environmental may be subo	contracted to other a	ccredited laborator	ties. This serves as notice of this	possi	bility.	Any st	ub-cont	racted	data wil	be dea	arly not	ated or	n the ar	nalytica	al report		

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## 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

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 <u>www.hallenvironmental.com</u> 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,

andia

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report Lab Order 1702008

2/2/2017 6:16:18 PM

2/2/2017 5:28:28 PM

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1

1

29993

29991

29991

29991

29991

29991

29991

29991

Analyst: NSB

Analyst: NSB

Date Reported: 2/3/2017

#### Hall Environmental Analysis Laboratory, Inc.

Surr: DNOP

Surr: BFB

Benzene

Toluene

Ethylbenzene

Xylenes, Total

EPA METHOD 8015D: GASOLINE RANGE

Gasoline Range Organics (GRO)

EPA METHOD 8021B: VOLATILES

Surr: 4-Bromofluorobenzene

#### **CLIENT:** Rule Engineering LLC **Client Sample ID: SC-6** Collection Date: 1/31/2017 2:25:00 PM COP State Com AD #26 **Project:** Lab ID: 1702008-001 Matrix: SOIL Received Date: 2/1/2017 8:00:00 AM PQL Qual Units Analyses Result **DF** Date Analyzed Batch EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: TOM Diesel Range Organics (DRO) ND 2/2/2017 6:16:18 PM 29993 10 mg/Kg 1 Motor Oil Range Organics (MRO) ND 50 mg/Kg 1 2/2/2017 6:16:18 PM 29993

70-130

68.3-144

0.024

0.049

0.049

0.097

80-120

4.9

106

ND

88.8

ND

ND

ND

ND

91.5

%Rec

mg/Kg

%Rec

mg/Kg

mg/Kg

mg/Kg

mg/Kg

%Rec

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method	Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	Page 1 of 4
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	1 age 1 01 4
	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	t as specified

## QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

#### \_\_\_\_\_<u>J</u>

## Client:Rule Engineering LLCProject:COP State Com AD #26

Sample ID LCS-29993	SampTy	pe: LC	S	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: LCSS	Batch	ID: 29	993	R	RunNo: 4	0459				
Prep Date: 2/1/2017	Analysis Da	ate: 2/	2/2017	S	SeqNo: 1	268814	Units: mg/k	(g		
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	SampTy	pe: ME	3LK	Test	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
	1 3							o o o i i i i i i i i i i i i i i i i i	organioo	
Client ID: PBS	Batch	ID: 29	993	R	RunNo: 4	0459			organico	
Client ID: PBS Prep Date: 2/1/2017	Batch Analysis Da	ID: 29 nte: 2/	993 2/2017	R	RunNo: 4 SeqNo: 1	0459 268815	Units: mg/k	(g	orgunios	
Client ID: PBS Prep Date: 2/1/2017 Analyte	Batch Analysis Da Result	ID: <b>29</b> ite: <b>2</b> / PQL	993 2/2017 SPK value	R S SPK Ref Val	RunNo: 4 SeqNo: 1 %REC	0459 268815 LowLimit	Units: mg/M HighLimit	(g %RPD	RPDLimit	Qual
Client ID: PBS Prep Date: 2/1/2017 Analyte Diesel Range Organics (DRO)	Batch Analysis Da Result ND	ID: 29 Ite: 2/ PQL 10	993 2/2017 SPK value	R S SPK Ref Val	RunNo: 4 SeqNo: 1 %REC	0459 268815 LowLimit	Units: mg/K HighLimit	(g %RPD	RPDLimit	Qual
Client ID: <b>PBS</b> Prep Date: <b>2/1/2017</b> Analyte Diesel Range Organics (DRO) Motor Oil Range Organics (MRO)	Batch Analysis Da Result ND ND	ID: 29 ate: 2/ PQL 10 50	993 2/2017 SPK value	R S SPK Ref Val	RunNo: 4 GeqNo: 1 %REC	0459 268815 LowLimit	Units: <b>mg/F</b> HighLimit	(g %RPD	RPDLimit	Qual

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

Page 2 of 4

WO#: 1702008

03-Feb-17

Hall Environmental Analysis Laboratory, Inc.

# Client:Rule Engineering LLCProject:COP State Com AD #26

Sample ID MB-29991	SampType:	MBLK	Tes	tCode: EF	PA Method	8015D: Gaso	line Rang	e	
Client ID: PBS	Batch ID:	29991	F	RunNo: 40	0468				
Prep Date: 2/1/2017	Analysis Date:	2/2/2017	S	eqNo: 1	268779	Units: mg/K	g		
Analyte	Result PQ	L 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	Tes	Code: EF	PA Method	8015D: Gaso	line Rang	е	
Sample ID LCS-29991 Client ID: LCSS	SampType: Batch ID:	LCS 29991	Tes F	tCode: EF	PA Method 0468	8015D: Gaso	line Rang	9	
Sample ID LCS-29991 Client ID: LCSS Prep Date: 2/1/2017	SampType: Batch ID: Analysis Date:	LCS 29991 2/2/2017	Tes F	tCode: EF tunNo: 40 seqNo: 12	PA Method 0468 268780	8015D: Gaso Units: mg/K	line Rang g	Ð	
Sample ID LCS-29991 Client ID: LCSS Prep Date: 2/1/2017 Analyte	SampType: Batch ID: Analysis Date: Result PQ	LCS 29991 2/2/2017 L SPK value	Tes F S SPK Ref Val	Code: EF unNo: 40 eqNo: 12 %REC	PA Method 0468 268780 LowLimit	8015D: Gaso Units: mg/K HighLimit	line Rang g %RPD	e RPDLimit	Qual
Sample ID LCS-29991 Client ID: LCSS Prep Date: 2/1/2017 Analyte Gasoline Range Organics (GRO)	SampType: Batch ID: Analysis Date: Result PQ 27 5	LCS 29991 2/2/2017 L SPK value 5.0 25.00	Tes F S SPK Ref Val 0	Code: EF anNo: 40 GeqNo: 12 %REC 108	PA Method 0468 268780 LowLimit 74.6	8015D: Gaso Units: mg/K HighLimit 123	line Rang g %RPD	e RPDLimit	Qual

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

WO#: **1702008** *03-Feb-17* 

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## Hall Environmental Analysis Laboratory, Inc.

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

Sample ID MB-29991	Samp	Type: ME	BLK	Tes	tCode: E	tiles				
Client ID: PBS	Batc	h ID: 29	991	F	RunNo: 4	0468				
Prep Date: 2/1/2017	Analysis E	Date: 2/	2/2017	5	SeqNo: 1	268797	Units: mg/K	g		
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	Samp	Type: LC	S	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: LCSS	Batc	h ID: 29	991	F	RunNo: 4	0468				
Prep Date: 2/1/2017	Analysis E	Date: 2/	2/2017	5	SeqNo: 1	268798	Units: mg/K	g		
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			
O D D D D D D D D D D D D D D D D D D D	0.07		4 000		074	0.0	100			

Qualifiers:

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

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1702008

WO#:

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental Analys 4901 Albuquerqu TEL: 505-345-3975 FAX: 2 Website: www.hallenviro	is Laboratory 1 Hawkins NE 4e, NM 87109 505-345-4107 50nmental.com	Samı	ple Log-In Cl	neck List
Client Name: RULE ENGINEERING LL V	Vork Order Number: 1702	008		RcptNo:	1
Received by/date: all Z	11/17				
Logged By: Andy Jansson 2/1/	2017 8:00:00 AM	ango	202		
Completed By: ANON Jangon Z	NIL/				
Reviewed By: 100	7/10/6				
Chain of Custody					
1. Custody seals intact on sample bottles?	Yes		io 🗌	Not Present 🗹	
2. Is Chain of Custody complete?	Yes		lo 🗌	Not Present	
3. How was the sample delivered?	Cou	rier			
logh					
	Maa				
4. Was an attempt made to cool the samples r	Tes				
5. Were all samples received at a temperature of >	>0° C to 6.0°C Yes	✓ N	io 🗆		
6. Sample(s) in proper container(s)?	Yes		No 🗆		
7. Sufficient sample volume for indicated test(s)?	Yes		lo 🗌		
8. Are samples (except VOA and ONG) properly pro	eserved? Yes		lo 🗌		
9. Was preservative added to bottles?	Yes		0	NA 🗆	
10. VOA vials have zero headspace?	Yes		lo 🗆	No VOA Vials 🗹	
11. Were any sample containers received broken?	Yes		No 🗹 🛛	#_fd	
		_		# of preserved bottles checked	
12. Does paperwork match bottle labels?	Yes	✓ N		for pH:	>12 unless noted)
13 Are matrices correctly identified on Chain of Cust	todv? Yes			Adjusted?	
14. Is it clear what analyses were requested?	Yes				
15. Were all holding times able to be met?	Yes	✓ N		Checked by:	
(If no, notify customer for authorization.)					
Special Handling (if applicable)					
16. Was client notified of all discrepancies with this of	order? Yes		lo 🗆	NA 🗹	
Person Notified:	Date		Contractory		
By Whom:	Via: eMa	ail 🗌 Phone [	Fax	In Person	
Regarding:					
Client Instructions:					
17. Additional remarks:					
18. Cooler Information					
Cooler No Temp °C Condition Seal In	tact Seal No Seal D	ate Signe	d By		
1 1.0 Good Yes					
Page 1 of 1					

Chain-of-Custody Record				Turn-Around Time:																	
Client:	Lile E	- - n a'un ai	ring LIC	Standard																	
		0		Project Name:																	
Mailing	Address	Ec: A	- 10	Constate AD House																	
201 Airport Dr. Sile 205				Project #:				4501 Hawkins NE - Albuquerque, NM 8/109													
tarmination NM 07401				-				Te	el. 50	5-34	5-39	975	F	ax	505-	345-	4107				
Phone #: (505) 716-2787												A	naly	ISIS	Req	uest	:				
email or Fax#: hwoods@vulening.com				Project Manager:			21)	only	IRO					504	S						
QA/QC Package:				Headland Liberts				as	N			(SI)		04%	CB						
Accreditation				HEAPPAR WOOds				9 H	R			SIN		02,P	82 F						
□ NELAP □ Other				Sampler: Hewher Wood-S				+ TPI	1/02	18.1)	04.1)	8270		3,NC	/ 80		(A)				or N)
EDD (Type)				Sample constratilite				H	(G	d 4	9 P	Jo.	tals	NU,	ides	2	NO.				Z
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEALNO.	BTEX + ME	BTEX + MT	TPH 8015B	TPH (Metho	EDB (Metho	PAH's (8310	RCRA 8 Me	Anions (F,C	8081 Pestic	8260B (VOA	8270 (Semi-				Air Bubbles
1/31/17	1425	Soil	5C-10	(1) 4 02 Glass	cold	-001	X	_	X	·	-	_	_	-	~	~			+	+	
																				-	
																		+	+	+	+
														-					+	+	+
														_	-				+	+-	+
			HES										_						+	+-	$\square$
			H	2															+		П
	_																				
Date:	Time:	Relinquish	ed by: the M-Words	Received by: Received by: Received by: Received by: Date Date Time Date Time Date Time				A Direct Bill to Conocophillips WO: 10392207 ochead by Lisa Hundre													
Bills 1847 Mart Welte				and 211170800				00 Approver: KAITLW Area: 2													
li If	necessary,	samples sub	mitted to Hall Environmental may be subc	ontracted to other a	ccredited laboratorio	es. This serves as notice of this	s possi	bility.	Any su	ub-con	tracted	d data	will be	e clear	ly nota	ated or	n the a	nalytica	report		