

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Form C-141
Revised August 8, 2011

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit 1 Copy to appropriate District Office to
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR Initial Report Final Report

Name of Company Burlington Resources, a Wholly Owned Subsidiary of ConocoPhillips Company	Contact Lisa Hunter
Address 3401 East 30th St, Farmington, NM	Telephone No. (505) 258-1607
Facility Name: San Juan 28-6 Unit 78	Facility Type: Gas Well
Surface Owner BLM	Mineral Owner NMSF-079363 API No. 3003907204

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	01	27N	06W	990	North	800	East	Rio Arriba

Latitude 36.60790 Longitude -107.41182

NATURE OF RELEASE

Type of Release Condensate & Produced Water	Volume of Release 81.77bbls/9.2 bbls Prod. Water	Volume Recovered 0 bbls
Source of Release Oil Production Tank	Date and Hour of Occurrence Unknown	Date and Hour of Discovery 03/16/2016 @ 11:15 a.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Cory Smith (OCD) Katherina Deimer (BLM)	
By Whom? Lisa Hunter	Date and Hour 03/16/2016 @ 2:19 pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. N/A	

OIL CONS. DIV DIST. 3

AUG 11 2016

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

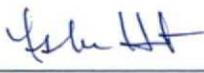
Describe Cause of Problem and Remedial Action Taken.*

During a routine tank gauging it was discovered that the Oil Production Tank released approximately 81.77 bbls Condensate and 9.2 bbls of Produced Water into the ground (suspected corrosion in tank bottom). No staining or fluid was visible on the surface, and no fluid was recovered. The release was contained below surface presumably within the berm, and did not leave location

Describe Area Affected and Cleanup Action Taken.*

Excavation was 36' x 42' x 7-9' Deep in the main excavation and 18.5 x 25' x 5-6' in the BGT area. Approximately 450 c/yds of soil was transported to Envirotech Land Farm. Analytical results were below the regulatory standards – no further action required. The soil sampling report is attached for review.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	OIL CONSERVATION DIVISION	
Printed Name: Lisa M. Hunter	Approved by Environmental Specialist: 	
Title: Field Environmental Specialist	Approval Date: 12/19/2016	Expiration Date:
E-mail Address: Lisa.Hunter@cop.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: August 9, 2016 Phone: (505) 258-1607	NVF1608232977	

* Attach Additional Sheets If Necessary

35

San Juan 28-6 #78 Release Report

Unit Letter A, Section 1, Township 27 North, Range 6 West
Rio Arriba County, New Mexico

August 3, 2016

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

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

ConocoPhillips San Juan 28-6 #78 Release Report

Prepared for:

ConocoPhillips
5525 Highway 64
Farmington, New Mexico 87401

Prepared by:

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



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

Reviewed by:



Russell Knight, PG, Principal Hydrogeologist

August 3, 2016

Table of Contents

1.0	Introduction.....	1
2.0	Release Summary.....	1
3.0	NMOCD Site Ranking.....	1
4.0	Initial Site Assessment	2
4.1	<i>Field Activities</i>	2
4.2	<i>Soil Sampling</i>	2
4.3	<i>Field Screening Results</i>	2
5.0	Excavation Confirmation Sampling.....	3
5.1	<i>Field Activities</i>	3
5.2	<i>Soil Sampling</i>	3
5.3	<i>Field Screening Results</i>	3
5.4	<i>Laboratory Analytical Results</i>	4
6.0	Conclusions.....	4
7.0	Closure and Limitations	4

Tables

Table 1	NMOCD Site Ranking Determination
Table 2	Initial Site Assessment Field Screening Results
Table 3	Excavation Confirmation Field Screening and Laboratory Analytical Results

Figures

Figure 1	Topographic Map
Figure 2	Aerial Site Map
Figure 3	Sample Location Map

Appendices

Appendix A	Analytical Laboratory Reports
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1.0 Introduction

The ConocoPhillips San Juan 28-6 #78 release site is located in Unit Letter A, Section 1, Township 27 North, Range 6 West, in Rio Arriba County, New Mexico. The release of an estimated 91 barrels (bbls) of condensate/produced water, discovered on March 16, 2016, was the result of corrosion of the above grade tank bottom.

A topographic map of the location reproduced from the United States Geological Society quadrangle map of the area is included as Figure 1 and an aerial site map is included as Figure 2.

2.0 Release Summary

Site Name	San Juan 28-6 #78		
Site Location Description	Unit Letter A, Section 1, Township 27 North, Range 6 West		
Wellhead GPS Location	N36.60768 and W107.41170	Release GPS Location	N36.60790 and W107.41182
Land Jurisdiction	Bureau of Land Management (BLM)	Discovery Date	March 16, 2016
Release Source	Above Grade Tank	Substance(s) Released	Condensate/Produced Water
Volume Released	Estimated 91 bbls	Volume Recovered	0 bbls
NMOCD Site Rank	10		
Distance to Nearest Surface Water	Unnamed, ephemeral wash located approximately 240 feet to the northwest which drains to Munoz Canyon		
Estimated Depth to Groundwater	Approximately 100 feet below grade surface (bgs)	Distance to Nearest Water Well or Spring	Greater than 1,000 feet

3.0 NMOCD Site Ranking

In accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills, and Releases (August 1993), this site was assigned a ranking score of 10 (Table 1).

Depth to groundwater at the site is estimated to be approximately 100 feet bgs based on the reported depth to water on a cathodic well report for this well.

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.

An unnamed, ephemeral wash traverses the area approximately 240 feet northwest of the release location which drains to Munoz Canyon.

Based on the ranking score of 10, action levels for remediated soils at the site are as follows: 10 milligrams per kilogram (mg/kg) benzene, 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX), and 1,000 mg/kg total petroleum hydrocarbons (TPH) as gasoline range organics (GRO) and diesel range organics (DRO).

4.0 Initial Site Assessment

4.1 Field Activities

On April 7, 2016, Rule Engineering, LLC (Rule) personnel conducted an initial site assessment to delineate the extents of the release which included advancing eight soil borings (SB-1 through SB-8) utilizing a hand auger. Soil borings were advanced to depths ranging from 4.5 to 7 feet bgs where auger refusal was encountered on sandstone. A sample location map showing the boring locations is included as Figure 3.

4.2 Soil Sampling

Rule collected soil samples from the soil borings at selected intervals. The lithology encountered at the site included clayey silty sand underlain by sandstone. A portion of each sample was field screened for volatile organic compounds (VOCs) and selected samples were analyzed for TPH. Field screening for VOC vapors was conducted with a 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 total hydrocarbon analyzer. Prior to field analysis, the machine was calibrated following the manufacturer's procedure which includes calculation of a calibration curve using known concentration standards.

4.3 Field Screening Results

Field screening results for samples collected from soil borings SB-1 and SB-8 indicated VOC concentrations ranging from 0.0 ppm to 3,275 ppm. Field TPH results for samples collected from soil borings SB-1 through SB-8 indicated TPH concentrations ranging from below the reporting limit of 20 mg/kg to greater than 2,500 mg/kg. Field screening results are summarized in Table 2.

5.0 Excavation Confirmation Sampling

5.1 Field Activities

On May 31, 2016, Rule personnel returned to the location to provide excavation guidance and collect confirmation samples from the resultant excavation. Sierra Oilfield Services Inc. provided heavy equipment operation and support.

The maximum extent of the excavation measured approximately 36 feet by 42 feet by 7 to 9 feet deep in the main excavation area and approximately 18.5 feet by 25.5 feet by 5 to 6 feet in depth (1.5 feet below the original depth) in the BGT area. The impacted soils were transported to the Envirotech Landfarm near Bloomfield, New Mexico for disposal/remediation and the excavation was backfilled with clean, imported material. A depiction of the final excavation with sample locations is included on Figure 3.

5.2 Soil Sampling

Rule collected six composite confirmation soil samples (SC-1 and SC-6) from the final excavation for field screening and laboratory analysis. Each confirmation soil sample is a representative composite comprised of five equivalent portions of soil collected from the sampled area.

A portion of each sample was field screened for VOCs and TPH. Field screening for VOC vapors was conducted with a PID. Prior to field screening, the PID was calibrated with 100 ppm isobutylene gas. Field analysis for TPH was conducted for selected samples per USEPA Method 418.1, utilizing a total hydrocarbon analyzer. Prior to field analysis, the machine was calibrated following the manufacturer's procedure which includes calculation of a calibration curve using known concentration standards.

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

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

5.3 Field Screening Results

Field screening results for soil confirmation samples SC-1 through SC-6 indicated VOC concentrations ranging from 70.6 ppm to 1,238 ppm. The field TPH concentration results for samples SC-1 through SC-6 ranged from 46.3 mg/kg to 419 mg/kg. Field screening results are summarized in Table 3.

5.4 Laboratory Analytical Results

Laboratory analytical results for excavation confirmation samples SC-1 through SC-8 reported benzene concentrations below the laboratory reporting limits, which are below the NMOCD action level of 10 mg/kg. Total BTEX concentrations for samples SC-1 through SC-8 ranged from below the laboratory reporting limits to 0.55 mg/kg, which are below the NMOCD action level of 50 mg/kg. Concentration of TPH (GRO/DRO) for samples SC-1 through SC-8 ranged from below the laboratory reporting limits to 216 mg/kg, which are below the NMOCD action level of 1,000 mg/kg for a site rank of 10.

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

6.0 Conclusions

The ConocoPhillips San Juan 28-6 #78 release site is located in Unit Letter A, Section 1, Township 27 North, Range 6 West, in Rio Arriba County, New Mexico. The release of an estimated 91 bbls of condensate/produced water, discovered on March 16, 2016, was the result of the failure of corrosion of the above ground tank bottom. Following the excavation of hydrocarbon impacted soils, confirmation samples SC-1 through SC-8 were collected from the resultant excavation which measured at the maximum extent approximately 36 feet by 42 feet by 7 to 9 feet deep in the main excavation area and approximately 18.5 feet by 25.5 feet by 5 to 6 feet in depth (1.5 feet below the original depth) in the BGT area. Laboratory analytical results for confirmation samples SC-1 through SC-8 reported benzene, total BTEX, and total TPH (GRO/DRO) concentrations below the applicable NMOCD action levels for a site rank of 10. The impacted soils were transported to the Envirotech Landfarm for disposal/remediation and the excavation was backfilled with clean, imported material.

Based on laboratory analytical results of the confirmation soil samples, no further work is recommended at this time.

7.0 Closure and Limitations

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

Tables

Table 1. NMOCD Site Ranking Determination
ConocoPhillips
San Juan 28-6 #78
Rio Arriba County, New Mexico

Ranking Criteria	Ranking Score	Site-Based Ranking Score	Basis for Determination	Data Sources
Depth to Groundwater				
<50 feet	20	0	Elevation differential information derived from the topographic map of the area and depth to groundwater 100 feet on cathodic protection report.	NMOCD Online database, Santos Peak Quadrangle, Google Earth, and Visual Inspection
50-99 feet	10			
>100 feet	0			
Wellhead Protection Area				
<1,000 feet from a water source, or <200 feet from private domestic water source	20 (Yes)	0	No water source or recorded water wells within 1,000 foot radius of location.	NMOSE NMWRRS, Santos Peak Quadrangle, Google Earth, and Visual Inspection
	0 (No)			
Distance to Surface Water Body				
<200 horizontal feet	20	10	An unnamed, ephemeral wash located approximately 240 feet northwest of release location which drains to the wash in Munoz Canyon.	Santos Peak Quadrangle, Google Earth, and Visual Inspection
200 to 1,000 horizontal feet	10			
>1,000 horizontal feet	0			
Site Based Total Ranking Score		10		

**Table 2. Initial Site Assessment Field Screening Results
ConocoPhillips
San Juan 28-6 #78
Rio Arriba County, New Mexico**

Sample Name	Date	Approximate Sample Depth (ft bgs)	Field VOCs by PID (ppm)	Field TPH by 418.1 (mg/kg)
NMOCD Action Level*			100	1,000
SB-1	4/7/2016	1.5	1,400	--
		2	1,180	--
		4.5	2,650	--
SB-2	4/7/2016	0.5	1,701	--
		2	1,093	--
		4	992	--
		6.25	1,808	>2,500
SB-3	4/7/2016	1	2,796	--
		2	952	--
		3	1,602	--
		7	3,275	>2,500
SB-4	4/7/2016	0.5	3.0	--
		2	2.6	--
SB-5	4/7/2016	2	6.7	--
		3.5	2.2	--
		5	1.9	--
		5.25	1.1	--
SB-6	4/7/2016	0.5	11.0	--
		3	50.0	--
		4	150	--
		4.5	70.0	--
		6	310	--
SB-7	4/7/2016	1	0.7	--
		2	387	--
		3.5	654	<20.0
		6	159	--
SB-8	4/7/2016	1.5	0.0	--
		3	0.0	--
		4.5	1.0	--
		4.75	0.9	--

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

VOCs - volatile organic compounds

PID - photoionization detector

ft bgs - feet below grade surface

ppm - parts per million

mg/kg - milligrams per kilogram

TPH - total petroleum hydrocarbons

NMOCD - New Mexico Oil Conservation Division

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

**Based on a site ranking of 10.

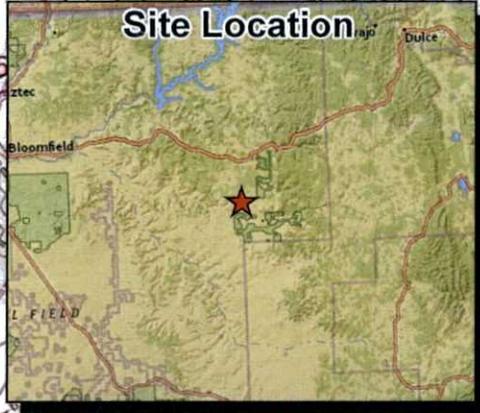
**Table 3. Excavation Confirmation Field Screening and Laboratory Analytical Results
ConocoPhillips
San Juan 27-6 #78
Rio Arriba County, New Mexico**

Sample Name	Date	Approximate Sample Depth (ft bgs)	Field VOCs by PID (ppm)	Field TPH by 418.1 (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH as GRO (mg/kg)	TPH as DRO (mg/kg)
NMOCOD Action Level*			100	1,000**	10	NE	NE	NE	50	1,000**	
SC-1	5/31/2016	7 to 9	485	55.3	<0.023	<0.047	<0.047	<0.093	<0.210	<4.7	36
SC-2	5/31/2016	6	200	179	<0.024	<0.049	<0.049	0.55	0.55	18	120
SC-3	5/31/2016	0 to 6	460	46.3	<0.025	<0.050	<0.050	<0.099	<0.224	<5.0	14
SC-4	5/31/2016	0 to 7	813	185	<0.024	<0.047	<0.047	<0.095	<0.213	17	22
SC-5	5/31/2016	0 to 9	70.6	54.0	<0.024	<0.048	<0.048	<0.095	<0.215	<4.8	<9.8
SC-6	5/31/2016	5 to 6	1,238	419	<0.018	<0.037	<0.037	0.18	0.18	46	170

Notes: VOCs - volatile organic compounds
 PID - photoionization detector
 ft bgs - feet below grade surface
 ppm - parts per million
 mg/kg - milligrams per kilogram
 NE - not-established
 ND - not detected above laboratory reporting limits
 BTEX - benzene, toluene, ethylbenzene, and xylenes
 TPH - total petroleum hydrocarbons
 GRO - gasoline range organics
 DRO - diesel range organics
 NMOCOD - New Mexico Oil Conservation Division
 *Based on the NMOCOD *Guidelines for Remediation of Leaks, Spills and Releases (August 1993)*
 **Based on a site ranking of 10.

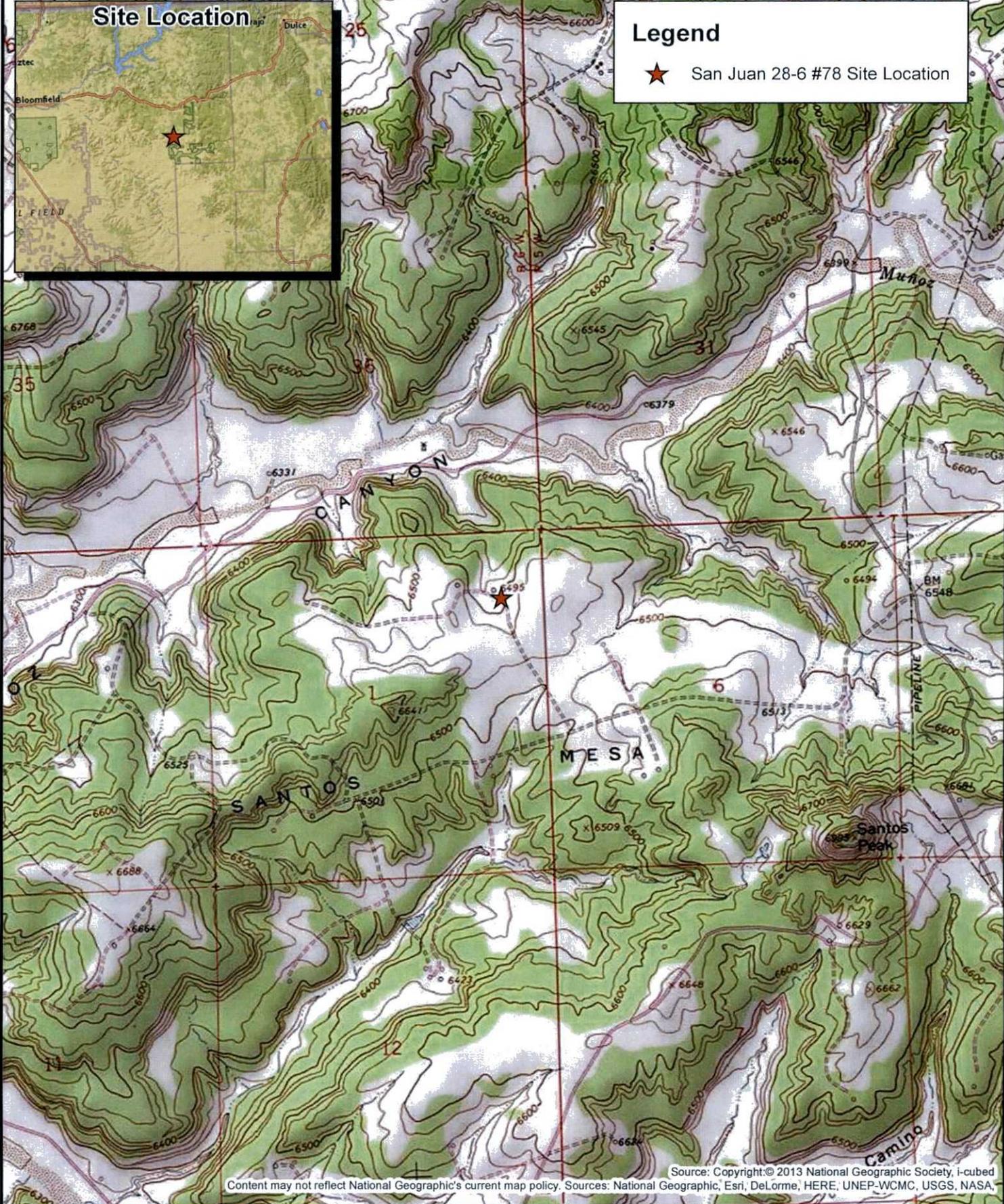
Figures

Site Location



Legend

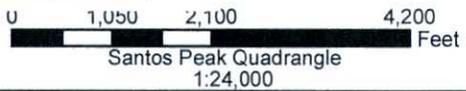
★ San Juan 28-6 #78 Site Location



Source: Copyright © 2013 National Geographic Society, i-cubed
 Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA,

Document Path: U:\ConocoPhillips\ConocoPhillips\San Juan 28-6 Unit 78\San Juan 28-6 Unit 78 Topo Map (A).mxd

Rule Engineering, LLC
 Solutions to Regulations for Industry



A-S01-T27N-R06W
 N36.60768, W107.41170
 Rio Arriba County, NM
 API: 30-039-07204

Figure 1
Topographic Map
 San Juan 28-6 #78

Legend

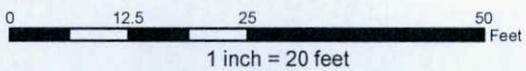
★ San Juan 28-6 #78 Wellhead

□ Berm



Source: Google Earth

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ConocoPhillips

A-S01-T27N-R06W
N36.60768, W107.41170
Rio Arriba County, NM
API: 30-039-07204

Figure 2
Aerial Site Map
San Juan 28-6 #78

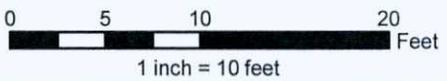
Legend

-  Final Excavation Extents
-  Assessment Soil Boring Locations
-  Berm



Source: Google Earth

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Solutions to Regulations for Industry



A-S01-T27N-R06W
 N36.60768, W107.41170
 Rio Arriba County, NM
 API: 30-039-07204

Figure 3
Sample Location Map
 San Juan 28-6 #78

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

June 07, 2016

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

RE: CoP San Juan 28-6 #78

OrderNo.: 1606014

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 5 sample(s) on 6/1/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

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

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: SC-1

Project: CoP San Juan 28-6 #78

Collection Date: 5/31/2016 10:35:00 AM

Lab ID: 1606014-001

Matrix: SOIL

Received Date: 6/1/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	36	9.5		mg/Kg	1	6/3/2016 2:56:31 PM	25629
Surr: DNOP	115	70-130		%Rec	1	6/3/2016 2:56:31 PM	25629
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	6/3/2016 3:51:44 PM	25622
Surr: BFB	129	80-120	S	%Rec	1	6/3/2016 3:51:44 PM	25622
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	6/3/2016 3:51:44 PM	25622
Toluene	ND	0.047		mg/Kg	1	6/3/2016 3:51:44 PM	25622
Ethylbenzene	ND	0.047		mg/Kg	1	6/3/2016 3:51:44 PM	25622
Xylenes, Total	ND	0.093		mg/Kg	1	6/3/2016 3:51:44 PM	25622
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	6/3/2016 3:51:44 PM	25622

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

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: SC-2

Project: CoP San Juan 28-6 #78

Collection Date: 5/31/2016 10:40:00 AM

Lab ID: 1606014-002

Matrix: SOIL

Received Date: 6/1/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	120	9.8		mg/Kg	1	6/3/2016 4:02:11 PM	25629
Surr: DNOP	101	70-130		%Rec	1	6/3/2016 4:02:11 PM	25629
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	18	4.9		mg/Kg	1	6/3/2016 5:49:09 PM	25622
Surr: BFB	206	80-120	S	%Rec	1	6/3/2016 5:49:09 PM	25622
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	6/3/2016 5:49:09 PM	25622
Toluene	ND	0.049		mg/Kg	1	6/3/2016 5:49:09 PM	25622
Ethylbenzene	ND	0.049		mg/Kg	1	6/3/2016 5:49:09 PM	25622
Xylenes, Total	0.55	0.097		mg/Kg	1	6/3/2016 5:49:09 PM	25622
Surr: 4-Bromofluorobenzene	110	80-120		%Rec	1	6/3/2016 5:49:09 PM	25622

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

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: SC-3

Project: CoP San Juan 28-6 #78

Collection Date: 5/31/2016 10:47:00 AM

Lab ID: 1606014-003

Matrix: SOIL

Received Date: 6/1/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	14	9.6		mg/Kg	1	6/3/2016 4:24:01 PM	25629
Surr: DNOP	105	70-130		%Rec	1	6/3/2016 4:24:01 PM	25629
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/2/2016 11:57:30 PM	25622
Surr: BFB	114	80-120		%Rec	1	6/2/2016 11:57:30 PM	25622
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	6/2/2016 11:57:30 PM	25622
Toluene	ND	0.050		mg/Kg	1	6/2/2016 11:57:30 PM	25622
Ethylbenzene	ND	0.050		mg/Kg	1	6/2/2016 11:57:30 PM	25622
Xylenes, Total	ND	0.099		mg/Kg	1	6/2/2016 11:57:30 PM	25622
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	6/2/2016 11:57:30 PM	25622

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

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: SC-4

Project: CoP San Juan 28-6 #78

Collection Date: 5/31/2016 10:52:00 AM

Lab ID: 1606014-004

Matrix: SOIL

Received Date: 6/1/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	22	9.2		mg/Kg	1	6/3/2016 4:45:58 PM	25629
Surr: DNOP	97.0	70-130		%Rec	1	6/3/2016 4:45:58 PM	25629
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	17	4.7		mg/Kg	1	6/3/2016 6:12:38 PM	25622
Surr: BFB	213	80-120	S	%Rec	1	6/3/2016 6:12:38 PM	25622
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	6/3/2016 6:12:38 PM	25622
Toluene	ND	0.047		mg/Kg	1	6/3/2016 6:12:38 PM	25622
Ethylbenzene	ND	0.047		mg/Kg	1	6/3/2016 6:12:38 PM	25622
Xylenes, Total	ND	0.095		mg/Kg	1	6/3/2016 6:12:38 PM	25622
Surr: 4-Bromofluorobenzene	110	80-120		%Rec	1	6/3/2016 6:12:38 PM	25622

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

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: SC-5

Project: CoP San Juan 28-6 #78

Collection Date: 5/31/2016 11:00:00 AM

Lab ID: 1606014-005

Matrix: SOIL

Received Date: 6/1/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	6/3/2016 5:08:03 PM	25629
Surr: DNOP	111	70-130		%Rec	1	6/3/2016 5:08:03 PM	25629
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/3/2016 6:36:03 PM	25622
Surr: BFB	116	80-120		%Rec	1	6/3/2016 6:36:03 PM	25622
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	6/3/2016 6:36:03 PM	25622
Toluene	ND	0.048		mg/Kg	1	6/3/2016 6:36:03 PM	25622
Ethylbenzene	ND	0.048		mg/Kg	1	6/3/2016 6:36:03 PM	25622
Xylenes, Total	ND	0.095		mg/Kg	1	6/3/2016 6:36:03 PM	25622
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	6/3/2016 6:36:03 PM	25622

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1606014

07-Jun-16

Client: Rule Engineering LLC
Project: CoP San Juan 28-6 #78

Sample ID	MB-25629	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	25629	RunNo:	34675					
Prep Date:	6/2/2016	Analysis Date:	6/3/2016	SeqNo:	1069818	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	8.9		10.00		89.3	70	130			

Sample ID	LCS-25629	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	25629	RunNo:	34675					
Prep Date:	6/2/2016	Analysis Date:	6/3/2016	SeqNo:	1069819	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	104	62.6	124			
Surr: DNOP	4.3		5.000		85.2	70	130			

Sample ID	1606014-001AMS	SampType:	MS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	SC-1	Batch ID:	25629	RunNo:	34676					
Prep Date:	6/2/2016	Analysis Date:	6/3/2016	SeqNo:	1070614	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	93	9.3	46.69	36.02	123	33.9	141			
Surr: DNOP	5.1		4.669		109	70	130			

Sample ID	1606014-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	SC-1	Batch ID:	25629	RunNo:	34676					
Prep Date:	6/2/2016	Analysis Date:	6/3/2016	SeqNo:	1070615	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	92	9.8	48.78	36.02	115	33.9	141	1.67	20	
Surr: DNOP	4.9		4.878		100	70	130	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1606014

07-Jun-16

Client: Rule Engineering LLC
Project: CoP San Juan 28-6 #78

Sample ID	MB-25622	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	25622	RunNo:	34635					
Prep Date:	6/1/2016	Analysis Date:	6/2/2016	SeqNo:	1068922	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	1100		1000		106	80	120			

Sample ID	LCS-25622	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	25622	RunNo:	34635					
Prep Date:	6/1/2016	Analysis Date:	6/2/2016	SeqNo:	1068923	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	80	120			
Surr: BFB	1600		1000		161	80	120			S

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1606014

07-Jun-16

Client: Rule Engineering LLC
Project: CoP San Juan 28-6 #78

Sample ID	MB-25622	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	25622	RunNo:	34635					
Prep Date:	6/1/2016	Analysis Date:	6/2/2016	SeqNo:	1068955	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		105	80	120			

Sample ID	LCS-25622	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	25622	RunNo:	34635					
Prep Date:	6/1/2016	Analysis Date:	6/2/2016	SeqNo:	1068984	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	95.1	75.3	123			
Toluene	0.97	0.050	1.000	0	97.4	80	124			
Ethylbenzene	1.0	0.050	1.000	0	99.8	82.8	121			
Xylenes, Total	3.0	0.10	3.000	0	99.3	83.9	122			
Surr: 4-Bromofluorobenzene	1.1		1.000		109	80	120			

Qualifiers:

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

Sample Log-In Check List

Client Name: **RULE ENGINEERING LL** Work Order Number: **1606014** RcptNo: **1**

Received by/date: [Signature] 06/01/16

Logged By: **Ashley Gallegos** 6/1/2016 7:15:00 AM [Signature]

Completed By: **Ashley Gallegos** 6/1/2016 10:15:36 AM [Signature]

Reviewed By: [Signature] 06/01/16

Chain of Custody

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

Log In

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

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

Special Handling (if applicable)

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

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

17. Additional remarks:

18. Cooler Information

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

Chain-of-Custody Record

Client: Rule Engineering, LLC

Billing Address: 501 Airport Dr, Suite 205

Location: Edmington, NM 87401

Phone #: (505) 716-2787

Mail or Fax: woods@ruleengineering.com

Standard: Level 4 (Full Validation)

Accreditation: NELAP Other _____

Project Manager: Heather Woods

Sampler: H. Woods

On Ice: Yes No

Sample Temperature: 10

Project #: Corp San Juan 28-6 #78

Turn-Around Time: Standard Rush

Project Name: _____

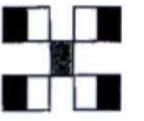
Received by: Matthew Wheeler Date: 5/31/14 Time: 1040

Relinquished by: Heather Woods Date: 5/31/14 Time: 1100

Received by: Chris DeBorja Date: 6/11/14 Time: 1040

Relinquished by: Matthew Wheeler Date: 6/11/14 Time: 1040

Date: 5/31/2015



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

BTEX + MTBE + TPH (8021)	
BTEX + MTBE + TPH (Gas only)	
TPH 8015B (GRO / DRO / TPH)	
TPH (Method 418.1)	
EDB (Method 504.1)	
PAH's (8310 or 8270 SIMS)	
RCRA 8 Metals	
Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	
8081 Pesticides / 8082 PCB's	
8260B (VOA)	
8270 (Semi-VOA)	
Air Bubbles (Y or N)	

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No
5/31/14	1035	Soil	SC-1	(1) 4oz Glass	cold	-001
5/31/14	1040	Soil	SC-2			-002
5/31/14	1047	Soil	SC-3			-003
5/31/14	1052	Soil	SC-4			-004
5/31/14	1100	Soil	SC-5			-005
HEALTHY						

Remarks: Direct 8:11 to ConocoPhillips

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



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

June 03, 2016

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

RE: COP San Juan 28-6 78

OrderNo.: 1606002

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/1/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

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

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: SC-6

Project: COP San Juan 28-6 78

Collection Date: 5/31/2016 10:30:00 AM

Lab ID: 1606002-001

Matrix: SOIL

Received Date: 6/1/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH
Diesel Range Organics (DRO)	170	9.4		mg/Kg	1	6/1/2016 9:55:23 AM	25598
Surr: DNOP	75.6	70-130		%Rec	1	6/1/2016 9:55:23 AM	25598
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	46	3.7		mg/Kg	1	6/1/2016 10:47:40 AM	25568
Surr: BFB	544	80-120	S	%Rec	1	6/1/2016 10:47:40 AM	25568
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.018		mg/Kg	1	6/1/2016 10:47:40 AM	25568
Toluene	ND	0.037		mg/Kg	1	6/1/2016 10:47:40 AM	25568
Ethylbenzene	ND	0.037		mg/Kg	1	6/1/2016 10:47:40 AM	25568
Xylenes, Total	0.18	0.074		mg/Kg	1	6/1/2016 10:47:40 AM	25568
Surr: 4-Bromofluorobenzene	129	80-120	S	%Rec	1	6/1/2016 10:47:40 AM	25568

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1606002

03-Jun-16

Client: Rule Engineering LLC

Project: COP San Juan 28-6 78

Sample ID	MB-25598	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	25598	RunNo:	34589					
Prep Date:	6/1/2016	Analysis Date:	6/1/2016	SeqNo:	1066725	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	7.6		10.00		75.8	70	130			

Sample ID	LCS-25598	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	25598	RunNo:	34589					
Prep Date:	6/1/2016	Analysis Date:	6/1/2016	SeqNo:	1066858	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	98.7	62.6	124			
Surr: DNOP	3.7		5.000		73.2	70	130			

Sample ID	LCS-25570	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	25570	RunNo:	34590					
Prep Date:	5/31/2016	Analysis Date:	6/1/2016	SeqNo:	1068093	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.3		5.000		85.6	70	130			

Sample ID	MB-25570	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	25570	RunNo:	34590					
Prep Date:	5/31/2016	Analysis Date:	6/1/2016	SeqNo:	1068094	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.3		10.00		83.3	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1606002

03-Jun-16

Client: Rule Engineering LLC

Project: COP San Juan 28-6 78

Sample ID	MB-25568	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	25568	RunNo:	34598					
Prep Date:	5/31/2016	Analysis Date:	6/1/2016	SeqNo:	1067457	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	1100		1000		112	80	120			

Sample ID	LCS-25568	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	25568	RunNo:	34598					
Prep Date:	5/31/2016	Analysis Date:	6/1/2016	SeqNo:	1067458	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.1	80	120			
Surr: BFB	1200		1000		125	80	120			S

Sample ID	MB-25547	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	25547	RunNo:	34598					
Prep Date:	5/27/2016	Analysis Date:	6/1/2016	SeqNo:	1067478	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1200		1000		118	80	120			

Sample ID	LCS-25547	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	25547	RunNo:	34598					
Prep Date:	5/27/2016	Analysis Date:	6/1/2016	SeqNo:	1067479	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1300		1000		127	80	120			S

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1606002

03-Jun-16

Client: Rule Engineering LLC

Project: COP San Juan 28-6 78

Sample ID	MB-25568	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	25568	RunNo:	34598					
Prep Date:	5/31/2016	Analysis Date:	6/1/2016	SeqNo:	1067503	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.2		1.000		116	80	120			

Sample ID	LCS-25568	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	25568	RunNo:	34598					
Prep Date:	5/31/2016	Analysis Date:	6/1/2016	SeqNo:	1067504	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	103	75.3	123			
Toluene	1.0	0.050	1.000	0	101	80	124			
Ethylbenzene	0.99	0.050	1.000	0	98.9	82.8	121			
Xylenes, Total	3.0	0.10	3.000	0	99.3	83.9	122			
Surr: 4-Bromofluorobenzene	1.2		1.000		124	80	120			S

Qualifiers:

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

Sample Log-In Check List

Client Name: RULE ENGINEERING LL

Work Order Number: 1606002

RcptNo: 1

Received by/date: _____

Logged By: Anne Thorne 6/1/2016 7:15:00 AM

Anne Thorne

Completed By: Anne Thorne 6/1/2016

Anne Thorne

Reviewed By: *JB* 6/1/16

Chain of Custody

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

Log In

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

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

Special Handling (if applicable)

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

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

17. Additional remarks:

18. Cooler Information

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

Chain-of-Custody Record

Turn-Around Time:

Client: Rule Engineering, LLC

Standard Rush Same Day

Project Name:

mailing Address: 501 Airport Dr, Suite 205

Project #: CoP San Juan 28-6 #78

Phone #: (505) 716-2787

mail or Fax#: hw@ruleengineering.com

Project Manager:

AOC Package: Level 4 (Full Validation)

Sampler: H. Woods

Accreditation

NELAP Other _____

EDD (Type)

On Ice: Yes No
Sample Temperature: 10

Date Time Matrix Sample Request ID

Container Type and #

Preservative Type

HEAL No.

3/16 1030 Soil SC-1c

ADP/ADL KIT
1049 glass

None / cold

100002
201

X BTEX + MTBE + TPH (8021)

BTEX + MTBE + TPH (Gas only)

X TPH 8015B (GRO / DRO / ~~TPH~~)

TPH (Method 418.1)

EDB (Method 504.1)

PAH's (8310 or 8270 SIMS)

RCRA 8 Metals

Anions (F, Cl, NO₃, NO₂, PO₄, SO₄)

8081 Pesticides / 8082 PCB's

8260B (VOA)

8270 (Semi-VOA)

Air Bubbles (Y or N)

Relinquished by:

Received by:

Date Time

Remarks:

3/16 1640 Heather M. Woods

Misty White

5/31/16 1640

Direct Bill to ConocoPhillips

3/16 2015 Michelle Bole

Chen



HALL ENVIRONMENTAL
ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request