

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

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

OIL CONS. DIV DIST. 3

JUL 29 2015

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company ConocoPhillips Company	Contact Crystal Walker
Address 3401 East 30th St, Farmington, NM	Telephone No. (505) 326-9837
Facility Name: Primo 1	Facility Type: Gas Well

Surface Owner BLM	Mineral Owner BLM (SF-078215-B)	API No. 30-045-11019
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LOCATION OF RELEASE

Unit Letter K	Section 6	Township 31N	Range 10W	Feet from the 1650	North/South Line South	Feet from the 1650	East/West Line West	County San Juan
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Latitude 36.92477 Longitude -107.92744

NATURE OF RELEASE


Type of Release Produced Fluids	Volume of Release Unknown	Volume Recovered 50 cu. yds
Source of Release Production Tank	Date and Hour of Occurrence Unknown	Date and Hour of Discovery 6/22/2015
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

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

Describe Cause of Problem and Remedial Action Taken.*
Production Tank Re-set Activities

Describe Area Affected and Cleanup Action Taken.*
Historical hydrocarbon impacted soil was found during the production tank being re-set for the subject well. The excavation was 18'x 17' x 4' and 50 yds of soil was transported to IEI landfarm and 50 yds of clean soil was transported and placed in the excavation site. 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: Crystal Walker	Approved by Environmental Specialist: 		
Title: Field Environmental Specialist	Approval Date: 8/12/15	Expiration Date:	
E-mail Address: crystal.walker@conocophillips.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date:	Phone: (505) 326-9837		

* Attach Additional Sheets If Necessary

#NCS 1522434321

Primo 1
Release Report
Unit Letter K, Section 06, Township 31N, Range 10W
N36.92477, W107.92744
San Juan County, New Mexico
July 22, 2015

Prepared for:

ConocoPhillips
San Juan Business Unit
5525 Highway 64
Farmington, New Mexico 87401

Prepared by:

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

ConocoPhillips Primo 1 Release Report

Prepared for:

ConocoPhillips
San Juan Business Unit
5525 Highway 64
Farmington, New Mexico 87401

Prepared by:

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



Deborah Watson, PG, Geologist

Reviewed by:



Russell Knight, PG, Principal Hydrogeologist

July 22, 2015

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1 Introduction

A historic release was discovered below the 300 barrel (bbl) production tank at the ConocoPhillips Primo 1 well pad on June 22, 2015. The ConocoPhillips Primo 1 well pad is located in Unit Letter K, Section 6, Township 31N, Range 10W in San Juan County, New Mexico on Federal land. Remedial activities included excavation of hydrocarbon impacted soils and confirmation soil sampling. A topographic map of the location is included as Figure 1 and an aerial site map is included as Figure 2.

2 Release Summary

Site Name – Primo 1

Location – Unit Letter K (NE/SW), Section 6, Township 31N, Range 10W

API Number – 30-045-11019

Location Latitude/Longitude – N36.92477 and W107.92744, respectively

Release Latitude/Longitude – N36.92480 and W107.92776, respectively

Land Jurisdiction – Bureau of Land Management (BLM)

Date Release Discovered – June 22, 2015

Agency Jurisdiction – BLM and NMOCD

Source of Release – historic

Release Contents – unknown

Release Volume – unknown

NMOCD Ranking – 10

Date(s) of Rule Engineering, LLC (Rule) Field Work – June 22, 2015

Subcontractor(s) – Kelley Oilfield Services, Inc. (Kelley)

Disposal Facility – Industrial Ecosystems, Inc. (Permit #NM-01-0010B)

Amount of Contaminated Soil Excavated/Disposed – estimated 50 cubic yards

3 Site Ranking

In accordance with 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). Based on the ranking score of 10, action levels for remediated soils at the site are as follows: 10 mg/kg benzene, 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX), and 1,000 mg/kg total petroleum hydrocarbons (TPH).

Depth to groundwater at the site was estimated to be 90 feet below ground surface (bgs) based on the cathodic report for the Primo 1 which reported moisture at 90 feet bgs.

A review was completed of the New Mexico Office of the State Engineer online New Mexico Water Rights Reporting System and no water wells were identified within a 1,000 feet radius of the location. Water well SJ 02150 and SJ 02389 located approximately 0.75 miles from the location and at elevations greater than 100 feet below the Primo 1 had recorded depths to water of 23 and 30 feet bgs.

The nearest surface water, an unnamed wash which drains to the San Juan River is located approximately 1,057 feet southwest of the location.

4 Field Activities

On June 22, 2015, historic contamination was discovered below the 300 bbl production tank during facility reset activities. On June 22, 2015, Kelley excavated the petroleum impacted materials from within the release area. Rule personnel provided excavation oversight and conducted field screening activities during remediation activities. On June 22, 2015, based on visual observation and field screening results, the excavation was halted, and Rule personnel collected five confirmation samples (SC-1 through SC-5) from the sidewalls and base of the excavation. Approximately 50 cubic yards of impacted soils were removed from an area of excavation measuring approximately 18 feet x 17 feet x 3.7 feet in depth. Figure 3 provides the locations and results of the soil samples collected during the excavation clearance.

5 Soil Sampling

Rule collected five confirmation soil samples from the sidewalls and base of the excavation. Soil samples SC-1 through SC-5 were collected on June 22, 2015. Each soil sample was collected as a composite of sub-samples from within the sample locations. A portion of each composite soil sample was field screened for volatile organic compounds (VOCs) and field analyzed for total petroleum hydrocarbons (TPH) per USEPA Method 418.1.

Field screening for VOC vapors was conducted with a photo-ionization detector (PID). Before beginning field screening, the PID was calibrated with 100 parts per million (ppm) isobutylene gas.

Field analysis for TPH was conducted using 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 for gasoline range organics (GRO) and diesel range organics (DRO) per USEPA Method 8015D.

Field results for soil confirmation samples reported VOC concentrations above the NMOCD action levels of 100 ppm in all samples. Samples SC-1 through SC-5 had TPH concentrations below the NMOCD action levels of 1,000 mg/kg. Laboratory analytical results for soil confirmation samples SC-1 through SC-5 reported benzene, total BTEX, and TPH (GRO+DRO) concentrations below the applicable NMOCD action levels. Field sampling and laboratory analytical results are summarized in Table 2 and presented on Figure 3. The analytical laboratory report is included in Appendix A.

6 Conclusions

A historic release was discovered below the 300 bbl production tank at the ConocoPhillips Primo 1 on June 22, 2015. Remedial activities included excavation of approximately 50 cubic yards of hydrocarbon contaminated soils from within the impacted area. The final excavation measured 18 feet x 17 feet x 3.7 feet in depth. Five confirmation soil samples were collected from the sidewalls and base of the final excavation on June 22, 2015.

Field VOCs were reported above the NMOCD action level of 100 ppm in all samples. Laboratory analytical results for soil confirmation samples (SC-1 through SC-5) reported benzene and total BTEX concentrations below the NMOCD action levels of 10 mg/kg and 50 mg/kg, respectively. All soil confirmation samples reported field and laboratory TPH concentrations below the NMOCD action level of 1,000 mg/kg.

Based on laboratory analytical results, no further work is recommended.

7 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 proposal, the report, and Rule's 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
Primo 1
San Juan County, New Mexico
ConocoPhillips

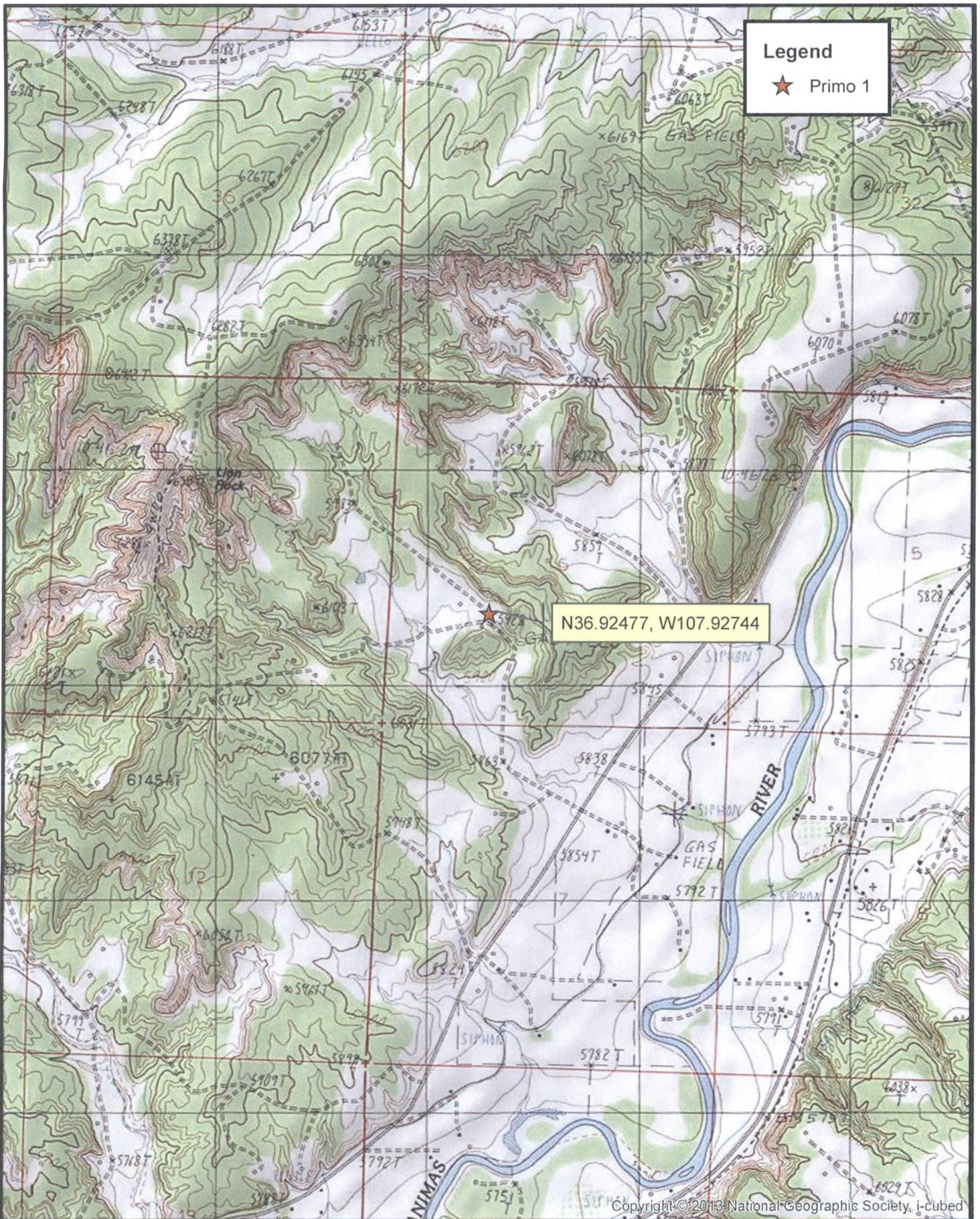
Ranking Criteria	Ranking Score	Site-Based Ranking Score	Basis for Determination	Data Sources
Depth to Groundwater				
<50 feet	20	10	Cathodic Report for the Primo 1 reports moisture at 90 feet bgs.	NMOCD Online database, Cedar Hill Quadrangle, Google Earth, and Visual Inspection
50-99 feet	10			
>100 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 feet radius of location. Water wells SJ 02150, SJ 02389, and SJ 03079 are located 0.75 miles southeast of the location.	NMOSE NMWRRS, Cedar Hill Quadrangle, Google Earth, and Visual Inspection
	0 (No)			
Distance to Surface Water Body				
<200 horizontal feet	20	0	Unnamed wash (blue line) located 1,057 feet southwest of location which drains to the San Juan River.	Cedar Hill 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. Soil Sampling Results-VOCs, Benzene, Total BTEX, and TPH
Primo 1
San Juan County, New Mexico
ConocoPhillips

Sample ID	Date	Location	Sample Depth (ft bgs)	VOCs* (PID) (ppm)	TPH* (418.1) (mg/kg)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH-GRO	TPH-DRO
								(mg/kg)	
EPO/NMOCD Action Levels**				100	1,000	10	50	1,000	
SC-1	Jun 22, 15	North Wall	0 to 3.7	277	759	<0.047	0.17	14	220
SC-2	Jun 22, 15	South Wall	0 to 3.7	762	736	<0.031	3.8	110	430
SC-3	Jun 22, 15	East Wall	0 to 3.7	345	459	<0.035	1.1	40	150
SC-4	Jun 22, 15	West Wall	0 to 3.7	539	492	<0.038	1.9	56	250
SC-5	Jun 22, 15	Base	3.7	766	736	<0.034	0.77	57	310

Notes: * field results
 ft bgs - feet below ground surface
 VOCs - volatile organic compounds
 PID - photo-ionization detector
 ppm - parts per million
 mg/kg - milligrams/kilograms
 TPH-total petroleum hydrocarbons
 BTEX - benzene, toluene, ethylbenzene, and xylenes
 TPH-GRO - total petroleum hydrocarbons-gasoline range organics
 TPH-DRO - total petroleum hydrocarbons-diesel range organics
 **NMOCD Guidelines for Remediation of Leaks, Spills, and Releases (1993)

Figures



Legend

★ Primo 1

N36.92477, W107.92744

Copyright © 2013 National Geographic Society, i-cubed

Rule Engineering, LLC
Solutions to Regulations for industry

0 1,000 2,000 3,000 4,000 Feet

Location
K-6-T31N-R10W
N36.92477, W107.92744
San Juan County, New Mexico

Topographic Map
ConocoPhillips
Primo 1
API: #30-045-11019

Date: 7/20/2015 File: 150715 Primo 1 Topographic Map

Figure: 1



Legend

- Below Grade Tank (BGT)
- Former Above Ground Storage Tank (AST)
- Berm
- Fence
- Separator
- Compressor
- Well Head

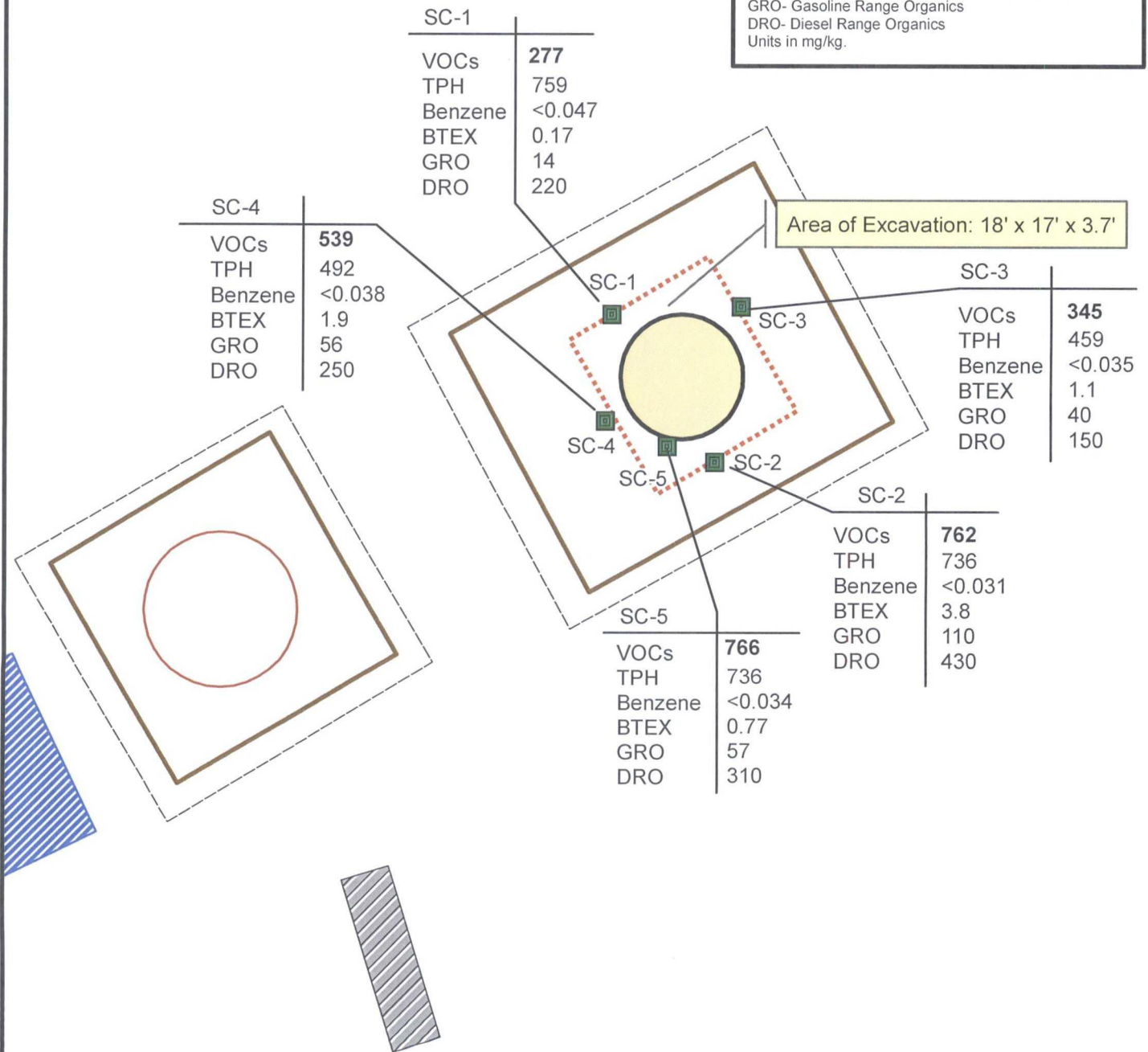
Release Location
N36.92480, W107.92776

Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

-  Soil Sample
-  Well Head
-  Berm
-  Excavation
-  Fence
-  Below Grade Tank (BGT)
-  Former Above Ground Storage Tank (AST)
-  Separator
-  Compressor

Soil samples collected on June 22, 2015.
VOCs- Volatile Organic Compounds (ppm)
TPH- Total Petroleum Hydrocarbons; analyzed per 418.1
BTEX- Benzene, Toluene, Ethylbenzene, Xylenes
GRO- Gasoline Range Organics
DRO- Diesel Range Organics
Units in mg/kg.



Appendix A

Analytical Laboratory Report



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

June 26, 2015

Deborah Watson

Rule Engineering LLC
501 Airport Dr., Ste 205
Farmington, NM 87401
TEL: (505) 860-2712
FAX

RE: Primo 1

OrderNo.: 1506A33

Dear Deborah Watson:

Hall Environmental Analysis Laboratory received 5 sample(s) on 6/23/2015 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 horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 1506A33

Date Reported: 6/26/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: SC-1

Project: Primo 1

Collection Date: 6/22/2015 1:20:00 PM

Lab ID: 1506A33-001

Matrix: SOIL

Received Date: 6/23/2015 6:58:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH
Diesel Range Organics (DRO)	220	9.9		mg/Kg	1	6/25/2015 4:55:06 PM	19916
Surr: DNOP	106	57.9-140		%REC	1	6/25/2015 4:55:06 PM	19916
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	14	4.7		mg/Kg	1	6/24/2015 10:25:58 PM	19882
Surr: BFB	208	75.4-113	S	%REC	1	6/24/2015 10:25:58 PM	19882
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.047		mg/Kg	1	6/24/2015 10:25:58 PM	19882
Toluene	ND	0.047		mg/Kg	1	6/24/2015 10:25:58 PM	19882
Ethylbenzene	ND	0.047		mg/Kg	1	6/24/2015 10:25:58 PM	19882
Xylenes, Total	0.17	0.093		mg/Kg	1	6/24/2015 10:25:58 PM	19882
Surr: 4-Bromofluorobenzene	101	80-120		%REC	1	6/24/2015 10:25:58 PM	19882

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1506A33

Date Reported: 6/26/2015

CLIENT: Rule Engineering LLC

Client Sample ID: SC-2

Project: Primo 1

Collection Date: 6/22/2015 3:15:00 PM

Lab ID: 1506A33-002

Matrix: SOIL

Received Date: 6/23/2015 6:58:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH
Diesel Range Organics (DRO)	430	99		mg/Kg	10	6/25/2015 3:28:13 PM	19916
Surr: DNOP	0	57.9-140	S	%REC	10	6/25/2015 3:28:13 PM	19916
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	110	3.1		mg/Kg	1	6/24/2015 10:54:43 PM	19882
Surr: BFB	1240	75.4-113	S	%REC	1	6/24/2015 10:54:43 PM	19882
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.031		mg/Kg	1	6/24/2015 10:54:43 PM	19882
Toluene	ND	0.031		mg/Kg	1	6/24/2015 10:54:43 PM	19882
Ethylbenzene	0.26	0.031		mg/Kg	1	6/24/2015 10:54:43 PM	19882
Xylenes, Total	3.5	0.062		mg/Kg	1	6/24/2015 10:54:43 PM	19882
Surr: 4-Bromofluorobenzene	224	80-120	S	%REC	1	6/24/2015 10:54:43 PM	19882

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1506A33

Date Reported: 6/26/2015

CLIENT: Rule Engineering LLC

Client Sample ID: SC-3

Project: Primo 1

Collection Date: 6/22/2015 1:24:00 PM

Lab ID: 1506A33-003

Matrix: SOIL

Received Date: 6/23/2015 6:58:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH
Diesel Range Organics (DRO)	150	10		mg/Kg	1	6/25/2015 6:21:07 PM	19916
Surr: DNOP	106	57.9-140		%REC	1	6/25/2015 6:21:07 PM	19916
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	40	3.5		mg/Kg	1	6/24/2015 11:23:21 PM	19882
Surr: BFB	511	75.4-113	S	%REC	1	6/24/2015 11:23:21 PM	19882
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.035		mg/Kg	1	6/24/2015 11:23:21 PM	19882
Toluene	ND	0.035		mg/Kg	1	6/24/2015 11:23:21 PM	19882
Ethylbenzene	0.059	0.035		mg/Kg	1	6/24/2015 11:23:21 PM	19882
Xylenes, Total	1.0	0.069		mg/Kg	1	6/24/2015 11:23:21 PM	19882
Surr: 4-Bromofluorobenzene	134	80-120	S	%REC	1	6/24/2015 11:23:21 PM	19882

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1506A33

Date Reported: 6/26/2015

CLIENT: Rule Engineering LLC

Client Sample ID: SC-4

Project: Primo 1

Collection Date: 6/22/2015 4:10:00 PM

Lab ID: 1506A33-004

Matrix: SOIL

Received Date: 6/23/2015 6:58:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH
Diesel Range Organics (DRO)	250	9.9		mg/Kg	1	6/25/2015 7:03:56 PM	19916
Surr: DNOP	108	57.9-140		%REC	1	6/25/2015 7:03:56 PM	19916
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	56	3.8		mg/Kg	1	6/24/2015 11:52:00 PM	R27049
Surr: BFB	494	75.4-113	S	%REC	1	6/24/2015 11:52:00 PM	R27049
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.038		mg/Kg	1	6/24/2015 11:52:00 PM	19882
Toluene	ND	0.038		mg/Kg	1	6/24/2015 11:52:00 PM	19882
Ethylbenzene	0.17	0.038		mg/Kg	1	6/24/2015 11:52:00 PM	19882
Xylenes, Total	1.7	0.077		mg/Kg	1	6/24/2015 11:52:00 PM	19882
Surr: 4-Bromofluorobenzene	138	80-120	S	%REC	1	6/24/2015 11:52:00 PM	19882

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1506A33

Date Reported: 6/26/2015

CLIENT: Rule Engineering LLC

Client Sample ID: SC-5

Project: Primo 1

Collection Date: 6/22/2015 4:15:00 PM

Lab ID: 1506A33-005

Matrix: SOIL

Received Date: 6/23/2015 6:58:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH
Diesel Range Organics (DRO)	310	9.8		mg/Kg	1	6/25/2015 7:46:45 PM	19916
Surr: DNOP	117	57.9-140		%REC	1	6/25/2015 7:46:45 PM	19916
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	57	3.4		mg/Kg	1	6/25/2015 1:18:17 AM	R27049
Surr: BFB	765	75.4-113	S	%REC	1	6/25/2015 1:18:17 AM	R27049
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.034		mg/Kg	1	6/25/2015 1:18:17 AM	19882
Toluene	ND	0.034		mg/Kg	1	6/25/2015 1:18:17 AM	19882
Ethylbenzene	ND	0.034		mg/Kg	1	6/25/2015 1:18:17 AM	19882
Xylenes, Total	0.77	0.067		mg/Kg	1	6/25/2015 1:18:17 AM	19882
Surr: 4-Bromofluorobenzene	153	80-120	S	%REC	1	6/25/2015 1:18:17 AM	19882

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1506A33

26-Jun-15

Client: Rule Engineering LLC

Project: Primo 1

Sample ID	MB-19916	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	19916	RunNo:	27076					
Prep Date:	6/24/2015	Analysis Date:	6/25/2015	SeqNo:	809972	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	8.8		10.00		87.9	57.9	140			

Sample ID	LCS-19916	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	19916	RunNo:	27076					
Prep Date:	6/24/2015	Analysis Date:	6/25/2015	SeqNo:	809973	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	85.3	57.4	139			
Surr: DNOP	4.6		5.000		91.3	57.9	140			

Sample ID	1506A33-001AMS	SampType:	MS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	SC-1	Batch ID:	19916	RunNo:	27076					
Prep Date:	6/24/2015	Analysis Date:	6/25/2015	SeqNo:	810053	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	250	10	50.05	222.8	53.3	42.3	146			
Surr: DNOP	5.8		5.005		116	57.9	140			

Sample ID	1506A33-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	SC-1	Batch ID:	19916	RunNo:	27076					
Prep Date:	6/24/2015	Analysis Date:	6/25/2015	SeqNo:	810054	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	210	9.7	48.64	222.8	-22.8	42.3	146	16.4	28.9	S
Surr: DNOP	5.9		4.864		121	57.9	140	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1506A33

26-Jun-15

Client: Rule Engineering LLC

Project: Primo 1

Sample ID	MB-19882	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	19882	RunNo:	27049					
Prep Date:	6/23/2015	Analysis Date:	6/24/2015	SeqNo:	808572	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	840		1000		84.2	75.4	113			

Sample ID	LCS-19882	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	19882	RunNo:	27049					
Prep Date:	6/23/2015	Analysis Date:	6/24/2015	SeqNo:	808573	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	98.6	64	130			
Surr: BFB	920		1000		92.3	75.4	113			

Sample ID	B25	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	R27049	RunNo:	27049					
Prep Date:		Analysis Date:	6/24/2015	SeqNo:	808583	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	870		1000		87.0	75.4	113			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	R27049	RunNo:	27049					
Prep Date:		Analysis Date:	6/24/2015	SeqNo:	808584	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	5.0	25.00	0	80.8	64	130			
Surr: BFB	910		1000		91.4	75.4	113			

Sample ID	1506A33-004AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	SC-4	Batch ID:	R27049	RunNo:	27049					
Prep Date:		Analysis Date:	6/25/2015	SeqNo:	808586	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	73	3.8	19.17	55.82	89.7	47.9	144			
Surr: BFB	3800		766.9		493	75.4	113			S

Sample ID	1506A33-004AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	SC-4	Batch ID:	R27049	RunNo:	27049					
Prep Date:		Analysis Date:	6/25/2015	SeqNo:	808587	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1506A33

26-Jun-15

Client: Rule Engineering LLC

Project: Primo 1

Sample ID	1506A33-004AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	SC-4	Batch ID:	R27049	RunNo:	27049					
Prep Date:		Analysis Date:	6/25/2015	SeqNo:	808587	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	72	3.8	19.17	55.82	84.5	47.9	144	1.36	29.9	
Surr: BFB	3600		766.9		475	75.4	113	0	0	S

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH Not In Range
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1506A33

26-Jun-15

Client: Rule Engineering LLC

Project: Primo 1

Sample ID	MB-19882	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID: 19882			RunNo: 27049					
Prep Date:	6/23/2015	Analysis Date: 6/24/2015			SeqNo: 808592		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.86		1.000		86.4	80	120			

Sample ID	LCS-19882		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 19882		RunNo: 27049					
Prep Date:	6/23/2015		Analysis Date: 6/24/2015		SeqNo: 808593		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	105	76.6	128			
Toluene	1.0	0.050	1.000	0	102	75	124			
Ethylbenzene	1.0	0.050	1.000	0	104	79.5	126			
Xylenes, Total	3.1	0.10	3.000	0	103	78.8	124			
Surr: 4-Bromofluorobenzene	0.94		1.000		94.5	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH Not In Range
RL Reporting Detection Limit

Sample Log-In Check List

Client Name: **RULE ENGINEERING LL**

Work Order Number: **1506A33**

RcptNo: **1**

Received by/date: CM 06/23/15

Logged By: **Anne Thorne** 6/23/2015 6:58:00 AM

Completed By: **Anne Thorne** 6/23/2015

Reviewed By: [Signature] 06/24/15

Anne Thorne

Anne Thorne

Chain of Custody

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

Log In

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

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

Special Handling (if applicable)

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

Person Notified:	_____	Date:	_____
By Whom:	_____	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.8	Good	Yes			

Chain-of-Custody Record

Client: Ruk Engineering

Mailing Address: 501 Airport
Suite 205 Farmington NM

Phone #: 505 860 2712

email or Fax#:

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

Primo 1

Project #:

Project Manager:

D Watson

Sampler: D Watson

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.8

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No	BTEX + MTBE + TPH (Gas only)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
1-22-15	1320	Soil	SC-1	1-4oz 1-NOTH cold Mealt		1506A33	X		X									
	1515	Soil	SC-2			W2	X		X									
	1324	Soil	SC-3			W03	X		X									
	1410	Soil	SC-4			W04	X		X									
	1615	Soil	SC-5			W05	X		X									

Date: 4/22/15 Time: 1840 Relinquished by: Debrah Water

Received by: Christina White Date: 4/22/15 Time: 1840

Remarks: Invoice COP #0612315
Network #: WAN-CFO, 5008, FC. 32
User: KGARCIA
ordered by Doyle Clark

Date: 4/22/15 Time: 1910 Relinquished by: Mustie Weter

Received by: [Signature] Date: 04/23/15 Time: 0658



HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Analysis Request