### State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised August 8, 2011

50

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

### **Release Notification and Corrective Action**

	OPERATOR	Initial Report	Final Repo
Name of Company ConocoPhillips Company	Contact Clara Cardoza		
Address 1001 Arizona St	Telephone No. 505/215/7336		
Facility Name San Juan Gas Plant	Facility Type Gas Processing	Plant	

LOCATION OF RELEASE

North/South Line

Surface Owner Priva	te
---------------------	----

Section

14

Township

29N

Range

11W

Unit Letter

Mineral Owner

API No. N/A

East/West Line Co

ine County San Juan

Latitude <u>36.7316</u> Longitude

Feet from the

\_\_\_\_ Longitude\_-107.9678

Feet from the

#### NATURE OF RELEASE

Type of Release Historic	Volume of Release TBD	Volume Recovered TBD		
Source of Release Pumps	Date and Hour of Occurrence	Date and Hour of Discovery		
Was Immediate Notice Given?	If YES, To Whom?	011 -		
Yes No X Not Required		OIL CONS		
By Whom?	Date and Hour	. DIV Die		
Was a Watercourse Reached?	If YES, Volume Impacting the Wate	ercourse. Allo		
🗌 Yes 🖾 No		706 03 2010		
If a Watercourse was Impacted, Describe Fully.*				
Describe Cause of Problem and Remedial Action Taken.*				
During demolition of EPBC (ethane propane butane condensate) pump skids at the plant site, historic contamination was encountered. ConocoPhillips				
Company (COPC) continued demolition/excavation segregating visibly co	ntaminated soil to be land farmed offs	site.		

Describe Area Affected and Cleanup Action Taken.\*

There are three affected areas, which are hereafter referred to as the west, center and east areas. In the west area, COPC continued excavation/demolition until visibly clean soil was reached both vertically and horizontally. The center area of the excavation has been dug out approximately 13' and visibly clean soil has not been reached. In the east area, there is visible staining under a concrete slab that is used for plant operations, and COPC does not intend to excavate under that slab at this time. NMOCD was contacted and witnessed sampling in the visibly clean west area (initial 5-point composite sampling was completed on June 30, 2016). NMOCD granted approval to leave the center and east areas in current condition pending further sampling. COPC has contracted an environmental company for delineation in the center and east areas with a geo-probe, and that work is tentatively scheduled for August 8, 2016.

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.

Clard, Card	OIL CONSERVATION DIVISION
Signature:	Approved by Environmental Specialist:
Printed Name: Clara M Cardoza	
Title: Environmental Coordinator	Approval Date: 8/22/16 Expiration Date:
E-mail Address: clara.m.cardoza@cop.com	Conditions of Approval:
Date: Phone:505-215-7336	Operatore must Failly Deburne Allactica
Attach Additional Sheets If Necessary	Release Both HorizontiAy Anus verifically. Test soil's
HNCS1623548612 FOR DEC	3 THH to Include (GRO. DRO. MRO)

### 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 in accordance with 19.15.29 NMAC.

#### **Release Notification and Corrective Action**

	OPERATOR	L Initia	al Report 🛛 Final Repo
Name of Company ConocoPhillips Compan	y Contact Clara Ca	ırdoza	
Address 1001 Arizona St	Telephone No. 5	05/215/7336	
Facility Name San Juan Gas Plant	Facility Type Ga	s Processing Plant	
Surface Owner Private	Mineral Owner	API No	5. N/A

				LOCA	ATION OF RE	LEASE		
Unit Letter	Section 14	Township 29N	Range 11W	Feet from the	North/South Line	Feet from the	East/West Line	County San Juan
	-						ULU	UNUTUIT

Latitude 36.7316 Longitude -107.9678

DEC 15 2016

NATURE OF RELEASE					
Type of Release Historic	Volume of Release Unknown	Volume Recovered Zero			
Source of Release Pumps	Date and Hour of Occurrence	Date and Hour of Discovery			
Was Immediate Notice Given?	If YES, To Whom?				
🗌 Yes 🔲 No 🖾 Not Required					
By Whom?	Date and Hour				
Was a Watercourse Reached?	If YES, Volume Impacting the Wate	ercourse.			
🗌 Yes 🖾 No					
If a Watercourse was Impacted, Describe Fully.*					

Describe Cause of Problem and Remedial Action Taken.\*

During demolition of EPBC (ethane propane butane condensate) pump skids at the plant site, historic contamination was encountered. ConocoPhillips Company (COPC) excavated an area of approximately 35 ft x 35 ft to various depths until visibly clean soil was reached.

Describe Area Affected and Cleanup Action Taken.\*

There are three affected areas, which are hereafter referred to as the west, center and east areas. In the west area, COPC excavated until visibly clean soil was reached both vertically and horizontally. The center area of the excavation was dug out approximately 13' until visibly clean soil was reached. In the east area, there is visible staining under a concrete slab that is used for plant operations, and COPC does not excavate under the slab to maintain the integrity of the slab and protect the equipment that is still in service. A Geoprobe® was used in the excavated to ensure cleanup standards were met. Outside of the excavated area hand-auger was utilized just north of the excavation and east to determine the reach of the historic contamination. All walls of the excavation and hand-auger samples were clear and met the NMOCD cleanup standards for the site ranking of 30. All cleanup actions are described in full detail in the attached report prepared by Rule Engineering, LLC.

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.

	OIL CONSERVATIO	N DIVISION
Clarde Care		1-5/
Signature:	Approved by Environmental Specialist:	Za
Printed Name: Clara M Cardoza		$\bigcirc$
Title: Environmental Coordinator	Approval Date: //23/17 Expiratio	n Date:
E-mail Address: clara.m.cardoza@cop.com	Conditions of Approval: Operator	Attached 1
Date: December 13, 2016 Phone:505-215-7336	Will Investigate Any turther Invests unlos Conside SIAB	Attached
Attach Additional Sheets If Necessary	IF Renord or Dones PSA.	
#NCS 16235 486 12		

### Smith, Cory, EMNRD

From: Sent: To: Cc: Subject: Smith, Cory, EMNRD Monday, January 23, 2017 9:45 AM 'Cardoza, Clara M' Fields, Vanessa, EMNRD RE: Final Report San Juan Gas Plant

Clara,

I have approved COPC Final C-141 with the following conditions of Approval:

 COPC will investigate any remaining contamination below the concrete slabs if/when they are removed or during decommission.

If you have any additional questions please give me a call.

Cory Smith Environmental Specialist Oil Conservation Division Energy, Minerals, & Natural Resources 1000 Rio Brazos, Aztec, NM 87410 (505)334-6178 ext 115 cory.smith@state.nm.us

From: Cardoza, Clara M [mailto:Clara.M.Cardoza@conocophillips.com]
Sent: Tuesday, December 13, 2016 9:05 AM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Cc: Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>
Subject: Final Report San Juan Gas Plant

#### Cory,

Attached please find the final C-141 and remediation report prepared by Rule Engineering for the historic contamination at the San Juan Gas Plant. Should you have any questions or require additional information please contact me at the number listed below. A hard copy of the report will follow in the mail.

Happy holidays,

#### Clara M Cardoza

San Juan Asset/Rockies BU 505/326/9710 (0) 505/215/7336 (C)

Please consider the environment before printing this email.

# San Juan Gas Plant Release Report

Unit Letter D, Section 14, Township 29 North, Range 11 West San Juan County, New Mexico

October 31, 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 Gas Plant 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. W.

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

Reviewed by:

Russell Knight, PG, Principal Hydrogeologist

October 31, 2016

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Table 2	Field Screening and Laboratory Analytical Results
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Figure 2	Aerial Site Map

### Appendices

Appendix A Analytical Laboratory Reports

Rule

### 1.0 Introduction

The ConocoPhillips San Juan Gas Plant release site is located in Unit Letter D, Section 14, Township 29 North, Range 11 West, in San Juan County, New Mexico. The historical release was discovered beneath a concrete slab during construction operations at the site.

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	San Juan Gas Plant	San Juan Gas Plant			
Site Location Description	Unit Letter D, Section 14, Township 29 North, Range 11 West				
Release GPS Location	N36.73111 and W107.96719Release SourceHistorical (beneath concrete slab)				
Land Jurisdiction	Private				
NMOCD Site Rank	30				
Distance to Nearest Surface Water	The San Juan Gas Plant's stormwater detention pond is located approximately 390 feet to the southwest and Citizens Ditch is located approximately 575 feet to the southwest				
Estimated Depth to Groundwater	Estimated to be less than 50 feet below grade surface (bgs)Distance to Nearest Water Well or SpringGreater than 1,000				

### 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 30 (Table 1).

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.

Depth to groundwater at the site is estimated to be less than 50 feet bgs based on the reported depth to water of 10 feet bgs for water well SJ 01426 located approximately 1,700 feet to the southeast at a similar elevation as the release location.

ku e

The San Juan Gas Plant's stormwater detention pond is located approximately 390 feet southwest of the release location and Citizens Ditch is located approximately 575 feet to the southwest.

Based on the ranking score of 30, 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 100 mg/kg total petroleum hydrocarbons (TPH). New Mexico Environment Department (NMED) Soil Screening Levels (SSL) for Industrial Use apply for metal concentrations in remediated soils at the site and include: 21.5 mg/kg arsenic, 255,000 mg/kg barium, 1,100 mg/kg cadmium, 800 mg/kg lead, 6,490 mg/kg selenium, 6,490 mg/kg silver, and 112 mg/kg mercury.

### 4.0 Field Activities

Following the removal of the portion of the concrete slab associated with the site construction scheduled for demolition and completion of the excavation of impacted soils, Rule Engineering, LLC (Rule) personnel collected three soils samples (SC-1 through SC-3) from the sidewalls of the excavation on July 25, 2016. The excavation measured approximately 35 feet by 35 feet and sloped downwards from the original ground surface in the southwest corner to 10 feet in depth in the northeast corner. To protect neighboring concrete slabs and equipment from damage by further excavation, ConocoPhillips was authorized to backfill the excavation with clean, imported material before continued horizontal and vertical delineation. Excavated soil was transported to Envirotech Landfarm near Bloomfield, New Mexico for disposal/remediation.

On August 8, 2016, three soil borings (SB-1 through SB-3) were advanced in and near the excavation area utilizing a Geoprobe® operated by Kyvek Energy Services, Inc. Lithology encountered in the borings consisted of fill material underlain by interbedded sandy clay and clayey sand to the total depths of the borings ranging from approximately 8 to 13.5 feet bgs. Staining and odor was only observed in soil boring SB-1 which is located in the central portion of the remedial excavation at depths from 10 to 12 feet bgs.

On August 23, 2016, two hand-auger soil borings were advanced. Soil boring AB-1 was advanced on the west side of the concrete slab and soil boring AB-2 was advanced to the north of the release area as close as permanent equipment in that area would allow. Soil borings AB-1 and AB-2 were advanced to total depths of approximately 8 and 12 feet, respectively, and the lithology encountered in these soil borings was similar to the previous borings. No staining or odor was observed in either hand-auger boring.

An aerial map showing the excavation and boring locations is included as Figure 2.

### 5.0 Soil Sampling

Rule collected confirmation soil samples from the excavation sidewalls and the soil borings at 1 to 2 foot intervals. Soil samples were not collected from the upper ten feet of soil borings SB-1 and SB-2 located in the backfilled excavation area.



Field screening was not performed for excavation confirmation samples SC-1 through SC-3. A portion of each soil boring sample 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.

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. Selected samples were analyzed for BTEX per USEPA Method 8021B, TPH per USEPA Method 8015M/D, mercury per USEPA Method 7471, and/or soil metals per USEPA Method 8010B.

Field screening and laboratory analytical results are summarized in Tables 2 and 3. The analytical laboratory reports are included in Appendix A.

### 6.0 Field Screening and Results

Field screening was not performed for excavation confirmation samples SC-1 through SC-3. Field screening results for samples collected from soil borings SB-1 through SB-3, AB-1, and AB-2 indicated VOC concentrations ranging from 0.4 ppm to 7.0 ppm. Field TPH results for selected samples collected from soil borings SB-1 through SB-3, AB-1, and AB-2 indicated TPH concentrations ranging from below the reporting limit of 20 mg/kg to 27.1 mg/kg. Field screening results are summarized in Table 2.

### 7.0 Laboratory Analytical Results

Laboratory analytical results for the excavation confirmation samples (SC-1 through SC-3) and soil boring samples (SB-1 through SB-3, AB-1, and AB-2) reported the benzene, total BTEX, and TPH concentrations below laboratory reporting limits, except for excavation confirmation sample SC-1, which reported a TPH as mineral oil range organics (MRO) concentration of 130 mg/kg. The laboratory reporting limits for benzene, total BTEX, and TPH are all below the applicable NMOCD action levels. The TPH concentration of 130 mg/kg in excavation confirmation sample SC-1 exceeds the NMOCD action level of 100 mg/kg for a site rank of 10. Laboratory analytical results for soil metals indicate concentrations below the NMED SSL for Industrial Use for all three samples analyzed (SC-1 through SC-3).

Laboratory analytical results are summarized in Tables 2 and 3. The analytical laboratory reports are included in Appendix A.



### 8.0 Conclusions

The ConocoPhillips San Juan Gas Plant release site is located in Unit Letter D, Section 14, Township 29 North, Range 11 West, in San Juan County, New Mexico. The historical release was discovered beneath a concrete slab during construction operations at the site. Following the excavation of hydrocarbon impacted soils, confirmation samples SC-1 through SC-3 were collected from the sidewalls excavation which measured approximately 35 feet by 35 feet with a base sloping downwards from the ground surface in the southwest corner to approximately 10 feet in depth in the northeast corner. Laboratory analytical results for confirmation sample SC-1 associated with the east sidewall of the excavation reported a TPH as MRO concentration of 130 mg/kg, which exceeds the NMOCD action level for a site rank of 30. Excavated soil was transported to Envirotech Landfarm and the excavation was backfilled with clean, imported soils to address safety concerns and protect the foundations of neighboring equipment.

Soil borings SB-1 through SB-3, AB-1, and AB-2 were advanced to assess soils left in place at the base of the recently backfilled excavation and to assess potential migration of contaminates remaining beneath the neighboring concrete slab to the east of the excavation. Laboratory analysis of soil samples collected form the soil borings was utilized to confirm field screening results that no benzene, total BTEX, TPH, or soil metal concentrations were reported for the soil borings in excess of NMOCD action levels and NMED SSL for Industrial Use.

Based on field screening and laboratory analytical results of the soil samples collected from the excavation and soil borings, no further work is recommended at this time. However, soils remaining in place beneath the presently used concrete slab to the east of the excavation location should be assessed during future equipment modifications or as part of decommissioning the San Juan Gas Plant facility.

### 9.0 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. Field Screening and Laboratory Analytical Results ConocoPhillips San Juan Gas Plant

San Juan County, New Mexico

1.1.1.1			Field Screening Laboratory Ana					Analytical Results		
1340		Sample Depth (ft	VOCs* (PID)	TPH* (418.1)	Benzene	Total BTEX	TPH - GRO	TPH - DRO	TPH - MRO	
Sample ID	Date	bgs)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	
	NMOO	D Action Levels**	100	100	10	50		100		
SC-1	7/25/2016	0 to 10			< 0.024	<0.217	<4.8	<9.8	130	
SC-2	7/25/2016	0 to 10			< 0.024	<0.220	<4.9	<9.9	<49	
SC-3	7/25/2016	0 to 10			< 0.024	<0.216	<4.8	<9.9	<49	
		10 to 11	7.0	<20.0						
SB-1	8/8/16	11 to 12	6.7	20.0	< 0.024	<0.215	<4.8	<9.8	<49	
		12.5 to 13.5	1.0	<20.0						
SR 2	8/8/16	10 to 11	1.0							
50-2	0/0/10	11 to 12	1.6	27.1	< 0.024	<0.216	<4.8	<9.6	<48	
	8/8/16	1.5 to 2.5	1.8	20.0	< 0.024	< 0.216	<4.8	<9.5	<48	
CR 2		3 to 4	1.5							
30-3		4.5 to 5.5	2.7	<20.0						
		7 to 8	2.6							
		0.5	3.0		<0.024	<0.212	<4.7	<9.8	<49	
		1	1.0							
		2	1.5							
	9/22/16	3	0.8							
AD-1	0/23/10	4	1.3							
		5	0.9							
		6	0.6							
		8	0.5		<0.025	<0.224	<5.0	<10	<50	



### Table 1. Field Screening and Laboratory Analytical Results ConocoPhillips San Juan Gas Plant San Juan County, New Mexico

			Field Screening		Laboratory Analytical Results						
		Sample Depth (ft	VOCs* (PID)	TPH* (418.1)	Benzene	Total BTEX	TPH - GRO	TPH - DRO	TPH - MRO		
Sample ID	Date	bgs)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)		
	NMOC	D Action Levels**	100	100	10	50		100			
		1	0.5								
		2	0.5		-						
		3	1.0	-	-						
		4	0.4	-							
AB-2	8/23/16	5	0.7								
		6	1.1								
		8	1.2	-	< 0.023	<0.211	<4.7	<9.7	<48		
		10	0.5								
		12	1.4		< 0.023	<0.207	<4.6	<9.9	<49		

TPH - total petroleum hydrocarbons

GRO - gasoline range organics

MRO - mineral oil range organics

DRO - diesel range organics

Notes: ft bgs - feet below ground surface

VOCs - volatile organic compounds

PID - photo-ionization detector

ppm - parts per million

mg/kg - milligrams/kilograms

BTEX - benzene, toluene, ethylbenzene, and xylenes

\* field results

\*\*NMOCD Guidelines for Remediation of Leaks, Spills, and Releases (1993)



Table 2. Laboratory Analytical Results - MetalsConocoPhillipsSan Juan Gas PlantSan Juan County, New Mexico

				Laboratory Analytical Results								
Sample ID	Date	Sample Depth (feet)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Mercury (mg/kg)		
NMED	Soil Screenir	ng Levels for										
	Inc	dustrial Use*	21.5	255,000	1,110	505	800	6,490	6,490	112		
SC-1	7/25/2016	0 to 10	<2.5	180	1.1	11	10	3.6	2.0	< 0.033		
SC-2	7/25/2016	0 to 10	<2.5	170	< 0.099	2.3	2.1	<2.5	<0.25	< 0.033		
SC-3	7/25/2016	0 to 10	<2.5	95	<0.099	2.4	2.5	<2.5	<0.25	< 0.032		

Notes: mg/kg - milligrams/kilogram

\*Per New Mexico Environment Department Risk Assessment Guidance for Investigatons and Remediation (July 2015)



Page 1 of 1

ConocoPhillips San Juan Gas Plant Release Report

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Figures

Rule



Topo. Plant 000 Philips/Conoco Plant/Con



Appendix A

Analytical Laboratory Reports

Rule

## 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

August 09, 2016

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

RE: SJGP

OrderNo.: 1607D04

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 3 sample(s) on 7/26/2016 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued August 04, 2016.

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. 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. All samples are reported as received unless otherwise indicated.

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

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

						Lab Order 1607D04					
Hall En	vironmental Analy	sis Laborat	ory, Inc.			Date Reported: 8/9/2016	i				
CLIENT:	Rule Engineering LLC		Client Sample ID: SC-2								
Project:	SJGP			Collection	Date: 7/2	5/2016 3:05:00 PM					
Lab ID:	1607D04-001	Matrix: S	OIL	Received	Date: 7/2	6/2016 7:50:00 AM					
Analyses		Result	PQL Qual	Units	DF	Date Analyzed	Batch				
EPA MET	HOD 7471: MERCURY					Analyst	pmf				
Mercury		ND	0.033	mg/Kg	1	7/27/2016 7:32:13 AM	26609				
EPA MET	HOD 6010B: SOIL METALS					Analyst:	MED				
Arsenic		ND	2.5	mg/Kg	1	7/27/2016 11:43:46 AM	26608				
Barium		170	0.099	mg/Kg	1	7/27/2016 11:43:46 AM	26608				
Cadmium	1	ND	0.099	mg/Kg	1	7/27/2016 11:43:46 AM	26608				
Chromiun	n	2.3	0.30	mg/Kg	1	7/27/2016 11:43:46 AM	26608				
Lead		2.1	0.25	mg/Kg	1	7/27/2016 11:43:46 AM	26608				
Selenium		ND	2.5	mg/Kg	1	7/27/2016 11:43:46 AM	26608				
Silver		ND	0.25	mg/Kg	1	7/27/2016 11:43:46 AM	26608				
EPA MET	HOD 8015M/D: DIESEL RAN	IGE ORGANICS				Analyst:	том				
Diesel Ra	ange Organics (DRO)	ND	9.9	mg/Kg	1	7/28/2016 6:41:56 PM	26603				
Motor Oil	Range Organics (MRO)	ND	49	mg/Kg	1	7/28/2016 6:41:56 PM	26603				
Surr: D	NOP	111	70-130	%Rec	1	7/28/2016 6:41:56 PM	26603				
EPA MET	HOD 8015D: GASOLINE RA	NGE				Analyst:	RAA				
Gasoline	Range Organics (GRO)	ND	4.9	mg/Kg	1	7/27/2016 2:48:30 PM	26606				
Surr: B	FB	104	80-120	%Rec	1	7/27/2016 2:48:30 PM	26606				
EPA MET	HOD 8021B: VOLATILES					Analyst:	RAA				
Benzene		ND	0.024	mg/Kg	1	7/27/2016 2:48:30 PM	26606				
Toluene		ND	0.049	mg/Kg	1	7/27/2016 2:48:30 PM	26606				
Ethylbenz	zene	ND	0.049	mg/Kg	1	7/27/2016 2:48:30 PM	26606				
Xylenes,	Total	ND	0.098	mg/Kg	1	7/27/2016 2:48:30 PM	26606				
Surr: 4	-Bromofluorobenzene	98.8	80-120	%Rec	1	7/27/2016 2:48:30 PM	26606				

**Analytical Report** 

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		
H Holding times for preparation or		Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 1 of 8		
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range		
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit		
	S	S % Recovery outside of range due to dilution or matrix		Sample container temperature is out of limit as specified		

Analytical	Report
------------	--------

Lab	Order	1607D04
240	O	TOOLFOIL

Date Reported: 8/9/2016

Batch

# Hall Environmental Analysis Laboratory, Inc.

.

 CLIENT: Rule Engineering LLC
 Client Sample ID: SC-3

 Project: SJGP
 Collection Date: 7/25/2016 3:15:00 PM

 Lab ID: 1607D04-002
 Matrix: SOIL
 Received Date: 7/26/2016 7:50:00 AM

 Analyses
 Result
 PQL
 Qual
 Units
 DF
 Date Analyzed

 EPA METHOD 7471: MERCURY
 Analyses
 Analyses
 Analyses

EPA METHOD 7471: MERCURY					Analyst:	pmf
Mercury	ND	0.032	mg/Kg	1	7/27/2016 7:34:03 AM	26609
EPA METHOD 6010B: SOIL METALS					Analyst:	MED
Arsenic	ND	2.5	mg/Kg	1	7/27/2016 11:45:37 AM	26608
Barium	95	0.099	mg/Kg	1	7/27/2016 11:45:37 AM	26608
Cadmium	ND	0.099	mg/Kg	1	7/27/2016 11:45:37 AM	26608
Chromium	2.4	0.30	mg/Kg	1	7/27/2016 11:45:37 AM	26608
Lead	2.5	0.25	mg/Kg	1	7/27/2016 11:45:37 AM	26608
Selenium	ND	2.5	mg/Kg	1	7/27/2016 11:45:37 AM	26608
Silver	ND	0.25	mg/Kg	1	7/27/2016 11:45:37 AM	26608
EPA METHOD 8015M/D: DIESEL RANGE OF	RGANI	CS			Analyst:	том
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	7/27/2016 5:27:27 PM	26603
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	7/27/2016 5:27:27 PM	26603
Surr: DNOP	75.0	70-130	%Rec	1	7/27/2016 5:27:27 PM	26603
EPA METHOD 8015D: GASOLINE RANGE					Analyst:	RAA
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	7/27/2016 3:12:02 PM	26606
Surr: BFB	105	80-120	%Rec	1	7/27/2016 3:12:02 PM	26606
EPA METHOD 8021B: VOLATILES					Analyst:	RAA
Benzene	ND	0.024	mg/Kg	1	7/27/2016 3:12:02 PM	26606
Toluene	ND	0.048	mg/Kg	1	7/27/2016 3:12:02 PM	26606
Ethylbenzene	ND	0.048	mg/Kg	1	7/27/2016 3:12:02 PM	26606
Xylenes, Total	ND	0.096	mg/Kg	1	7/27/2016 3:12:02 PM	26606
Surr: 4-Bromofluorobenzene	99.0	80-120	%Rec	1	7/27/2016 3:12:02 PM	26606

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix		Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of 8
	ND	<ul> <li>Not Detected at the Reporting Limit</li> <li>R RPD outside accepted recovery limits</li> <li>S % Recovery outside of range due to dilution or matrix</li> </ul>		Sample pH Not In Range
	R			Reporting Detection Limit
	S			Sample container temperature is out of limit as specified

Analytical	Report

Date Reported: 8/9/2016

Batch

#### Hall Environmental Analysis Laboratory, Inc. **CLIENT:** Rule Engineering LLC Client Sample ID: SC-1 **Project:** SJGP Collection Date: 7/25/2016 3:00:00 PM Lab ID: 1607D04-003 Matrix: SOIL Received Date: 7/26/2016 7:50:00 AM PQL Qual Units Analyses Result **DF** Date Analyzed **EPA METHOD 7471: MERCURY** Analyst: pmf Manaum 0 022 -----4 7/27/2016 7:25:54 AM

Mercury	ND	0.033	mg/Kg	1	7/27/2016 7:35:54 AM	26609
EPA METHOD 6010B: SOIL METALS					Analyst:	MED
Arsenic	ND	2.5	mg/Kg	1	7/27/2016 11:47:21 AM	26608
Barium	180	0.099	mg/Kg	1	7/27/2016 11:47:21 AM	26608
Cadmium	1.1	0.099	mg/Kg	1	7/27/2016 11:47:21 AM	26608
Chromium	11	0.30	mg/Kg	1	7/27/2016 11:47:21 AM	26608
Lead	10	0.25	mg/Kg	1	7/27/2016 11:47:21 AM	26608
Selenium	3.6	2.5	mg/Kg	1	7/27/2016 11:47:21 AM	26608
Silver	2.0	0.25	mg/Kg	1	7/27/2016 11:47:21 AM	26608
EPA METHOD 8015M/D: DIESEL RANGE OF	RGANI	cs			Analyst:	том
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	7/27/2016 5:55:50 PM	26603
Motor Oil Range Organics (MRO)	130	49	mg/Kg	1	7/27/2016 5:55:50 PM	26603
Surr: DNOP	80.0	70-130	%Rec	1	7/27/2016 5:55:50 PM	26603
EPA METHOD 8015D: GASOLINE RANGE					Analyst:	RAA
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	7/27/2016 3:35:36 PM	26606
Surr: BFB	107	80-120	%Rec	1	7/27/2016 3:35:36 PM	26606
EPA METHOD 8021B: VOLATILES					Analyst:	RAA
Benzene	ND	0.024	mg/Kg	1	7/27/2016 3:35:36 PM	26606
Toluene	ND	0.048	mg/Kg	1	7/27/2016 3:35:36 PM	26606
Ethylbenzene	ND	0.048	mg/Kg	1	7/27/2016 3:35:36 PM	26606
Xylenes, Total	ND	0.097	mg/Kg	1	7/27/2016 3:35:36 PM	26606
Surr: 4-Bromofluorobenzene	101	80-120	%Rec	1	7/27/2016 3:35:36 PM	26606

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	3 of 8
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	5010
	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 spe-	cified

### Hall Environmental Analysis Laboratory, Inc.

#### Client: Rule Engineering LLC Project: SJGP

.

Sample ID MB-26603	SampT	уре: МЕ	BLK	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: PBS	Batcl	h ID: 26	303 RunNo: 36010							
Prep Date: 7/26/2016	Analysis E	Date: 7/	27/2016	5	SeqNo: 1	115521	Units: mg/M	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.0		10.00		80.5	70	130			
Sample ID LCS-26603	SampT	ype: LC	S	Tes	tCode: El	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID: LCSS	Batcl	h ID: 26	603	F	RunNo: 3	6010				
Prep Date: 7/26/2016	Analysis D	Date: 7/	27/2016	S	SeqNo: 1	115716	Units: mg/k	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	101	62.6	124			
Surr: DNOP	4.5		5.000		90.9	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

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WO#: **1607D04** *09-Aug-16* 

# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

### Client: Rule Engineering LLC Project: SJGP

.

Sample ID LCS-26606	Samp	Type: LC	S	Tes	tCode: El	PA Method	8015D: Gase	line Rang	е	
Client ID: LCSS	Batc	h ID: 26	606	F	RunNo: 3	6031				
Prep Date: 7/26/2016	Analysis D	Date: 7/	27/2016	S	SeqNo: 1	115993	Units: mg/k	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.3	80	120			
Sur BEB	1100		1000		114	80	120			
Sull. DI D	1100		1000		114	00	120			
Sample ID MB-26606	Samp1	уре: МЕ	BLK	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	e	
Sample ID MB-26606 Client ID: PBS	SampT	Type: ME	3LK 606	Tes	tCode: El	PA Method	8015D: Gase	oline Rang	e	
Sample ID MB-26606 Client ID: PBS Prep Date: 7/26/2016	Samp Batcl Analysis E	Type: ME h ID: 26 Date: 7/	3LK 606 27/2016	Tes F	tCode: El RunNo: 3 SeqNo: 1	PA Method 6031 115994	8015D: Gaso Units: mg/F	bline Rang	e	
Sample ID MB-26606 Client ID: PBS Prep Date: 7/26/2016 Analyte	Samp1 Batcl Analysis D Result	Type: <b>ME</b> h ID: <b>26</b> Date: <b>7</b> / PQL	3LK 606 27/2016 SPK value	Tes F SPK Ref Val	tCode: El RunNo: 3 SeqNo: 1 %REC	PA Method 6031 115994 LowLimit	8015D: Gaso Units: mg/P HighLimit	oline Rang Kg %RPD	e RPDLimit	Qual
Sample ID MB-26606 Client ID: PBS Prep Date: 7/26/2016 Analyte Gasoline Range Organics (GRO)	SampT Batcl Analysis D Result ND	Type: <b>ME</b> h ID: <b>26</b> Date: <b>7</b> PQL 5.0	3LK 606 27/2016 SPK value	Tes F S SPK Ref Val	tCode: El RunNo: 3 SeqNo: 1 %REC	PA Method 6031 115994 LowLimit	8015D: Gaso Units: mg/H HighLimit	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

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WO#: 1607D04 09-Aug-16

### Hall Environmental Analysis Laboratory, Inc.

### Client: Rule Engineering LLC Project: SJGP

Sample ID LCS-26606	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batch	n ID: 26	606	F	RunNo: 36031					
Prep Date: 7/26/2016	Analysis D	ate: 7/	27/2016	S	SeqNo: 1	116018	Units: mg/k	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	1.000	0	99.4	75.3	123			
Toluene	0.96	0.050	1.000	0	96.3	80	124			
Ethylbenzene	0.97	0.050	1.000	0	96.9	82.8	121			
Xylenes, Total	2.9	0.10	3.000	0	96.7	83.9	122			
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			
Sample ID MB-26606	SampT	ype: ME	3LK	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: PBS	Batch	n ID: 26	606	F	RunNo: 3	6031				
Prep Date: 7/26/2016	Analysis D	ate: 7/	27/2016	S	SeqNo: 1	116019	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	0.99		1.000		98.6	80	120			

#### Qualifiers:

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

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WO#: 1607D04

Hall Environmental Analysis Laboratory, Inc.

#### Client: Rule Engineering LLC Project: SJGP

Sample ID MB-26609 Client ID: PBS	SampType: MBLK Batch ID: 26609	TestCode: EPA Method RunNo: 35996	7471: Mercury	
Prep Date: 7/26/2016	Analysis Date: 7/27/2016	SeqNo: 1114513	Units: mg/Kg	
Analyte	Result PQL SPK value	e SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Mercury	ND 0.033			
Sample ID LCS-26609	SampType: LCS	TestCode: EPA Method	7471: Mercury	
Sample ID LCS-26609 Client ID: LCSS	SampType: LCS Batch ID: 26609	TestCode: EPA Method RunNo: 35996	7471: Mercury	
Sample ID LCS-26609 Client ID: LCSS Prep Date: 7/26/2016	SampType: LCS Batch ID: 26609 Analysis Date: 7/27/2016	TestCode: EPA Method RunNo: 35996 SeqNo: 1114514	7471: Mercury Units: mg/Kg	
Sample ID LCS-26609 Client ID: LCSS Prep Date: 7/26/2016 Analyte	SampType: LCS Batch ID: 26609 Analysis Date: 7/27/2016 Result PQL SPK value	TestCode: EPA Method RunNo: 35996 SeqNo: 1114514 e SPK Ref Val %REC LowLimit	7471: Mercury Units: mg/Kg 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#: 1607D04 09-Aug-16

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# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

4.8

0.25

5.000

#### **Client:** Rule Engineering LLC SJGP

**Project:** 

.

Sample ID MB-26608	SampT	Гуре: МЕ	BLK	Tes	tCode: El	PA Method	6010B: Soil	Metals		
Client ID: PBS	Batcl	h ID: 26	608	F	RunNo: 3	6008				
Prep Date: 7/26/2016	Analysis D	Date: 7/	27/2016	S	SeqNo: 1	115243	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	2.5								
Barium	ND	0.10								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Lead	ND	0.25								
Selenium	ND	2.5								
Silver	ND	0.25								
Sample ID LCS-26608	Samp1	Type: LC	S	Tes	tCode: EF	PA Method	6010B: Soil I	Metals		
Client ID: LCSS	Batcl	h ID: 26	608	R	RunNo: 30	6008				
Prep Date: 7/26/2016	Analysis E	Date: 7/	27/2016	S	eqNo: 1	115247	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	25	2.5	25.00	0	99.7	80	120			
Barium	24	0.10	25.00	0	96.7	80	120			
Cadmium	24	0.10	25.00	0	97.3	80	120			
Chromium	24	0.30	25.00	0	96.4	80	120			
Lead	24	0.25	25.00	0	94 9	80	120			
	27	0.20	20.00	0	0 1.0	00	120			

0

96.7

80

120

Qualifiers:

Silver

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

WO#: 1607D04 09-Aug-16

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Sample pH Not In Range

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental Albu TEL: 505-345-3975 Website: www.hal	Anatysı: 4901 querque FAX: 50 Henviro	s Laboratory Hawkins NI e, NM 87109 05-345-4107 nmental.com	Samı	ple Log-In Cl	neck List
Client Name: RULE ENGINEERING LL	Work Order Number:	16070	004		RcptNo:	1
Received by/date:	07/24/14					
Logged By: Lindsay Mangin	7/26/2016 7:50:00 AM		6	Annalis Margo		
Completed By: Lindsay Mangin	7/26/2016 8:42:49 AM		(	Juntis Harpo		
Reviewed By:	4		L			
Chain of Custody						
1. Custody seals intact on sample bottles?		Yes		No 🗆	Not Present	
2. Is Chain of Custody complete?		Yes	$\checkmark$	No 🗌	Not Present	
3. How was the sample delivered?		Cour	ier			
Log In						
4. Was an attempt made to cool the samples?		Yes		No 🗌		
5. Were all samples received at a temperature	of >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	3)?	Yes	$\checkmark$	No 🗌		
8. Are samples (except VOA and ONG) proper	ly 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 broke	en?	Yes		No 🗹	# of preserved	
40 -					bottles checked	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes			(<2 0	r >12 unless noted)
13. Are matrices correctly identified on Chain of	Custody?	Yes		No 🗆	Adjusted?	
14, is it clear what analyses were requested?		Yes		No 🗌		
15. Were all holding times able to be met?		Yes		No 🗌	Checked by:	
(in no, notiny customer for authorization.)			_	_	_	
16. Was client notified of all discrepancies with	this order?	Yes		No 🗌	NA 🗹	1
Person Notified:	Date					
By Whom:	Via: [	eMa	ail 🗌 Pho	one 🗌 Fax	In Person	
Regarding:		-			10-70-10-00-00-00-00-00-00-00-00-00-00-00-00	
						J
17. Additional remarks:						
18. Cooler Information		Peol Di		inned Du		
1 2.7 Good Yes	s Seal No	seal Da	ale S	ванеа ву		

Chain ent: Bule	n-of-Cu Engineer	Istody Record	Turn-Around	Time:					H A	IA N	LL AL	E	NV SIS	/IF S L	20 .AE	N M 30	1E RA	NT \T(	rai DR	L X
	0	<u> </u>	SIGP						١	ww	v.hal	lenv	ironı	men	tal.co	om				
ailing Addre	ss: 501 A	import Drive Suite				4901 Hawkins NE - Albuquerque, NM 87109														
15 Farm	inuton . A	JM 87401	Project #:			Tel. 505-345-3975 Fax 505-345-4107														
ione #: 50	5- 793	9486					Analysis Request													
hail or Fax#	jualder (a)	pla nule engineering CM	Project Mana	ger:		E	uly)	Â					O4)							
VQC Packag Standard	e:	□ Level 4 (Full Validation)	Heather	Woods		<b>\$</b> (802	(Gas o	RO A			(SMIS)		,PO4,S	2 PCB's						
creditation			Sampler: Jus	tin Valle-	1		Hd	0	<del>,</del>	÷.	023		NO2	808						Î
NELAP	□ Othe	er	Ondee:	Ves View	No No	Ŧ	+	S.	418	504	r 82	S	03,	ss / l		(A)				or
EDD (Type	<u>;)</u>	1	Sample Tem	ferature: 7			TBE	9 0	po	por	10 0	letal	CI,N	cide	(A)	-ir				s (Y
Date Time	e Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1	BTEX + M	BTEX + M	TPH 8015	TPH (Meth	EDB (Meth	PAH's (83	RCRA 8 M	Anions (F,	8081 Pesti	8260B (VC	8270 (Sen				Air Bubble
1/16 1509	= Soil	56-2	402 Gh65	Cold	-001	+		×				×								
114 1515	- Soil	51-3	402 Glass	Cold	-007	+		*				×								
25/16 1500	Soil	51-1	402 (3655	Cold	-003	*		*				×								
7																			1	
				2																
																	$\square$			
ate: Time:	Relinquish	led by:	Received by:	,	Date Time	Rer	nark	s:		^										
15/10 17:12	- M	the Values	Heath	Was	7/25/16 1712		ivec.	Bil	1 to	Con	no ci	oph	illif	20						
ate: Time:	Relinquish	Henth Was	Received by:	Jaeb	Date Time															
If necessa	samples sub	mitted to Hall Environmental may be sub	contracted to other ad	credited laboratori	es.) This serves as notice of thi	s possi	bility.	Any su	ib-cont	racted	d data	will be	e clear	iy not	ated or	n the a	nalytica	al repor	nt.	

## 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

August 18, 2016

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

RE: COP San Juan Gas Plant

OrderNo.: 1608540

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 3 sample(s) on 8/9/2016 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 <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 1608540

Date Reported: 8/18/2016

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLCClient Sample ID: SB-1 @ 11-12Project:COP San Juan Gas PlantCollection Date: 8/8/2016 9:50:00 AMLab ID:1608540-001Matrix: SOILReceived Date: 8/9/2016 8:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 7471: MERCURY					Analyst	pmf
Mercury	ND	0.033	mg/Kg	1	8/12/2016 10:02:36 AM	26928
EPA METHOD 6010B: SOIL METALS					Analyst:	ELS
Arsenic	ND	2.5	mg/Kg	1	8/12/2016 12:17:19 PM	26927
Barium	81	0.10	mg/Kg	1	8/15/2016 1:03:57 PM	26927
Cadmium	ND	0.10	mg/Kg	1	8/12/2016 12:17:19 PM	26927
Chromium	4.5	0.30	mg/Kg	1	8/12/2016 12:17:19 PM	26927
Lead	2.9	0.25	mg/Kg	1	8/15/2016 1:03:57 PM	26927
Selenium	ND	2.5	mg/Kg	1	8/15/2016 1:03:57 PM	26927
Silver	ND	0.25	mg/Kg	1	8/12/2016 12:17:19 PM	26927
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS	6			Analyst:	том
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	8/10/2016 9:55:53 AM	26885
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	8/10/2016 9:55:53 AM	26885
Surr: DNOP	90.3	70-130	%Rec	1	8/10/2016 9:55:53 AM	26885
EPA METHOD 8015D: GASOLINE RANG	E				Analyst:	NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	8/10/2016 10:49:16 AM	26858
Surr: BFB	80.2	68.3-144	%Rec	1	8/10/2016 10:49:16 AM	26858
EPA METHOD 8021B: VOLATILES					Analyst:	NSB
Benzene	ND	0.024	mg/Kg	1	8/10/2016 10:49:16 AM	26858
Toluene	ND	0.048	mg/Kg	1	8/10/2016 10:49:16 AM	26858
Ethylbenzene	ND	0.048	mg/Kg	1	8/10/2016 10:49:16 AM	26858
Xylenes, Total	ND	0.095	mg/Kg	1	8/10/2016 10:49:16 AM	26858
Surr: 4-Bromofluorobenzene	101	80-120	%Rec	1	8/10/2016 10:49:16 AM	26858

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
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 1 of 10
	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

			-			Lab Order 1608540				
Hall Er	ivironmental Analysi	s Laborat	tory, Inc.			Date Reported: 8/18/201	6			
CLIENT: Project:	Rule Engineering LLC COP San Juan Gas Plant	Client Sample ID: SB-2 @ 11-12 Collection Date: 8/8/2016 10:15:00 AM								
Lab ID:	1608540-002	Matrix:	SOIL	Received I	Received Date: 8/9/2016 8:00:00 AM					
Analyses		Result	PQL Qu	al Units	DF	Date Analyzed	Batch			
EPA MET	HOD 7471: MERCURY					Analyst:	pmf			
Mercury		ND	0.033	mg/Kg	1	8/12/2016 10:07:56 AM	26928			
EPA MET	HOD 6010B: SOIL METALS					Analyst:	ELS			
Arsenic		ND	2.5	mg/Kg	1	8/12/2016 12:28:19 PM	26927			
Barium		110	0.10	mg/Kg	1	8/12/2016 12:28:19 PM	26927			
Cadmium	n	ND	0.10	mg/Kg	1	8/12/2016 12:28:19 PM	26927			
Chromiur	m	4.5	0.30	mg/Kg	1	8/12/2016 12:28:19 PM	26927			
Lead		3.1	0.25	mg/Kg	1	8/12/2016 12:28:19 PM	26927			
Selenium	1	ND	2.5	mg/Kg	1	8/12/2016 12:28:19 PM	26927			
Silver		ND	0.25	mg/Kg	1	8/12/2016 12:28:19 PM	26927			
EPA MET	HOD 8015M/D: DIESEL RANG	E ORGANICS				Analyst:	TOM			
Diesel Ra	ange Organics (DRO)	ND	9.6	mg/Kg	1	8/10/2016 10:17:32 AM	26885			
Motor Oil	Range Organics (MRO)	ND	48	mg/Kg	1	8/10/2016 10:17:32 AM	26885			
Surr: D	DNOP	91.6	70-130	%Rec	1	8/10/2016 10:17:32 AM	26885			
EPA MET	HOD 8015D: GASOLINE RAN	GE				Analyst:	NSB			
Gasoline	Range Organics (GRO)	ND	4.8	mg/Kg	1	8/10/2016 11:13:57 AM	26858			
Surr: E	3FB	79.5	68.3-144	%Rec	1	8/10/2016 11:13:57 AM	26858			
EPA MET	HOD 8021B: VOLATILES					Analyst:	NSB			
Benzene		ND	0.024	mg/Kg	1	8/10/2016 11:13:57 AM	26858			
Toluene		ND	0.048	mg/Kg	1	8/10/2016 11:13:57 AM	26858			
Ethylbenzene		ND	0.048	mg/Kg	1	8/10/2016 11:13:57 AM	26858			
Xylenes,	Xylenes, Total		0.096	mg/Kg	1	8/10/2016 11:13:57 AM	26858			
Surr: 4	-Bromofluorobenzene	101	80-120	%Rec	1	8/10/2016 11:13:57 AM	26858			

**Analytical Report** 

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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 2 of 10
	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
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Lab Order 1608540

Date Reported: 8/18/2016

## Hall Environmental Analysis Laboratory, Inc.

Surr: 4-Bromofluorobenzene

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CLIENT:	Rule Engineering LLC			Client Sample	ID: SB	-3 @ 1.5-2.5	
Project:	COP San Juan Gas Plant			Collection L	Date: 8/8	2016 10:35:00 AM	
Lab ID:	1608540-003	Matrix:	SOIL	Received D	ate: 8/9	0/2016 8:00:00 AM	
Analyses		Result	PQL Q	Qual Units	DF	Date Analyzed	Batch
EPA MET	HOD 7471: MERCURY					Analyst:	pmf
Mercury		ND	0.032	mg/Kg	1	8/12/2016 10:09:42 AM	26928
EPA MET	HOD 6010B: SOIL METALS					Analyst:	ELS
Arsenic		ND	2.5	mg/Kg	1	8/12/2016 12:30:47 PM	26927
Barium		62	0.099	mg/Kg	1	8/12/2016 12:30:47 PM	26927
Cadmiun	1	ND	0.099	mg/Kg	1	8/12/2016 12:30:47 PM	26927
Chromiu	m	0.96	0.30	mg/Kg	1	8/12/2016 12:30:47 PM	26927
Lead		2.8	0.25	mg/Kg	1	8/12/2016 12:30:47 PM	26927
Selenium	1	ND	2.5	mg/Kg	1	8/12/2016 12:30:47 PM	26927
Silver		ND	0.25	mg/Kg	1	8/12/2016 12:30:47 PM	26927
EPA MET	HOD 8015M/D: DIESEL RANG	SE ORGANICS	5			Analyst:	том
Diesel Ra	ange Organics (DRO)	ND	9.5	mg/Kg	1	8/10/2016 10:38:58 AM	26885
Motor Oil	Range Organics (MRO)	ND	48	mg/Kg	1	8/10/2016 10:38:58 AM	26885
Surr: D	NOP	94.9	70-130	%Rec	1	8/10/2016 10:38:58 AM	26885
EPA MET	HOD 8015D: GASOLINE RAN	GE				Analyst:	NSB
Gasoline	Range Organics (GRO)	ND	4.8	mg/Kg	1	8/10/2016 11:38:45 AM	26858
Surr: E	BFB	83.0	68.3-144	%Rec	1	8/10/2016 11:38:45 AM	26858
EPA MET	HOD 8021B: VOLATILES					Analyst:	NSB
Benzene		ND	0.024	mg/Kg	1	8/10/2016 11:38:45 AM	26858
Toluene		ND	0.048	mg/Kg	1	8/10/2016 11:38:45 AM	26858
Ethylben	zene	ND	0.048	mg/Kg	1	8/10/2016 11:38:45 AM	26858
Xylenes,	Total	ND	0.096	mg/Kg	1	8/10/2016 11:38:45 AM	26858

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

80-120

%Rec

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8/10/2016 11:38:45 AM 26858

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 3 of 10
	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.

### WO#.

1608540 18-Aug-16

**Client:** Rule Engineering LLC **Project:** COP San Juan Gas Plant Sample ID LCS-26885 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: LCSS Batch ID: 26885 RunNo: 36346 Prep Date: 8/10/2016 Analysis Date: 8/10/2016 SeqNo: 1125959 Units: mg/Kg %RPD Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit **RPDLimit** Qual Diesel Range Organics (DRO) 41 10 50.00 0 81.8 62.6 124 Surr: DNOP 4.4 5.000 87.9 70 130 Sample ID MB-26885 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: PBS Batch ID: 26885 RunNo: 36346 Prep Date: 8/10/2016 Analysis Date: 8/10/2016 SeqNo: 1125960 Units: mg/Kg %RPD RPDLimit Analyte Result POI SPK value SPK Ref Val %REC LowLimit HighLimit Qual Diesel Range Organics (DRO) ND 10 Motor Oil Range Organics (MRO) ND 50 Surr: DNOP 9.1 10.00 90.6 70 130 Sample ID LCS-26867 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: LCSS Batch ID: 26867 RunNo: 36347 Prep Date: 8/9/2016 Analysis Date: 8/10/2016 SeqNo: 1126001 Units: %Rec %RPD RPDLimit Result POL SPK value SPK Ref Val %REC HighLimit Qual Analyte LowLimit Surr: DNOP 4.7 5.000 93.9 70 130 Sample ID MB-26867 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: PBS Batch ID: 26867 RunNo: 36347 Prep Date: 8/9/2016 Analysis Date: 8/10/2016 SeqNo: 1126002 Units: %Rec Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Surr: DNOP 9.6 10.00 95.6 70 130 Sample ID 1608540-001AMS SampType: MS TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: SB-1 @ 11-12 Batch ID: 26885 RunNo: 36346 8/10/2016 Prep Date: Analysis Date: 8/10/2016 SeqNo: 1126295 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) 39 95 47.48 81.9 33.9 0 141 Surr: DNOP 4.3 4.748 91 0 70 130 Sample ID 1608540-001AMSD TestCode: EPA Method 8015M/D: Diesel Range Organics SampType: MSD Client ID: SB-1 @ 11-12 Batch ID: 26885 RunNo: 36346 Prep Date: 8/10/2016 Analysis Date: 8/10/2016 SeqNo: 1126348 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) 42 9.8 49.21 0 85.0 33.9 141 7.23 20

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Holding times for preparation or analysis exceeded H
- 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

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- Р 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.

Client:Rule Engineering LLCProject:COP San Juan Gas Plant

Sample ID	1608540-001AMSE	SampType	MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID:	SB-1 @ 11-12	Batch ID	26885	F	RunNo: 3	6346				
Prep Date:	8/10/2016	Analysis Date	8/10/2016	5	SeqNo: 1	126348	Units: mg/K	g		
Analyte		Result P	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		4.6	4.921		92.6	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

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WO#: 1608540

### Hall Environmental Analysis Laboratory, Inc.

Rule Engineering LLC

Project: COP San Juan Gas Plant

**Client:** 

Sample ID MB-26858	ample ID MB-26858 SampType: MBLK						TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch	n ID: 26	858	F	RunNo: 36367								
Prep Date: 8/9/2016	Analysis D	Date: 8/	10/2016	5	SeqNo: 1	126685	Units: mg/Kg						
Analyte	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Gasoline Range Organics (GRO)	ND	5.0											
Surr: BFB	1100		1000		110	68.3	144						
Sample ID LCS-26858 SampType: LCS													
Sample ID LCS-26858	SampT	ype: LC	S	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e				
Sample ID LCS-26858 Client ID: LCSS	SampT Batcl	ype: LC	S 858	Tes F	tCode: El	PA Method 6367	8015D: Gasc	line Rang	e				
Sample ID LCS-26858 Client ID: LCSS Prep Date: 8/9/2016	SampT Batch Analysis D	ype: LC 1D: 26 Date: 8/	:S 858 10/2016	Tes F	tCode: El RunNo: 3 SeqNo: 1	PA Method 6367 126686	8015D: Gaso Units: mg/K	oline Rang	e				
Sample ID LCS-26858 Client ID: LCSS Prep Date: 8/9/2016 Analyte	SampT Batch Analysis D Result	ype: LC 1 ID: 26 Date: 8/ PQL	S 858 10/2016 SPK value	Tes F S SPK Ref Val	tCode: El RunNo: 3 GeqNo: 1 %REC	PA Method 6367 126686 LowLimit	8015D: Gasc Units: mg/K HighLimit	vline Rang Kg %RPD	e RPDLimit	Qual			
Sample ID LCS-26858 Client ID: LCSS Prep Date: 8/9/2016 Analyte Gasoline Range Organics (GRO)	SampT Batch Analysis D Result 28	ype: LC n ID: 26 Date: 8/ PQL 5.0	<b>55</b> 858 10/2016 SPK value 25.00	Tes F S SPK Ref Val 0	tCode: El RunNo: 3 SeqNo: 1 %REC 110	PA Method 6367 126686 LowLimit 80	8015D: Gasc Units: mg/M HighLimit 120	oline Rang Gg %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

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### Hall Environmental Analysis Laboratory, Inc.

# Client:Rule Engineering LLCProject:COP San Juan Gas Plant

Sample ID MB-26858	Samp	уре: МЕ	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: PBS	Batc	h ID: 26	858	F	RunNo: 36367					
Prep Date: 8/9/2016	Analysis [	Date: 8/	10/2016	S	SeqNo: 1126698 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 1		1 000		106	80	120			
Sull. 4-Diomoliuorobelizene			1.000							
Sun, 4-bromolidorobenzene			1.000							
Sample ID LCS-26858	Samp	ype: LC	s	Tes	Code: El	PA Method	8021B: Volat	iles		
Sample ID LCS-26858 Client ID: LCSS	Samp <sup>¬</sup> Batc	ype: LC	S 858	Tes	Code: El	PA Method 6367	8021B: Volat	iles		
Sample ID LCS-26858 Client ID: LCSS Prep Date: 8/9/2016	Samp Batc Analysis [	Type: LC h ID: 26 Date: 8/	S 858 10/2016	Tes F S	Code: El tunNo: 3 ieqNo: 1	PA Method 6367 126699	8021B: Volat	iles g		
Sample ID LCS-26858 Client ID: LCSS Prep Date: 8/9/2016 Analyte	Samp Batc Analysis I Result	Type: LC h ID: 26 Date: 8/ PQL	S 858 10/2016 SPK value	Tes F S SPK Ref Val	Code: El cunNo: 3 GeqNo: 1 %REC	PA Method 6367 126699 LowLimit	8021B: Volat Units: mg/K HighLimit	iles g %RPD	RPDLimit	Qual
Sample ID LCS-26858 Client ID: LCSS Prep Date: 8/9/2016 Analyte Benzene	Samp Batc Analysis I Result 0.93	Type: LC h ID: 26 Date: 8/ PQL 0.025	S 858 10/2016 SPK value 1.000	Tes F S SPK Ref Val 0	Code: El RunNo: 3 GeqNo: 1 <u>%REC</u> 93.3	PA Method 6367 126699 LowLimit 75.3	8021B: Volat Units: mg/K HighLimit 123	iles g %RPD	RPDLimit	Qual
Sample ID LCS-26858 Client ID: LCSS Prep Date: 8/9/2016 Analyte Benzene Toluene	Samp Batcl Analysis E Result 0.93 1.0	Type: LC h ID: 26 Date: 8/ PQL 0.025 0.050	S 858 10/2016 SPK value 1.000 1.000	Tes F S SPK Ref Val 0 0	Code: El RunNo: 3 SeqNo: 1 %REC 93.3 103	PA Method 6367 126699 LowLimit 75.3 80	8021B: Volat Units: mg/K HighLimit 123 124	iles g %RPD	RPDLimit	Qual
Sample ID LCS-26858 Client ID: LCSS Prep Date: 8/9/2016 Analyte Benzene Toluene Ethylbenzene	Samp <sup>T</sup> Batc Analysis E <u>Result</u> 0.93 1.0 1.1	Type: LC h ID: 268 Date: 8/ PQL 0.025 0.050 0.050	S 858 10/2016 SPK value 1.000 1.000 1.000	Tes F S SPK Ref Val 0 0 0	Code: El cunNo: 3 ceqNo: 1 %REC 93.3 103 114	PA Method 6367 126699 LowLimit 75.3 80 82.8	8021B: Volat Units: mg/K HighLimit 123 124 121	iles g %RPD	RPDLimit	Qual
Sample ID LCS-26858 Client ID: LCSS Prep Date: 8/9/2016 Analyte Benzene Toluene Ethylbenzene Xylenes, Total	Samp <sup>1</sup> Batcl Analysis E Result 0.93 1.0 1.1 3.3	Type: LC h ID: 268 Date: 8/ PQL 0.025 0.050 0.050 0.10	S 858 10/2016 SPK value 1.000 1.000 1.000 3.000	Tes F SPK Ref Val 0 0 0 0 0 0	Code: El cunNo: 3 eqNo: 1 %REC 93.3 103 114 110	PA Method 6367 126699 LowLimit 75.3 80 82.8 83.9	8021B: Volat Units: mg/K HighLimit 123 124 121 122	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

WO#: 1608540

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**Client:** 

**Project:** 

Client ID:

Analyte

Client ID:

Mercury

Rule Engineering LLC COP San Juan Gas Plant Sample ID MB-26928 SampType: MBLK TestCode: EPA Method 7471: Mercury Batch ID: 26928 PBS RunNo: 36466 Analysis Date: 8/12/2016 SeqNo: 1129445 Units: mg/Kg Prep Date: 8/11/2016 %RPD RPDLimit Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit Qual ND 0.033 TestCode: EPA Method 7471: Mercury Sample ID LCS-26928 SampType: LCS LCSS Batch ID: 26928 RunNo: 36466 Prep Date: 8/11/2016 Analysis Date: 8/12/2016 SeqNo: 1129446 Units: mg/Kg PQL SPK value SPK Ref Val %REC LowLimit %RPD RPDLimit Qual Result HighLimit

Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury		0.16	0.033	0.1667	0	96.0	80	120			
Sample ID	1608540-001AMS	SampT	ype: MS	3	Tes	tCode: El	PA Method	7471: Mercu	ry		
Client ID:	SB-1 @ 11-12	Batch	n ID: 26	928	F	RunNo: 3	6466				
Prep Date:	8/11/2016	Analysis D	ate: 8/	12/2016	5	SeqNo: 1	129448	Units: mg/h	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury		0.18	0.033	0.1653	0.007270	102	75	125			
Sample ID	1608540-001AMSE	SampT	ype: MS	SD	Tes	tCode: El	PA Method	7471: Mercu	ry		
Client ID:	SB-1 @ 11-12	Batch	n ID: 26	928	F	RunNo: 3	6466				
Prep Date:	8/11/2016	Analysis D	ate: 8/	12/2016	5	SeqNo: 1	129449	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury		0.17	0.033	0.1679	0.007270	99.7	75	125	1.10	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
- RPD outside accepted recovery limits R
- % Recovery outside of range due to dilution or matrix S
- 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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1608540

WO#: 18-Aug-16

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

#### **Client:** Rule Engineering LLC **Project:** COP San Juan Gas Plant

Sample ID LCS-26927 TestCode: EPA Method 6010B: Soil Metals SampType: LCS Client ID: LCSS Batch ID: 26927 RunNo: 36462 Prep Date: 8/11/2016 Analysis Date: 8/12/2016 SeqNo: 1129301 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit Arsenic 26 2.5 25.00 0 103 80 Barium 25 0.10 25.00 0 99.5 80 Cadmium 25 0.10 25.00 0 101 80 Chromium 25 0.30 25.00 0 99.1 80 24 0.25 25.00 0 97.6 80 Lead 27 2.5 80 Selenium 25.00 0 108 5.0 0.25 5.000 0 80 Silver 101

Sample ID	1608540-001AMS	SampT	ype: MS	5	Tes	TestCode: EPA Method 6010B: Soil Metals					
Client ID:	SB-1 @ 11-12	Batch	Batch ID: 26927			unNo: 3					
Prep Date:	8/11/2016	Analysis D	ate: 8/	12/2016	S	eqNo: 1	129308	Units: mg/F	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic		23	2.5	25.09	1.340	84.8	75	125			
Cadmium		21	0.10	25.09	0	81.7	75	125			
Chromium		25	0.30	25.09	4.497	80.6	75	125			
Silver		4.2	0.25	5.018	0	83.2	75	125			

Sample ID	1608540-001AMSD	SampTyp	e: MS	SD	Tes	tCode: El	PA Method	6010B: Soil	Metals		
Client ID:	SB-1 @ 11-12         Batch ID:         26927           ::         8/11/2016         Analysis Date:         8/12/2016				F	RunNo: 3					
Prep Date:	8/11/2016	Analysis Date	e: 8/	12/2016	S	SeqNo: 1	129309	Units: mg/H	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic		23	2.5	25.14	1.340	87.4	75	125	3.00	20	
Cadmium		21	0.10	25.14	0	82.6	75	125	1.34	20	
Chromium		25	0.30	25.14	4.497	80.2	75	125	0.227	20	
Silver		4.2	0.25	5.028	0	83.8	75	125	0.894	20	

Sample ID MB-26927	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	6010B: Soil I	Vietals		
Client ID: PBS	927	R								
Prep Date: 8/11/2016 Analysis Date: 8/12/2016				S	SeqNo: 1					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	2.5								
Barium	ND	0.10								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Lead	ND	0.25								
Selenium	ND	2.5								
Silver	ND	0.25								

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- 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
- Reporting Detection Limit RL
- W Sample container temperature is out of limit as specified

1608540

Qual

WO#:

RPDLimit

Page 9 of 10

%RPD

120

120

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120

### Hall Environmental Analysis Laboratory, Inc.

#### **Client:** Rule Engineering LLC **Project:** COP San Juan Gas Plant

Sample ID	1608540-001AMS	SampT	ype: MS	6	Tes	tCode: El	PA Method	6010B: Soil	Metals		
Client ID:	SB-1 @ 11-12	Batch	n ID: 26	927	F	RunNo: 3	6503				
Prep Date:	8/11/2016	Analysis D	)ate: 8/	15/2016	S	SeqNo: 1	130434	Units: mg/k	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium		110	0.10	25.09	80.60	124	75	125			
Lead		20	0.25	25.09	2.883	68.9	75	125			S
Selenium		18	2.5	25.09	0	72.0	75	125			S
Sample ID	1608540-001AMS	SampT	ype: MS	SD	Tes	tCode: El	PA Method	6010B: Soil	Metals		
Client ID:	SB-1 @ 11-12	Batch ID: 26927 RunNo: 36503									
Prep Date:	8/11/2016	Analysis D	ate: 8/	15/2016	S	SeqNo: 1	130435	Units: mg/k	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
· · · · · · · · · · · · · · · · · · ·				0 - 1 1	00.00	00.0	75	105			
Barium		100	0.10	25.14	80.60	88.8	15	125	8.20	20	
Barium Lead		100 20	0.10 0.25	25.14 25.14	2.883	88.8 70.0	75 75	125 125	8.20 1.65	20 20	S
Barium Lead Selenium		100 20 19	0.10 0.25 2.5	25.14 25.14 25.14	2.883 0	88.8 70.0 74.3	75 75 75	125 125 125	8.20 1.65 3.34	20 20 20	S S
Barium Lead Selenium	1608540-001APS	100 20 19 SampT	0.10 0.25 2.5 Type: <b>PS</b>	25.14 25.14 25.14	80.60 2.883 0 Test	70.0 74.3	75 75 75 PA Method	125 125 125 6010B: Soil	8.20 1.65 3.34 Wetals	20 20 20	S S
Barium Lead Selenium Sample ID Client ID:	1608540-001APS SB-1 @ 11-12	100 20 19 SampT Batch	0.10 0.25 2.5 Type: <b>PS</b>	25.14 25.14 25.14 927	80.60 2.883 0 Test	70.0 74.3 tCode: Ef	75 75 75 PA Method 6503	125 125 125 6010B: Soil I	8.20 1.65 3.34 Wetals	20 20 20	S S
Barium Lead Selenium Sample ID Client ID: Prep Date:	1608540-001APS SB-1 @ 11-12	100 20 19 SampT Batch Analysis D	0.10 0.25 2.5 Type: <b>PS</b> n ID: <b>26</b> Date: <b>8</b> /	25.14 25.14 25.14 927 15/2016	80.50 2.883 0 Test R S	88.8 70.0 74.3 Code: EF	75 75 75 PA Method 6503 130436	125 125 125 6010B: Soil I	8.20 1.65 3.34 Metals	20 20 20	S S
Barium Lead Selenium Sample ID Client ID: Prep Date: Analyte	1608540-001APS SB-1 @ 11-12	100 20 19 SampT Batch Analysis D Result	0.10 0.25 2.5 Type: <b>PS</b> 0 ID: <b>26</b> 0 ate: <b>8</b> / PQL	25.14 25.14 25.14 927 15/2016 SPK value	80.60 2.883 0 Tesi R SPK Ref Val	88.8 70.0 74.3 tCode: EF RunNo: 30 SeqNo: 1 %REC	75 75 75 PA Method 6503 130436 LowLimit	125 125 125 6010B: Soil I Units: mg/K HighLimit	8.20 1.65 3.34 Metals	20 20 20 RPDLimit	S S Qual
Barium Lead Selenium Sample ID Client ID: Prep Date: Analyte Lead	1608540-001APS SB-1 @ 11-12	100 20 19 SampT Batch Analysis D Result 21	0.10 0.25 2.5 Type: <b>PS</b> 0.1D: <b>26</b> 0.25	25.14 25.14 25.14 927 15/2016 SPK value 25.09	80.50 2.883 0 Tesi R SPK Ref Val 2.883	88.8 70.0 74.3 tCode: EF tunNo: 30 SeqNo: 1 %REC 70.9	75 75 75 PA Method 6503 130436 LowLimit 80	125 125 125 6010B: Soil I Units: mg/K HighLimit 120	8.20 1.65 3.34 Metals	20 20 20 RPDLimit	S S Qual S

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- 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
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

WO#:

Page 10 of 10

HALL Hall Environmental ENVIRONMENTAL ANALYSIS LABORATORY TEL: 505-345-397 Website: www.b	al Analysis Laboratory 4901 Hawkins NE Ibuquerque, NM 87109 75 FAX: 505-345-4107 hallenvironmental.com	Sam	ple Log-In Ch	eck List
Client Name: RULE ENGINEERING LL Work Order Number	er: 1608540		RcptNo:	1
Received by/date: 05.0911	P			
Logged By: Ashley Gallegos 8/9/2016 8:00:00 AM	÷	F7		
Completed By: Ashley Gallegos 8/9/2016 2:51:32 PM	-	F7		
Reviewed By: 03 08 09 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 🗆		
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 🗹	# of preserved	-
12. Does paperwork match bottle labels?	Yes 🗹	No 🗆	bottles checked for pH:	
(Note discrepancies on chain of custody)	Yes M		Adjusted?	>12 unless noted)
13. Are matrices correctly identified on Chain or Custody?				
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 discremencies with this order?	Vec 🗌	No 🗌		
Person Notified: Date		Eav		
Regarding:				
Client Instructions:	and designed as de la constant de la			
17. Additional remarks:				
18. <u>Cooler Information</u> │ Cooler No │ Temp ºC │ Condition │ Seal Intact │ Seal No │	Seal Date Siar	ned By	l	
1 1.8 Good Yes				

Page 1 of 1

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C	hain-	of-Cu	stody Record	Turn-Around	Time:					н		E	NV	/IF	20	NN	1E	NT	AL	
ient:	Rule E	naineer	ink, LLC	対 Standard	🗆 Rush			a distant		A	NA	LY	SI	S L	A	30	RA	TC	R	Y
		2		Project Name	:					W	ww.h	allen	viron	ment	tal.co	m				
ailing	Address:	501 AI	Most Dr Saile	COP 50	in Juan	Gas Plant		49	01 H	awkin	s NE	- All	buqu	erqu	e, NI	M 87	109			
05 F	aronna	ton. N	M 8740)	Project #:			Tel. 505-345-3975 Fax 505-345-4107													
none #	#: 505	793 91	181/									Anal	ysis	Req	uest					
nail or	Fax#:	valder (	drule engineering.com	Project Mana	ger:		Ē	· 2	T	V H	2		SO4)	s						
A/QC F	Package:		0 0				(802	as o	N	A		1	04,0	CB C						
Stan	dard		Level 4 (Full Validation)	Heather	Heather woods			9) H	R				D2,P	82 F						
NEL/	AP	□ Othe	r	Sampler: Hr	Sampler: Heatnerwoods/Justin Vallez			+ TP	A	18.1)	8270		3,NG	/ 80		(F				N N
EDD	(Type)			Sample Temp	perature:	1.800	品	ШШ	6	d 4	2 2	tals	J'NC	ides	F	8				Z
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO	BTEX + NE	<b>3TEX + MT</b>	<b>FPH 8015B</b>	rPH (Metho	EDB (Metho DAH's (831)	SCRA 8 Me	Anions (F,C	3081 Pestic	3260B (VO/	3270 (Semi-				Air Ruhhles
18/16	0950	Soil	5B-AD 11-12	(1) 402 GKSS	cold	-001	X		χ			×			0				+	
B/14	1015	5011	5B-2@11-12	(1) 4 02 Glass	cold	-002	X		У			×								
8/14	1035	50%	5B-3@1.5-2.5	(1) Yoz Ghas	coid	-003	X		Х			X								
											_	-						$\rightarrow$	$\perp$	_
							-					-	-					$\rightarrow$	+	+
						-						-	-	-				-	+	+
									-				-					-	+	+
											+	+	+					+		+
														$\square$						+
																				+
ate: 8/16	Time:	Relinquish	the M. Weads	Received by:	Waete	Date Time 8/8/16 1633	Rer	nark o`. A	s: D	500	r bil ogp	1 +0	Cor	1000	oph	511.¥	22			
ate:	8ZS	Heynquish	of Walt	auw	Jum	08109116 0800	Dr	dere	d b	LA'	laro	A Co	wdo	ZQ						

# 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>

August 26, 2016

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

RE: CoP SJGP

OrderNo.: 1608D60

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 4 sample(s) on 8/24/2016 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 <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

Ana	lytical	Re	port
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#### Lab Order 1608D60

Date Reported: 8/26/2016

Batch

# Hall Environmental Analysis Laboratory, Inc.

Analyses		Result	PQL	Qual Units	DF Date Analyzed
Lab ID:	1608D60-001	Matrix:	SOIL	Received	d Date: 8/24/2016 8:00:00 AM
Project:	CoP SJGP			Collection	<b>Date: 8</b> /23/2016 3:30:00 PM
CLIENT:	Rule Engineering LLC			Client Sam	ple ID: AB-1@0.5

			the second se		the second distance of the second			
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS								
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	8/25/2016 2:10:18 PM	27153		
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	8/25/2016 2:10:18 PM	27153		
Surr: DNOP	84.3	70-130	%Rec	1	8/25/2016 2:10:18 PM	27153		
EPA METHOD 8015D: GASOLINE RANG	E				Analyst:	NSB		
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	8/25/2016 5:18:01 PM	27147		
Surr: BFB	82.6	68.3-144	%Rec	1	8/25/2016 5:18:01 PM	27147		
EPA METHOD 8021B: VOLATILES					Analyst:	NSB		
Benzene	ND	0.024	mg/Kg	1	8/25/2016 5:18:01 PM	27147		
Toluene	ND	0.047	mg/Kg	1	8/25/2016 5:18:01 PM	27147		
Ethylbenzene	ND	0.047	mg/Kg	1	8/25/2016 5:18:01 PM	27147		
Xylenes, Total	ND	0.094	mg/Kg	1	8/25/2016 5:18:01 PM	27147		
Surr: 4-Bromofluorobenzene	96.1	80-120	%Rec	1	8/25/2016 5:18:01 PM	27147		

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 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

<b>Analytical Report</b>	
Lab Order 1608D60	

Date Reported: 8/26/2016

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC Project: CoP SJGP

1608D60-002

Lab ID:

Client Sample ID: AB-1@8 Collection Date: 8/23/2016 3:50:00 PM Received Date: 8/24/2016 8:00:00 AM

Analyses	Result	PQL Qua	l Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE	ORGANIC	S			Analyst	том
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	8/25/2016 2:32:15 PM	27153
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	8/25/2016 2:32:15 PM	27153
Surr: DNOP	82.1	70-130	%Rec	1	8/25/2016 2:32:15 PM	27153
EPA METHOD 8015D: GASOLINE RANG	E				Analyst	NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	8/25/2016 6:28:16 PM	27147
Surr: BFB	83.6	68.3-144	%Rec	1	8/25/2016 6:28:16 PM	27147
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.025	mg/Kg	1	8/25/2016 6:28:16 PM	27147
Toluene	ND	0.050	mg/Kg	1	8/25/2016 6:28:16 PM	27147
Ethylbenzene	ND	0.050	mg/Kg	1	8/25/2016 6:28:16 PM	27147
Xylenes, Total	ND	0.099	mg/Kg	1	8/25/2016 6:28:16 PM	27147
Surr: 4-Bromofluorobenzene	99.6	80-120	%Rec	1	8/25/2016 6:28:16 PM	27147

Matrix: SOIL

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 2 of 7
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	1 age 2 01 7
	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

Analytical	Report
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#### Lab Order 1608D60

Date Reported: 8/26/2016

# Hall Environmental Analysis Laboratory, Inc.

Analyses		Result	PQL	Qual Units	DF Date Analyzed	Batch	
Lab ID:	1608D60-003	Matrix:	Matrix: SOIL Received Date: 8/24/2016 8:00:00 /				
Project:	CoP SJGP			Collection	Date: 8/23/2016 4:20:00 PM		
CLIENT:	Rule Engineering LLC	Client Sample ID: AB-2@8					

EPA METHOD 8015M/D: DIESEL RANGE (	ORGANIC	S			Analyst:	том
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	8/25/2016 2:54:18 PM	27153
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	8/25/2016 2:54:18 PM	27153
Surr: DNOP	84.4	70-130	%Rec	1	8/25/2016 2:54:18 PM	27153
EPA METHOD 8015D: GASOLINE RANGE					Analyst:	NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	8/25/2016 7:38:31 PM	27147
Surr: BFB	83.0	68.3-144	%Rec	1	8/25/2016 7:38:31 PM	27147
EPA METHOD 8021B: VOLATILES					Analyst:	NSB
Benzene	ND	0.023	mg/Kg	1	8/25/2016 7:38:31 PM	27147
Toluene	ND	0.047	mg/Kg	1	8/25/2016 7:38:31 PM	27147
Ethylbenzene	ND	0.047	mg/Kg	1	8/25/2016 7:38:31 PM	27147
Xylenes, Total	ND	0.094	mg/Kg	1	8/25/2016 7:38:31 PM	27147
Surr: 4-Bromofluorobenzene	99.0	80-120	%Rec	1	8/25/2016 7:38:31 PM	27147

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
	Н	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 1608D60	

### Hall Environmental Analysis Laboratory, Inc.

Date Reported: 8/26/2016

CLIENT: Rule Engineering LLC Project: CoP SJGP

1608D60-004

Lab ID:

### Client Sample ID: AB-2@12 Collection Date: 8/23/2016 4:40:00 PM Received Date: 8/24/2016 8:00:00 AM

Analyses	<b>Result</b>	PQL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE	ORGANI	cs			Analyst	том
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	8/25/2016 3:16:06 PM	27153
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	8/25/2016 3:16:06 PM	27153
Surr: DNOP	93.1	70-130	%Rec	1	8/25/2016 3:16:06 PM	27153
EPA METHOD 8015D: GASOLINE RANGE					Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	8/25/2016 8:01:55 PM	27147
Surr: BFB	84.5	68.3-144	%Rec	1	8/25/2016 8:01:55 PM	27147
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.023	mg/Kg	1	8/25/2016 8:01:55 PM	27147
Toluene	ND	0.046	mg/Kg	1	8/25/2016 8:01:55 PM	27147
Ethylbenzene	ND	0.046	mg/Kg	1	8/25/2016 8:01:55 PM	27147
Xylenes, Total	ND	0.092	mg/Kg	1	8/25/2016 8:01:55 PM	27147
Surr: 4-Bromofluorobenzene	99.9	80-120	%Rec	1	8/25/2016 8:01:55 PM	27147

Matrix: SOIL

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 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

### Hall Environmental Analysis Laboratory, Inc.

#### Client: Rule Engineering LLC Project: CoP SJGP

Sample ID LCS-27162	SampType	e: LCS		Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: LCSS	Batch ID	): <b>2716</b>	2	R	RunNo: 3	6745				
Prep Date: 8/25/2016	Analysis Date	e: 8/25	5/2016	S	SeqNo: 1	138933	Units: %Re	с		
Analyte	Result F	PQL S	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.2		5.000		83.5	70	130			
Sample ID MB-27162	SampType	e: MBL	ĸ	Test	tCode: El	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID: PBS	Batch ID	2716	2	R	unNo: 3	6745				
Prep Date: 8/25/2016	Analysis Date	e: 8/25	5/2016	S	SeqNo: 1	138934	Units: %Re	C		
Analyte	Result F		SPK value	SPK Ref Val	%REC	l owl imit	Highl imit	%RPD	RPDLimit	Qual
Surr: DNOP	8.9	ar o	10.00		89.3	70	130	701412	THE DENNE	
Sample ID LCS-27153	SampType	e: LCS		Test	tCode: El	PA Method	8015M/D: Die	esel Rang	e Organics	
Compione Loo Linoo	Comp i jp									
Client ID: LCSS	Batch IC	. 2715	3	R	unNo: 3	6745				
Client ID: LCSS	Batch ID	2715	3	R	RunNo: 3	6745	Lipito: ma/M	~	Ū	
Client ID: LCSS Prep Date: 8/24/2016	Batch ID Analysis Date	): 2715 e: 8/25	3 5/2016	R	RunNo: 3 GeqNo: 1	6745 139712	Units: mg/K	íg		
Client ID: LCSS Prep Date: 8/24/2016 Analyte	Batch ID Analysis Date Result F	): <b>2715</b> 2: <b>8/25</b> PQL S	3 5/2016 SPK value	R S SPK Ref Val	RunNo: 3 SeqNo: 1 %REC	6745 139712 LowLimit	Units: <b>mg/K</b> HighLimit	kg %RPD	RPDLimit	Qual
Client ID: LCSS Prep Date: 8/24/2016 Analyte Diesel Range Organics (DRO)	Batch ID Analysis Date Result F 46	): <b>2715</b> 2: <b>8/25</b> 2: QL S 10	3 5/2016 SPK value 50.00	R S SPK Ref Val 0	RunNo: 3 GeqNo: 1 %REC 91.9	6745 139712 LowLimit 62.6	Units: mg/K HighLimit 124	g %RPD	RPDLimit	Qual
Client ID: LCSS Prep Date: 8/24/2016 Analyte Diesel Range Organics (DRO) Surr: DNOP	Batch ID Analysis Date Result F 46 4.3	2715 2: 8/25 PQL S 10	5/2016 SPK value 50.00 5.000	R S SPK Ref Val 0	RunNo: 3 SeqNo: 1 %REC 91.9 85.1	6745 139712 LowLimit 62.6 70	Units: <b>mg/K</b> HighLimit 124 130	Sg %RPD	RPDLimit	Qual
Client ID: LCSS Prep Date: 8/24/2016 Analyte Diesel Range Organics (DRO) Surr: DNOP	Batch ID Analysis Date Result F 46 4.3 SampType	2715 22715 221 S 221 S 10 10	3 5/2016 SPK value 50.00 5.000	R S SPK Ref Val 0 Test	RunNo: 3 BeqNo: 1 %REC 91.9 85.1 tCode: El	6745 139712 LowLimit 62.6 70 PA Method	Units: mg/K HighLimit 124 130 8015M/D: Die	g %RPD esel Range	RPDLimit e Organics	Qual
Client ID: LCSS Prep Date: 8/24/2016 Analyte Diesel Range Organics (DRO) Surr: DNOP Sample ID MB-27153 Client ID: PBS	Batch ID Analysis Date Result F 46 4.3 SampType Batch ID	2715 22 8/25 20L S 10 22 8 20 S 20 S 20 S 20 S 20 S 20 S 20 S 20 S	3 5/2016 50.00 5.000 K 3	R S SPK Ref Val 0 Test R	RunNo: 3 GeqNo: 1 %REC 91.9 85.1 tCode: EI	6745 139712 LowLimit 62.6 70 PA Method 6745	Units: mg/K HighLimit 124 130 8015M/D: Die	Sg %RPD esel Range	RPDLimit e Organics	Qual
Client ID: LCSS Prep Date: 8/24/2016 Analyte Diesel Range Organics (DRO) Surr: DNOP Sample ID MB-27153 Client ID: PBS Prep Date: 8/24/2016	Batch ID Analysis Date Result F 46 4.3 SampType Batch ID Analysis Date	2715: 22 8/25 20L S 10 22 MBLI 2: 2715: 2: 8/25	3 5/2016 50.00 5.000 5.000 K 3 5/2016	R S SPK Ref Val 0 Test R S	RunNo: 3 SeqNo: 1 <u>%REC</u> 91.9 85.1 Code: El RunNo: 3 SeqNo: 1	6745 139712 LowLimit 62.6 70 PA Method 6745 139713	Units: mg/K HighLimit 124 130 8015M/D: Die Units: mg/K	Gg %RPD esel Range	RPDLimit e Organics	Qual
Client ID: LCSS Prep Date: 8/24/2016 Analyte Diesel Range Organics (DRO) Surr: DNOP Sample ID MB-27153 Client ID: PBS Prep Date: 8/24/2016 Analyte	Batch ID Analysis Date Result F 46 4.3 SampType Batch ID Analysis Date Result F	2715: 201 S 201 S 10 215: 2715: 2715: 201 S	3 5/2016 50.00 5.000 5.000 K 3 5/2016 SPK value	R S SPK Ref Val 0 Test R S SPK Ref Val	RunNo: 3 SeqNo: 1 %REC 91.9 85.1 Code: El RunNo: 3 SeqNo: 1 %REC	6745 139712 LowLimit 62.6 70 PA Method 6745 139713 LowLimit	Units: mg/K HighLimit 124 130 8015M/D: Dia Units: mg/K HighLimit	Sg %RPD esel Range Sg %RPD	RPDLimit	Qual
Client ID: LCSS Prep Date: 8/24/2016 Analyte Diesel Range Organics (DRO) Surr: DNOP Sample ID MB-27153 Client ID: PBS Prep Date: 8/24/2016 Analyte Diesel Range Organics (DRO)	Batch ID Analysis Date Result F 46 4.3 SampType Batch ID Analysis Date Result F ND	2715: 201 S 201 S 201 S 201 S 201 S 201 S 201 S 201 S	3 5/2016 50.00 5.000 5.000 K 3 5/2016 SPK value	R S SPK Ref Val 0 Test R S SPK Ref Val	RunNo: 3 SeqNo: 1 <u>%REC</u> 91.9 85.1 Code: El RunNo: 3 SeqNo: 1 %REC	6745 139712 LowLimit 62.6 70 PA Method 6745 139713 LowLimit	Units: mg/K HighLimit 124 130 8015M/D: Die Units: mg/K HighLimit	S S S S S S S S S S S S S S	RPDLimit e Organics RPDLimit	Qual
Client ID: LCSS Prep Date: 8/24/2016 Analyte Diesel Range Organics (DRO) Surr: DNOP Sample ID MB-27153 Client ID: PBS Prep Date: 8/24/2016 Analyte Diesel Range Organics (DRO) Motor Oil Range Organics (MRO)	Batch ID Analysis Date Result F 46 4.3 SampType Batch ID Analysis Date Result F ND ND	2715: 201 S 201 S	3 5/2016 50.00 5.000 K 3 5/2016 SPK value	R S SPK Ref Val 0 Test R S SPK Ref Val	RunNo: 3 SeqNo: 1 <u>%REC</u> 91.9 85.1 Code: <b>El</b> RunNo: 3 SeqNo: 1 %REC	6745 139712 LowLimit 62.6 70 PA Method 6745 139713 LowLimit	Units: mg/K HighLimit 124 130 8015M/D: Die Units: mg/K HighLimit	s %RPD esel Range %RPD	RPDLimit e Organics 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

1608D60

WO#:

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Hall	Environmental	Analysis	Labora	tory,	Inc.
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#### **Client:** Rule Engineering LLC

**Project:** CoP SJGP

Sample ID MB-27147	SampT	уре: М	BLK	Tes	tCode: E	PA Method	8015D: Gas	oline Rang	e	
Client ID: PBS	Batch	h ID: 27	147	F	RunNo: 3	6760				
Prep Date: 8/24/2016	Analysis D	Date: 8/	25/2016	S	SeqNo: 1	139619	Units: mg/l	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		84.4	68.3	144			
Sample ID LCS-27147	SampT	ype: LC	s	Tes	tCode: E	PA Method	8015D: Gas	oline Rang	e	
Client ID: LCSS	Batch	h ID: 27	147	F	RunNo: 3	6760				
Prep Date: 8/24/2016	139620	Units: mg/l	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			
Curry DED	020		1000		92.2	68.3	144			
Sull. BFB	520		1000		UL.L	00.0				
Sample ID 1608D60-001AMS	SampT	ype: MS	3	Tes	tCode: E	PA Method	8015D: Gas	oline Rang	e	
Sample ID 1608D60-001AMS Client ID: AB-1@0.5	S SampT Batch	ype: MS	3	Tes	tCode: E RunNo: 3	PA Method 6760	8015D: Gase	oline Rang	e	
Sum Brb           Sample ID         1608D60-001AMS           Client ID:         AB-1@0.5           Prep Date:         8/24/2016	SampT Batch Analysis D	ype: MS n ID: 27 Date: 8/	3 147 25/2016	Tes F S	tCode: E RunNo: 3 SeqNo: 1	PA Method 6760 139634	8015D: Gase	oline Rang ≺g	e	
Sample ID 1608D60-001AMS Client ID: AB-1@0.5 Prep Date: 8/24/2016 Analyte	S SampT Batch Analysis D Result	ÿpe: M\$ n ID: 27 Date: 8/ PQL	5 147 25/2016 SPK value	Tes F S SPK Ref Val	tCode: E RunNo: 3 SeqNo: 1 %REC	PA Method 6760 139634 LowLimit	8015D: Gase Units: mg/ł HighLimit	oline Rang (g %RPD	e RPDLimit	Qual
Sample ID 1608D60-001AMS Client ID: AB-1@0.5 Prep Date: 8/24/2016 Analyte Gasoline Range Organics (GRO)	S SampT Batch Analysis D Result 25	ype: MS n ID: 27 Date: 8/ PQL 4.9	3 147 25/2016 SPK value 24.46	Tes F S SPK Ref Val 0	tCode: E RunNo: 3 SeqNo: 1 %REC 103	PA Method 6760 139634 LowLimit 59.3	8015D: Gase Units: mg/l HighLimit 143	oline Rang Kg %RPD	e RPDLimit	Qual
Surr. BPB Sample ID 1608D60-001AMS Client ID: AB-1@0.5 Prep Date: 8/24/2016 Analyte Gasoline Range Organics (GRO) Surr: BFB	S SampT Batch Analysis D Result 25 900	Type: MS n ID: 27 Date: 8/ PQL 4.9	<b>3</b> <b>147</b> <b>25/2016</b> SPK value 24.46 978.5	Tes F S SPK Ref Val 0	tCode: E RunNo: 3 SeqNo: 1 %REC 103 92.4	PA Method 6760 139634 LowLimit 59.3 68.3	8015D: Gase Units: mg/l HighLimit 143 144	oline Rang (g %RPD	e RPDLimit	Qual
Surr. BPB Sample ID 1608D60-001AMS Client ID: AB-1@0.5 Prep Date: 8/24/2016 Analyte Gasoline Range Organics (GRO) Surr: BFB Sample ID 1608D60-001AMS	S SampT Batch Analysis D Result 25 900 SD SampT	ype: MS n ID: 27 Date: 8/ PQL 4.9	3 147 25/2016 24.46 978.5 3D	Tes F SPK Ref Val 0 Tes	tCode: E RunNo: 3 SeqNo: 1 %REC 103 92.4 tCode: E	PA Method 6760 139634 LowLimit 59.3 68.3 PA Method	8015D: Gaso Units: mg/l HighLimit 143 144 8015D: Gaso	vine Rang %g %RPD	e RPDLimit e	Qual
Surr. BPB Sample ID 1608D60-001AMS Client ID: AB-1@0.5 Prep Date: 8/24/2016 Analyte Gasoline Range Organics (GRO) Surr: BFB Sample ID 1608D60-001AMS Client ID: AB-1@0.5	S SampT Batch Analysis D Result 25 900 SD SampT Batch	Type: MS n ID: 27 Date: 8/ PQL 4.9 Type: MS n ID: 27	3 147 25/2016 SPK value 24.46 978.5 3D 147	Tes F SPK Ref Val 0 Tes F	tCode: E RunNo: 3 SeqNo: 1 %REC 103 92.4 tCode: E RunNo: 3	PA Method 6760 139634 LowLimit 59.3 68.3 PA Method 6760	8015D: Gase Units: mg/k HighLimit 143 144 8015D: Gase	vg %RPD	e RPDLimit e	Qual
Surr. BPB Sample ID 1608D60-001AMS Client ID: AB-1@0.5 Prep Date: 8/24/2016 Analyte Gasoline Range Organics (GRO) Surr: BFB Sample ID 1608D60-001AMS Client ID: AB-1@0.5 Prep Date: 8/24/2016	S SampT Batch Analysis D Result 25 900 SD SampT Batch Analysis D	Type: MS n ID: 27 Date: 8/ PQL 4.9 Type: MS n ID: 27 Date: 8/	3 147 25/2016 24.46 978.5 3D 147 25/2016	Tes F SPK Ref Val 0 Tes F S	tCode: E RunNo: 3 SeqNo: 1 %REC 103 92.4 tCode: E RunNo: 3 SeqNo: 1	PA Method 6760 139634 LowLimit 59.3 68.3 PA Method 6760 139646	8015D: Gase Units: mg/l HighLimit 143 144 8015D: Gase Units: mg/l	oline Rang Kg %RPD oline Rang	e RPDLimit e	Qual
Surr. BFB Sample ID 1608D60-001AMS Client ID: AB-1@0.5 Prep Date: 8/24/2016 Analyte Gasoline Range Organics (GRO) Surr: BFB Sample ID 1608D60-001AMS Client ID: AB-1@0.5 Prep Date: 8/24/2016 Analyte	S SampT Batch Analysis D Result 25 900 SD SampT Batch Analysis D Result	Type: MS n ID: 27 Date: 8/ PQL 4.9 Type: MS n ID: 27 Date: 8/ PQL	3 147 25/2016 24.46 978.5 3D 147 25/2016 SPK value	Tes F SPK Ref Val 0 Tes F SPK Ref Val	tCode: E RunNo: 3 SeqNo: 1 %REC 103 92.4 tCode: E RunNo: 3 SeqNo: 1 %REC	PA Method 6760 139634 LowLimit 59.3 68.3 PA Method 6760 139646 LowLimit	8015D: Gase Units: mg/l HighLimit 143 144 8015D: Gase Units: mg/l HighLimit	vg %RPD oline Rang vg %RPD	e RPDLimit e RPDLimit	Qual
Surr. BPB Sample ID 1608D60-001AMS Client ID: AB-1@0.5 Prep Date: 8/24/2016 Analyte Gasoline Range Organics (GRO) Surr: BFB Sample ID 1608D60-001AMS Client ID: AB-1@0.5 Prep Date: 8/24/2016 Analyte Gasoline Range Organics (GRO)	S SampT Batch Analysis D Result 25 900 SD SampT Batch Analysis D Result 25	Type: MS n ID: 27 Date: 8/ PQL 4.9 Type: MS n ID: 27 Date: 8/ PQL 4.9	3 147 25/2016 24.46 978.5 3D 147 25/2016 SPK value 24.63	Tes SPK Ref Val 0 Tes SPK Ref Val SPK Ref Val 0	tCode: E RunNo: 3 SeqNo: 1 %REC 103 92.4 tCode: E RunNo: 3 SeqNo: 1 %REC 102	PA Method 6760 139634 LowLimit 59.3 68.3 PA Method 6760 139646 LowLimit 59.3	8015D: Gase Units: mg/l HighLimit 143 144 8015D: Gase Units: mg/l HighLimit 143	vertime and the second	e RPDLimit e RPDLimit 20	Qual

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- 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
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

1608D60

WO#:

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# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

# Client:Rule Engineering LLCProject:CoP SJGP

Sample ID	MB-27147	SampType: MBLK TestCode: EPA					PA Method 8021B: Volatiles							
Client ID:	PBS	Batc	h ID: 27	147	F	RunNo: 3	6760							
Prep Date:	8/24/2016	Analysis D	Date: 8/	25/2016	S	SeqNo: 1	139732	Units: mg/l	٨g					
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-Bron	nofluorobenzene	1.0		1.000		99.9	80	120						
Sample ID	LCS-27147	Samp	Type: LC	S	Tes	tCode: El	PA Method	8021B: Vola	tiles					
Client ID:	LCSS	SS Batch ID: 27147 RunNo: 36760												
Prep Date:	e: 8/24/2016 Analysis Date: 8/25/2016 SeqNo: 113973						139733	Units: mg/l	Kg					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Benzene		0.88	0.025	1.000	0	88.1	75.3	123						
Toluene		0.92	0.050	1.000	0	92.3	80	124						
Ethylbenzene		0.96	0.050	1.000	0	95.9	82.8	121						
Xylenes, Total		2.9	0.10	3.000	0	96.4	83.9	122						
Surr: 4-Brom	nofluorobenzene	1.1		1.000		106	80	120						
Sample ID	1608D60-002AMS	Samp	Гуре: МЗ	3	Tes	tCode: El	PA Method	8021B: Vola	tiles					
Sample ID Client ID:	1608D60-002AMS AB-1@8	Samp1 Batc	Гуре: <b>М</b> З h ID: <b>27</b>	3 147	Tes F	tCode: El RunNo: 3	PA Method 6760	8021B: Vola	tiles					
Sample ID Client ID: Prep Date:	1608D60-002AMS AB-1@8 8/24/2016	SampT Batcl Analysis [	Гуре: М h ID: 27 Date: 8/	5 147 25/2016	Tes F S	tCode: El RunNo: 3 SeqNo: 1	PA Method 6760 139736	8021B: Vola Units: mg/l	tiles ≺g					
Sample ID Client ID: Prep Date: Analyte	1608D60-002AMS AB-1@8 8/24/2016	SampT Batch Analysis D Result	Гуре: <b>М</b> h ID: <b>27</b> Date: <b>8</b> / PQL	5 147 25/2016 SPK value	Tes F S SPK Ref Val	tCode: El RunNo: 3 SeqNo: 1 %REC	PA Method 6760 139736 LowLimit	8021B: Vola Units: mg/l HighLimit	tiles <g %RPD</g 	RPDLimit	Qual			
Sample ID Client ID: Prep Date: Analyte Benzene	1608D60-002AMS AB-1@8 8/24/2016	Samp Batch Analysis D Result 0.70	Type: MS h ID: 27 Date: 8/ PQL 0.023	5 147 25/2016 SPK value 0.9268	Tes F S SPK Ref Val 0	tCode: El RunNo: 3 SeqNo: 1 %REC 75.1	PA Method 6760 139736 LowLimit 71.5	8021B: Vola Units: mg/l HighLimit 122	tiles <g %RPD</g 	RPDLimit	Qual			
Sample ID Client ID: Prep Date: Analyte Benzene Toluene	1608D60-002AMS AB-1@8 8/24/2016	Samp Batcl Analysis E Result 0.70 0.83	Type: MS h ID: 27 Date: 8/ PQL 0.023 0.046	5 147 25/2016 SPK value 0.9268 0.9268	Tes F SPK Ref Val 0 0	tCode: El RunNo: 3 SeqNo: 1 %REC 75.1 89.1	PA Method 6760 139736 LowLimit 71.5 71.2	8021B: Vola Units: mg/l HighLimit 122 123	tiles <g %RPD</g 	RPDLimit	Qual			
Sample ID Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene	1608D60-002AMS AB-1@8 8/24/2016	Samp Batc Analysis E Result 0.70 0.83 0.91	Fype: MS h ID: 27 Date: 8/ PQL 0.023 0.046 0.046	5 147 25/2016 SPK value 0.9268 0.9268 0.9268	Tes F SPK Ref Val 0 0 0 0	tCode: El RunNo: 3 SeqNo: 1 %REC 75.1 89.1 98.6	PA Method 6760 139736 LowLimit 71.5 71.2 75.2	8021B: Vola Units: mg/l HighLimit 122 123 130	tiles <g %RPD</g 	RPDLimit	Qual			
Sample ID Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total	1608D60-002AMS AB-1@8 8/24/2016	Samp Batcl Analysis D Result 0.70 0.83 0.91 2.8	Fype: MS h ID: 27 Date: 8/ PQL 0.023 0.046 0.046 0.093	5 147 25/2016 SPK value 0.9268 0.9268 0.9268 2.780	Tes F SPK Ref Val 0 0 0 0 0	tCode: El RunNo: 3 SeqNo: 1 %REC 75.1 89.1 98.6 100	PA Method 6760 139736 LowLimit 71.5 71.2 75.2 72.4	8021B: Vola Units: mg/l HighLimit 122 123 130 131	tiles <g %RPD</g 	RPDLimit	Qual			
Sample ID Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bron	1608D60-002AMS AB-1@8 8/24/2016	Samp <sup>T</sup> Batcl Analysis I Result 0.70 0.83 0.91 2.8 0.96	Type: <b>MS</b> h ID: <b>27</b> Date: <b>8</b> / PQL 0.023 0.046 0.046 0.093	5 147 25/2016 SPK value 0.9268 0.9268 0.9268 2.780 0.9268	Tes F SPK Ref Val 0 0 0 0	tCode: El RunNo: 3 SeqNo: 1 %REC 75.1 89.1 98.6 100 103	PA Method 6760 139736 LowLimit 71.5 71.2 75.2 72.4 80	8021B: Vola Units: mg/l HighLimit 122 123 130 131 120	tiles <g %RPD</g 	RPDLimit	Qual			
Sample ID Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bron Sample ID	1608D60-002AMS AB-1@8 8/24/2016 nofluorobenzene 1608D60-002AMS	Samp Batcl Analysis D Result 0.70 0.83 0.91 2.8 0.96 D Samp	Type: MS h ID: 27 Date: 8/ PQL 0.023 0.046 0.046 0.046 0.093	5 147 25/2016 SPK value 0.9268 0.9268 0.9268 2.780 0.9268 SD	Tes F SPK Ref Val 0 0 0 0 Tes	tCode: El RunNo: 3 SeqNo: 1 %REC 75.1 89.1 98.6 100 103 tCode: El	PA Method 6760 139736 LowLimit 71.5 71.2 75.2 72.4 80 PA Method	8021B: Vola Units: mg/l HighLimit 122 123 130 131 120 8021B: Vola	tiles Kg %RPD tiles	RPDLimit	Qual			
Sample ID Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bron Sample ID Client ID:	1608D60-002AMS AB-1@8 8/24/2016 nofluorobenzene 1608D60-002AMS AB-1@8	Samp Batcl Analysis D Result 0.70 0.83 0.91 2.8 0.96 D Samp Batcl	Type: MS h ID: 27 Date: 8/ PQL 0.023 0.046 0.046 0.046 0.093	5 147 25/2016 SPK value 0.9268 0.9268 0.9268 2.780 0.9268 5D 147	Tes F SPK Ref Val 0 0 0 0 Tes F	tCode: El RunNo: 3 SeqNo: 1 %REC 75.1 89.1 98.6 100 103 tCode: El RunNo: 3	PA Method 6760 139736 LowLimit 71.5 71.2 75.2 72.4 80 PA Method 6760	8021B: Vola Units: mg/l HighLimit 122 123 130 131 120 8021B: Vola	tiles <g %RPD tiles</g 	RPDLimit	Qual			
Sample ID Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bron Sample ID Client ID: Prep Date:	1608D60-002AMS AB-1@8 8/24/2016 nofluorobenzene 1608D60-002AMS AB-1@8 8/24/2016	Samp Batcl Analysis I Result 0.70 0.83 0.91 2.8 0.96 D Samp Batcl Analysis I	Fype: MS h ID: 27 Date: 8/ PQL 0.023 0.046 0.046 0.093 Fype: MS h ID: 27 Date: 8/	S 147 25/2016 SPK value 0.9268 0.9268 2.780 0.9268 2.780 0.9268 SD 147 25/2016	Tes F SPK Ref Val 0 0 0 0 Tes F S	tCode: El RunNo: 3 SeqNo: 1 %REC 75.1 89.1 98.6 100 103 tCode: El RunNo: 3 SeqNo: 1	PA Method 6760 139736 LowLimit 71.5 71.2 75.2 72.4 80 PA Method 6760 139737	8021B: Vola Units: mg/l HighLimit 122 123 130 131 120 8021B: Vola Units: mg/l	tiles <g %RPD tiles <g< td=""><td>RPDLimit</td><td>Qual</td></g<></g 	RPDLimit	Qual			
Sample ID Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bron Sample ID Client ID: Prep Date: Analyte	1608D60-002AMS AB-1@8 8/24/2016 nofluorobenzene 1608D60-002AMS AB-1@8 8/24/2016	Samp <sup>T</sup> Batcl Analysis [ Result 0.70 0.83 0.91 2.8 0.96 D Samp <sup>T</sup> Batcl Analysis [ Result	Type: MS h ID: 27 Date: 8/ PQL 0.023 0.046 0.046 0.046 0.093 Type: MS h ID: 27 Date: 8/ PQL	5 147 25/2016 SPK value 0.9268 0.9268 0.9268 2.780 0.9268 5D 147 25/2016 SPK value	Tes F SPK Ref Val 0 0 0 0 Tes F SPK Ref Val	tCode: El RunNo: 3 SeqNo: 1 %REC 75.1 89.1 98.6 100 103 tCode: El RunNo: 3 SeqNo: 1 %REC	PA Method 6760 139736 LowLimit 71.5 71.2 75.2 72.4 80 PA Method 6760 139737 LowLimit	8021B: Vola Units: mg/l HighLimit 122 123 130 131 120 8021B: Vola Units: mg/l HighLimit	tiles <g krPD tiles <g %RPD</g </g 	RPDLimit	Qual			
Sample ID Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bron Sample ID Client ID: Prep Date: Analyte Benzene	1608D60-002AMS AB-1@8 8/24/2016 nofluorobenzene 1608D60-002AMS AB-1@8 8/24/2016	Samp Batcl Analysis I Result 0.70 0.83 0.91 2.8 0.96 D Samp Batcl Analysis I Result 0.87	Type:         MS           PQL         0.023           0.046         0.046           0.046         0.046           0.093         0.046           MS         0.093           Type:         MS           h ID:         27           Date:         8/           PQL         0.024	5 147 25/2016 SPK value 0.9268 0.9268 0.9268 2.780 0.9268 5D 147 25/2016 SPK value 0.9515	Tes F SPK Ref Val 0 0 0 0 Tes F SPK Ref Val 0	tCode: El RunNo: 3 SeqNo: 1 %REC 75.1 89.1 98.6 100 103 tCode: El RunNo: 3 SeqNo: 1 %REC 91.8	PA Method 6760 139736 LowLimit 71.5 71.2 75.2 72.4 80 PA Method 6760 139737 LowLimit 71.5	8021B: Vola Units: mg/l HighLimit 122 123 130 131 120 8021B: Vola Units: mg/l HighLimit 122	tiles <g %RPD tiles <g %RPD 22.6</g </g 	RPDLimit RPDLimit 20	Qual Qual R			
Sample ID Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bron Sample ID Client ID: Prep Date: Analyte Benzene Toluene	1608D60-002AMS AB-1@8 8/24/2016 nofluorobenzene 1608D60-002AMS AB-1@8 8/24/2016	Samp Batcl Analysis I Result 0.70 0.83 0.91 2.8 0.96 D Samp Batcl Analysis I Result 0.87 0.90	Type: MS h ID: 27 Date: 8/ PQL 0.023 0.046 0.046 0.093 Type: MS h ID: 27 Date: 8/ PQL 0.024 0.024 0.048	S 147 25/2016 SPK value 0.9268 0.9268 0.9268 2.780 0.9268 2.780 0.9268 SD 147 25/2016 SPK value 0.9515 0.9515	Tes F SPK Ref Val 0 0 0 0 Tes SPK Ref Val 0 0	tCode: El RunNo: 3 SeqNo: 1 %REC 75.1 89.1 98.6 100 103 tCode: El RunNo: 3 SeqNo: 1 %REC 91.8 94.7	PA Method 6760 139736 LowLimit 71.5 71.2 75.2 72.4 80 PA Method 6760 139737 LowLimit 71.5 71.2	8021B: Vola Units: mg/l HighLimit 122 123 130 131 120 8021B: Vola Units: mg/l HighLimit 122 123	tiles <g %RPD tiles <g %RPD 22.6 8.69</g </g 	RPDLimit RPDLimit 20 20	Qual Qual R			
Sample ID Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bron Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene	1608D60-002AMS AB-1@8 8/24/2016 nofluorobenzene 1608D60-002AMS AB-1@8 8/24/2016	Samp Batcl Analysis I Result 0.70 0.83 0.91 2.8 0.96 D Samp Batcl Analysis I Result 0.87 0.90 0.93	Type:         MS           Fype:         8/           PQL         0.023           0.046         0.046           0.046         0.093           Fype:         MS           MID:         27           Date:         8/           PQL         0.046           0.093         0.046           0.093         0.046           0.024         0.024           0.024         0.048           0.048         0.048	S 147 25/2016 SPK value 0.9268 0.9268 2.780 0.9268 2.780 0.9268 SD 147 25/2016 SPK value 0.9515 0.9515 0.9515	Tes F SPK Ref Val 0 0 0 0 0 0 5 F SPK Ref Val 0 0 0 0	tCode: El RunNo: 3 SeqNo: 1 %REC 75.1 89.1 98.6 100 103 tCode: El RunNo: 3 SeqNo: 1 %REC 91.8 94.7 98.2	PA Method 6760 139736 LowLimit 71.5 71.2 75.2 72.4 80 PA Method 6760 139737 LowLimit 71.5 71.2 75.2	8021B: Vola Units: mg/l HighLimit 122 123 130 131 120 8021B: Vola 8021B: Vola Units: mg/l HighLimit 122 123 130	tiles <g %RPD tiles <g %RPD 22.6 8.69 2.21</g </g 	RPDLimit RPDLimit 20 20 20	Qual Qual R			
Sample ID Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bron Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total	1608D60-002AMS AB-1@8 8/24/2016 nofluorobenzene 1608D60-002AMS AB-1@8 8/24/2016	Samp <sup>T</sup> Batcl Analysis I Result 0.70 0.83 0.91 2.8 0.96 D Samp <sup>T</sup> Batcl Analysis I Result 0.87 0.90 0.93 2.8	Type:         MS           f ID:         27           Date:         8/           PQL         0.023           0.046         0.046           0.093         0.046           MSD         0.046           0.093         0.046           0.093         0.046           0.093         0.046           0.093         0.046           0.093         0.046           0.024         0.024           0.048         0.048	S 147 25/2016 SPK value 0.9268 0.9268 2.780 0.9268 2.780 0.9268 SD 147 25/2016 SPK value 0.9515 0.9515 0.9515 2.854	Tes F SPK Ref Val 0 0 0 0 0 5 F SPK Ref Val 0 0 0 0 0 0 0 0	tCode: El RunNo: 3 SeqNo: 1 %REC 75.1 89.1 98.6 100 103 tCode: El RunNo: 3 SeqNo: 1 %REC 91.8 94.7 98.2 97.7	PA Method 6760 139736 LowLimit 71.5 71.2 75.2 72.4 80 PA Method 6760 139737 LowLimit 71.5 71.2 75.2 72.4	8021B: Vola Units: mg/l HighLimit 122 123 130 131 120 8021B: Vola Units: mg/l HighLimit 122 123 130 131	tiles <g %RPD tiles <g %RPD 22.6 8.69 2.21 0.304</g </g 	RPDLimit RPDLimit 20 20 20 20 20	Qual Qual R			

#### 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

1608D60

WO#:

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HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental Albu TEL: 505-345-3975 Website: www.hau	Analysi 4901 querqu FAX: 5 llenviro	s Laboral Hawkins e. NM 87 05-345-4 mmental.c	NE NE 105 <b>S</b> 107 com	am	ple Log-In Check List
Client Name: RULE ENGINEERING LL	Work Order Number:	1608	060			RcptNo: 1
Received by/date: Logged By: Lindsay Mangin	08 Z4 (16 8/24/2016 8:00:00 AM			Freder	Hargo	
Completed By: Lindsay Mangin	8/24/2016 9:53:12 AM			Analyt	Har	)
Reviewed By: Un 172/24/110				$\mathcal{V}$	0	
Chain of Custody						
1. Custody seals intact on sample bottles?		Yes		No	11	Not Present
2. Is Chain of Custody complete?		Yes		No	[]]	Not Present
3. How was the sample delivered?		Cour	ier			
<u>Log In</u>						
4. Was an attempt made to cool the samples	?	Yes		No	[]	NA
5. Were all samples received at a temperature	e of ≥0° C to 6.0°C	Yes		No		NA
6. Sample(s) in proper container(s)?		Yes		No	í I	
7. Sufficient sample volume for indicated test(	s)?	Yes		No	[_]	
8. Are samples (except VOA and ONG) prope	rly 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 brok	en?	Yes	$\square$	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 noted)
13. Are matrices correctly identified on Chain o	f Custody?	Yes		No	[]	Adjusted
14. Is it clear what analyses were requested?		Yes		No	11	Checked by:
15. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes		No	1.)	Checked by.
Special Handling (if applicable)						
16. Was client notified of all discrepancies with	this order?	Yes		No	[]]	NA 🛃
Person Notified:	Date:		Walabach	- 7 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1		
By Whom:	Via:	] eMa	ail [] P	hone [ ]	Fax	In Person
Regarding:			0.0			
Client Instructions:						
17. Additional remarks:						
18 Cooler Information						

1	Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
	1	3.4	Good	Yes			

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	fule	Engin	vering, UC	Project Name	: Kush					A	<b>N</b> /	hall	<b>YS</b> envir	IS	nent		30	RAT	OR	łY
ailing	Address	5016	timport Dr. Ste 205	Cop	SIGP			490	)1 Ha	awkin	s N	E -	Albu	Ique	erque	e, Ni	VI 87	109		
Tarr	ninst	DO N	M 87401	Project #:				Те	1. 50	5-345	5-39	75	F	ax 5	505-	345-	4107	,		
one #	: ( So	5)714	-2787					-			2	Ar	naly	sis	Req	uest				ł
nail or	Fax#:	woods	Scrubengineering a	R-pject Mana	ger:		=	(fun	RO					04)	s					
QC P	Package:			11			(802	as c	W N			NS)		04,5	CB					
Stand	dard		Level 4 (Full Validation)	H. Wor	ods is		*	E) H	DRC			SIN (		02,P	82 F					
NEL	AP	□ Othe	r	On Ice.	Woods	D No	B	TP	10	8.1)	1.1)	3270		3'NC	/80		2			
EDD	(Type)			Sample Terrin	Serature: 3	4	÷	H H H	(GR	d 41	d 50	or	tals	N.	des	2	VOV			
ate	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEALNO.	BTEX + KE	BTEX + MT	TPH 8015B	TPH (Metho	EDB (Metho	PAH's (8310	RCRA 8 Me	Anions (F,CI	8081 Pestici	8260B (VOA	8270 (Semi-			
3/14	1530	Soil	AB-100.5	(1) 402 G1033	Cold	-001	X		X											
3/14	1550	Soil	AB-100	1	I	-002	X		X											
3/10	1620	501	AB-Z@B			-003	X		x											
23/16	1640	So.1	AB-Zeiz	2	1	-004	X		x											
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te:	Time:	Relinquish	ed by:	Received by:	NN	gate Time	W	0./	16	250	00	GF								
3/12	Zoir	11/10	Jalle	, · · · ·	AT	08 ZIGHI. NRY	Dr	den	LAL AL	ULE	A	0.00	C	w.A.	02	~				