

January 4, 2016

NMOCD District II Attn. Heather Patterson 1301 W Grand Ave Artesia, NM 88210

SUBJECT: FINAL CLOSURE REPORT FOR INCIDENT 2RP-3385 ROCKET FEDERAL #1, API #30-015-34795, EDDY COUNTY, NEW MEXICO

Dear Ms. Patterson:

On behalf of COG Operating (COG), Souder Miller & Associates (SMA) is pleased to submit the attached Final Closure Report summarizing the soil remediation activities performed for the release at the Rocket Federal #1 in Eddy County, New Mexico. The purpose of the final closure report is to obtain approval from the New Mexico Oil Conservation Division (NMOCD) for remediation of the release discovered on October 21, 2015.

At the request of COG, SMA assessed, delineated and remediated soil affected by produced oil at the Rocket Federal #1 well location. The release was initially reported to NMOCD by COG Operating on November 4, 2015 as a release from a lighting strike. The table below summarizes information regarding the release. Results of the assessment and delineation follow in the attached report.

Table 1: Release information and Site Ranking						
Name	Rocket Federal #1					
Location	Incident Number	API Number	Sect	hip, Range		
Location	2RP- 3385	30-015- 34795	SW/SE UL P	Section 04	T 26S, R 29E NMPM	
Estimated Date of Release	October 21, 2015					
Date Reported to NMOCD	November 4, 2015					
Reported by	Amanda Trujillo Davis, COG Operating LLC					
Land Owner	Federal B	ureau of La	and Manag	ement (BLN	VI)	
Reported To	NM Oil Co	onservatior	n Division (	NMOCD)		
Source of Release	Lighting S	trike				
Released Material	Produced	Water and	d Crude Oil			
Released Volume	1360 bbls	Produced	Water and	22 bbls Cr	ude Oil	
Recovered Volume	220 bbls Produced Water and 20 bbls Crude Oil					
Net Release	1140 bbl	s Produced	Water and	d 2 bbls Cru	ıde Oil	
Nearest Waterway	1,300 feet north of the location.					
Depth to Groundwater	Estimated	d to be 102	feet			



Nearest Domestic Water Source	Greater than 1000 feet
NMOCD Ranking	0
SMA Response Dates	Initial: 11/9/15 Mitigation Activities: 12/9/15
Subcontractors	TCS, MMX
Disposal Facility	R360 Red Bluff Facility, State of Texas Permit
Estimated Yd <sup>3</sup> Contaminated Soil Excavated and Disposed	4,880 Yd <sup>3</sup>

A copy of the C-141 Initial is located in Appendix B. For questions or comments pertaining to the release or the attached Work Plan, please feel free to contact either of us.

Submitted by:

SOUDER, MILLER & ASSOCIATES

thisty Weyant

Austin Weyant Project Scientist

Reviewed by:

Cynthia Gray, CHMM Senior Scientist

## SOIL REMEDIATION FINAL CLOSURE REPORT FOR INCIDENT 2RP-3385 COG OPERATING LLC

ROCKET FEDERAL #1 API# 30-015-34795 UL P, SECTION 04, T26S R29E, NMPM EDDY COUNTY, NM



Prepared for: COG Operating LLC 2407 Pecos Ave Artesia, NM 88210 Prepared by: Souder, Miller & Associates 201 S. Halagueno Carlsbad, NM 88221 575-689-7040

January 4, 2016 SMA Reference 5B23978 BG11



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### 1.0 Introduction

On behalf of COG Operating LLC (COG), SMA has prepared this report describing the assessment, initial delineation and mitigation of the crude oil and produced water release 2RP-3385 associated with the Rocket Federal #1 release site. The site is located in Section 4, T 26S, R 29 E NMPM, Eddy County, New Mexico, on federal land administered by the Bureau of Land Management (BLM). Figure 1 illustrates the vicinity and location of the site.

### 2.0 Site Ranking and Land Jurisdiction

The release site is located approximately 1.2 miles (> 1,000 feet) east of Pecos River, on federal BLM Land with an elevation of approximately 2,950 feet above sea level. After evaluation of the site using aerial photography and topographic maps, depth to groundwater is estimated to be greater than 100 feet below ground surface (bgs) using the Pecos River as groundwater level. Figure 1 illustrates the location and site vicinity and Figure 2 depicts the site details and sample locations. SMA searched the New Mexico State Engineer's Office online water well database for water wells in the vicinity of the release. No water supply well is located within a 1000 foot radius of the site. The physical location of this release is within the jurisdiction of NMOCD.

This release location has been assigned a NMOCD ranking of 0 for which "Guidelines for Remediation" require a soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm combined benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 5000 ppm total petroleum hydrocarbons (TPH). Table 1 shows site ranking rationale.

### 3.0 Assessment and Initial Results

On November 9, 2015 and December 16, 2015 after receiving 811 clearance, SMA personnel assessed the release area onsite with an auger, a Photo Ionization Detector (PID), and a mobile chlorides titration kit. The affected area was found to be 400 feet long and 70 feet wide. The release impact area extends over two well pads, the upper pad on the south and a lower pad on the north. Delineation samples were taken to depths of three feet bgs on the northern lower pad and down to 9' bgs on the southern upper pad. Using field screening, samples at less than one foot bgs were found to exhibit elevated levels of chloride on the lower pad. The southern upper pad exhibit elevated levels of chloride to 5 feet bgs. Sample locations are noted on Figure 2 Site Details and Sample Location Map. For additional information on the initial soil results and site assessment, please refer to the NMOCD approved work plan (Soil Remediation Work Plan for Incident 2RP-3385.) All samples were collected and processed according to NMOCD soil sampling procedures. The laboratory samples were sent under chain-of-custody protocols to Hall Environmental Analysis Laboratory for analysis for Benzene and Total BTEX using EPA Method 8021B, DRO and GRO by EPA Method 8015D, and total Chlorides using EPA Method 300.0.

### 4.0 Soil Remediation Summary

SMA begin the excavation on December 9, 2015 of affected soils, with approval from area utilities owners via 811 and NMOCD. SMA personal continuously guide the excavation activities by collecting composite soil samples for field screening with a mobile titration unit (EPA 4500) and a calibrated PID. Delineation occurred to sufficiently map the plume of contamination by NMOCD standards. This delineation was used to determine excavation depths to affectively remove contaminated soil in the northern lower and southern upper pad. The northern lower pad was excavated to 1 foot bgs to remove contaminated soil. The southern upper pad was excavated to

6 foot bgs in the contaminated tank battery area. The excavation depths which are based on delineation was completed to achieve closure standards. Final samples were collected at the maximum depths of the excavation. 4880 cubic yards of contaminated soil has been excavated. The contaminated soil was transported for proper disposal at Texas permitted R360 Red Bluff facility in Texas.

## 5.0 Conclusions and Recommendations

NMOCD Guidelines for Remediation of Leaks, Spills, and Releases have established the following action levels for contaminants of concern with a site ranking of 0: 10 ppm (mg/kg) Benzene, 50 ppm total BTEX, and 5000 ppm TPH. The release consisted of crude oil and produced water found during the initial assessment and delineation.

All closure confirmation samples were taken as discrete samples to ensure that the contaminated soil was removed.

Soil sample location are illustrated in Figure 2. A summary of the laboratory analyses is included in Table 2. Laboratory reports are included in Appendix A.

#### 6.0 Closure and Limitations

Closure standards have been achieved for the crude oil release 2RP-3385 on the Rocket Federal #1 well pad.

The scope of our services consisted of the performance of a preliminary spill assessment, verification of release stabilization, regulatory liaison, and preparation of a Remediation Work Plan and a Request for Closure. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas releases in the Permian Basin in New Mexico.

If there are any questions regarding this report, please contact either Austin Weyant at 575-689-7040 or Cindy Gray at 505-325-7535.

Submitted by:

Reviewed by:

SOUDER, MILLER & ASSOCIATES

Hunton Merran

Austin Weyant Project Scientist

Cynthia Gray, CHMM Senior Scientist

## Figures:

Figure 1: Vicinity Map Figure 2: Site Map

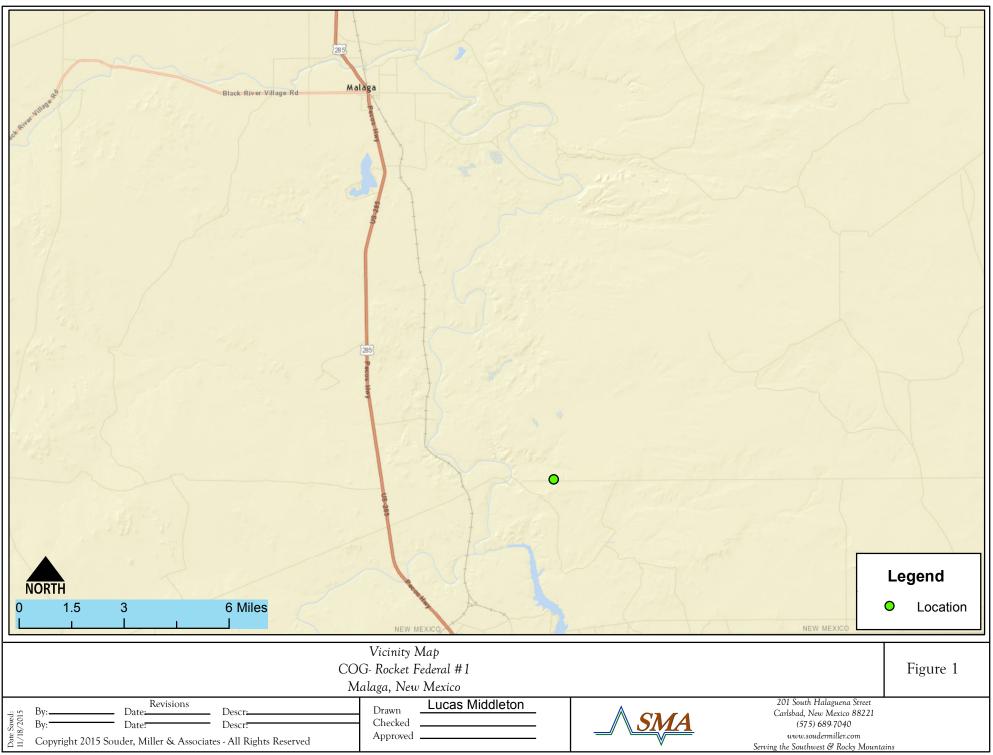
## Tables:

Table 1: Release Information and Site RankingTable 2: Summary of Laboratory AnalysesTable 3: Summary of Field Screening Results

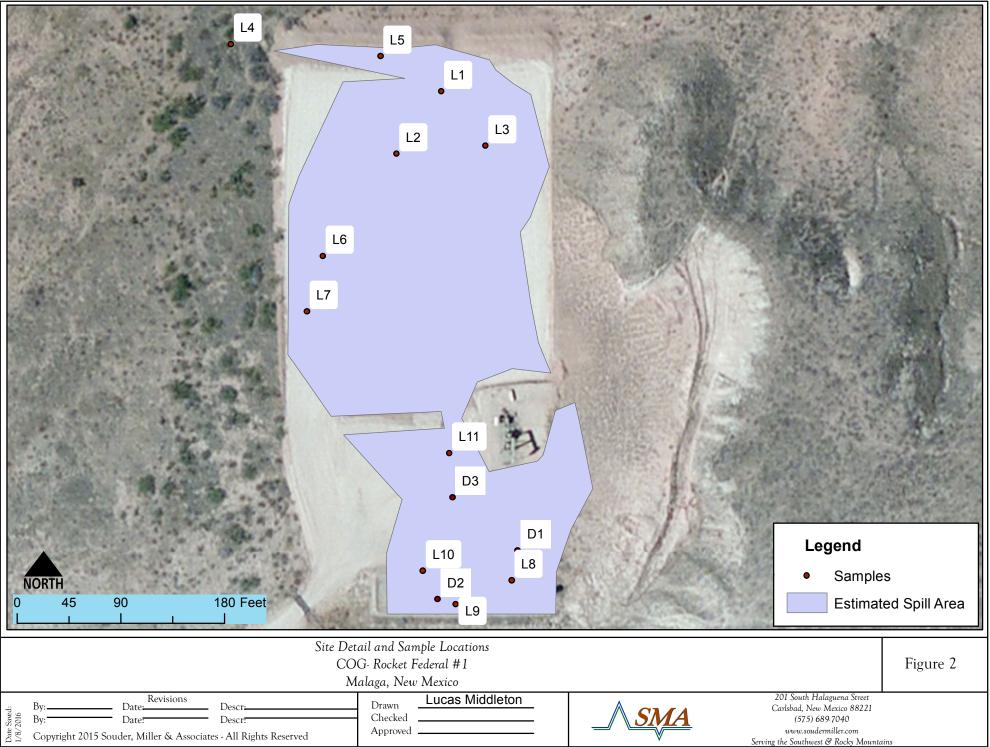
## Appendices:

Appendix A: Laboratory Analytical Reports Appendix B: Form C141 Final

# FIGURE 1 VICINITY MAP



# FIGURE 2 SITE DETAILS AND SAMPLE LOCATIONS MAP



## TABLE 1

## RELEASE INFORMATION AND SITE RANKING

Name			Rocket Fec	leral #1		
Location	Incident Number	API Number	Sec	nip, Range		
Location	2RP-3385	30-015- 34795	UL P	Section 04	T 26S, R 29E NMPM	
Estimated Date of Release	10/21/15					
Date Reported to NMOCD	11/4/15					
Reported by	Amanda Tr	ujillo Davis				
Land Owner	Federal Bu	reau of Land	d Managem	nent (BLM)		
Reported To	NM Oil Cor	nservation D	ivision (NN	10CD)		
Source of Release	Lighting Strike					
Released Material	Produced V	Water and C	Dil			
Released Volume	1360 bbls F	Produced W	ater and 22	2 bbls Oil		
Recovered Volume	220 bbls P	roduced Wa	ater and 20	bbls Oil		
Net Release	1140 bbl P	roduced Wa	ater and 2 k	obl Oil		
Nearest Waterway	1,300 feet	north of the	e location.			
Depth to Groundwater	Estimated t	to be 102 fe	et			
Nearest Domestic Water Source	Greater that	an 1000 fee <sup>.</sup>	t			
NMOCD Ranking	0					
SMA Response Dates	Initial: 11/	9/15 Mitiga	ation Activi	ties: 12/9/15		
Subcontractors	TCS, MMX					
Disposal Facility	R360 Red E	Bluff Facility	, State of Te	exas Permit		
Estimated Yd <sup>3</sup> Contaminated Soil Excavated and Disposed	3,880 Yd <sup>3</sup>					

# TABLE 2 SUMMARY OF LABORATORY ANALYSES

Analytical Report- 1512A42	Sample Number on Figure 2 Map	Sample Date	Depth	BTEX ppm	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	Cl- mg/Kg
1512A42- 001	L3-1	12/16/2015	1'	BDL	BDL	N/A	N/A	BDL
1512A42- 002	L3-3	12/16/2015	3'	N/A	N/A	N/A	N/A	39
1512A42- 003	L4-1	12/16/2015	1'	N/A	N/A	N/A	N/A	540
1512A42- 004	L4-3	12/16/2015	3'	N/A	N/A	N/A	N/A	290
1512A42- 005	L5-1	12/16/2015	1'	N/A	N/A	N/A	N/A	BDL
1512A42- 006	L5-3	12/16/2015	3'	N/A	N/A	N/A	N/A	400
1512A42- 007	L6-1	12/16/2015	1'	N/A	N/A	N/A	N/A	490
1512A42- 008	L6-3	12/16/2015	3'	N/A	N/A	N/A	N/A	BDL
1512A42- 009	D2-5	12/16/2015	5'	N/A	N/A	N/A	N/A	3,200
1512A42- 010	D2-7	12/16/2015	7'	N/A	N/A	N/A	N/A	650
1512A42- 011	D2-9	12/16/2015	9'	N/A	N/A	N/A	N/A	480
1512A42- 012	D1-6	12/16/2015	6'	N/A	N/A	N/A	N/A	170
1512A42- 013	D1-8	12/16/2015	8'	N/A	N/A	N/A	N/A	850

## Table 2: Summary of Laboratory Analyses

# TABLE 3 SUMMARY OF FIELD SCREENING RESULTS

		FIELD SCREENING RE	SULTS SUMMA	RY	
Date	Time	Field Screening Reference	Sample Depth (Feet BGS)	EC Results	Lab Sample Collected Y/N
12/9/2015	8:00	L1	3	170	у
12/9/2015	8:00	L2	3	158	у
12/9/2015	8:00	L3	3	158	y
12/9/2015	9:00	L4	1	301	у
12/9/2015	10:00	L4	3	158	у
12/9/2015	11:00	L5	1	889	у
12/9/2015	12:00	L5	3	688	У
12/9/2015	13:00	L6	2	559	У
12/9/2015	14:00	L6	1	2552	У
12/9/2015	15:00	L7	2	258	у
12/9/2015	16:00	L7	4	316	У
12/9/2015	17:00	L8	6"	4458	У
12/9/2015	18:00	L8	2	3297	у
12/9/2015	19:00	L9	0.5	3842	У
12/9/2015	20:00	L9	3	3283	У
12/9/2015	21:00	L9	2	2136	У
12/9/2015	22:00	L10	1	4171	У
12/9/2015	23:00	L10	3	2609	у
12/9/2015	0:00	L11	1	2795	у
12/9/2015	1:00	L11	3	2738	У
12/9/2015	8:00	SP1	Spill Pile	6895	У
12/16/2015	9:00	D1-4	4'	2251	У
12/16/2015	9:00	D1-6	6'	387	у
12/16/2015	9:00	D1-8	8'	387	У
12/16/2015	9:00	D2-5	5'	3397	у
12/16/2015	9:00	D2-7	7'	531	у
12/16/2015	9:00	D2-9	9'	531	у
12/16/2015	9:00	D3-4	4'	287	у
12/16/2015	9:00	D3-6	6'	43	у



# APPENDIX A LABORATORY ANALYTICAL REPORTS



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

January 06, 2016

Austin Weyant Souder, Miller & Associates 201 S Halagueno Carlsbad, NM 88221 TEL: (575) 689-7040 FAX

OrderNo.: 1512A42

RE: Rocket 1/2

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 13 sample(s) on 12/22/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <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 1512A42 Date Reported: 1/6/2016

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates Project: Rocket 1/2 Client Sample ID: L3-1 Collection Date: 12/16/2015 8:00:00 AM Received Date: 12/22/2015 9:25:00 AM

Lab ID: 1512A42-001	Matrix:	SOIL	<b>Received</b>	Received Date: 12/22/2015 9:25:00 AM			
Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch	
EPA METHOD 300.0: ANIONS					Anal	yst: LGT	
Chloride	ND	30	mg/Kg	20	12/28/2015 10:20:51	PM 22981	
EPA METHOD 8021B: VOLATILES					Anal	yst: <b>NSB</b>	
Benzene	ND	0.047	mg/Kg	1	12/24/2015 3:13:51	PM 22945	
Toluene	ND	0.047	mg/Kg	1	12/24/2015 3:13:51	PM 22945	
Ethylbenzene	ND	0.047	mg/Kg	1	12/24/2015 3:13:51	PM 22945	
Xylenes, Total	ND	0.095	mg/Kg	1	12/24/2015 3:13:51	PM 22945	
Surr: 4-Bromofluorobenzene	109	80-120	%REC	1	12/24/2015 3:13:51	PM 22945	

Qualifiers:	*
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- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 16
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analys	is Laborato	ry, Inc.		Lab Order <b>1512A42</b> Date Reported: <b>1/6/2</b> (	)16
CLIENT: Souder, Miller & Associates			Client Sampl	e ID: L3-3	
<b>Project:</b> Rocket 1/2			Collection 1	Date: 12/16/2015 8:00:00 AN	1
Lab ID: 1512A42-002	Matrix: SO	IL	<b>Received</b>	Date: 12/22/2015 9:25:00 AM	1
Analyses	Result	RL Qua	l Units	DF Date Analyzed	Batch
EPA METHOD 300.0: ANIONS				Analy	st: LGT
Chloride	39	30	mg/Kg	20 12/28/2015 10:58:05	PM 22981

Qualifiers:	*
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- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- D Sample Diraced Due to Maurix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 16

- P Sample pH Not In Range
- RL Reporting Detection Limit

Analytical	Report
Lab Order 1	512A42

Hall Environmental Analysi	is Laborat	ory, Inc.			Date Reported: 1/6/2	016
CLIENT: Souder, Miller & Associates			Client Samp	le ID: L4	-1	
<b>Project:</b> Rocket 1/2			Collection	Date: 12	/16/2015 8:00:00 AM	Ν
Lab ID: 1512A42-003	Matrix: SOIL		Received Date: 12/22/2015 9:25:00 AM			Ν
Analyses	Result	RL Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	/st: LGT
Chloride	540	30	mg/Kg	20	12/28/2015 11:10:30	PM 22981

Qualifiers:	*
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- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 16
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analys	is Laborato	ory, Inc.		Lab Order 1512A42 Date Reported: 1/6/20	016
CLIENT: Souder, Miller & Associates			Client Sampl	<b>e ID:</b> L4-3	
<b>Project:</b> Rocket 1/2			Collection 1	Date: 12/16/2015 8:00:00 AM	M
Lab ID: 1512A42-004	Matrix: So	JIL	<b>Received</b>	Date: 12/22/2015 9:25:00 AM	Ν
Analyses	Result	RL Qu	al Units	DF Date Analyzed	Batch
EPA METHOD 300.0: ANIONS				Analy	/st: LGT
Chloride	290	30	mg/Kg	20 12/28/2015 11:22:54	PM 22981

Qualifiers:	*
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- Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix
- D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 4 of 16 J

- Р Sample pH Not In Range
- RL Reporting Detection Limit

Analytical Report
Lab Order 1512A42

Date Reported: 1/6/2016
Client Sample ID: L5-1

CLIENT: Souder, Miller & Associates			<b>Client Sampl</b>	<b>e ID:</b> L5-1	
<b>Project:</b> Rocket 1/2	Collection Date: 12/16/2015 8:00:00 AM				AM
Lab ID: 1512A42-005	Matrix: S	OIL	Received I	Date: 12/22/2015 9:25:00	AM
Analyses	Result	RL Qu	al Units	DF Date Analyzed	Batch
EPA METHOD 418.1: TPH				Ana	alyst: <b>TOM</b>
Petroleum Hydrocarbons, TR	ND	20	mg/Kg	1 12/29/2015	22959
EPA METHOD 300.0: ANIONS				Ana	alyst: <b>LGT</b>
Chloride	93	30	mg/Kg	20 12/28/2015 11:35:	18 PM 22981

Qualifiers:	*
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- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 5 of 16
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analys	is Laborato	ory, Inc.		Lab Order <b>1512A42</b> Date Reported: <b>1/6/2</b>	016
CLIENT: Souder, Miller & Associates			Client Samp	le ID: L5-3	
<b>Project:</b> Rocket 1/2			<b>Collection</b>	Date: 12/16/2015 8:00:00 AM	M
Lab ID: 1512A42-006	Matrix: So	JIL	<b>Received</b>	Date: 12/22/2015 9:25:00 AM	M
Analyses	Result	RL Qu	al Units	DF Date Analyzed	Batch
EPA METHOD 300.0: ANIONS				Analy	/st: LGT
Chloride	400	30	mg/Kg	20 12/28/2015 11:47:43	PM 22981

Qualifiers:	*
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- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 6 of 16

- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analys	is Laborato	ry, Inc.		Lab Order 1512A42 Date Reported: 1/6/2	016
CLIENT: Souder, Miller & Associates			Client Samp	le ID: L6-1	
<b>Project:</b> Rocket 1/2			Collection 1	Date: 12/16/2015 8:00:00 Al	М
Lab ID: 1512A42-007	Matrix: SC	DIL	<b>Received</b>	Date: 12/22/2015 9:25:00 Al	М
Analyses	Result	RL Qua	al Units	DF Date Analyzed	Batch
EPA METHOD 300.0: ANIONS				Anal	yst: LGT
Chloride	490	30	mg/Kg	20 12/29/2015 12:24:56	6 AM 22981

Qualifiers:	*
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- Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix D
- Н
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 7 of 16 J

- Р Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analys	is Laborator	y, Inc.		Lab Order <b>1512A42</b> Date Reported: <b>1/6/2016</b>	
CLIENT: Souder, Miller & Associates		(	Client Samp	<b>e ID:</b> L6-3	
<b>Project:</b> Rocket 1/2			Collection 1	Date: 12/16/2015 8:00:00 AM	
Lab ID: 1512A42-008	Matrix: SOI	L	<b>Received</b>	Date: 12/22/2015 9:25:00 AM	
Analyses	Result	RL Qual	Units	DF Date Analyzed B	atch
EPA METHOD 300.0: ANIONS				Analyst: L	.GT
Chloride	ND	30	mg/Kg	20 12/29/2015 12:37:21 AM 2	2981

Qualifiers:	*
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- Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix D
- Н
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 8 of 16 J

- Р Sample pH Not In Range
- RL Reporting Detection Limit

Analytical Report
Lab Order <b>1512A42</b>

Hall Environmental Analys	is Laborat	ory, Inc.		Date Reported: 1/6/2	016	
CLIENT: Souder, Miller & Associates			Client Samp	e ID: D2-5		
<b>Project:</b> Rocket 1/2			<b>Collection</b>	Date: 12/16/2015 8:00:00 Al	М	
Lab ID: 1512A42-009	Matrix: S	OIL	Received Date: 12/22/2015 9:25:00 AM			
Analyses	Result	RL Qu	al Units	DF Date Analyzed	Batch	
EPA METHOD 300.0: ANIONS				Anal	yst: LGT	
Chloride	3200	150	mg/Kg	100 12/29/2015 8:00:54	PM 22981	

Qualifiers:	*
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- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 9 of 16
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysi	s Laborato	ory, Inc.		Lab Order <b>1512A42</b> Date Reported: <b>1/6/2016</b>	
CLIENT: Souder, Miller & Associates			Client Sampl	e ID: D2-7	
<b>Project:</b> Rocket 1/2			Collection 1	Date: 12/16/2015 8:00:00 AM	
Lab ID: 1512A42-010	Matrix: So	JIL	<b>Received</b>	Date: 12/22/2015 9:25:00 AM	
Analyses	Result	RL Qua	al Units	DF Date Analyzed	Batch
EPA METHOD 300.0: ANIONS				Analyst:	LGT
Chloride	650	30	mg/Kg	20 12/29/2015 1:02:09 AM	22981

Qualifiers:	*
-------------	---

- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 10 of 16

- P Sample pH Not In Range
- RL Reporting Detection Limit

An	alytic	al Ro	eport	
Lat	o Order	r 1512	2A42	
_	_			

Hall Environmental Analysis Laboratory, Inc.			Date Reported: 1/6/2016			
CLIENT: Souder, Miller & Associates			Client Samp	le ID: D2-9		
<b>Project:</b> Rocket 1/2			Collection	Date: 12/16/2015 8:00:00 AM		
Lab ID: 1512A42-011	Matrix: S	OIL	Received	Date: 12/22/2015 9:25:00 AM		
Analyses	Result	RL Qu	al Units	DF Date Analyzed Ba	atch	
EPA METHOD 300.0: ANIONS				Analyst: Lo	GT	
Chloride	480	30	mg/Kg	20 12/29/2015 1:14:35 AM 22	2981	

Qualifiers:	*
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- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 11 of 16
- P Sample pH Not In Range
- RL Reporting Detection Limit

Analytical Report
Lab Order 1512A42

Hall Environmental Analysi	is Laborat	ory, Inc.			Date Reported: 1/6/2	016
CLIENT: Souder, Miller & Associates			Client Samp	le ID: Di	1-6	
<b>Project:</b> Rocket 1/2			Collection	Date: 12	/16/2015 8:00:00 AM	M
Lab ID: 1512A42-012	Matrix: S	OIL	Received	<b>Date:</b> 12	/22/2015 9:25:00 AN	M
Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	/st: LGT
Chloride	170	30	mg/Kg	20	12/29/2015 10:42:25	AM 22982

Qualifiers:	*
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- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 12 of 16
- P Sample pH Not In Range
- RL Reporting Detection Limit

Analytical Report	
Lab Order 1512A42	

Hall Environmental Analysis Laboratory, Inc.			Date Reported: 1/6/2016			
CLIENT: Souder, Miller & Associates			Client Samp	e ID: Di	1-8	
<b>Project:</b> Rocket 1/2			<b>Collection</b>	Date: 12	/16/2015 8:00:00 AM	M
Lab ID: 1512A42-013	Matrix: SC	DIL	<b>Received</b>	Date: 12	/22/2015 9:25:00 AN	M
Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	/st: LGT
Chloride	850	30	mg/Kg	20	12/29/2015 11:19:39	AM 22982

Qualifiers:	*
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- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 13 of 16
- P Sample pH Not In Range
- RL Reporting Detection Limit

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

Client: Project:	Souder, Rocket	Miller & Associat 1/2	es							
Sample ID	MB-22981	SampType: M	BLK	Tes	tCode: EF	PA Method	300.0: Anion	s		
Client ID:	PBS	Batch ID: 22	981	F	RunNo: 31	1118				
Prep Date:	12/28/2015	Analysis Date: 1	2/28/2015	5	SeqNo: 9	52086	Units: <b>mg/K</b>	g		
Analyte Chloride		Result PQL ND 1.5		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	LCS-22981	SampType: L(		Tes	tCode: EF	PA Method	300.0: Anion	s		
Client ID:		Batch ID: 22			RunNo: <b>3</b> 1			•		
Prep Date:	12/28/2015	Analysis Date: 1	2/28/2015	S	SeqNo: 9	52087	Units: <b>mg/K</b>	ģ		
Analyte		Result PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14 1.5	15.00	0	92.6	90	110			
Sample ID	MB-22982	SampType: <b>M</b>	BLK	Tes	tCode: EF	PA Method	300.0: Anion	s		
Client ID:	PBS	Batch ID: 22	982	F	RunNo: 31	1150				
Prep Date:	12/28/2015	Analysis Date: 1	2/29/2015	S	SeqNo: 9	53465	Units: <b>mg/K</b>	ģ		
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND 1.5								
Sample ID	LCS-22982	SampType: L	cs	Tes	tCode: EF	PA Method	300.0: Anion	s		
Client ID:	LCSS	Batch ID: 22	982	F	RunNo: 31	1150				
Prep Date:	12/28/2015	Analysis Date: 1	2/29/2015	S	SeqNo: 9	53466	Units: <b>mg/K</b>	ģ		
Analyte		Result PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14 1.5	15.00	0	92.3	90	110			

#### **Qualifiers:**

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

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

Client: Project:	Souder, Miller & A Rocket 1/2	Associate	28							
Sample ID MB-229	59 Samp	Туре: МЕ	BLK	Tes	tCode: EF	PA Method	418.1: TPH			
Client ID: PBS	Bato	ch ID: 22	959	R	RunNo: 3'	1134				
Prep Date: 12/28/	2015 Analysis	Date: 12	2/29/2015	S	SeqNo: 9	54046	Units: <b>mg/K</b>	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons	, TR ND	20								
Sample ID LCS-22	<b>959</b> Samp	Type: LC	s	Tes	tCode: EF	PA Method	418.1: TPH			
Client ID: LCSS	Bate	ch ID: 22	959	R	unNo: 3	1134				
Prep Date: 12/28/	2015 Analysis	Date: 12	2/29/2015	S	SeqNo: 9	54047	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons	, TR 100	20	100.0	0	105	83.6	116			
Sample ID LCSD-2	22959 Samp	Type: LC	SD	Tes	tCode: EF	PA Method	418.1: TPH			
Client ID: LCSS0	2 Bate	ch ID: 22	959	R	RunNo: 3	1134				
Prep Date: 12/28/	2015 Analysis	Date: 12	2/29/2015	S	eqNo: 9	54048	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons	, TR 110	20	100.0	0	106	83.6	116	1.27	20	

#### **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

Page 15 of 16

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

Souder, Miller & Associates

1	ĸ	RPD outside accepted recovery limits	KL
	S	% Recovery outside of range due to dilution or matrix	

Project: Rocket	1/2													
Sample ID MB-22945		Гуре: МЕ		Too	Codo: E	24 Mothod	9021B: Vola	Hilos						
				TestCode: EPA Method 8021B: Volatiles RunNo: 31062										
Client ID: PBS	Batc	h ID: 22	945											
Prep Date: 12/23/2015	Analysis [	Date: 12	2/24/2015	5	eqNo: 9	50286	Units: mg/k	(g						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Benzene	ND	0.050												
oluene	ND	0.050												
thylbenzene	ND	0.050												
(ylenes, Total	ND	0.10												
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120							
Sample ID LCS-22945	Samp	Гуре: <b>LC</b>	s	Tes	tCode: EF	PA Method	8021B: Vola	tiles						
Client ID: LCSS	Batc	h ID: 22	945	F	RunNo: 3	1062								
Prep Date: 12/23/2015	Analysis [	Date: 12	2/24/2015	5	SeqNo: 9	50305	Units: mg/k	٢g						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Benzene	1.0	0.050	1.000	0	102	80	120							
oluene	1.0	0.050	1.000	0	102	80	120							
thylbenzene	1.0	0.050	1.000	0	101	80	120							
ylenes, Total	3.1	0.10	3.000	0	103	80	120							
Surr: 4-Bromofluorobenzene	1.2		1.000		124	80	120			S				
Sample ID 1512A12-001AN	IS Samp	Гуре: М	6	Tes	tCode: EF	PA Method	8021B: Vola	tiles						
Client ID: BatchQC	Batc	h ID: 22	945	F	RunNo: 3	1062								
	Batc Analysis [				tunNo: <b>3</b> GeqNo: <b>9</b>		Units: <b>mg/k</b>	٢g						
Prep Date: 12/23/2015			2/24/2015				Units: <b>mg/k</b> HighLimit	<b>(g</b> %RPD	RPDLimit	Qual				
Prep Date: <b>12/23/2015</b> Analyte	Analysis [	Date: 12	2/24/2015	S	SeqNo: 9	50311	-	-	RPDLimit	Qual				
Prep Date: 12/23/2015 Analyte Jenzene	Analysis [ Result	Date: 12 PQL	2/24/2015 SPK value	SPK Ref Val	SeqNo: 9	50311 LowLimit	HighLimit	-	RPDLimit	Qual				
Prep Date: 12/23/2015 Analyte Benzene Joluene	Analysis I Result 0.99	Date: 12 PQL 0.047	2/24/2015 SPK value 0.9381	SPK Ref Val	SeqNo: 99 %REC 105	50311 LowLimit 69.6	HighLimit 136	-	RPDLimit	Qual				
Prep Date: 12/23/2015 Analyte enzene oluene thylbenzene	Analysis I Result 0.99 1.1	Date: 12 PQL 0.047 0.047	2/24/2015 SPK value 0.9381 0.9381	SPK Ref Val 0 0	SeqNo: 98 %REC 105 113	50311 LowLimit 69.6 76.2	HighLimit 136 134	-	RPDLimit	Qual				
Prep Date: 12/23/2015 Analyte enzene oluene ithylbenzene	Analysis I Result 0.99 1.1 1.1	Date: 12 PQL 0.047 0.047 0.047	2/24/2015 SPK value 0.9381 0.9381 0.9381	SPK Ref Val 0 0 0	SeqNo: 99 %REC 105 113 116	50311 LowLimit 69.6 76.2 75.8	HighLimit 136 134 137	-	RPDLimit	Qual S				
Prep Date: 12/23/2015 Analyte Benzene Toluene Sthylbenzene Kylenes, Total Surr: 4-Bromofluorobenzene	Analysis I Result 0.99 1.1 1.1 3.3 1.2	Date: 12 PQL 0.047 0.047 0.047	2/24/2015 SPK value 0.9381 0.9381 0.9381 2.814 0.9381	SPK Ref Val 0 0 0 0	SeqNo: 98 %REC 105 113 116 119 123	50311 LowLimit 69.6 76.2 75.8 78.9 80	HighLimit 136 134 137 133	%RPD	RPDLimit					
Prep Date: 12/23/2015 Analyte enzene oluene thylbenzene tylenes, Total Surr: 4-Bromofluorobenzene Sample ID 1512A12-001AN	Analysis I <u>Result</u> 0.99 1.1 1.1 3.3 1.2 <b>ISD</b> Samp <sup>-</sup>	Date: 12 PQL 0.047 0.047 0.047 0.094	2/24/2015 SPK value 0.9381 0.9381 0.9381 2.814 0.9381	SPK Ref Val 0 0 0 0 0 Tes	SeqNo: 98 %REC 105 113 116 119 123	50311 LowLimit 69.6 76.2 75.8 78.9 80 PA Method	HighLimit 136 134 137 133 120	%RPD	RPDLimit					
Prep Date: 12/23/2015 Analyte eenzene oluene thylbenzene cylenes, Total Surr: 4-Bromofluorobenzene Sample ID 1512A12-001AN Client ID: BatchQC	Analysis I <u>Result</u> 0.99 1.1 1.1 3.3 1.2 <b>ISD</b> Samp <sup>-</sup>	Date: 12 PQL 0.047 0.047 0.047 0.094	2/24/2015 SPK value 0.9381 0.9381 0.9381 2.814 0.9381 SD 945	SPK Ref Val 0 0 0 0 0 0 Tes	SeqNo: 98 %REC 105 113 116 119 123 tCode: EF	50311 LowLimit 69.6 76.2 75.8 78.9 80 PA Method 1062	HighLimit 136 134 137 133 120	%RPD	RPDLimit					
Prep Date: 12/23/2015 Analyte lenzene oluene thylbenzene ylenes, Total Surr: 4-Bromofluorobenzene Sample ID 1512A12-001AN Client ID: BatchQC Prep Date: 12/23/2015 Analyte	Analysis I Result 0.99 1.1 1.1 3.3 1.2 ISD Samp <sup>-</sup> Batc Analysis I Result	Date: 12 PQL 0.047 0.047 0.094 Type: MS h ID: 22 Date: 12 PQL	2/24/2015 SPK value 0.9381 0.9381 2.814 0.9381 2.814 0.9381 5D 945 2/24/2015 SPK value	SPK Ref Val 0 0 0 0 0 Tes F SPK Ref Val	BeqNo:         9           %REC         105           103         113           116         119           123         123           tCode:         EF           RunNo:         3''           SeqNo:         9           %REC         105	50311 LowLimit 69.6 76.2 75.8 78.9 80 PA Method 1062 50312 LowLimit	HighLimit 136 134 137 133 120 8021B: Volat Units: mg/P HighLimit	%RPD tiles %g %RPD	RPDLimit					
Prep Date: 12/23/2015 Analyte enzene oluene thylbenzene ylenes, Total Surr: 4-Bromofluorobenzene Sample ID 1512A12-001AN Client ID: BatchQC Prep Date: 12/23/2015 Analyte enzene	Analysis I Result 0.99 1.1 1.1 3.3 1.2 ISD Samp Batc Analysis I Result 0.95	Date: 12 PQL 0.047 0.047 0.094 Type: MS h ID: 22 Date: 12 PQL 0.047	2/24/2015 SPK value 0.9381 0.9381 2.814 0.9381 3.81 945 2/24/2015 SPK value 0.9390	SPK Ref Val 0 0 0 0 0 Tes FR SPK Ref Val 0	SeqNo: 98 %REC 105 113 116 119 123 tCode: EF SeqNo: 98 %REC 101	50311 LowLimit 69.6 76.2 75.8 78.9 80 PA Method 1062 50312 LowLimit 69.6	HighLimit 136 134 137 133 120 8021B: Volat Units: mg/H HighLimit 136	%RPD tiles (g %RPD 3.44	RPDLimit 20	S				
Prep Date: 12/23/2015 Analyte Benzene Foluene Stylenes, Total Surr: 4-Bromofluorobenzene Sample ID 1512A12-001AN Client ID: BatchQC Prep Date: 12/23/2015 Analyte Benzene Foluene	Analysis I <u>Result</u> 0.99 1.1 1.1 3.3 1.2 <b>ISD</b> Samp <sup>T</sup> Batc Analysis I <u>Result</u> 0.95 1.0	Date: 12 PQL 0.047 0.047 0.094 Fype: MS h ID: 22 Date: 12 PQL 0.047 0.047	2/24/2015 SPK value 0.9381 0.9381 2.814 0.9381 5D 945 2/24/2015 SPK value 0.9390 0.9390 0.9390	SPK Ref Val 0 0 0 0 0 Tes F SPK Ref Val 0 0	SeqNo: 98 %REC 105 113 116 119 123 tCode: EF RunNo: 3' SeqNo: 98 %REC 101 110	50311 LowLimit 69.6 76.2 75.8 78.9 80 PA Method 1062 50312 LowLimit 69.6 76.2	HighLimit 136 134 137 133 120 8021B: Volat Units: mg/k HighLimit 136 134	%RPD tiles 5g %RPD 3.44 2.32	RPDLimit 20 20	S				
Prep Date: 12/23/2015 Analyte Benzene Toluene Senzene Surr: 4-Bromofluorobenzene Sample ID 1512A12-001AN Client ID: BatchQC Prep Date: 12/23/2015 Analyte Benzene Toluene Stylbenzene	Analysis I <u>Result</u> 0.99 1.1 1.1 3.3 1.2 <b>ISD</b> Samp <sup>T</sup> Batc Analysis I <u>Result</u> 0.95 1.0 1.1	Date: 12 PQL 0.047 0.047 0.094 Fype: MS h ID: 22: Date: 12 PQL 0.047 0.047 0.047	2/24/2015 SPK value 0.9381 0.9381 2.814 0.9381 2.814 0.9381 5D 945 2/24/2015 SPK value 0.9390 0.9390 0.9390	SPK Ref Val 0 0 0 0 0 0 5 7 6 5 5 7 8 5 7 8 5 7 8 7 8 7 8 7 8 9 7 8 9 7 8 9 7 8 9 7 9 9 9 9	SeqNo: 98 %REC 105 113 116 119 123 tCode: EF 2000: 98 %REC 101 110 113	50311 LowLimit 69.6 76.2 75.8 78.9 80 PA Method 1062 50312 LowLimit 69.6 76.2 75.8	HighLimit 136 134 137 133 120 8021B: Volat Units: mg/k HighLimit 136 134 137	%RPD tiles (g %RPD 3.44 2.32 2.87	RPDLimit 20 20 20 20	S				
Prep Date: 12/23/2015 Analyte Benzene Foluene Stylenes, Total Surr: 4-Bromofluorobenzene Sample ID 1512A12-001AN Client ID: BatchQC Prep Date: 12/23/2015 Analyte Benzene Foluene	Analysis I <u>Result</u> 0.99 1.1 1.1 3.3 1.2 <b>ISD</b> Samp <sup>T</sup> Batc Analysis I <u>Result</u> 0.95 1.0	Date: 12 PQL 0.047 0.047 0.094 Fype: MS h ID: 22 Date: 12 PQL 0.047 0.047	2/24/2015 SPK value 0.9381 0.9381 2.814 0.9381 5D 945 2/24/2015 SPK value 0.9390 0.9390 0.9390	SPK Ref Val 0 0 0 0 0 Tes F SPK Ref Val 0 0	SeqNo: 98 %REC 105 113 116 119 123 tCode: EF RunNo: 3' SeqNo: 98 %REC 101 110	50311 LowLimit 69.6 76.2 75.8 78.9 80 PA Method 1062 50312 LowLimit 69.6 76.2	HighLimit 136 134 137 133 120 8021B: Volat Units: mg/k HighLimit 136 134	%RPD tiles 5g %RPD 3.44 2.32	RPDLimit 20 20	S				

#### Qualifiers:

**Client:** 

- \* 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

\_\_\_\_\_

- 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

WO#: 1512A42 06-Jan-16

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## HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

## Sample Log-In Check List

Client Name: SMA-CARLSBAD	Work Order Numbe	er: 1512A42		RcptNo: 1	_
Received by/date:	12/22/19				
Logged By: Ashley Gallegos	12/22/2015 9:25:00 /	M	AZ		
Completed By: Ashley Gallegos	12/22/2015 5:45:45 F	PM	AZ		
Reviewed By:	12/23/15		U		
Chain of Custody	190111				
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 sample	s?	Yes 🖈	No	NA []]	
5. Were all samples received at a temperatu	re of >0° C to 6.0°C	Yes 🛃	No 🗌	NA	
6. Sample(s) in proper container(s)?		Yes 🛃	No []]		
7. Sufficient sample volume for indicated tes	t(s)?	Yes 🛃	No		
8. Are samples (except VOA and ONG) prop	erly 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 bro	oken?	Yes 🗐	No 🛃	# of preserved	
10 -			Na 🗍	bottles checked for pH:	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🖈	No 🗔	(<2 or >12 unless not	ed)
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? (If no, notify customer for authorization.)		Yes 🛃	No	Checked by:	
<u>Special Handling (if applicable)</u>					
16. Was client notified of all discrepancies with	h this order?	Yes 🗌	No 🗌	NA 🐱	
Person Notified:	Date				
By Whom:	Via:	eMail	Phone 门 Fax	In Person	
Regarding:		1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 -		n 2200 jan jan 1990 jan jan jan kan kan kan kan kan kan kan kan kan k	
Client Instructions:	an daada waxaa daada daada da daada ahaa daada daad		n n a shan a	y nga	
17. Additional remarks:					
18. <u>Cooler Information</u>					
	Seal Intact Seal No	Seal Date	Signed By		
1 4.3 Good N	(es			l	

HALL ENVIRONMENTAL	LABORATORY	com	VM 87109	5-4107	st						0V) 8260B (VO 8270 (Sem Air Bubbles																Any cuts contracted data will he clearly notated on the analytical report
ENVIRG	ANALYSIS LA	www.hallenvironmental.com	Albuquerque, NM 87109	Fax 505-345-4107	Analysis Request		S,µOq,	<sup>z</sup> ON	' <sup>ɛ</sup> O s	liste N (C	M 8 Aମ2ମ D H) enoinA D H2 Pestid																a will be clearly notated
HALL	ANAL	www.hal	4901 Hawkins NE -	505-345-3975	A		(SMIS	(٢.	Þ09	; po	httəM) H9T FDB (Meth r58) a'HA9					X											th controcted dot
			4901 H₅	Tel. 50(		(۱۱۸)	o seÐ)	Hd	+	38.	втех + МТ втех + МТ тРН 80158	<u> </u>												Remarks:			in the Antibut
			, L				leyout		No	<b>3</b> a tradition of the second se	HEAL NO.	100 -	E00 -	- 003	hau '	Suo-	-0010	-007	-008	600/	010-	10-			112	Date Time	
Time:		-	ocke			iger:	when the	LCN	X Yes	2	Preservative Type														Court		
Turn-Around Time:	Standard	Project Name:	<i>Y</i>	Project #:		Project Manager	Ang	Sampler:	On Ice:	Sample Temperature:	Container Type and #	204							<del>.</del>					Received by:	$N \sim 1$	AReceived by:	
Chain-of-Custody Record	4		5 the bare		1 687-5351	. n. Idloth Doordon The	Level 4 (Full Validation)		3r		Sample Request ID	23-1	1 2-2	1 2 - 1	× 4 - 3	I	LS-3	1-0-1	5-27	<u>N2-5</u>	02-7	6-201	-	hed by:			
in-of-Cu	graf S		ress: 201		625- 9	Luco			D Other	(be)	Time Matrix	300 50il												te: Relinquished by:		ne: Relinquished by:	-
Cha	lient:		lailing Address:		hone #:	mail or Fax#:	A/QC Package: 3 Standard	ccreditation	<b>DELAP</b>	I EDD (Type)	Date	-16-15 6						 					 	Date: Time:		Date: Time:	

TAL	ORY							(N		Y) 8	Air Bubble:							 			eport.
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# APPENDIX B FORM C141 FINAL

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.

API No. 30-015-34795

## **Release Notification and Corrective Action**

	OPERATOR	Initial Report	Final Report
Name of Company: COG Operating LLC	Contact: Robert McNeill		
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No. 432-230-0077		
Facility Name: ROCKET FEDERAL #001	Facility Type: SWD		
	1		

#### LOCATION OF RELEASE

Mineral Owner:

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
Р	4	26S	29E	116'	South	564'	East	Eddy

Latitude 32.0646286 Longitude -103.9820938

#### NATURE OF RELEASE

Type of Release:	Volume of Release:	Volume R	ecovered:						
Oil & Produced Water	22 bbls Oil ; 1360 bbls PW	240 bbls fl	uid						
Source of Release:	Date and Hour of Occurrence:		Iour of Discovery:						
Lightning Strike	10/21/2015 10:00 pm	10/21/201	5 10:00 pm						
Was Immediate Notice Given?	If YES, To Whom?								
🛛 Yes 🗌 No 🗌 Not Required	red Mike Bratcher – NMOCD / Jim Amos – BLM								
By Whom? Amanda Trujillo Davis	Date and Hour: Fri 10/23/2015 4:0	)2 PM							
Was a Watercourse Reached?	If YES, Volume Impacting the Wa	atercourse.							
🗌 Yes 🖾 No									
If a Watercourse was Impacted, Describe Fully.*	1								
Describe Cause of Problem and Remedial Action Taken.*									
This release was caused by a lightning strike. Once the fire was extinguis	shed, vacuum trucks were dispatched	to recover all	standing fluid.						
, , , , , , , , , , , , , , , , , , ,	,								
Describe Area Affected and Cleanup Action Taken.*									
This release did not remain on location. This release was addressed per th	ne approved workplan and under the g	uidance of NI	MOCD and the BLM.						
I hereby certify that the information given above is true and complete to t	he best of my knowledge and underst	and that nurse	ant to NMOCD rules and						
regulations all operators are required to report and/or file certain release r									
public health or the environment. The acceptance of a C-141 report by the									
should their operations have failed to adequately investigate and remedia									
or the environment. In addition, NMOCD acceptance of a C-141 report of									
federal, state, or local laws and/or regulations.									
	OIL CONSER	VATION	DIVISION						
A-Tinjelle	<u>OIE CONSER</u>								
Signature:									
	Approved by Environmental Special	ist							
Printed Name: Amanda Trujillo Davis	rippioted by Entrionmental Special								
Title: Senior Environmental Coordinator	Approval Date:	Expiration E	Date:						
E mail Address struille@senshs.som	Conditions of Approval								
E-mail Address: <u>atrujillo@concho.com</u>	Conditions of Approval:		Attached						
Date: December 29, 2015 Phone: 575-748-6940									

\* Attach Additional Sheets If Necessary