



March 07, 2016

#5B23978-BG3

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

SUBJECT: FINAL CLOSURE REPORT FOR INCIDENT 2RP-2844 Loco Hills 33 #6 SWD, API# 30-015-39478, EDDY COUNTY, NEW MEXICO

Dear Heather Patterson:

Souder Miller & Associates is pleased to submit the attached Final Closure Report of the remediation of the release site located on the Loco Hills 33 #6 SWD in Eddy County, New Mexico. The purpose of the Final Report is to obtain approval from the New Mexico Oil Conservation Division (NMOCD) for the closure of the release that occurred on Bureau of Land Management land on February 7th, 2015.

Souder, Miller & Associates (SMA) responded at the request of COG Operating to assess and delineate the release of production fluids associated with the Loco Hills 33 #6 SWD well location. The release was initially reported to NMOCD by COG Operating on February 27, 2015 and was a result of a flow line failure. The table below summarizes information regarding the release. Results of the assessment, delineation, and remedial activities follow in the attached closure report.

Table 1: Release information and Site Ranking					
Name	Loco Hills 33 #6 SWD				
Location	Incident Number	API Number	Section, Township, Range		
		2RP-2844	30-015-39478	SW/NE (Unit G)	Section 33
Estimated Date of Release	February 7, 2015				
Date Reported to NMOCD	February 27, 2015				
Reported by	Amanda Trujillo, COG Operating LLC				
Land Owner	Bureau of Land Management (BLM)				
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Flow line failure				
Released Material	Produced Water				
Released Volume	2246 bbls Produced Water				
Recovered Volume	2210 bbls Produced Water				
Net Release	36 bbl Produced Water				
Nearest Waterway	Pecos River is over 20 miles west of the location.				

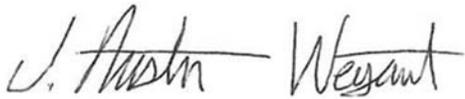


Depth to Groundwater	Estimated to be 80 feet
Nearest Domestic Water Source	Greater than 1,000 feet
NMOCD Ranking	10
SMA Response Dates	Initial: 5/11/15 Mitigation Activities: 9/8/15, 2/12/16
Subcontractors	TCS
Disposal Facility	Lea Land, LLC
Estimated Yd ³ Contaminated Soil Excavated and Disposed	200

Attached is a copy of the C-141 final located in Appendix B. For questions or comments pertaining to the release or the attached Closure Report please feel free to contact either of us.

Submitted by:

SOUDER, MILLER & ASSOCIATES



Austin Weyant
Project Scientist

Reviewed by:



Cynthia Gray, CHMM
Senior Scientist

FINAL CLOSURE REPORT FOR INCIDENT 2RP-2844

COG OPERATING LLC

LOCO HILLS 33 #6 SWD
API# 30-015-39478
SECTION 33, T17S R30E, 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

February 26, 2016
SMA Reference
5B23978 BG3

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Table 1: Release Information and Site Ranking

Table 2: Summary of Laboratory Analyses

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1.0 Introduction

On behalf of COG Operating LLC (COG), SMA has prepared this report that describes the assessment and initial delineation and mitigation of a release associated with the Loco Hills 33 #6 SWD location. The site is located in Section 33, T 17S, R 30E NMPM, Eddy County, New Mexico, on land owned 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 20 mile east of the Pecos River, in an area owned by the BLM with an elevation of approximately 3,600 feet above sea level. After evaluation of the site using aerial photography and topographic maps, depth to groundwater is estimated to be less than 100 feet below ground surface (bgs).

SMA searched the New Mexico State Engineer's Office online water well database for water wells in the vicinity of the release. No domestic or agricultural wells are located within a 1000 foot radius of the release site. Figure 1 depicts the site vicinity and Figure 2 depicts the site location.

Based on the NMOCD Guidelines Ranking Criteria, this release location has been assigned a NMOCD ranking of 10 which requires a soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm combined benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 1000 ppm total petroleum hydrocarbons (TPH). Table 1 illustrates site ranking rationale.

3.0 Assessment and Initial Results

On July 17, 2015 after receiving 811 clearance, SMA field personnel assessed the release area onsite with a gas powered auger, Photo Ionization Detector (PID), and a mobile chlorides titration kit. The affected area was found to be 863 yards squared. Surface samples were taken to determine the spill area. Specific sample locations for all samples are depicted on Figure 2 (Sample Location Map) along with sampling details. 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-2844). Laboratory Analyses results are noted in Table 2 in the appendices. All samples were collected and processed according to NMOCD soil sampling procedures. Because the spilled material was limited to produced water and no evidence of petroleum impact was found with field screening using the PID, the samples were sent under chain-of-custody protocols to Hall Environmental Analysis Laboratory for analysis for Total Chlorides using EPA Method 300.0.

4.0 Soil Remediation Activities

On September 8, 2015 and February 12, 2016 SMA and its subcontractor began the excavation of affected soils, with approval from area utilities owners via 811 and the NMOCD. SMA continuously guided the excavation activities by collecting and field screening composite soil samples with a mobile titration unit (EPA 4500) and a calibrated PID. Samples were taken to delineate the extent of the affected soil. Vertically, the soil was affected to a depth of approximately 4 feet bgs in the east and 1 foot bgs in the northwest areas. Closure samples were collected at the final depth of excavation as well as sidewall samples and sent under chain-of-custody protocols to Hall Environmental Analysis Laboratory for analysis for Total Chlorides using EPA Method 300.0, Total Petroleum Hydrocarbons (DRO-GRO) by EPA Method SW846

8015M/D, and BTEX using EPA Method SW846 8260B, as required by NMOCD closure requirements.

Excavation was conducted in two areas on the well pad: east of the tank battery and northwest of the tank battery. The excavation on the east side of the tank battery was excavated to 3.5 feet bgs. For the area northwest of the battery excavation occurred to 1 foot bgs. These depths were used to remove the contaminated soil on the pad. Sample location L10 was not excavated due to a buried power line on the pad. Approximately 200 cubic yards of contaminated soil was removed and replaced with clean backfill material to bring the excavated area to surface grade. The contaminated soil was transported for disposal at Lea Land, near Carlsbad, NM.

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 10: 10 ppm (mg/kg) Benzene, 50 ppm total BTEX, and 1000 ppm TPH. The release consisted of produced water and evidence of petroleum impacts was not 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 produced water release 2RP-2844 on Loco Hills 33 #6 SWD well pad.

The scope of our services consisted of the performance of a preliminary spill assessment, verification of release stabilization, regulatory liaison, preparation of a Remediation Work plan, implementation of the work plan, and verification of completion of the remedial activities. 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 Closure Report, please contact either Austin Weyant at 575-689-7040 or Cindy Gray at 505-325-7535.

Submitted by:

Reviewed by:

SOUDER, MILLER & ASSOCIATES



Austin Weyant
Project Scientist



Cynthia Gray, CHMM
Senior Scientist

Figures:

Figure 1: Vicinity Map

Figure 2: Site Details and Sample Location Map

Tables:

Table 1: Release Information and Site Ranking

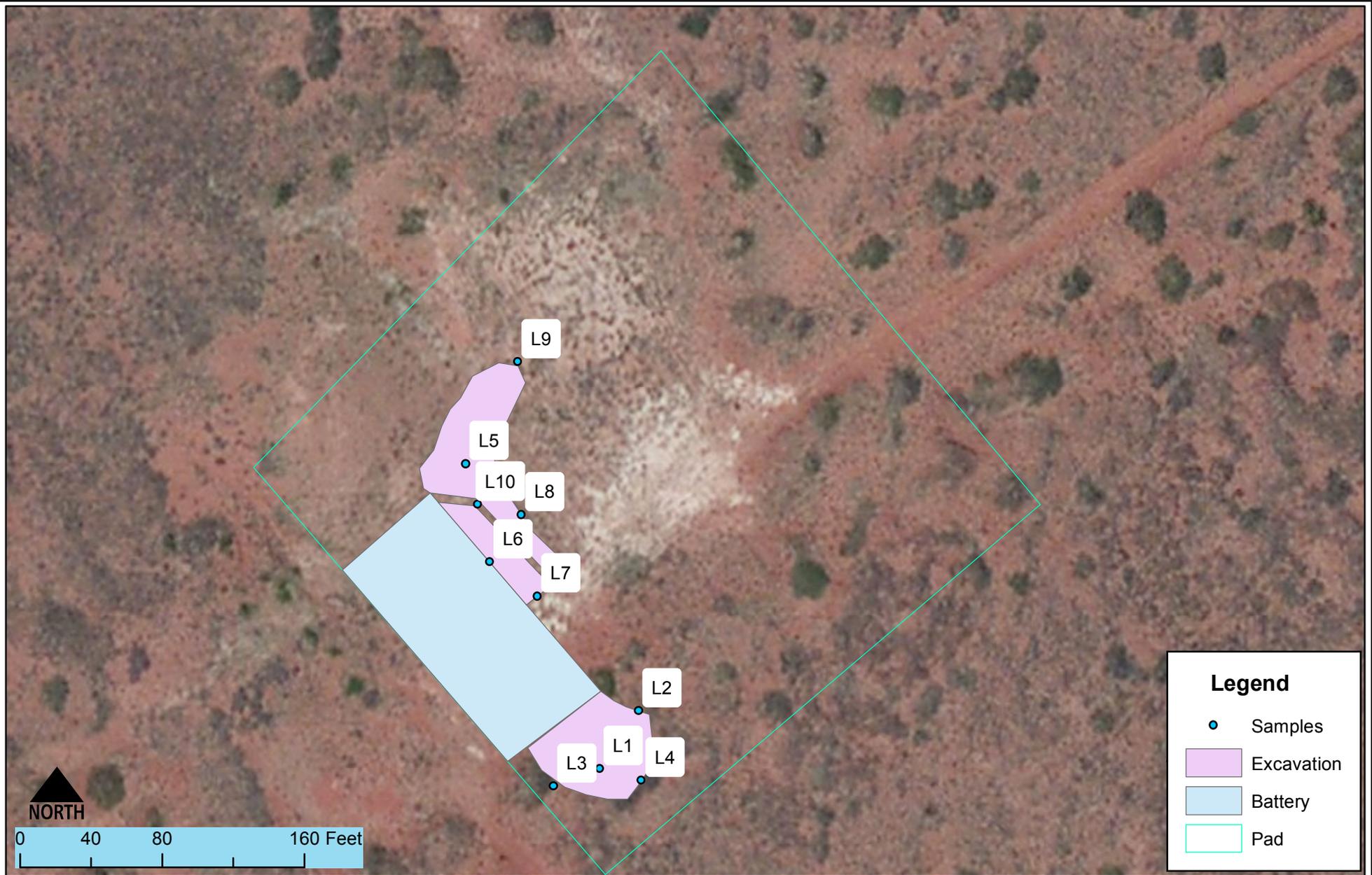
Table 2: Summary of Laboratory Analyses

Appendices:

Appendix A: Laboratory Analytical Reports

Appendix B: Form C141 Final

FIGURE 1 VICINITY MAP



Detailed Site and Sample Map
 COG- Loco Hills 33 #6 SWD
 Malaga, New Mexico

Figure 2

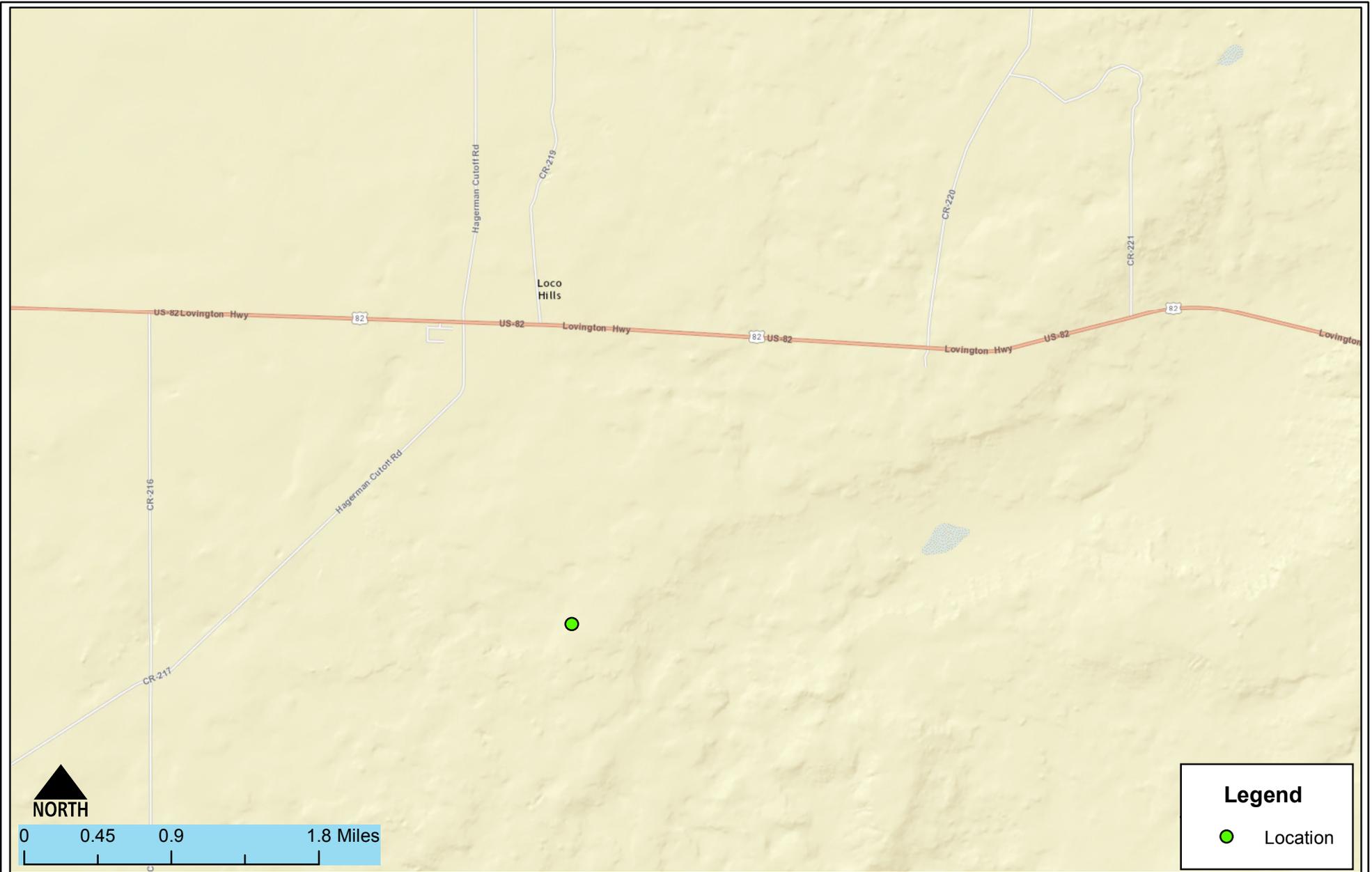
Date Saved: 3/7/2016
 By: _____ Date: _____ Descr: _____
 By: _____ Date: _____ Descr: _____
 Copyright 2015 Souder, Miller & Associates - All Rights Reserved

Revisions
 Drawn Lucas Middleton
 Checked _____
 Approved _____



201 South Halaguena Street
 Carlsbad, New Mexico 88221
 (575) 689-7040
 www.soudermiller.com
 Serving the Southwest & Rocky Mountains

Figure 2: Site Details and Sample Location Map



Vicinity Map
 COG- Loco Hills 33 #6 SWD
 Malaga, New Mexico

Figure 1

Date Saved: 8/12/2015	By: _____	Date: _____	Revisions	Descr: _____
	By: _____	Date: _____		Descr: _____
Copyright 2015 Souder, Miller & Associates - All Rights Reserved				

Drawn	<u>Lucas Middleton</u>
Checked	_____
Approved	_____



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TABLE 1 RELEASE INFORMATION AND SITE RANKING

Table 1: Release information and Site Ranking					
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Location	Incident Number	API Number	Section, Township, Range		
	2RP-2844	30-015-39478	SW/NE (Unit G)	Section 33	T 17S, R 30E NMPM
Estimated Date of Release	2/7/15				
Date Reported to NMOCD	2/27/15				
Reported by	Amanda Trujillo, COG Operating LLC				
Land Owner	Bureau of Land Management (BLM)				
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Flow line failure				
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SMA Response Dates	Initial: 5/11/15 Mitigation Activities: 9/8/15, 2/12/16				
Subcontractors	TCS				
Disposal Facility	Lea Land, LLC				
Estimated Yd ³ Contaminated Soil Excavated and Disposed	200				

TABLE 2

SUMMARY OF LABORATORY ANALYSES

Table 2: Summary of Laboratory Analyses

Analytical Report-1602A04	Sample Number on Figure 2 Map	Sample Date	Depth	BTEX ppm	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	Cl- mg/Kg
1602A04-001	L1	2/16/2016	4'	BDL	BDL	N/A	N/A	410
1602A04-002	L1	2/16/2016	5'	N/A	N/A	N/A	N/A	50
1602A04-003	L2	2/16/2016	3'	N/A	N/A	N/A	N/A	170
1602A04-004	L3	2/16/2016	3'	N/A	N/A	N/A	N/A	45
1602A04-005	L4	2/16/2016	3'	N/A	N/A	N/A	N/A	BDL
1602A04-006	L5	2/16/2016	2'	BDL	BDL	N/A	N/A	410
1602A04-007	L5	2/16/2016	3'	N/A	N/A	N/A	N/A	76
1602A04-008	L6	2/16/2016	1'	N/A	N/A	N/A	N/A	1600
1602A04-009	L7	2/16/2016	1'	N/A	N/A	N/A	N/A	BDL
1602A04-010	L8	2/16/2016	1'	N/A	N/A	N/A	N/A	610
1602A04-011	L9	2/16/2016	1'	N/A	N/A	N/A	N/A	380
1602A04-012	L10	2/16/2016	1'	N/A	N/A	N/A	N/A	1100

APPENDIX A

LABORATORY ANALYTICAL REPORTS



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

March 03, 2016

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

RE: Loco Hills 33 #6 SWD

OrderNo.: 1602A04

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 12 sample(s) on 2/24/2016 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 www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data 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,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written in a cursive style.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1602A04

Date Reported: 3/3/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: L1-4

Project: Loco Hills 33 #6 SWD

Collection Date: 2/12/2016 10:00:00 AM

Lab ID: 1602A04-001

Matrix: SOIL

Received Date: 2/24/2016 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	410	30		mg/Kg	20	2/26/2016 12:09:35 PM	23978
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	2/26/2016 3:45:42 PM	23916
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/26/2016 3:45:42 PM	23916
Surr: DNOP	82.4	70-130		%Rec	1	2/26/2016 3:45:42 PM	23916
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/25/2016 8:10:58 PM	23925
Surr: BFB	91.3	66.2-112		%Rec	1	2/25/2016 8:10:58 PM	23925
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.048		mg/Kg	1	2/25/2016 8:10:58 PM	23925
Toluene	ND	0.048		mg/Kg	1	2/25/2016 8:10:58 PM	23925
Ethylbenzene	ND	0.048		mg/Kg	1	2/25/2016 8:10:58 PM	23925
Xylenes, Total	ND	0.096		mg/Kg	1	2/25/2016 8:10:58 PM	23925
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	1	2/25/2016 8:10:58 PM	23925

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1602A04

Date Reported: 3/3/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: L1-5

Project: Loco Hills 33 #6 SWD

Collection Date: 2/12/2016 10:00:00 AM

Lab ID: 1602A04-002

Matrix: SOIL

Received Date: 2/24/2016 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	50	30		mg/Kg	20	2/26/2016 12:46:49 PM	23978

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1602A04

Date Reported: 3/3/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: L2-3

Project: Loco Hills 33 #6 SWD

Collection Date: 2/12/2016 10:00:00 AM

Lab ID: 1602A04-003

Matrix: SOIL

Received Date: 2/24/2016 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	170	30		mg/Kg	20	2/26/2016 12:59:14 PM	23978

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1602A04

Date Reported: 3/3/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: L3-3

Project: Loco Hills 33 #6 SWD

Collection Date: 2/12/2016 10:00:00 AM

Lab ID: 1602A04-004

Matrix: SOIL

Received Date: 2/24/2016 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	45	30		mg/Kg	20	2/26/2016 1:11:38 PM	23978

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1602A04

Date Reported: 3/3/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: L4-3

Project: Loco Hills 33 #6 SWD

Collection Date: 2/12/2016 10:00:00 AM

Lab ID: 1602A04-005

Matrix: SOIL

Received Date: 2/24/2016 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	ND	30		mg/Kg	20	2/26/2016 1:24:02 PM	23978

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1602A04

Date Reported: 3/3/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: L5-2

Project: Loco Hills 33 #6 SWD

Collection Date: 2/16/2016 9:00:00 AM

Lab ID: 1602A04-006

Matrix: SOIL

Received Date: 2/24/2016 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	410	30		mg/Kg	20	2/26/2016 2:01:16 PM	23978
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	2/26/2016 4:07:34 PM	23916
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	2/26/2016 4:07:34 PM	23916
Surr: DNOP	101	70-130		%Rec	1	2/26/2016 4:07:34 PM	23916
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	2/25/2016 8:34:21 PM	23925
Surr: BFB	91.7	66.2-112		%Rec	1	2/25/2016 8:34:21 PM	23925
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.047		mg/Kg	1	2/25/2016 8:34:21 PM	23925
Toluene	ND	0.047		mg/Kg	1	2/25/2016 8:34:21 PM	23925
Ethylbenzene	ND	0.047		mg/Kg	1	2/25/2016 8:34:21 PM	23925
Xylenes, Total	ND	0.094		mg/Kg	1	2/25/2016 8:34:21 PM	23925
Surr: 4-Bromofluorobenzene	109	80-120		%Rec	1	2/25/2016 8:34:21 PM	23925

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
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	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1602A04

Date Reported: 3/3/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: L5-3

Project: Loco Hills 33 #6 SWD

Collection Date: 2/16/2016 9:00:00 AM

Lab ID: 1602A04-007

Matrix: SOIL

Received Date: 2/24/2016 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	76	30		mg/Kg	20	2/26/2016 2:13:41 PM	23978

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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	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.

Analytical Report

Lab Order 1602A04

Date Reported: 3/3/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: L6-1

Project: Loco Hills 33 #6 SWD

Collection Date: 2/16/2016 9:00:00 AM

Lab ID: 1602A04-008

Matrix: SOIL

Received Date: 2/24/2016 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	1600	75		mg/Kg	50	3/1/2016 9:38:58 PM	23978

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Analytical Report

Lab Order 1602A04

Date Reported: 3/3/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: L7-1

Project: Loco Hills 33 #6 SWD

Collection Date: 2/16/2016 9:00:00 AM

Lab ID: 1602A04-009

Matrix: SOIL

Received Date: 2/24/2016 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	ND	30		mg/Kg	20	2/26/2016 2:38:31 PM	23978

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1602A04

Date Reported: 3/3/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: L8-1

Project: Loco Hills 33 #6 SWD

Collection Date: 2/16/2016 9:00:00 AM

Lab ID: 1602A04-010

Matrix: SOIL

Received Date: 2/24/2016 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	610	30		mg/Kg	20	2/26/2016 2:50:56 PM	23978

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1602A04

Date Reported: 3/3/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: L9-1

Project: Loco Hills 33 #6 SWD

Collection Date: 2/16/2016 9:00:00 AM

Lab ID: 1602A04-011

Matrix: SOIL

Received Date: 2/24/2016 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	380	30		mg/Kg	20	2/26/2016 3:03:20 PM	23978

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1602A04

Date Reported: 3/3/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: L10-1

Project: Loco Hills 33 #6 SWD

Collection Date: 2/16/2016 9:00:00 AM

Lab ID: 1602A04-012

Matrix: SOIL

Received Date: 2/24/2016 10:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	1100	30		mg/Kg	20	2/26/2016 3:15:44 PM	23978

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1602A04

03-Mar-16

Client: Souder, Miller & Associates

Project: Loco Hills 33 #6 SWD

Sample ID MB-23978	SampType: MBLK		TestCode: EPA Method 300.0: Anions							
Client ID: PBS	Batch ID: 23978		RunNo: 32456							
Prep Date: 2/26/2016	Analysis Date: 2/26/2016		SeqNo: 992631		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID LCS-23978	SampType: LCS		TestCode: EPA Method 300.0: Anions							
Client ID: LCSS	Batch ID: 23978		RunNo: 32456							
Prep Date: 2/26/2016	Analysis Date: 2/26/2016		SeqNo: 992632		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.8	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1602A04

03-Mar-16

Client: Souder, Miller & Associates

Project: Loco Hills 33 #6 SWD

Sample ID	LCS-23916	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	23916	RunNo:	32421					
Prep Date:	2/24/2016	Analysis Date:	2/26/2016	SeqNo:	991462	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.00	0	84.3	65.8	136			
Surr: DNOP	4.6		5.000		91.1	70	130			

Sample ID	MB-23916	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	23916	RunNo:	32421					
Prep Date:	2/24/2016	Analysis Date:	2/26/2016	SeqNo:	991464	Units:	mg/Kg			
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	9.3		10.00		92.6	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1602A04

03-Mar-16

Client: Souder, Miller & Associates

Project: Loco Hills 33 #6 SWD

Sample ID MB-23925	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 23925		RunNo: 32403							
Prep Date: 2/24/2016	Analysis Date: 2/25/2016		SeqNo: 991237		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	930		1000		92.8	66.2	112			

Sample ID LCS-23925	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 23925		RunNo: 32403							
Prep Date: 2/24/2016	Analysis Date: 2/25/2016		SeqNo: 991238		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	79.6	122			
Surr: BFB	970		1000		97.3	66.2	112			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1602A04

03-Mar-16

Client: Souder, Miller & Associates

Project: Loco Hills 33 #6 SWD

Sample ID	MB-23925	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	23925	RunNo:	32403					
Prep Date:	2/24/2016	Analysis Date:	2/25/2016	SeqNo:	991270	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		111	80	120			

Sample ID	LCS-23925	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	23925	RunNo:	32403					
Prep Date:	2/24/2016	Analysis Date:	2/25/2016	SeqNo:	991271	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	100	80	120			
Toluene	1.0	0.050	1.000	0	104	80	120			
Ethylbenzene	1.0	0.050	1.000	0	104	80	120			
Xylenes, Total	3.2	0.10	3.000	0	105	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		116	80	120			

Qualifiers:

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

Sample Log-In Check List

Client Name: SMA-CARLSBAD

Work Order Number: 1602A04

RcptNo: 1

Received by/date: JA 02/24/16

Logged By: Joe Archuleta 2/24/2016 10:05:00 AM JA

Completed By: Joe Archuleta 2/24/2016 10:27:55 AM JA

Reviewed By: [Signature] 02/24/16

Chain of Custody

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

Log In

- 4. Was an attempt made to cool the samples? Yes No NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
- 6. Sample(s) in proper container(s)? Yes No
- 7. Sufficient sample volume for indicated test(s)? Yes No
- 8. Are samples (except VOA and ONG) properly preserved? Yes No
- 9. Was preservative added to bottles? Yes No NA

- 10. VOA vials have zero headspace? Yes No No VOA Vials
- 11. Were any sample containers received broken? Yes No

- 12. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes No
- 13. Are matrices correctly identified on Chain of Custody? Yes No
- 14. Is it clear what analyses were requested? Yes No
- 15. Were all holding times able to be met? (If no, notify customer for authorization.) Yes No

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

Special Handling (if applicable)

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

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

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.1	Good	Yes			

APPENDIX B

FORM C141 FINAL

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

State of New Mexico
Energy Minerals and Natural Resources

Form C-141
Revised August 8, 2011

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

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

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: Loco Hills 33 #6 SWD	Facility Type: SWD Battery

Surface Owner: Federal	Mineral Owner:	API No. 30-015-37478
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	33	17S	30E	2210'	North	2145'	East	Eddy

Latitude 32.7922202589621 Longitude -103.975401459275

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 2246 bbls PW	Volume Recovered: 2210 bbls PW
Source of Release: Piping	Date and Hour of Occurrence: 2/7/2015 11:30 am	Date and Hour of Discovery: 2/7/2015 8:00 pm
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher – NMOCD / Jeff Robertson – BLM	
By Whom? Lupe Carrasco	Date and Hour: 2/8/2015 11:12 am	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

This spill was caused fiberglass piping. Vacuum trucks were dispatched to recover standing fluid and dispose of at an NMOCD approved facility. Fiberglass was replaced with poly piping.

Describe Area Affected and Cleanup Action Taken.*

The release occurred inside a lined facility, however approximately 36 bbls carried over the dike on to the location and into the pasture. The release was addressed per the approved work plan under the guidance on NMOCD.

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

Signature: 	<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Amanda Trujillo	Approved by Environmental Specialist:	
Title: Senior Environmental Coordinator	Approval Date:	Expiration Date:
E-mail Address: atrujillo@concho.com	Conditions of Approval:	
Date: September 1, 2015 Phone: 575-748-6940	Attached <input type="checkbox"/>	

* Attach Additional Sheets If Necessary