



August 4, 2015

#5B24057-BG1

NMOCD District II  
1301 W Grand Ave  
Artesia, NM 88210

SUBJECT: FINAL CLOSURE REPORT FOR INCIDENT 2RP-3015 MAN STATE 2H, EDDY COUNTY, NEW MEXICO

Dear Ms. Patterson:

Souder Miller & Associates is pleased to submit the attached Final Closure Report of the remediation of the release site located on the Man State 2H 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 New Mexico State Land Office property on May 11, 2015.

Souder, Miller & Associates (SMA) responded at the request of Pro Well Testing and Wireline and COG Operating to assess and delineate the release of production fluids associated with the Man State 2H well location. The release was initially reported to NMOCD by COG Operating on May 15, 2015 and was a result of a valve failure on a temporary storage tank. 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	Man State #2H				
Location	Incident Number	API Number	Section, Township, Range		
	2RP-3015	30-015-42937	(Unit L)	Section 32	T 18S, R 28E NMPM
Estimated Date of Release	11-May-15				
Date Reported to NMOCD	15-May-15				
Reported by	Amanda Trujillo, COG Operating LLC				
Land Owner	New Mexico State Land Office				
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Valve failure				
Released Material	Crude Oil				
Released Volume	42 bbls Crude Oil				
Recovered Volume	20 bbls Crude Oil				
Net Release	22 bbls Crude Oil				
Nearest Waterway	Lake Avalon is over one mile to the west of the location.				

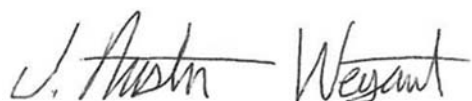


Depth to Groundwater	Estimated to be >100 feet
Nearest Domestic Water Source	Greater than 1,000 feet
NMOCD Ranking	0
SMA Response Dates	Initial: June 4, 2015 Mitigation Activities: July 9, 2015
Subcontractors	TCS
Disposal Facility	Lea Land, LLC
Estimated Yd <sup>3</sup> Contaminated Soil Excavated and Disposed	210 (Reported on Completed C-138)

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



J. Austin Weyant  
Project Scientist

Reviewed by:



Cynthia Gray, CHMM  
Senior Scientist

# FINAL CLOSURE REPORT FOR INCIDENT 2RP-3015

## COG OPERATING LLC

MAN STATE #2H

API# 30-015-42937

SECTION 32, T18S R28E, NMPM

EDDY COUNTY, NM



Prepared for:  
Pro Well Testing /COG Operating LLC  
2407 Pecos Ave  
Artesia, NM 88210

Prepared by:  
Souder, Miller & Associates  
201 S. Halagueno  
Carlsbad, NM 88221  
575-689-7040

August 4, 2015  
SMA Reference  
5B23978 BG6

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Table 3: Summary of Laboratory Analyses

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## **1.0 Introduction**

On behalf of our client Pro-Well Testing and Wireline and the lessee COG OPERATING LLC (COG), Souder Miller & Associates (SMA) has prepared this Closure Report that describes the assessment, initial delineation, and mitigation of a release associated with the Man State 2H, a lease held by COG Operating. The site is located in Section 32, T 18S, R 28E NMPM, Eddy County, New Mexico, on land owned by the State of New Mexico. Figure 1 illustrates the vicinity and location of the site.

## **2.0 Site Ranking and Land Jurisdiction**

The release site is located approximately 5 mile north of Lake Avalon, in an area owned by the State with an elevation of approximately 3,000 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).

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

Based on the NMOCD Guidelines Ranking Criteria, this release location has been assigned a NMOCD ranking of 0 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 5000 ppm total petroleum hydrocarbons (TPH). Table 1 illustrates site ranking rationale.

## **3.0 Assessment and Initial Results**

On July 8<sup>th</sup>, 2015 after receiving 811 clearance SMA field personal 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 150 feet long and 90 feet wide. Soil samples were collected at depths ranging to approximately 0.5 feet below ground surface (bgs), because of a continual, restrictive and well compacted B horizon (caliche) layer. Specific sample locations for all samples are depicted on Figure 2 (Sample Location Map) along with sampling details. All samples were collected and processed according to NMOCD soil sampling procedures. The 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 supervising the excavation on July 9, 2015 of affected soils, with approval from area utilities owners via 811 and the NMOCD. SMA guided the excavation activities continuously by collecting composite soil samples for field screening with a mobile titration unit (EPA 4500) and a calibrated PID. Sample locations L1, L2, and L4 are closure samples collected at 0.5 feet bgs of excavation. Excavation was conducted to 0.5 feet bgs in the spill area to remove the soils affected by the release. The area was amended with 20 bales of winter wheat hay and with 10lbs/acre of 15 5 10 fertilizer. A 12 inch layer of topsoil and hay was added to help with contouring of the area and to promote vegetation growth. Approximately 210 cubic yards of contaminated soil were

removed (sample L3) and replaced with clean backfill material to bring the excavated area to surface grade. The contaminated soil was transported for proper disposal at Lea Land, LLC 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 20: 10 ppm (mg/kg) Benzene, 50 ppm total BTEX, and 5000 ppm TPH. The release consisted of crude oil with no evidence of brine impacts found during the initial assessment and delineation.

Laboratory analytical results for all final closure samples collected were below NMOCD action levels for Benzene, BTEX, and TPH as well as below laboratory detection limits for the methods used. No further remedial activities are recommended for this release.

Soil contaminant concentrations are illustrated in Figure 2. A summary of laboratory analytical results is included in Table 3. Laboratory reports are included in Appendix C.

Photo documentation is available by request.

## **6.0 Closure and Limitations**

The scope of our services consisted of the performance of a preliminary spill assessment, verification of release stabilization, regulatory liaison, preparation of a Remediation Workplan, oversight of remediation activities, collection of closure confirmation samples and preparation of this Closure Report. 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:

SOUDER, MILLER & ASSOCIATES



Austin Weyant  
Project Scientist

Reviewed by:



Cynthia Gray, CHMM  
Senior Scientist

**Figures:**

Figure 1: Vicinity Map

Figure 2: Detailed Site and Sample Map

**Tables:**

Table 1: Release Information and Site Ranking

Table 2: Field Screening

Table 3: Summary of Laboratory Analyses

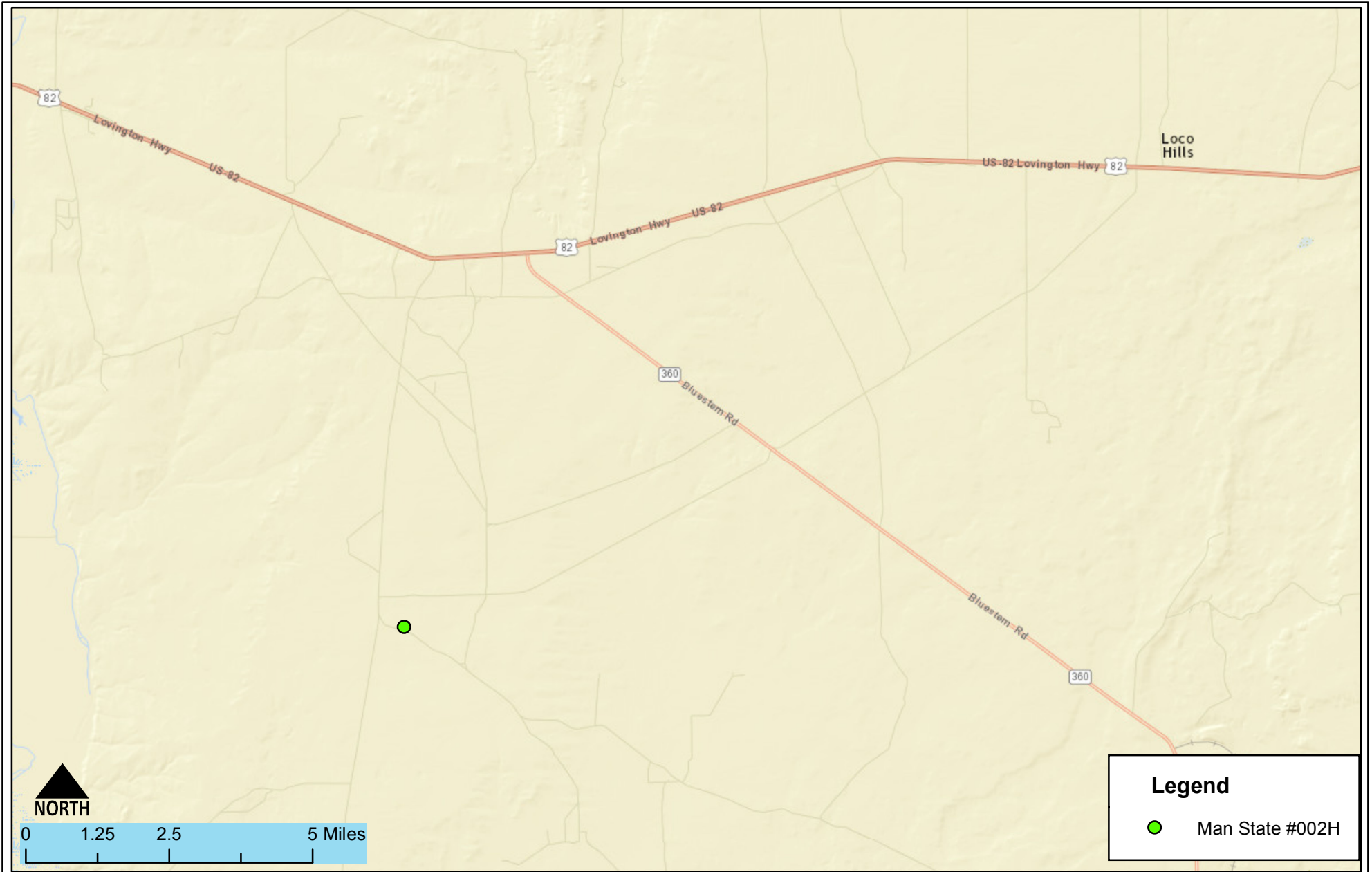
**Appendices:**

Appendix A: Laboratory Analytical Reports

Appendix B: Form C141 Final

# FIGURE 1 VICINITY MAP





Vicinity Map  
COG- Man State #2H  
Loco Hills, New Mexico

Figure 1

Date Saved:  
8/12/2015

Revisions	
By:	Date:
By:	Date:

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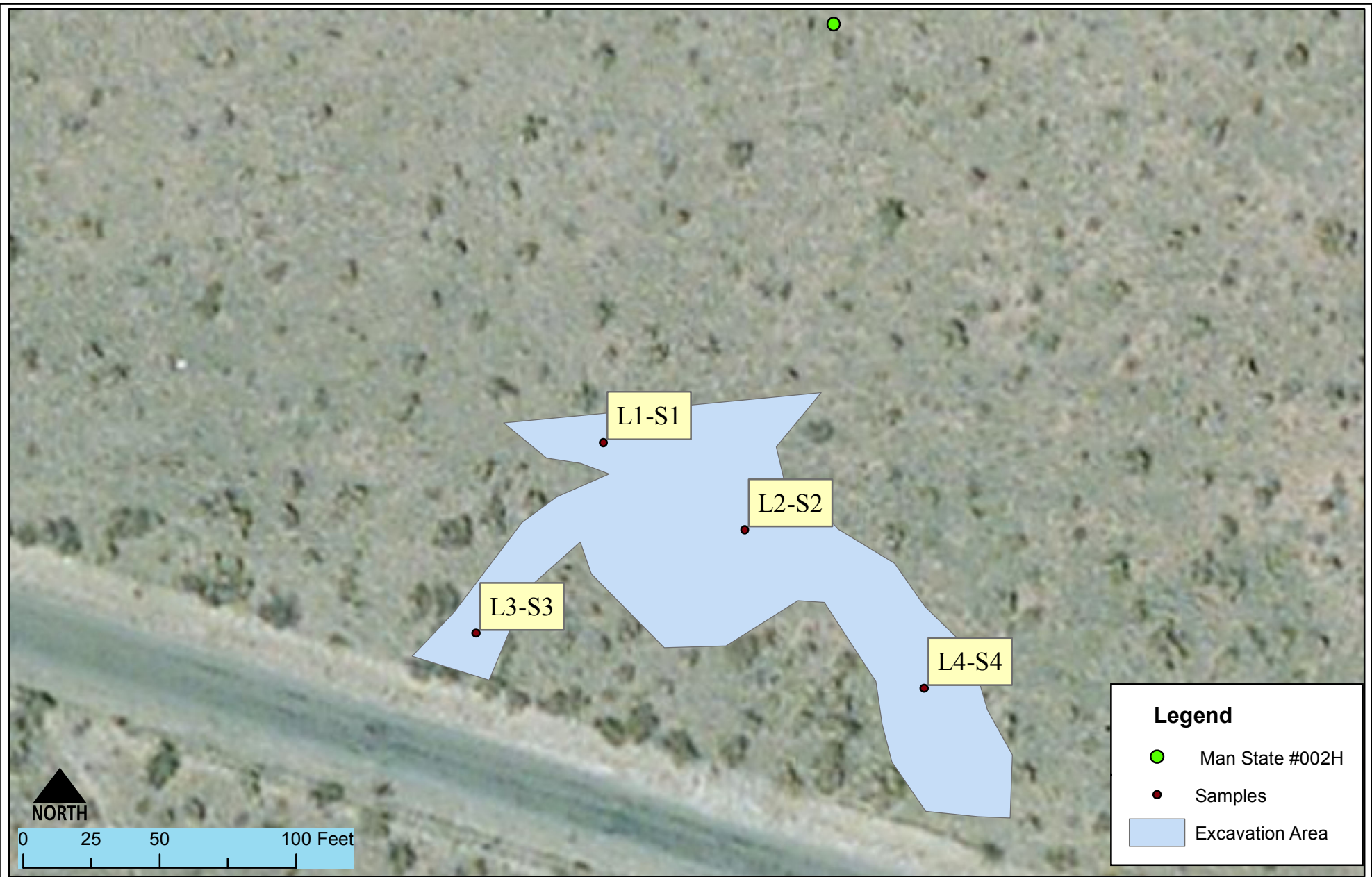
Drawn	Lucas Middleton
Checked	
Approved	



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

# FIGURE 2

## DETAILED SITE AND SAMPLE MAP



Detailed Site and Sample Map  
COG- Man State #2H  
Loco Hills, New Mexico

Figure 2

Date Saved:  
8/12/2015

By:	Date:	Revisions	Descr:
By:	Date:		Descr:

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Drawn	Lucas Middleton
Checked	
Approved	



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# TABLE 1

## RELEASE INFORMATION AND SITE RANKING

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NMOCD Ranking	0				
SMA Response Dates	Initial: June 4, 2015 Mitigation Activities: July 9, 2015				
Subcontractors	TCS				
Disposal Facility	Lea Land, LLC				
Estimated Yd <sup>3</sup> Contaminated Soil Excavated and Disposed	210 (Reported on Completed C-138)				

# TABLE 2

## SUMMARY OF FIELD SCREENING

Table 2: Summary of Excavation Field Screening Results

FIELD SCREENING RESULTS SUMMARY					
Date	Time	Field Screening Reference	Sample Depth (Feet BGS)	PID Reading	Lab Sample Collected Y/N
20-Jul	2:45	L1	6"	2	y
20-Jul	2:45	L2	6"	4	y
20-Jul	2:45	L3	6"	52	y
20-Jul	2:45	L4	6"	2	y



# TABLE 3

## SUMMARY OF LABORATORY ANALYSES



**Table 3: Summary of Laboratory Analyses**

Analytical Report- 1507975	Sample Number on Figure 2 Map	Sample Date	Depth	BTEX ppm	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	Cl- mg/Kg
1507975-001	L1-S1	7/20/2015	6"	BDL	BDL	BDL	BDL	N/A
1507975-002	L2-S2	7/20/2015	6"	BDL	BDL	BDL	BDL	N/A
1507975-003	L3-S3	7/20/2015	6"	BDL	BDL	30	3700	N/A
1507975-004	L4-S4	7/20/2015	6"	BDL	BDL	6.5	BDL	N/A

# 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](http://www.hallenvironmental.com)

July 27, 2015

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

RE: Man State #2

OrderNo.: 1507975

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 4 sample(s) on 7/22/2015 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 [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1507975**Date Reported: **7/27/2015****CLIENT:** Souder, Miller & Associates**Client Sample ID:** L1S-1**Project:** Man State #2**Collection Date:** 7/20/2015 3:00:00 PM**Lab ID:** 1507975-001**Matrix:** SOIL**Received Date:** 7/22/2015 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/23/2015 7:11:36 PM	20387
Surr: BFB	108	70-130		%REC	1	7/23/2015 7:11:36 PM	20387
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/25/2015 1:37:06 AM	20379
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/25/2015 1:37:06 AM	20379
Surr: DNOP	108	57.9-140		%REC	1	7/25/2015 1:37:06 AM	20379
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Methyl tert-butyl ether (MTBE)	ND	0.048		mg/Kg	1	7/23/2015 7:11:36 PM	20387
Benzene	ND	0.048		mg/Kg	1	7/23/2015 7:11:36 PM	20387
Toluene	ND	0.048		mg/Kg	1	7/23/2015 7:11:36 PM	20387
Ethylbenzene	ND	0.048		mg/Kg	1	7/23/2015 7:11:36 PM	20387
Xylenes, Total	ND	0.097		mg/Kg	1	7/23/2015 7:11:36 PM	20387
Surr: 1,2-Dichloroethane-d4	103	70-130		%REC	1	7/23/2015 7:11:36 PM	20387
Surr: 4-Bromofluorobenzene	95.1	70-130		%REC	1	7/23/2015 7:11:36 PM	20387
Surr: Dibromofluoromethane	114	70-130		%REC	1	7/23/2015 7:11:36 PM	20387
Surr: Toluene-d8	96.1	70-130		%REC	1	7/23/2015 7:11:36 PM	20387

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

<b>Qualifiers:</b>	*	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		

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1507975**

Date Reported: **7/27/2015**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L2S-2

**Project:** Man State #2

**Collection Date:** 7/20/2015 3:00:00 PM

**Lab ID:** 1507975-002

**Matrix:** SOIL

**Received Date:** 7/22/2015 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/23/2015 7:39:08 PM	20387
Surr: BFB	110	70-130		%REC	1	7/23/2015 7:39:08 PM	20387
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/25/2015 2:04:28 AM	20379
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/25/2015 2:04:28 AM	20379
Surr: DNOP	101	57.9-140		%REC	1	7/25/2015 2:04:28 AM	20379
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Methyl tert-butyl ether (MTBE)	ND	0.049		mg/Kg	1	7/23/2015 7:39:08 PM	20387
Benzene	ND	0.049		mg/Kg	1	7/23/2015 7:39:08 PM	20387
Toluene	ND	0.049		mg/Kg	1	7/23/2015 7:39:08 PM	20387
Ethylbenzene	ND	0.049		mg/Kg	1	7/23/2015 7:39:08 PM	20387
Xylenes, Total	ND	0.098		mg/Kg	1	7/23/2015 7:39:08 PM	20387
Surr: 1,2-Dichloroethane-d4	97.4	70-130		%REC	1	7/23/2015 7:39:08 PM	20387
Surr: 4-Bromofluorobenzene	95.1	70-130		%REC	1	7/23/2015 7:39:08 PM	20387
Surr: Dibromofluoromethane	112	70-130		%REC	1	7/23/2015 7:39:08 PM	20387
Surr: Toluene-d8	95.3	70-130		%REC	1	7/23/2015 7:39:08 PM	20387

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

<b>Qualifiers:</b>	*	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		

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1507975**

Date Reported: **7/27/2015**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L3S-3

**Project:** Man State #2

**Collection Date:** 7/20/2015 3:00:00 PM

**Lab ID:** 1507975-003

**Matrix:** SOIL

**Received Date:** 7/22/2015 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	30	4.9		mg/Kg	1	7/23/2015 8:06:38 PM	20387
Surr: BFB	118	70-130		%REC	1	7/23/2015 8:06:38 PM	20387
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	3700	99		mg/Kg	10	7/25/2015 2:31:48 AM	20379
Motor Oil Range Organics (MRO)	1400	490		mg/Kg	10	7/25/2015 2:31:48 AM	20379
Surr: DNOP	0	57.9-140	S	%REC	10	7/25/2015 2:31:48 AM	20379
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Methyl tert-butyl ether (MTBE)	ND	0.049		mg/Kg	1	7/23/2015 8:06:38 PM	20387
Benzene	ND	0.049		mg/Kg	1	7/23/2015 8:06:38 PM	20387
Toluene	ND	0.049		mg/Kg	1	7/23/2015 8:06:38 PM	20387
Ethylbenzene	ND	0.049		mg/Kg	1	7/23/2015 8:06:38 PM	20387
Xylenes, Total	ND	0.098		mg/Kg	1	7/23/2015 8:06:38 PM	20387
Surr: 1,2-Dichloroethane-d4	105	70-130		%REC	1	7/23/2015 8:06:38 PM	20387
Surr: 4-Bromofluorobenzene	54.7	70-130	S	%REC	1	7/23/2015 8:06:38 PM	20387
Surr: Dibromofluoromethane	110	70-130		%REC	1	7/23/2015 8:06:38 PM	20387
Surr: Toluene-d8	93.3	70-130		%REC	1	7/23/2015 8:06:38 PM	20387

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

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# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1507975**

Date Reported: **7/27/2015**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L4S-4

**Project:** Man State #2

**Collection Date:** 7/20/2015 3:00:00 PM

**Lab ID:** 1507975-004

**Matrix:** SOIL

**Received Date:** 7/22/2015 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	6.5	4.9		mg/Kg	1	7/23/2015 8:34:08 PM	20387
Surr: BFB	112	70-130		%REC	1	7/23/2015 8:34:08 PM	20387
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/25/2015 3:53:13 AM	20379
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/25/2015 3:53:13 AM	20379
Surr: DNOP	86.4	57.9-140		%REC	1	7/25/2015 3:53:13 AM	20379
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Methyl tert-butyl ether (MTBE)	ND	0.049		mg/Kg	1	7/23/2015 8:34:08 PM	20387
Benzene	ND	0.049		mg/Kg	1	7/23/2015 8:34:08 PM	20387
Toluene	ND	0.049		mg/Kg	1	7/23/2015 8:34:08 PM	20387
Ethylbenzene	ND	0.049		mg/Kg	1	7/23/2015 8:34:08 PM	20387
Xylenes, Total	ND	0.097		mg/Kg	1	7/23/2015 8:34:08 PM	20387
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1	7/23/2015 8:34:08 PM	20387
Surr: 4-Bromofluorobenzene	95.9	70-130		%REC	1	7/23/2015 8:34:08 PM	20387
Surr: Dibromofluoromethane	110	70-130		%REC	1	7/23/2015 8:34:08 PM	20387
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# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1507975

27-Jul-15

Client: Souder, Miller &amp; Associates

Project: Man State #2

Sample ID	MB-20379		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 20379		RunNo: 27723					
Prep Date:	7/22/2015		Analysis Date: 7/24/2015		SeqNo: 834383		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	10		10.00		105	57.9	140			

Sample ID	LCS-20379		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 20379		RunNo: 27723					
Prep Date:	7/22/2015		Analysis Date: 7/24/2015		SeqNo: 834384		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.1	57.4	139			
Surr: DNOP	5.5		5.000		111	57.9	140			

### 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



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1507975

27-Jul-15

Client: Souder, Miller &amp; Associates

Project: Man State #2

Sample ID	mb-20387		SampType: MBLK		TestCode: EPA Method 8260B: Volatiles Short List					
Client ID:	PBS		Batch ID: 20387		RunNo: 27718					
Prep Date:	7/22/2015		Analysis Date: 7/23/2015		SeqNo: 833184		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.050								
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		102	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		96.5	70	130			
Surr: Dibromofluoromethane	0.58		0.5000		115	70	130			
Surr: Toluene-d8	0.47		0.5000		94.5	70	130			

Sample ID	lcs-20387		SampType: LCS		TestCode: EPA Method 8260B: Volatiles Short List					
Client ID:	LCSS		Batch ID: 20387		RunNo: 27718					
Prep Date:	7/22/2015		Analysis Date: 7/23/2015		SeqNo: 833185		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	1.1	0.050	1.000	0	111	70	130			
Benzene	1.0	0.050	1.000	0	104	70	130			
Toluene	1.0	0.050	1.000	0	103	70	130			
Ethylbenzene	1.1	0.050	1.000	0	106	70	130			
Xylenes, Total	3.2	0.10	3.000	0	108	70	130			
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		104	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		96.7	70	130			
Surr: Dibromofluoromethane	0.58		0.5000		116	70	130			
Surr: Toluene-d8	0.49		0.5000		97.8	70	130			

### 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		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1507975

27-Jul-15

Client: Souder, Miller &amp; Associates

Project: Man State #2

Sample ID	mb-20387		SampType: MBLK		TestCode: EPA Method 8015D Mod: Gasoline Range					
Client ID:	PBS		Batch ID: 20387		RunNo: 27718					
Prep Date:	7/22/2015		Analysis Date: 7/23/2015		SeqNo: 833250		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	540		500.0		108	70	130			

Sample ID	lcs-20387		SampType: LCS		TestCode: EPA Method 8015D Mod: Gasoline Range					
Client ID:	LCSS		Batch ID: 20387		RunNo: 27718					
Prep Date:	7/22/2015		Analysis Date: 7/23/2015		SeqNo: 833278		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	106	70	123			
Surr: BFB	520		500.0		104	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

# Sample Log-In Check List

Client Name: SMA-CARLSBAD

Work Order Number: 1507975

RcptNo: 1

Received by/date:

SA 07/22/15

Logged By: Lindsay Mangin

7/22/2015 9:15:00 AM



Completed By: Lindsay Mangin

7/22/2015 9:50:42 AM



Reviewed By:

OS 07/22/15

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

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

## Special Handling (if applicable)

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

Person Notified:

Date

By Whom:

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

## 18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	9.0	Good	Yes			

# Chain-of-Custody Record

Client: SMA / CARLSBAD

Mailing Address: 201 S

HAWAIIANO

Phone #: 575 689-7040

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other

☐ EDD (Type)

Project Manager:

J. Austin Weyant

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: 9.0

Date Time Matrix Sample Request ID

7/10 3PM Soil LS-1  
7/10 3PM Soil LS-2  
7/10 3PM Soil LS-3  
7/10 3PM Soil LS-4

Container Type and #

1402  
1402  
1402  
1402

Preservative Type

-  
-  
-  
-

HEAL No.

1507975  
-001  
-002  
-003  
-004

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

MAN STATE #2

Project #:

## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

### Analysis Request

BTEX + MTBE + TMB's (8021)

BTEX + MTBE + TPH (Gas only)

TPH 8015B (GRO / DRO / MRO)

TPH (Method 418.1)

EDB (Method 504.1)

PAH's (8310 or 8270 SIMS)

RCRA 8 Metals

Anions (F, Cl, NO<sub>3</sub>, NO<sub>2</sub>, PO<sub>4</sub>, SO<sub>4</sub>)

8081 Pesticides / 8082 PCB's

8260B (VOA)

8270 (Semi-VOA)

Air Bubbles (Y or N)

Remarks:

Date Time

Received by:

07/22/15 0915

Relinquished by:

Date Time

Relinquished by:

Date Time

# 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

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

Form C-141  
Revised August 8, 2011

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: Man State #2H	Facility Type: Well	
Surface Owner: State	Mineral Owner: State	API No. 30-015-42937

### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	32	18S	28E	2310'	South	190'	West	Eddy

Latitude 32.7029888737579 Longitude -104.205476692781

### NATURE OF RELEASE

Type of Release: Oil	Volume of Release: 42 bbls Oil	Volume Recovered: 20 bbls Oil
Source of Release: Valve on Frac Tank	Date and Hour of Occurrence: 5/11/2015 3:30 pm	Date and Hour of Discovery: 5/11/2015 3:30 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 / SLO	
By Whom? Amanda Trujillo	Date and Hour: 5/14/2015 6:13 pm	
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 release was caused by a butterfly valve on storage frac tank. Vacuum trucks were dispatched to recover the standing fluid.

Describe Area Affected and Cleanup Action Taken.\*

The spill area remained on the pad area. The pad was scrapped after the standing fluid was removed. This release was addressed under the guidance of NMOCD per the approved workplan.

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: 	<b><u>OIL CONSERVATION DIVISION</u></b>	
Printed Name: Amanda Trujillo	Approved by Environmental Specialist:	
Title: Senior Environmental Coordinator	Approval Date:	Expiration Date:
E-mail Address: <a href="mailto:atrujillo@concho.com">atrujillo@concho.com</a>	Conditions of Approval:	Attached <input type="checkbox"/>
Date: August 18, 2015	Phone: 575-748-6940	

\* Attach Additional Sheets If Necessary