



July 10, 2015

#5B23978-BG5

NMOCD District II
Environmental Specialist
1301 W Grand Ave
ArtesiaNM88210

SUBJECT: SOIL REMEDIATION WORK PLAN FOR INCIDENT 2RP-2913 Bose Ikard 4 State Com #18H, EDDY COUNTY, NEW MEXICO

Dear Heather Patterson:

On behalf of COG Operating (COG), Souder Miller & Associates (SMA) is pleased to submit the attached Work Plan summarizing the planned soil remediation of the release site located on the Bose Ikard 4 State Com #18H in Eddy County, New Mexico. The purpose of the work plan is to obtain approval from the New Mexico Oil Conservation Division for remediation of the release that occurred on March 02, 2015.

At the request of COG, SMA responded to assess and delineate the production fluids release associated with the Bose Ikard 4 State Com #18H well location. The release was initially reported to NMOCD by COG Operating on March 23, 2015 and is a result of a flow line failure. The table below summarizes information regarding the release. Results of the assessment and delineation follow in proceeding report.

Table 1: Release information and Site Ranking					
Name	Bose Ikard 4 State Com #18H				
Location	Incident Number	API Number	Section, Township, Range		
	2RP-2913	30-015-42404	SW/NE (Unit M)	Section 4	T 17S, R 29E NMPM
Estimated Date of Release	2-Mar-15				
Date Reported to NMOCD	23-Mar-15				
Reported by	Amanda Trujillo, COG Operating LLC				
Land Owner	State				
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Flow line failure				
Released Material	Produced Water and Oil				
Released Volume	155 bbls Produced Water and 0 bbls Oil				
Recovered Volume	150 bbls Produced Water and 0 bbls Oil				
Net Release	5 bbls Produced Water and 0 bbls Oil				
Nearest Waterway	Pecos River is over 17 miles west of the location.				

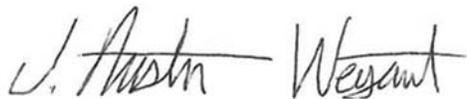


Depth to Groundwater	Estimated to be 76 feet
Nearest Domestic Water Source	Greater than 1,000 feet
NMOCD Ranking	10
SMA Response Dates	Initial: April 28, 2015 Mitigation Activities:
Subcontractors	TCS
Disposal Facility	Lea Land, LLC
Estimated Contaminated Soil Excavated and Disposed	Yd ³ 50 Yd ³

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



Austin Weyant
Project Scientist

Reviewed by:



Cynthia Gray, CHMM
Senior Scientist

SOIL REMEDIATION WORKPLAN FOR INCIDENT 2RP-2913

COG OPERATING LLC

BOSE IKARD 4 STATE COM #18H
API# 30-015-42404
SECTION 4, T17S 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

July 10, 2015
SMA Reference
5B23978 BG5

Table of Contents

1.0	Introduction.....	4
2.0	Site Ranking and Land Jurisdiction	4
3.0	Assessment and Initial Results	4
4.0	Soil Remediation Workplan	4
5.0	Conclusions and Recommendations.....	5
6.0	Closure and Limitations.....	5

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 INITIAL

1.0 Introduction

On behalf of COG Operating LLC (COG), SMA has prepared this report that describes the assessment and initial delineation of a release associated with the Bose Ikard 4 State Com #18H location. The site is located in Section 4, T 17S, R 29E 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 17 mile east of the Pecos River, 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 less than 100 feet below ground surface (bgs). Figure 1 depicts the site vicinity and Figure 2 depicts the site location.

SMA searched the New Mexico State Engineer's Office online water well database for water wells in the vicinity of the release. One well is located within a one mile radius of the site. 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 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 June 5th, 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 95 feet long and 80 feet wide. Delineation samples were taken to depths of three feet bsg. Bottom hole samples were found to exhibit only background levels of all contaminants of concern beginning at approximately one foot bsg on the northern area of the spill. The northern portion contained the highest concentration of contaminants on the surface but cleaned up before reaching one foot bsg. Specific sample locations for all samples are depicted on Figure 2 (Sample Location Map) along with sampling details. 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 Workplan

SMA will begin the excavation of affected soils, with approval from area utilities owners via 811 and the NMOCD. SMA will continuously guide the excavation activities by collecting composite soil samples for field screening with a mobile titration unit (EPA 4500) and a calibrated PID. Samples will be taken in the sidewalls in the rest of the excavation to ensure contaminated soils have been removed in the horizontal extent. Closure samples will be collected at the final depth of excavation. Excavation will be conducted to 1 feet bsg in the spill area to remove the soils affected by the release. After excavation and backfill, topsoil will be added to help with contouring of the area and to promote vegetation growth. Approximately 45 cubic yards of contaminated soil

will be removed and replaced with clean backfill material to bring the excavated area to surface grade. The contaminated soil will be 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 with no evidence of petroleum impacts found during the initial assessment and delineation.

After the soil remediation workplan is approved by NMOCD, SMA will begin soil remediation activities on site as described above.

Soil contaminant concentrations found during the initial delineation are illustrated in Figure 2. A summary of laboratory analytical results is included in Table 2. Laboratory reports are included in Appendix A.

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, and preparation of this Remediation Work Plan. 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 Work Plan, 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: 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 Initial

FIGURE 1 VICINITY MAP



Vicinity Map
 Bose Ikard 4 State COM #18H-COG
 Loco Hills, New Mexico

Figure 1

Date Saved:
 7/26/2015

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

Copyright 2014 Souder, Miller & Associates - All Rights Reserved

Drawn Lucas Middleton
 Checked _____
 Approved _____



201 South Halaguena Street
 Carlsbad, New Mexico 88221
 (575) 689-3331
 www.soudermiller.com
 Service the Southwest & Rocky Mountains

Figure 2: Site Details and Sample Location Map



SITE DETAILS AND SAMPLE LOCATION MAP
 Bose Ikard 4 State COM #18H-COG
 Loco Hills, New Mexico

Figure 2

Date Saved:
7/6/2015

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

Copyright 2014 Souder, Miller & Associates - All Rights Reserved

Drawn Lucas Middleton
 Checked _____
 Approved _____



201 South Halaguena Street
 Carlsbad, New Mexico 88221
 (575) 689-3331
 www.soudermiller.com
 Serving the Southwest & Rocky Mountains

TABLE 1: RELEASE INFORMATION AND SITE RANKING

Table 1: Release information and Site Ranking

Name	Bose Ikard 4 State Com #18H				
Location	Incident Number	API Number	Section, Township, Range		
		2RP-2913	30-015-42404	SW/NE (Unit M)	Section 4
Estimated Date of Release	2-Mar-15				
Date Reported to NMOCD	23-Mar-15				
Reported by	Amanda Trujillo, COG Operating LLC				
Land Owner	State				
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Flow line failure				
Released Material	Produced Water and Oil				
Released Volume	155 bbls Produced Water and 0 bbls Oil				
Recovered Volume	150 bbls Produced Water and 0 bbls Oil				
Net Release	5 bbls Produced Water and 0 bbls Oil				
Nearest Waterway	Pecos River is over 17 miles west of the location.				
Depth to Groundwater	Estimated to be 76 feet				
Nearest Domestic Water Source	Greater than 1,000 feet				
NMOCD Ranking	10				
SMA Response Dates	Initial: April 28, 2015 Mitigation Activities:				
Subcontractors	TCS				
Disposal Facility	Lea Land, LLC				
Estimated Yd ³ Contaminated Soil Excavated and Disposed	50 Yd ³				

TABLE 2

SUMMARY OF LABORATORY ANALYSES

Table 3: Summary of Laboratory Analyses

Analytical Report- 1506542	Sample Number on Figure 2 Map	Sample Date	Depth	BTEX ppm	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	Cl- mg/Kg
1506542-001	L2 BI-1	6/5/2015	1'	BDL	BDL	BDL	BDL	35
1506542-002	L2 BI-3	6/6/2015	3'	BDL	BDL	BDL	BDL	760
1506542-003	L2 B2	6/7/2015	Surface	N/A	N/A	N/A	N/A	4400
1506542-004	L1 B1	6/8/2015	Surface	N/A	N/A	N/A	N/A	150

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

June 19, 2015

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

RE: Bose Ikard

OrderNo.: 1506542

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 6 sample(s) on 6/10/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

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

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1506542

Date Reported: 6/19/2015

CLIENT: Souder, Miller & Associates

Client Sample ID: L2 BI-1

Project: Bose Ikard

Collection Date: 6/5/2015 7:00:00 AM

Lab ID: 1506542-001

Matrix: SOIL

Received Date: 6/10/2015 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	35	30		mg/Kg	20	6/15/2015 12:45:51 PM	19726
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: KJH
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	6/15/2015 4:29:15 PM	19701
Surr: DNOP	100	57.9-140		%REC	1	6/15/2015 4:29:15 PM	19701
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/15/2015 3:43:22 PM	19702
Surr: BFB	90.4	75.4-113		%REC	1	6/15/2015 3:43:22 PM	19702
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.099		mg/Kg	1	6/15/2015 3:43:22 PM	19702
Benzene	ND	0.050		mg/Kg	1	6/15/2015 3:43:22 PM	19702
Toluene	ND	0.050		mg/Kg	1	6/15/2015 3:43:22 PM	19702
Ethylbenzene	ND	0.050		mg/Kg	1	6/15/2015 3:43:22 PM	19702
Xylenes, Total	ND	0.099		mg/Kg	1	6/15/2015 3:43:22 PM	19702
Surr: 4-Bromofluorobenzene	97.7	80-120		%REC	1	6/15/2015 3:43:22 PM	19702

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

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
E	Value above quantitation range	H Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P Sample pH Not In Range
R	RPD outside accepted recovery limits	RL Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1506542

Date Reported: 6/19/2015

CLIENT: Souder, Miller & Associates

Client Sample ID: L2 BI-3

Project: Bose Ikard

Collection Date: 6/5/2015 7:00:00 AM

Lab ID: 1506542-002

Matrix: SOIL

Received Date: 6/10/2015 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	760	30		mg/Kg	20	6/15/2015 12:58:16 PM	19726
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: KJH
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/15/2015 4:56:34 PM	19701
Surr: DNOP	91.3	57.9-140		%REC	1	6/15/2015 4:56:34 PM	19701
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/15/2015 4:12:12 PM	19702
Surr: BFB	90.1	75.4-113		%REC	1	6/15/2015 4:12:12 PM	19702
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.098		mg/Kg	1	6/15/2015 4:12:12 PM	19702
Benzene	ND	0.049		mg/Kg	1	6/15/2015 4:12:12 PM	19702
Toluene	ND	0.049		mg/Kg	1	6/15/2015 4:12:12 PM	19702
Ethylbenzene	ND	0.049		mg/Kg	1	6/15/2015 4:12:12 PM	19702
Xylenes, Total	ND	0.098		mg/Kg	1	6/15/2015 4:12:12 PM	19702
Surr: 4-Bromofluorobenzene	96.7	80-120		%REC	1	6/15/2015 4:12:12 PM	19702

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

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
E	Value above quantitation range	H Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P Sample pH Not In Range
R	RPD outside accepted recovery limits	RL Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1506542

Date Reported: 6/19/2015

CLIENT: Souder, Miller & Associates

Client Sample ID: C2 B1

Project: Bose Ikard

Collection Date: 6/5/2015 7:00:00 AM

Lab ID: 1506542-003

Matrix: SOIL

Received Date: 6/10/2015 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	4400	300		mg/Kg	200	6/16/2015 2:08:12 PM	19726

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1506542

Date Reported: 6/19/2015

CLIENT: Souder, Miller & Associates

Client Sample ID: L1 BI

Project: Bose Ikard

Collection Date: 6/5/2015 7:00:00 AM

Lab ID: 1506542-004

Matrix: SOIL

Received Date: 6/10/2015 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	150	30		mg/Kg	20	6/15/2015 1:23:06 PM	19726

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	Page 4 of 10
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1506542

Date Reported: 6/19/2015

CLIENT: Souder, Miller & Associates

Client Sample ID: BG1

Project: Bose Ikard

Collection Date: 6/5/2015 7:00:00 AM

Lab ID: 1506542-005

Matrix: SOIL

Received Date: 6/10/2015 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	ND	30		mg/Kg	20	6/15/2015 1:35:31 PM	19726

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1506542

Date Reported: 6/19/2015

CLIENT: Souder, Miller & Associates

Client Sample ID: BG2

Project: Bose Ikard

Collection Date: 6/5/2015 7:00:00 AM

Lab ID: 1506542-006

Matrix: SOIL

Received Date: 6/10/2015 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	ND	30		mg/Kg	20	6/15/2015 1:47:55 PM	19726

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	Page 6 of 10
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1506542

19-Jun-15

Client: Souder, Miller & Associates

Project: Bose Ikard

Sample ID	MB-19726	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	19726	RunNo:	26845					
Prep Date:	6/15/2015	Analysis Date:	6/15/2015	SeqNo:	801215	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-19726	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	19726	RunNo:	26845					
Prep Date:	6/15/2015	Analysis Date:	6/15/2015	SeqNo:	801216	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.8	90	110			

Qualifiers:

- | | |
|---|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| O RSD is greater than RSDlimit | P Sample pH Not In Range |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S Spike Recovery outside accepted recovery limits | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1506542

19-Jun-15

Client: Souder, Miller & Associates

Project: Bose Ikard

Sample ID MB-19701	SampType: MBLK		TestCode: EPA Method 8015D: Diesel Range Organics							
Client ID: PBS	Batch ID: 19701		RunNo: 26826							
Prep Date: 6/12/2015	Analysis Date: 6/15/2015		SeqNo: 800379		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	11		10.00		106	57.9	140			

Sample ID LCS-19701	SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 19701		RunNo: 26826							
Prep Date: 6/12/2015	Analysis Date: 6/15/2015		SeqNo: 800380		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	55	10	50.00	0	110	67.8	130			
Surr: DNOP	5.6		5.000		111	57.9	140			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1506542

19-Jun-15

Client: Souder, Miller & Associates

Project: Bose Ikard

Sample ID MB-19702	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 19702		RunNo: 26837							
Prep Date: 6/12/2015	Analysis Date: 6/15/2015		SeqNo: 800493		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	880		1000		88.1	75.4	113			

Sample ID LCS-19702	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 19702		RunNo: 26837							
Prep Date: 6/12/2015	Analysis Date: 6/15/2015		SeqNo: 800494		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	109	64	130			
Surr: BFB	960		1000		95.6	75.4	113			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1506542

19-Jun-15

Client: Souder, Miller & Associates

Project: Bose Ikard

Sample ID	MB-19702	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	19702	RunNo:	26837					
Prep Date:	6/12/2015	Analysis Date:	6/15/2015	SeqNo:	800524	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.95		1.000		95.4	80	120			

Sample ID	LCS-19702	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	19702	RunNo:	26837					
Prep Date:	6/12/2015	Analysis Date:	6/15/2015	SeqNo:	800525	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	1.0	0.10	1.000	0	102	69.8	143			
Benzene	1.1	0.050	1.000	0	111	76.6	128			
Toluene	1.1	0.050	1.000	0	108	75	124			
Ethylbenzene	1.1	0.050	1.000	0	108	79.5	126			
Xylenes, Total	3.2	0.10	3.000	0	107	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Qualifiers:

- | | |
|---|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| O RSD is greater than RSDlimit | P Sample pH Not In Range |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S Spike Recovery outside accepted recovery limits | |

Sample Log-In Check List

Client Name: SMA-CARLSBAD

Work Order Number: 1506542

RptNo: 1

Received by/date:	JA	06/10/15	
Logged By:	Celina Sessa	6/10/2015 8:50:00 AM	<i>Celina Sessa</i>
Completed By:	Celina Sessa	6/11/2015 9:58:50 AM	<i>Celina Sessa</i>
Reviewed By:	<i>JA</i>	06/11/15	

Chain of Custody

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

Log In

- Was an attempt made to cool the samples? Yes No NA
- Were all samples received at a temperature of >0° C to 6.0°C? Yes No NA
- Sample(s) in proper container(s)? Yes No
- Sufficient sample volume for indicated test(s)? Yes No
- Are samples (except VOA and ONG) properly preserved? Yes No
- Was preservative added to bottles? Yes No NA
- VOA vials have zero headspace? Yes No No VOA Vials
- Were any sample containers received broken? Yes No
- Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes No
- Are matrices correctly identified on Chain of Custody? Yes No
- Is it clear what analyses were requested? Yes No
- 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)

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

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

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.6	Good	Yes			

APPENDIX B

FORM C141 INITIAL

NM OIL CONSERVATION
ARTESIA DISTRICT

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

MAR 24 2015

Form C-141
Revised August 8, 2011

RECEIVED to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

NAB1508 334759 **OPERATOR** Initial Report Final Report

Name of Company: COG Operating LLC 229137	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No. 432-230-0077
Facility Name: Bose Ikard 4 State Com #18H	Facility Type: Battery
Surface Owner: State	Mineral Owner: API No. 30-015-42404

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	4	17S	29E	330'	South	330'	West	Eddy

Latitude 32.857365757189 Longitude -104.087356260491

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 155 bbls PW	Volume Recovered: 150 bbls PW
Source of Release: Poly Flowline	Date and Hour of Occurrence: 3/2/2015 1:30 pm	Date and Hour of Discovery: 3/2/2015 1:30 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	
By Whom? Garrett Merket	Date and Hour: 3/2/2015 9:15 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 release was caused by when a weld on a ploy flow failed. Vacuum trucks were dispatched to recover all standing fluid and the poly line repaired.

Describe Area Affected and Cleanup Action Taken.*
This release occurred in the pasture and is approximately 100' x 120' in size. Concho will have the spill site sampled to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation work.

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Amanda Trujillo	Approved by Environmental Specialist:	
Title: Senior Environmental Coordinator	Approval Date: 3/24/15	Expiration Date: NIA
E-mail Address: atrujillo@concho.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: March 23, 2015 Phone: 575-748-6940	Remediation per O.C.D. Rules & Guidelines	

* Attach Additional Sheets If Necessary

SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 4/24/15

2RP. 2913