



RECEIVED

By JKeyes at 8:40 am, Mar 21, 2016

APPROVED

March 1, 2016

NMOCD District I
1625 N. French Drive
Hobbs, New Mexico 88240

SUBJECT: FINAL CLOSURE REPORT FOR INCIDENT 1RP-3862, 1RP-3953, 1RP-3982, Battle Axe Federal Com #2H, LEA COUNTY, NEW MEXICO

Dear Ms. Jones:

On behalf of COG Operating (COG), Souder Miller & Associates (SMA) is pleased to submit the attached Final Closure Report summarizing the soil remediation activities performed for the release site located on the Battle Axe Federal Com #2H in Lea County, New Mexico. The purpose of the closure report is to obtain approval from the New Mexico Oil Conservation Division for remediation of the release that occurred on 8/28/15, 10/3/15, and 11/11/15.

At the request of COG, SMA responded to assessment, delineate and remediated soil the production fluids release associated with the Battle Axe Federal Com #2H well location. The release was initially reported to NMOCD by COG Operating starting on August 28, 2015 and was a result of an Equipment and Human Error. The table below summarizes information regarding the release. Results of the assessment and delineation follow in the attached report.

Table 1: Release information and Site Ranking					
Name	Battle Axe Federal Com #2H				
Location	Incident Number	API Number	Section, Township, Range		
	1RP-3862	30-025-41370	SW/NE (Unit E)	Section 2	T 26S, R 33E NMPM
Estimated Date of Release	August 28, 2015				
Date Reported to NMOCD	September 11, 2015				
Reported by	Amanda Trujillo				
Land Owner	Bureau of Land Management (BLM)				
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Equipment error				
Released Material	Produced Water and Oil				
Released Volume	20 bbls Produced Water and 30 bbls Oil				
Recovered Volume	1 bbls Produced Water and 5 bbls Oil				
Net Release	19 bbl Produced Water and 25 bbl Oil				
Nearest Waterway	3.3 miles West of the location.				



Depth to Groundwater	Estimated to be 179 feet
Nearest Domestic Water Source	Greater than 3000 feet
NMOCD Ranking	0
SMA Response Dates	Initial: 11/5/15 Mitigation Activities:
Subcontractors	Environmental Department Diversified Field Service

Table 2: Release information and Site Ranking					
Name	Battle Axe Federal Com #2H				
Location	Incident Number	API Number	Section, Township, Range		
	1RP-3953	30-025-41370	SW/NE (Unit E)	Section 2	T 26S, R 33E NMPM
Estimated Date of Release	October 3, 2015				
Date Reported to NMOCD	October 17, 2015				
Reported by	Amanda Trujillo				
Land Owner	Bureau of Land Management (BLM)				
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Human Error				
Released Material	Produced Water and Oil				
Released Volume	62 bbls Produced Water and 10 bbls Oil				
Recovered Volume	62 bbls Produced Water and 10 bbls Oil				
Net Release	0 bbl Produced Water and 0 bbl Oil				
Nearest Waterway	3.3 miles West of the location.				
Depth to Groundwater	Estimated to be 179 feet				
Nearest Domestic Water Source	Greater than 3000 feet				
NMOCD Ranking	0				
SMA Response Dates	Initial: 11/5/15 Mitigation Activities:				
Subcontractors	Environmental Department Diversified Field Service				

Table 3: Release information and Site Ranking					
Name	Battle Axe Federal Com #2H				
Location	Incident Number	API Number	Section, Township, Range		
	1RP-3982	30-025-41370	SW/NE (Unit E)	Section 2	T 26S, R 33E NMPM
Estimated Date of Release	November 11, 2015				
Date Reported to NMOCD	November 13, 2015				
Reported by	Amanda Trujillo				

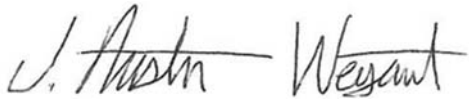
Land Owner	Bureau of Land Management (BLM)
Reported To	NM Oil Conservation Division (NMOCD)
Source of Release	Equipment error
Released Material	Oil
Released Volume	0 bbls Produced Water and 40 bbls Oil
Recovered Volume	0 bbls Produced Water and 25 bbls Oil
Net Release	0 bbl Produced Water and 15 bbl Oil
Nearest Waterway	3.3 miles West of the location.
Depth to Groundwater	Estimated to be 179 feet
Nearest Domestic Water Source	Greater than 3000 feet
NMOCD Ranking	0
SMA Response Dates	Initial: 11/5/15 Mitigation Activities:
Subcontractors	Environmental Department Diversified Field Service

Table 3: Release information and Site Ranking					
Name	Battle Axe Federal Com #2H				
Location	Incident Number	API Number	Section, Township, Range		
	1RP-3982	30-025-41370	SW/NE (Unit E)	Section 2	T 26S, R 33E NMPM
Estimated Date of Release	November 11, 2015				
Date Reported to NMOCD	November 13, 2015				
Reported by	Amanda Trujillo				
Land Owner	Bureau of Land Management (BLM)				
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Equipment error				
Released Material	Oil				
Released Volume	0 bbls Produced Water and 40 bbls Oil				
Recovered Volume	0 bbls Produced Water and 25 bbls Oil				
Net Release	0 bbl Produced Water and 15 bbl Oil				
Nearest Waterway	3.3 miles West of the location.				
Depth to Groundwater	Estimated to be 179 feet				
Nearest Domestic Water Source	Greater than 3000 feet				
NMOCD Ranking	0				
SMA Response Dates	Initial: 11/5/15 Mitigation Activities:				
Subcontractors	Environmental Department Diversified Field Service				

A copy of the C-141 Final 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

A handwritten signature in black ink that reads "Austin Weyant". The signature is fluid and cursive, with the first name "Austin" and the last name "Weyant" clearly legible.

Austin Weyant
Project Scientist

Reviewed by:

A handwritten signature in blue ink that reads "Cynthia Gray". The signature is fluid and cursive, with the first name "Cynthia" and the last name "Gray" clearly legible.

Cynthia Gray, CHMM
Senior Scientist



SOIL REMEDIATION FINAL CLOSURE FOR INCIDENT 1RP- 3862, 1RP- 3953, 1RP-3982

COG OPERATING LLC

BATTLE AXE FEDERAL COM #2H

API# 30-025-41370

SECTION 2, T26S R33E, NMPM

LEA 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

March 1, 2016
SMA Reference
5B23978 BG11



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Table 3: Release Information and Site Ranking 1RP-3982

Table 4: Summary of Laboratory Analyses

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Appendix B: Form C141 Finals for All RP's

1.0 Introduction

On behalf of COG Operating LLC (COG), SMA has prepared this report that describes the assessment, initial delineation and mitigation of a release associated with the Battle Axe Federal Com #2H release site. The site is located in Section 2, T 26S, R 33 E NMPM, Lea 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 26 miles (> 1,000 feet) east of Pecos River, in an area owned by BLM with an elevation of approximately 3,320 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). Figure 1 depicts the site vicinity and Figure 2 depicts the site details and sample locations.

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

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 November 5th, 2015, after receiving 811 clearance, SMA field personnel assessed the release area onsite with a auger, a Photo Ionization Detector (PID), and a mobile chlorides titration kit. The one affected area was found to be 660 feet long and 200 feet wide in pasture. The other affected area on the pad is 100 feet long by 5 feet wide on near the tank battery. Delineation samples were taken to depths of three feet bgs. Using field screening, samples at surface and 3 feet bgs were found to exhibit background levels of chloride. The area was impacted with a spray of hydrocarbons that cover the surface and plants but did not penetrate the ground surface. Sample locations are noted on Figure 2 Site Details and Sample Location Map. For additional information on the initial soil results and site assessment, please refer to the NMOCD approved work plan (Soil Remediation Work Plan for Incident 1RP- 3862, 1RP- 3953, 1RP-3982.) 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 began remediation on affected soils, with approval from area utilities owners via 811 and NMOCD. The affected area was treated In Situ via bioremediation and volatilization of the hydrocarbon affected soils by utilizing a tractor to mow the vegetation then till the area to incorporate the vegetative material in to the soil. The addition of nitrogen based fertilizer to the area after tilling will help the carbon to nitrogen imbalance to improve micro flora and fauna

efficiency. Final samples were collected from surface to one foot bsg to show that the soil has been remediated.

5.0 Conclusions and Recommendations

NMOCD Guidelines for Remediation of Leaks, Spills, and Releases have established the following action levels for contaminants of concern with a site ranking of 0: 10 ppm (mg/kg) Benzene, 50 ppm total BTEX, and 5000 ppm TPH. The release consisted of produced and associated petroleum 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 1RP- 3862, 1RP- 3953, 1RP-3982 for the Battle Axe Federal Com #2H. The closure samples laboratory analysis results are all below the targeted remediation standards of a site ranking of 0: 10 ppm (mg/kg) Benzene, 50 ppm total BTEX, and 5000 ppm TPH.

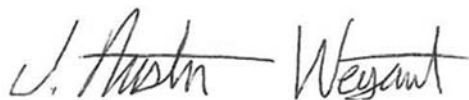
The scope of our services consisted of the performance of a preliminary spill assessment, verification of release stabilization, regulatory liaison, and preparation of this Remediation Work Plan. All work has been performed in accordance with generally accepted professional environmental consulting practices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

If there are any questions regarding this 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 Map

Tables:

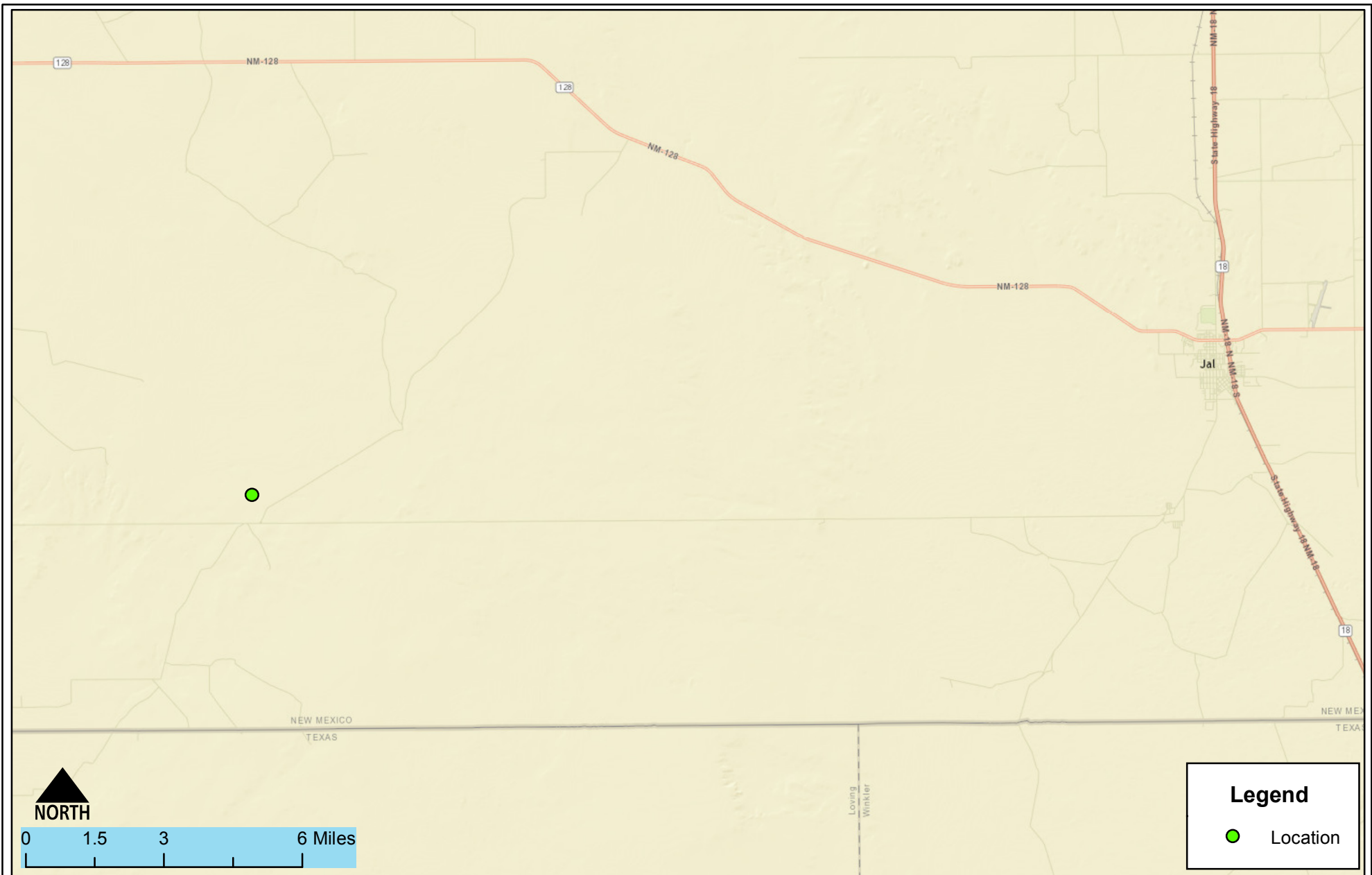
Table 1: Release Information and Site Ranking 1RP-3862
Table 2: Release Information and Site Ranking 1RP-3953
Table 3: Release Information and Site Ranking 1RP-3982
Table 4: Summary of Laboratory Analyses

Appendices:

Appendix A: Laboratory Analytical Reports
Appendix B: Form C141 FINAL for All RP's

FIGURE 1

VICINITY MAP



Vicinity Map
COG Battle Axe Federal Com #2H
Jal, New Mexico

Figure 1

Date Saved:
11/25/2015

By: _____ Date: _____
By: _____ Date: _____
Copyright 2015 Souder, Miller & Associates - All Rights Reserved

Revisions

Descr: _____
Descr: _____

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 LOCATIONS MAP



Detailed Site and Sample Map
COG- Battle Axe Federal Com #2H
Jal, New Mexico

Figure 2

TABLE 1-3

RELEASE INFORMATION AND SITE RANKING

Table 1: Release information and Site Ranking					
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Location	Incident Number	API Number	Section, Township, Range		
	1RP-3862	30-025-41370	SW/NE (Unit E)	Section 2	T 26S, R 33E NMPM
Estimated Date of Release	August 28, 2015				
Date Reported to NMOCD	September 11, 2015				
Reported by	Amanda Trujillo				
Land Owner	Bureau of Land Management (BLM)				
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Equipment error				
Released Material	Produced Water and Oil				
Released Volume	20 bbls Produced Water and 30 bbls Oil				
Recovered Volume	1 bbls Produced Water and 5 bbls Oil				
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Nearest Waterway	3.3 miles West of the location.				
Depth to Groundwater	Estimated to be 179 feet				
Nearest Domestic Water Source	Greater than 3000 feet				
NMOCD Ranking	0				
SMA Response Dates	Initial: 11/5/15 Mitigation Activities:				
Subcontractors	Environmental Department Diversified Field Service				

Table 2: Release information and Site Ranking					
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Location	Incident Number	API Number	Section, Township, Range		
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Nearest Domestic Water Source	Greater than 3000 feet				
NMOCD Ranking	0				
SMA Response Dates	Initial: 11/5/15 Mitigation Activities:				
Subcontractors	Environmental Department Diversified Field Service				

TABLE 4

SUMMARY OF LABORATORY ANALYSES

Table 4: Summary of Laboratory Analyses

Analytical Report- 1601182	Sample Number on Figure 2 Map	Sample Date	Depth	BTEX ppm	Benzene mg/Kg	TPH mg/Kg	Cl- mg/Kg
1601182-001	BA-L1-1	1/4/2016	.5'	ND	ND	2500	NA
1601182-002	BA-L1-.6	1/4/2016	1'	NA	NA	530	NA
1601182-003	BA-L2-.5	1/4/2016	.5'	NA	NA	160	NA
1601182-004	BA-L1-1	1/4/2016	1'	NA	NA	35	NA
1601182-005	BA-L3-.5	1/4/2016	.5'	NA	NA	460	NA
1601182-006	BA-L3-1	1/4/2016	1'	NA	NA	450	NA
1601182-007	BA-L4-.5	1/4/2016	.5'	NA	NA	550	NA
1601182-008	BA-L4-1	1/4/2016	1'	ND	ND	500	NA
1601182-009	BA-L5-.5	1/4/2016	.5'	NA	NA	12	NA
1601182-010	BA-L5-1	1/4/2016	1'	NA	NA	ND	NA
1601182-011	BA-L6-.5	1/4/2016	.5'	NA	NA	21	NA
1601182-012	BA-L6-1	1/4/2016	1'	NA	NA	ND	NA
1601182-013	BA-L7-.5	1/4/2016	.5'	NA	NA	490	NA
1601182-014	BA-L7-1	1/4/2016	1'	NA	NA	170	NA
1601182-015	BA-L8-..5	1/4/2016	.5'	NA	NA	1100	NA
1601182-016	BA-L9-..6	1/5/2016	.5'	NA	NA	4300	NA

After "Initial Action" and
assessment of 2RP-3982

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

January 11, 2016

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

RE: Battle Axe Fed Com 1/2

OrderNo.: 1601182

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 16 sample(s) on 1/7/2016 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 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 1601182

Date Reported: 1/11/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: BA-L1-5

Project: Battle Axe Fed Com 1/2

Collection Date: 1/4/2016 8:00:00 AM

Lab ID: 1601182-001

Matrix: SOIL

Received Date: 1/7/2016 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH
Diesel Range Organics (DRO)	2500	100		mg/Kg	10	1/7/2016 7:40:16 PM	23116
Surr: DNOP	0	70-130	S	%REC	10	1/7/2016 7:40:16 PM	23116
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/8/2016 11:23:11 AM	23108
Surr: BFB	108	66.2-112		%REC	1	1/8/2016 11:23:11 AM	23108
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.097		mg/Kg	1	1/8/2016 11:23:11 AM	23108
Benzene	ND	0.049		mg/Kg	1	1/8/2016 11:23:11 AM	23108
Toluene	ND	0.049		mg/Kg	1	1/8/2016 11:23:11 AM	23108
Ethylbenzene	ND	0.049		mg/Kg	1	1/8/2016 11:23:11 AM	23108
Xylenes, Total	ND	0.097		mg/Kg	1	1/8/2016 11:23:11 AM	23108
Surr: 4-Bromofluorobenzene	140	80-120	S	%REC	1	1/8/2016 11:23:11 AM	23108

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1601182**

Date Reported: **1/11/2016**

CLIENT: Souder, Miller & Associates

Client Sample ID: BA-L1-1

Project: Battle Axe Fed Com 1/2

Collection Date: 1/4/2016 8:00:00 AM

Lab ID: 1601182-002

Matrix: SOIL

Received Date: 1/7/2016 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH
Diesel Range Organics (DRO)	530	9.9		mg/Kg	1	1/8/2016 9:04:58 AM	23116
Surr: DNOP	96.0	70-130		%REC	1	1/8/2016 9:04:58 AM	23116
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/8/2016 10:02:05 AM	23122
Surr: BFB	89.7	66.2-112		%REC	1	1/8/2016 10:02:05 AM	23122

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1601182**

Date Reported: **1/11/2016**

CLIENT: Souder, Miller & Associates

Client Sample ID: BA-L2-5

Project: Battle Axe Fed Com 1/2

Collection Date: 1/4/2016 8:00:00 AM

Lab ID: 1601182-003

Matrix: SOIL

Received Date: 1/7/2016 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH
Diesel Range Organics (DRO)	160	9.7		mg/Kg	1	1/8/2016 2:05:39 PM	23116
Surr: DNOP	95.0	70-130		%REC	1	1/8/2016 2:05:39 PM	23116
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/8/2016 10:25:33 AM	23122
Surr: BFB	89.1	66.2-112		%REC	1	1/8/2016 10:25:33 AM	23122

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1601182**

Date Reported: **1/11/2016**

CLIENT: Souder, Miller & Associates

Client Sample ID: BA-L2-1

Project: Battle Axe Fed Com 1/2

Collection Date: 1/4/2016 8:00:00 AM

Lab ID: 1601182-004

Matrix: SOIL

Received Date: 1/7/2016 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH
Diesel Range Organics (DRO)	35	10		mg/Kg	1	1/8/2016 2:27:00 PM	23116
Surr: DNOP	95.3	70-130		%REC	1	1/8/2016 2:27:00 PM	23116
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/8/2016 10:49:11 AM	23122
Surr: BFB	92.3	66.2-112		%REC	1	1/8/2016 10:49:11 AM	23122

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1601182**

Date Reported: **1/11/2016**

CLIENT: Souder, Miller & Associates

Client Sample ID: BA-L3-5

Project: Battle Axe Fed Com 1/2

Collection Date: 1/4/2016 8:00:00 AM

Lab ID: 1601182-005

Matrix: SOIL

Received Date: 1/7/2016 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	460	10		mg/Kg	1	1/8/2016 4:57:33 PM	23116
Surr: DNOP	95.8	70-130		%REC	1	1/8/2016 4:57:33 PM	23116
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/8/2016 11:12:49 AM	23122
Surr: BFB	90.0	66.2-112		%REC	1	1/8/2016 11:12:49 AM	23122

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1601182**

Date Reported: **1/11/2016**

CLIENT: Souder, Miller & Associates

Client Sample ID: BA-L3-1

Project: Battle Axe Fed Com 1/2

Collection Date: 1/4/2016 8:00:00 AM

Lab ID: 1601182-006

Matrix: SOIL

Received Date: 1/7/2016 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	450	10		mg/Kg	1	1/8/2016 5:19:09 PM	23116
Surr: DNOP	95.5	70-130		%REC	1	1/8/2016 5:19:09 PM	23116
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/8/2016 11:36:37 AM	23122
Surr: BFB	91.1	66.2-112		%REC	1	1/8/2016 11:36:37 AM	23122

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601182

Date Reported: 1/11/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: BA-L4-5

Project: Battle Axe Fed Com 1/2

Collection Date: 1/4/2016 8:00:00 AM

Lab ID: 1601182-007

Matrix: SOIL

Received Date: 1/7/2016 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	550	9.7		mg/Kg	1	1/8/2016 5:40:47 PM	23116
Surr: DNOP	93.6	70-130		%REC	1	1/8/2016 5:40:47 PM	23116
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/8/2016 12:00:13 PM	23122
Surr: BFB	92.4	66.2-112		%REC	1	1/8/2016 12:00:13 PM	23122

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601182

Date Reported: 1/11/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: BA-L4-1

Project: Battle Axe Fed Com 1/2

Collection Date: 1/4/2016 8:00:00 AM

Lab ID: 1601182-008

Matrix: SOIL

Received Date: 1/7/2016 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	500	9.9		mg/Kg	1	1/8/2016 6:02:16 PM	23116
Surr: DNOP	98.4	70-130		%REC	1	1/8/2016 6:02:16 PM	23116
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/8/2016 11:47:48 AM	23108
Surr: BFB	89.7	66.2-112		%REC	1	1/8/2016 11:47:48 AM	23108
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.097		mg/Kg	1	1/8/2016 11:47:48 AM	23108
Benzene	ND	0.048		mg/Kg	1	1/8/2016 11:47:48 AM	23108
Toluene	ND	0.048		mg/Kg	1	1/8/2016 11:47:48 AM	23108
Ethylbenzene	ND	0.048		mg/Kg	1	1/8/2016 11:47:48 AM	23108
Xylenes, Total	ND	0.097		mg/Kg	1	1/8/2016 11:47:48 AM	23108
Surr: 4-Bromofluorobenzene	123	80-120	S	%REC	1	1/8/2016 11:47:48 AM	23108

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1601182**

Date Reported: **1/11/2016**

CLIENT: Souder, Miller & Associates

Client Sample ID: BA-L5-5

Project: Battle Axe Fed Com 1/2

Collection Date: 1/4/2016 8:00:00 AM

Lab ID: 1601182-009

Matrix: SOIL

Received Date: 1/7/2016 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	12	9.7		mg/Kg	1	1/8/2016 3:31:12 PM	23116
Surr: DNOP	99.7	70-130		%REC	1	1/8/2016 3:31:12 PM	23116
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/8/2016 12:23:45 PM	23122
Surr: BFB	92.8	66.2-112		%REC	1	1/8/2016 12:23:45 PM	23122

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1601182**

Date Reported: **1/11/2016**

CLIENT: Souder, Miller & Associates

Client Sample ID: BA-L5-1

Project: Battle Axe Fed Com 1/2

Collection Date: 1/4/2016 8:00:00 AM

Lab ID: 1601182-010

Matrix: SOIL

Received Date: 1/7/2016 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	1/8/2016 3:52:42 PM	23116
Surr: DNOP	107	70-130		%REC	1	1/8/2016 3:52:42 PM	23116
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/8/2016 12:47:24 PM	23122
Surr: BFB	93.4	66.2-112		%REC	1	1/8/2016 12:47:24 PM	23122

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601182

Date Reported: 1/11/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: BA-L6-5

Project: Battle Axe Fed Com 1/2

Collection Date: 1/4/2016 8:00:00 AM

Lab ID: 1601182-011

Matrix: SOIL

Received Date: 1/7/2016 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	21	10		mg/Kg	1	1/8/2016 4:14:19 PM	23116
Surr: DNOP	109	70-130		%REC	1	1/8/2016 4:14:19 PM	23116
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/8/2016 1:11:00 PM	23122
Surr: BFB	90.2	66.2-112		%REC	1	1/8/2016 1:11:00 PM	23122

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601182

Date Reported: 1/11/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: BA-L6-1

Project: Battle Axe Fed Com 1/2

Collection Date: 1/4/2016 8:00:00 AM

Lab ID: 1601182-012

Matrix: SOIL

Received Date: 1/7/2016 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/8/2016 4:35:53 PM	23116
Surr: DNOP	111	70-130		%REC	1	1/8/2016 4:35:53 PM	23116
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/8/2016 1:34:36 PM	23122
Surr: BFB	89.8	66.2-112		%REC	1	1/8/2016 1:34:36 PM	23122

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601182

Date Reported: 1/11/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: BA-L7-5

Project: Battle Axe Fed Com 1/2

Collection Date: 1/4/2016 8:00:00 AM

Lab ID: 1601182-013

Matrix: SOIL

Received Date: 1/7/2016 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	490	9.6		mg/Kg	1	1/8/2016 6:22:34 PM	23116
Surr: DNOP	98.4	70-130		%REC	1	1/8/2016 6:22:34 PM	23116
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/8/2016 1:58:15 PM	23122
Surr: BFB	93.8	66.2-112		%REC	1	1/8/2016 1:58:15 PM	23122

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1601182**

Date Reported: **1/11/2016**

CLIENT: Souder, Miller & Associates

Client Sample ID: BA-L7-1

Project: Battle Axe Fed Com 1/2

Collection Date: 1/4/2016 8:00:00 AM

Lab ID: 1601182-014

Matrix: SOIL

Received Date: 1/7/2016 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	170	10		mg/Kg	1	1/8/2016 6:45:37 PM	23116
Surr: DNOP	103	70-130		%REC	1	1/8/2016 6:45:37 PM	23116
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/8/2016 2:21:58 PM	23122
Surr: BFB	94.9	66.2-112		%REC	1	1/8/2016 2:21:58 PM	23122

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601182

Date Reported: 1/11/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: BA-L8-0.5

Project: Battle Axe Fed Com 1/2

Collection Date: 1/4/2016 8:00:00 AM

Lab ID: 1601182-015

Matrix: SOIL

Received Date: 1/7/2016 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH
Diesel Range Organics (DRO)	1100	98		mg/Kg	10	1/8/2016 12:46:15 AM	23116
Surr: DNOP	0	70-130	S	%REC	10	1/8/2016 12:46:15 AM	23116
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/8/2016 12:12:28 PM	23108
Surr: BFB	90.3	66.2-112		%REC	1	1/8/2016 12:12:28 PM	23108
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.099		mg/Kg	1	1/8/2016 12:12:28 PM	23108
Benzene	ND	0.050		mg/Kg	1	1/8/2016 12:12:28 PM	23108
Toluene	ND	0.050		mg/Kg	1	1/8/2016 12:12:28 PM	23108
Ethylbenzene	ND	0.050		mg/Kg	1	1/8/2016 12:12:28 PM	23108
Xylenes, Total	ND	0.099		mg/Kg	1	1/8/2016 12:12:28 PM	23108
Surr: 4-Bromofluorobenzene	125	80-120	S	%REC	1	1/8/2016 12:12:28 PM	23108

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1601182**

Date Reported: **1/11/2016**

CLIENT: Souder, Miller & Associates

Client Sample ID: BA-L9-0.5

Project: Battle Axe Fed Com 1/2

Collection Date: 1/4/2016 8:00:00 AM

Lab ID: 1601182-016

Matrix: SOIL

Received Date: 1/7/2016 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH
Diesel Range Organics (DRO)	4300	99		mg/Kg	10	1/8/2016 1:08:04 AM	23116
Surr: DNOP	0	70-130	S	%REC	10	1/8/2016 1:08:04 AM	23116
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/8/2016 2:45:37 PM	23122
Surr: BFB	94.2	66.2-112		%REC	1	1/8/2016 2:45:37 PM	23122

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		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1601182

11-Jan-16

Client: Souder, Miller & Associates

Project: Battle Axe Fed Com 1/2

Sample ID	MB-23116		SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range Organics			
Client ID:	PBS		Batch ID:	23116		RunNo:	31303			
Prep Date:	1/7/2016		Analysis Date:	1/7/2016		SeqNo:	958503		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	14		10.00		137	70	130			S

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#: 1601182

11-Jan-16

Client: Souder, Miller & Associates

Project: Battle Axe Fed Com 1/2

Sample ID	MB-23122		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 23122		RunNo: 31332					
Prep Date:	1/7/2016		Analysis Date: 1/8/2016		SeqNo: 959506		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		93.2	66.2	112			

Sample ID	LCS-23122		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 23122		RunNo: 31332					
Prep Date:	1/7/2016		Analysis Date: 1/8/2016		SeqNo: 959507		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.4	79.6	122			
Surr: BFB	980		1000		98.3	66.2	112			

Sample ID	MB-23108		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 23108		RunNo: 31331					
Prep Date:	1/7/2016		Analysis Date: 1/8/2016		SeqNo: 959533		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		87.9	66.2	112			

Sample ID	LCS-23108		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 23108		RunNo: 31331					
Prep Date:	1/7/2016		Analysis Date: 1/8/2016		SeqNo: 959534		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	100	79.6	122			
Surr: BFB	1000		1000		102	66.2	112			

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#: 1601182

11-Jan-16

Client: Souder, Miller & Associates

Project: Battle Axe Fed Com 1/2

Sample ID	MB-23108		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 23108		RunNo: 31331					
Prep Date:	1/7/2016		Analysis Date: 1/8/2016		SeqNo: 959545		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	1.2		1.000		119	80	120			

Sample ID	LCS-23108		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 23108		RunNo: 31331					
Prep Date:	1/7/2016		Analysis Date: 1/8/2016		SeqNo: 959546		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.92	0.10	1.000	0	91.9	67.2	121			
Benzene	0.88	0.050	1.000	0	88.2	80	120			
Toluene	0.92	0.050	1.000	0	92.0	80	120			
Ethylbenzene	0.94	0.050	1.000	0	93.7	80	120			
Xylenes, Total	2.9	0.10	3.000	0	98.2	80	120			
Surr: 4-Bromofluorobenzene	1.3		1.000		129	80	120			S

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



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

Sample Log-In Check List

Client Name: SMA-CARLSBAD

Work Order Number: 1601182

RcptNo: 1

Received by/date:

JA 01/07/16

Logged By: Lindsay Mangin

1/7/2016 10:00:00 AM

Lindsay Mangin

Completed By: Lindsay Mangin

1/7/2016 12:30:17 PM

Lindsay Mangin

Reviewed By:

AG 01/07/16

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 $>0^{\circ}\text{C}$ 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?

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	5.7	Good	Yes			

Chain-of-Custody Record

Client: SMA

Turn-Around Time:

☐ Standard ☒ Rush

Project Name:

Battle Ave Fed Con

Project #:

1/2

Mailing Address: 201 S. 4th Avenue

Phone #: 575-887-5351

Email or Fax#: Lucan.Middleton@esandwich.com

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other

☐ EDD (Type)

Project Manager:

Austin Weyant

Sampler: LCM

On Ice: ☒ Yes ☐ No

Sample Temperature: 5.7

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
-4-15	800	Soil	BA-L4-S	402	L1	1601182
			BA-L4-1		L1	-0072
			BA-L2-S			-0073
			BA-L2-1			-0074
			BA-L3-S			-0065
			BA-L3-1			-0075
			BA-L4-S			-0077
			BA-L4-1			-0078
			BA-L5-S			-0109
			BA-L5-1			-0110
			BA-L6-S			-0121
			BA-L6-1			-0132

Date: Time:

Relinquished by:

Date: Time:

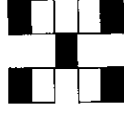
Received by:

Date: Time:

Remarks:

MLO in Email

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)	X	BTEX + MTBE + TPH (Gas only)	X	TPH 8015B (GRO / DRO / MRO)	X	TPH (Method 418.1)		EDB (Method 504.1)		PAH's (8310 or 8270 SIMS)		RCRA 8 Metals		Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)		8081 Pesticides / 8082 PCB's		8260B (VOA)		8270 (Semi-VOA)		Air Bubbles (Y or N)	
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Chain-of-Custody Record

Client: SMA

Mailing Address: 201. S. Valiente

Phone #: 573-687-5351

Email or Fax#: lucan.maddalena Q sandamp

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other

☐ EDD (Type)

Date Time Matrix Sample Request ID

-419 800 Sea, BA-L7-S
66 1 BA-L7-1
BA-L8-0.5
BA-L9, 0.5

Container Type and #

Seal
Seal
Seal
Seal

Preservative Type

1
1
1
1

HEAL No.

11601182
-01413
-0184
-0165
-0176

Sample Temperature: 5.7

On Ice: ☒ Yes ☐ No

Sampler:

Project Manager:

Project #:

Turn-Around Time:

☐ Standard ☒ Rush

Project Name:

Buttle Ave Fed Con

2/2

Analysis Request

BTX + MTBE + TMB's (8021)

BTX + 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, NO₃, NO₂, PO₄, SO₄)

8081 Pesticides / 8082 PCB's

8260B (VOA)

8270 (Semi-VOA)

Air Bubbles (Y or N)

Date: Time: Relinquished by:

Date: Time: Relinquished by:

Received by:

Date Time

Remarks:

For Cont 01/07/00 1000

MFO in email

APPENDIX B

FORM C141 FINAL FOR ALL RP'S

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: BATTLE AXE FEDERAL COM #002H	Facility Type: Battery	
Surface Owner: Federal	Mineral Owner: Federal	API No. 30-025-41370

LOCATION OF RELEASE

Unit Letter E	Section 2	Township 26S	Range 33E	Feet from the 2260'	North/South Line North	Feet from the 380'	East/West Line West	County Lea
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Latitude 32.0735359 Longitude -103.5503693

NATURE OF RELEASE

Type of Release: Oil & Produced Water	Volume of Release: 40 bbls Oil	Volume Recovered: 25 bbls Oil
Source of Release: Dump Valve	Date and Hour of Occurrence: 11-11-2015 8:00 am	Date and Hour of Discovery: 11-11-2015 8:00 am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Kellie Jones – NMOCD / Jim Amos – BLM	
By Whom? Amanda Trujillo Davis	Date and Hour: Wed 11/11/2015 5:45 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.*

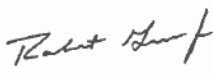
Describe Cause of Problem and Remedial Action Taken.*

The release was caused by a plugged dumped valve that caused oil to go to the flare. Vacuum trucks were dispatched to recover all standing fluid.

Describe Area Affected and Cleanup Action Taken.*

This release impacted the nearby pasture. Remediation was completed per the NMOCD approved work plan.

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>	
		Approved by Environmental Specialist:	
Printed Name: Robert Grubbs Jr.			
Title: Senior Environmental Coordinator		Approval Date:	Expiration Date:
E-mail Address: rgrubbs@concho.com		Conditions of Approval:	
Date: March 11, 2016 Phone: 432-683-7443		Attached <input type="checkbox"/>	

* Attach Additional Sheets If Necessary

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
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State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
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Form C-141
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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: BATTLE AXE FEDERAL COM #002H	Facility Type: Battery	
Surface Owner: Federal	Mineral Owner:	API No. 30-025-41370

LOCATION OF RELEASE

Unit Letter E	Section 02	Township 26S	Range 33E	Feet from the 2260'	North/South Line North	Feet from the 380'	East/West Line West	County Lea
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Latitude 32.0735359 Longitude -103.5503693

NATURE OF RELEASE

Type of Release: Oil & Produced Water	Volume of Release: 30 bbls Oil ; 20 bbls PW	Volume Recovered: 5 bbls Oil ; 1 bbls PW
Source of Release: Dump valve	Date and Hour of Occurrence: 8/28/2015 8:00 am	Date and Hour of Discovery: 8/28/2015 8:00 am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Kellie Jones – NMOCD / Jim Amos – BLM	
By Whom? Amanda Trujillo	Date and Hour: Fri 8/28/2015 11:48 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 when a dump valve failed on a KO and sent oil to the flare. Vacuum trucks were dispatched to recover all standing fluids and repairs were made to the KO.

Describe Area Affected and Cleanup Action Taken.*

This release impacted the nearby pasture. Remediation was completed per the NMOCD approved work plan.

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: Robert Grubbs Jr.	Approved by Environmental Specialist:		
Title: Senior Environmental Coordinator	Approval Date:	Expiration Date:	
E-mail Address: rgrubbs@concho.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: March 11, 2016	Phone: 432-683-7443		

* Attach Additional Sheets If Necessary

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Revised August 8, 2011

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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: BATTLE AXE FEDERAL COM #002H	Facility Type: Battery	
Surface Owner: Federal	Mineral Owner: Federal	API No. 30-025-41370

LOCATION OF RELEASE

Unit Letter E	Section 2	Township 26S	Range 33E	Feet from the 2260'	North/South Line North	Feet from the 380'	East/West Line West	County Lea
------------------	--------------	-----------------	--------------	------------------------	---------------------------	-----------------------	------------------------	---------------

Latitude 32.0735359 Longitude -103.5503693

NATURE OF RELEASE

Type of Release: Oil & Produced Water	Volume of Release: 10 bbls Oil ; 62 bbls PW	Volume Recovered: 10 bbls Oil ; 62 bbls PW
Source of Release: Tank Overflow	Date and Hour of Occurrence: 10-3-2015 10:00 am	Date and Hour of Discovery: 10-3-2015 10:00 am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Kellie Jones – NMOCD	
By Whom? Lupe Carrasco	Date and Hour: Sat 10/3/2015 8:52 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.*

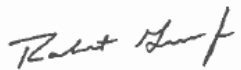
Describe Cause of Problem and Remedial Action Taken.*

This release was caused by a tank overflow. Vacuum trucks were dispatched to recover all standing fluid.

Describe Area Affected and Cleanup Action Taken.*

This release remained within the bermed facility however the containment was unlined. Remediation was completed per the NMOCD approved work plan.

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: Robert Grubbs Jr.		Approved by Environmental Specialist:	
Title: Senior Environmental Coordinator		Approval Date:	Expiration Date:
E-mail Address: rgrubbs@concho.com		Conditions of Approval:	
Date: March 11, 2016 Phone: 432-683-7443		Attached <input type="checkbox"/>	

* Attach Additional Sheets If Necessary