Souder, Miller & Associates ♦ 201 S. Halagueno ♦ Carlsbad, NM 88221
(575) 689-7040

August 4, 2015

#5B23978-BG6

NMOCD District II
1301 W Grand Ave
ArtesiaNM88210

SUBJECT: FINAL CLOSURE REPORT FOR INCIDENT 2RP-2918 SCARED HAWK STATE COM #1, 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 Scared Hawk State Com #1 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 March 08, 2015.

Souder, Miller & Associates (SMA) responded at the request of COG Operating to assess and delineate the release of production fluids associated with the Scared Hawk State Com #1 well location. The release was initially reported to NMOCD by COG Operating on March 25, 2015 and was a result of a flow line failure. The table below summarizes information regarding the release. Results of the assessment, delineation, and remedial activities follow in the attached closure report.

Table 1: Release information and Site Ranking

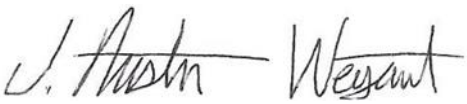
Name	Scared Hawk State Com #1				
Location	Incident Number	API Number	Section, Township, Range		
	2RP-2918	30-015-35102	SW/NE (Unit A)	Section 4	T 25S, R 28E NMPM
Estimated Date of Release	8-Mar-15				
Date Reported to NMOCD	25-Mar-15				
Reported by	Amanda Trujillo, COG Operating LLC				
Land Owner	New Mexico State Land Office				
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Flow line failure				
Released Material	Produced Water				
Released Volume	30 bbls Produced Water				
Recovered Volume	5 bbls Produced Water				
Net Release	25 bbls Produced Water				

Nearest Waterway	The Salt Draw is over one mile to the west of the location.
Depth to Groundwater	Estimated to be 41 feet
Nearest Domestic Water Source	Greater than 1,000 feet
NMOCD Ranking	20
SMA Response Dates	Initial: April 28, 2015 Mitigation Activities: July 6, 2015
Subcontractors	TCS
Disposal Facility	Lea Land, LLC
Estimated Yd^3 Contaminated Soil Excavated and Disposed	1,800 (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



Austin Weyant
Project Scientist

Reviewed by:

Cynthia Gray, CHMM
Senior Scientist

FINAL CLOSURE REPORT FOR INCIDENT 2RP-2918

COG OPERATING LLC

SCARED HAWK STATE COM #1
API# 30-015-35102
SECTION 4, T25S R28E, 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

August 4, 2015
SMA Reference
5B23978 BG6

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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 Scared Hawk State Com #1 release site. The site is located in Section 4, T 25S, 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 1 mile east of Salt Draw, 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).

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. 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.

Based on the NMOCD Guidelines Ranking Criteria, this release location has been assigned a NMOCD ranking of 20 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 100 ppm total petroleum hydrocarbons (TPH). Table 1 illustrates site ranking rationale.

3.0 Assessment and Initial Results

On June 18th, 2015, after receiving 811 clearance, SMA field personnel assessed the release area onsite with a backhoe, Photo Ionization Detector (PID), and a mobile chlorides titration kit. The potentially affected area was found to be approximately 150 feet long and 90 feet wide. The western extent of the spill path is over a high pressure gas line. In the rest of the site, delineation samples were taken to depths of seven feet bsg. Bottom hole samples were found to exhibit only background levels of all contaminants of concern at approximately 7 feet bsg on the eastern area of the spill. The western portion contained the highest concentration of contaminants at depths below seven foot bsg, due to the proximity to the point of failure of the flow line and site topography. For additional information on the initial soil results and site assessment, please refer to the NMOCD approved work plan (Soil Remediation Workplan for Incident 2RP-2918. Specific sample locations for all samples are depicted on Figure 2 (Sample Location Map) along with sampling details. Field screening 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 field screening did not indicate the presence of petroleum, 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 Summary

SMA returned to the site on July 6, 2015 begin excavation of affected soils, with approval from area utilities owners via 811 and the NMOCD. SMA continuously guides the excavation activities by collecting composite soil samples for field screening with a mobile titration unit (EPA 4500) and a calibrated PID. In the western area of the spill is a buried Kinder Morgan pipeline. No excavation occurred within that area due to safety concerns and request by Kinder Morgan. SMA worked with Kinder Morgan on excavation close to their high pressure gas line. Sample location

D1 shown in Figure 2, were taken as close to the pipeline as possible documenting the level of contamination in the soils left next to pipeline. Samples were taken in the sidewalls in the rest of the excavation to ensure contaminated soils had been removed in the horizontal extent. Sample location D1 and D2 are closure samples collected at three feet bsg in the excavation. Excavation was conducted to three feet bsg in the spill area to remove the soils affected by the release. An in-situ cap has been constructed within the excavation. The construction of the in-situ cap (Figure #3) has been designed to prevent both capillary and leaching movement of the brine affected soils contained beneath. Starting from three feet below surface grade, a plastic liner was added as a capillary break between the affected soils and the caliche cap. The cap consist of two feet of contaminant-free caliche material placed, and compacted. Then, a plastic liner was added along with hay above the compacted caliche cap to form an intrusion barrier. This barrier will prevent leaching and formation of deep root systems into the cap itself. Topsoil was placed on top of the cap. The plastic liner on both sides of the caliche cap will effectively break the communication of precipitation through the compacted cap. After excavation, installation of in-situ cap, and backfill, a minimum of 18 inches of topsoil and hay was added to help with contouring of the area and to promote vegetation growth. Approximately 1,800 cubic yards of contaminated soil was removed and replaced with the cap and clean backfill material to bring the excavated area to surface grade. The contaminated soil was transported for disposal at Lea Land, near Carlsbad, NM.

5.0 Conclusions and Recommendations

NMOCD Guidelines for Remediation of Leaks, Spills, and Releases have established the following action levels for contaminants of concern with a site ranking of 20: 10 ppm (mg/kg) Benzene, 50 ppm total BTEX, and 100 ppm TPH. The release consisted of produced water and evidence of petroleum impacts was not 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.

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, and preparation of this Remediation Workplan. 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
Figure 3: In-situ Cap and Bio barrier Design
Figure 4: Electrical Conductivity Correlation to EPA Method 300 Graph

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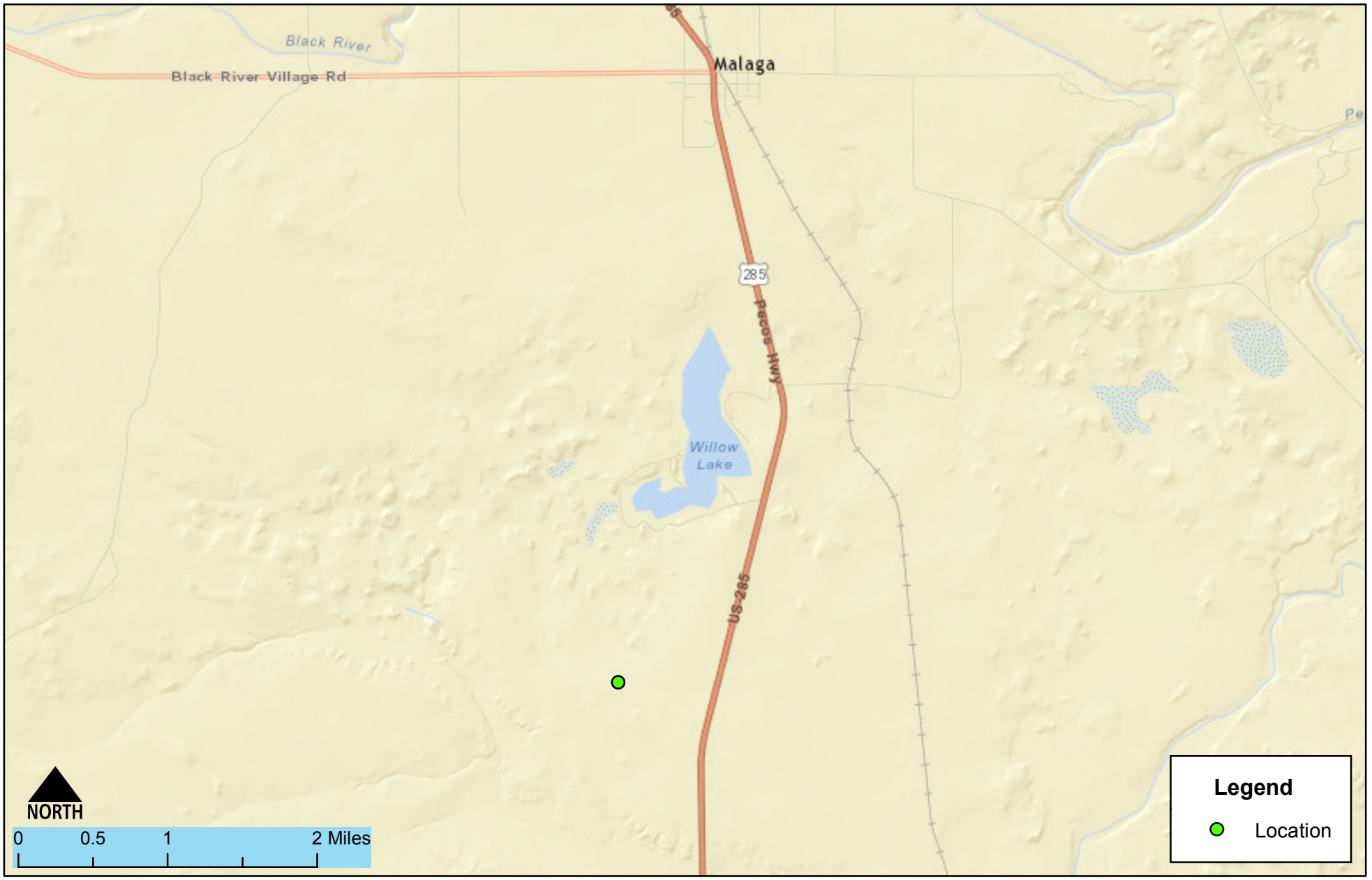
Table 2: Field Screening
Table 3: Summary of Laboratory Analyses

Appendices:

Appendix A: Laboratory Analytical Reports
Appendix B: Form C141 Final
Appendix C: API Amigo Summary

FIGURE 1
VICINITY MAP



Vicinity Map
COG- Scared Hawk State Com #1
Malaga, New Mexico

Figure 1

Revisions
By: Date: Descr:
By: Date: 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

Date Saved: 7/22/2015

Document: C:\Users\lcm\Documents\GIS DATA\MAPS\Figure 1 Scared Hawk.mxd

FIGURE 2

DETAILED SITE AND SAMPLE MAP

Detailed Site and Sample Map
COG- Scared Hawk State Com #1
Malaga, New Mexico

Figure 2

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

Drawn Lucas Middleton
Checked
Approved

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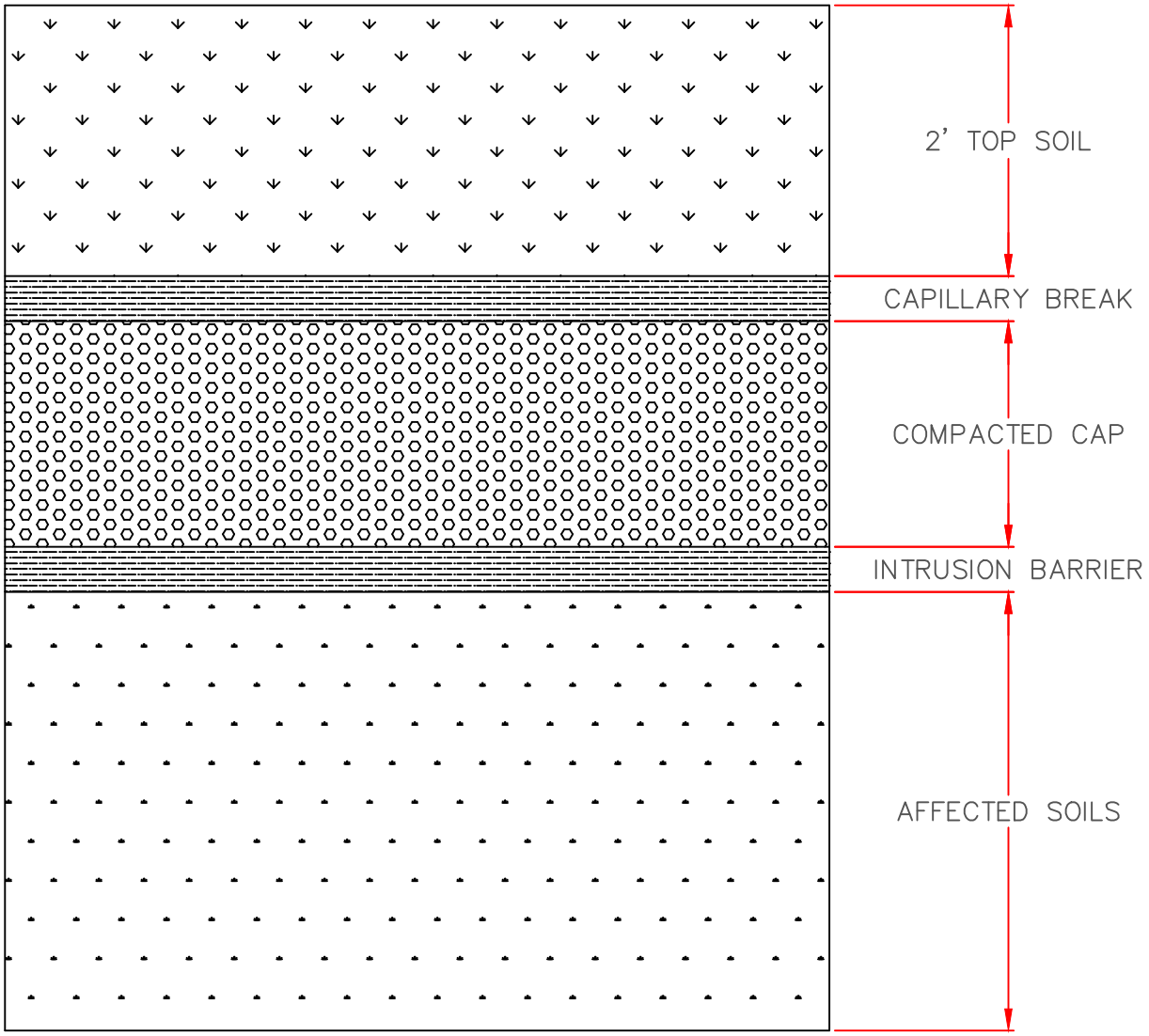
Date Saved: 7/23/2015

Document: C:\Users\lcm\Documents\GIS DATA\MAPS\Figure 2 Scared Hawk.mxd

FIGURE 3

IN-SITU CAP AND BIO BARRIER DESIGN



SMA
Engineering
Environmental
Surveying

Souder, Miller & Associates
201 S. Halaqueno Street
Carlsbad, NM 88220
Phone (575) 689-7040
www.soudermiller.com
Serving the Southwest & Rocky Mountains

COG

IN-SITU CAP
AND BIOBARRIER DESIGN
COG SCARED HAWK STATE COM #1

Designed	Drawn	Checked
LM	GJF	KT

Date: July 2015
Scale: Horiz: NA Vert: NA
Project No: 5B23978
Figure 3

C:\Users\lcm\Desktop\CAp design\5B23978 FEDERAL 17.dwg, LCM, 7/27/2015 8:09 AM

FIGURE 4
ELECTRICAL CONDUCTIVITY CORRELATION TO EPA METHOD 300 GRAPH

Figure 4: Electrical Conductivity Correlation to EPA Method 300 Graph

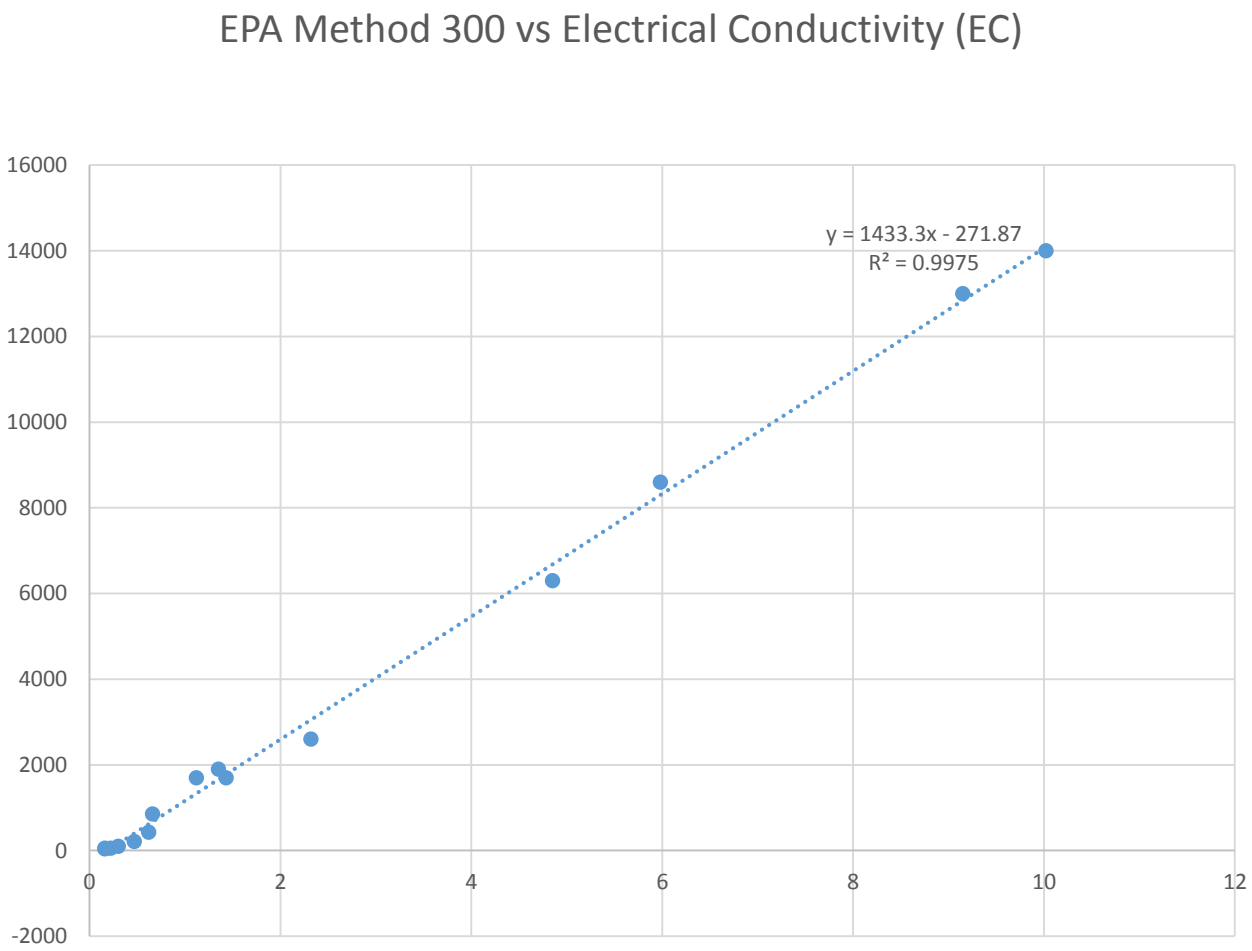


TABLE 1

RELEASE INFORMATION AND SITE RANKING

Table 1: Release information and Site Ranking					
Name	Scared Hawk State Com #1				
Location	Incident Number	API Number	Section, Township, Range		
	2RP-2918	30-015-35102	SW/NE (Unit A)	Section 4	T 25S, R 28E NMPM
Estimated Date of Release	March 8, 2015				
Date Reported to NMOCD	March 25, 2015				
Reported by	Amanda Trujillo, COG Operating LLC				
Land Owner	New Mexico State Land Office				
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Flow line failure				
Released Material	Produced Water				
Released Volume	30 bbls Produced Water				
Recovered Volume	5 bbls Produced Water				
Net Release	25 bbl Produced Water				
Nearest Waterway	The Salt Draw is over one mile to the west of the				
Depth to Groundwater	Estimated to be 41 feet				
Nearest Domestic Water Source	Greater than 1,000 feet				
NMOCD Ranking	20				
SMA Response Dates	Initial: April 28, 2015 Mitigation Activities: 7/6/15				
Subcontractors	TCS				
Disposal Facility	Lea Land, LLC				
Estimated Yd^3 Contaminated Soil Excavated and Disposed	1,800 (Reported on Completed C-138)				

TABLE 2

SUMMARY OF FIELD SCREENING

Table 2: Summary of Field Screening Results

Scared Hawk State Com #1
Produced Water
5/20/15

FIELD SCREENING RESULTS SUMMARY					
Date	Time	Field Screening Reference	Sample Depth (Feet BGS)	Chlorides Results	Lab Sample Collected Y/N
6/19/2015	12:00	D1	2'	2285	Y
6/19/2015	12:00	D1-4	7'	600	Y
6/19/2015	12:00	D2	2'	5800	Y
6/19/2015	12:00	D2-1	3'	4500	Y
6/19/2015	12:00	D2-2	4'	3233	Y
6/19/2015	12:00	D2-4	6'	2400	Y
6/19/2015	12:00	D2-5	7'	1600	Y
6/19/2015	12:00	D2-6	8'	1500	Y

TABLE 3

SUMMARY OF LABORATORY ANALYSES

Table 3: Summary of Laboratory Analyses

Analytical Report- 1505718/ 1507979	Sample Number on Figure 2 Map	Sample Date	Depth	BTEX ppm	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	Cl- mg/Kg
1505718-001	SH-1	5/22/2015	1'	N/A	N/A	N/A	N/A	430
1505718-002	SH-2	5/22/2015	1'	N/A	N/A	N/A	N/A	14,000
1505718-003	SH-3	5/22/2015	1'	N/A	N/A	N/A	N/A	13,000
1507979-001	SHC1	7/20/2015	1'	BDL	BDL	BDL	BDL	120
1507979-002	SHC2	7/21/2015	1'	BDL	BDL	BDL	BDL	BDL
1507979-003	SHC3	7/22/2015	1'	BDL	BDL	BDL	BDL	40

APPENDIX A

LABORATORY ANALYTICAL REPORTS

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

May 22, 2015

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

RE: Scared Hawk OrderNo.: 1505718

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 3 sample(s) on 5/15/2015 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 qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order: **1505718**
Date Reported: **5/22/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: Scared Hawk
Lab Order: 1505718

Lab ID: 1505718-001 **Collection Date:** 5/13/2015 9:00:00 AM
Client Sample ID: SH-1 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	430	30		mg/Kg	20	5/19/2015 12:36:13 PM	19298

Lab ID: 1505718-002 **Collection Date:** 5/13/2015 9:00:00 AM
Client Sample ID: SH-2 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	14000	750		mg/Kg	500	5/20/2015 3:57:33 PM	19298

Lab ID: 1505718-003 **Collection Date:** 5/13/2015 9:00:00 AM
Client Sample ID: SH-3 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	13000	750		mg/Kg	500	5/20/2015 4:09:57 PM	19298

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

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#: **1505718**

22-May-15

Client: Souder, Miller & Associates

Project: Scared Hawk

Sample ID	**MB-19298**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**19298**	RunNo:	**26305**					
Prep Date:	**5/19/2015**	Analysis Date:	**5/19/2015**	SeqNo:	**781402**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-19298**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**19298**	RunNo:	**26305**					
Prep Date:	**5/19/2015**	Analysis Date:	**5/19/2015**	SeqNo:	**781403**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.6	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		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: SMA-CARLSBAD Work Order Number: 1505718 RcptNo: 1

Received by/date: CS 05/15/15

Logged By: **Ashley Gallegos** 5/15/2015 9:08:00 AM AG

Completed By: **Ashley Gallegos** 5/15/2015 11:40:13 AM AG

Reviewed By: CS 05/15/15

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 ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? _____
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: _____

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	5.5	Good	Yes			

Chain-of-Custody Record

Client: Souder Miller and Associates

Mailing Address: 201 S Halagueno Carlsbad,NM 88220

Phone #: 575-689-5351

email or Fax#: lucas.middleton@soudermiller.com

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:

☑ Standard ☐ Rush

Project Name: Sewed Hair

Project #: 5B23978-B6

Project Manager: Austin Weyant

Sampler: LCM

On Ice: ☒ Yes ☐ No

Sample Temperature: 5.5°C

HALL ENVIRONME
ANALYSIS LABORA

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1505718	BTEX + MTBE + TMB's (8021	BTEX + MTBE + TPH (Gas on	TPH Method 8015B (Gas/Di	TPH (Method 418.1)	RCRA 8 Metals	Anions (Cl)
5-13-15	900	Soil	SH 1	4 oz		-001						✓
5-13-15	900	Soil	SH 2	4oz		-002						✓
5-13-15	900	Soil	SH 3	4oz		-003						✓

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
			Celina Sanchez	5/14/15	0908
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the

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

July 30, 2015

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

RE: Scrad Hawk OrderNo.: 1507979

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 3 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 or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SHC1
Project: Scrad Hawk
Collection Date: 7/20/2015 2:00:00 AM
Lab ID: 1507979-001
Matrix: SOIL
Received Date: 7/22/2015 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	120	30		mg/Kg	20	7/28/2015 1:55:09 PM	20481
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/24/2015 2:58:42 AM	20387
Surr: BFB	108	70-130		%REC	1	7/24/2015 2:58:42 AM	20387
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/24/2015 11:55:35 AM	20380
Surr: DNOP	83.8	57.9-140		%REC	1	7/24/2015 11:55:35 AM	20380
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	7/24/2015 2:58:42 AM	20387
Benzene	ND	0.050		mg/Kg	1	7/24/2015 2:58:42 AM	20387
Toluene	ND	0.050		mg/Kg	1	7/24/2015 2:58:42 AM	20387
Ethylbenzene	ND	0.050		mg/Kg	1	7/24/2015 2:58:42 AM	20387
Xylenes, Total	ND	0.10		mg/Kg	1	7/24/2015 2:58:42 AM	20387
Surr: 1,2-Dichloroethane-d4	98.7	70-130		%REC	1	7/24/2015 2:58:42 AM	20387
Surr: 4-Bromofluorobenzene	102	70-130		%REC	1	7/24/2015 2:58:42 AM	20387
Surr: Dibromofluoromethane	110	70-130		%REC	1	7/24/2015 2:58:42 AM	20387
Surr: Toluene-d8	94.4	70-130		%REC	1	7/24/2015 2:58:42 AM	20387

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.

CLIENT: Souder, Miller & Associates
Client Sample ID: SHC2
Project: Scrad Hawk
Collection Date: 7/20/2015 2:00:00 AM
Lab ID: 1507979-002 **Matrix:** SOIL **Received Date:** 7/22/2015 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	7/28/2015 2:07:33 PM	20481
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/24/2015 3:26:09 AM	20387
Surr: BFB	109	70-130		%REC	1	7/24/2015 3:26:09 AM	20387
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/24/2015 12:59:40 PM	20380
Surr: DNOP	66.3	57.9-140		%REC	1	7/24/2015 12:59:40 PM	20380
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Methyl tert-butyl ether (MTBE)	ND	0.048		mg/Kg	1	7/24/2015 3:26:09 AM	20387
Benzene	ND	0.048		mg/Kg	1	7/24/2015 3:26:09 AM	20387
Toluene	ND	0.048		mg/Kg	1	7/24/2015 3:26:09 AM	20387
Ethylbenzene	ND	0.048		mg/Kg	1	7/24/2015 3:26:09 AM	20387
Xylenes, Total	ND	0.096		mg/Kg	1	7/24/2015 3:26:09 AM	20387
Surr: 1,2-Dichloroethane-d4	103	70-130		%REC	1	7/24/2015 3:26:09 AM	20387
Surr: 4-Bromofluorobenzene	98.8	70-130		%REC	1	7/24/2015 3:26:09 AM	20387
Surr: Dibromofluoromethane	109	70-130		%REC	1	7/24/2015 3:26:09 AM	20387
Surr: Toluene-d8	95.1	70-130		%REC	1	7/24/2015 3:26:09 AM	20387

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.

CLIENT: Souder, Miller & Associates
Client Sample ID: SHC3
Project: Scrad Hawk
Collection Date: 7/20/2015 2:00:00 AM
Lab ID: 1507979-003
Matrix: SOIL
Received Date: 7/22/2015 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	40	30		mg/Kg	20	7/28/2015 2:19:58 PM	20481
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/24/2015 3:53:36 AM	20387
Surr: BFB	110	70-130		%REC	1	7/24/2015 3:53:36 AM	20387
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/24/2015 1:21:17 PM	20380
Surr: DNOP	72.5	57.9-140		%REC	1	7/24/2015 1:21:17 PM	20380
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	7/24/2015 3:53:36 AM	20387
Benzene	ND	0.050		mg/Kg	1	7/24/2015 3:53:36 AM	20387
Toluene	ND	0.050		mg/Kg	1	7/24/2015 3:53:36 AM	20387
Ethylbenzene	ND	0.050		mg/Kg	1	7/24/2015 3:53:36 AM	20387
Xylenes, Total	ND	0.10		mg/Kg	1	7/24/2015 3:53:36 AM	20387
Surr: 1,2-Dichloroethane-d4	98.3	70-130		%REC	1	7/24/2015 3:53:36 AM	20387
Surr: 4-Bromofluorobenzene	100	70-130		%REC	1	7/24/2015 3:53:36 AM	20387
Surr: Dibromofluoromethane	107	70-130		%REC	1	7/24/2015 3:53:36 AM	20387
Surr: Toluene-d8	98.4	70-130		%REC	1	7/24/2015 3:53:36 AM	20387

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#: **1507979**

30-Jul-15

Client: Souder, Miller & Associates

Project: Scrad Hawk

Sample ID	**MB-20481**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**20481**	RunNo:	**27833**					
Prep Date:	**7/28/2015**	Analysis Date:	**7/28/2015**	SeqNo:	**836878**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-20481**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**20481**	RunNo:	**27833**					
Prep Date:	**7/28/2015**	Analysis Date:	**7/28/2015**	SeqNo:	**836879**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	98.3	90	110			

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#: **1507979**

30-Jul-15

Client: Souder, Miller & Associates

Project: Scrad Hawk

Sample ID	**MB-20380**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**20380**		RunNo:	**27722**				
Prep Date:	**7/22/2015**	Analysis Date:	**7/24/2015**		SeqNo:	**833693**	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	10		10.00		104	57.9	140			

Sample ID	**LCS-20380**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**20380**		RunNo:	**27722**				
Prep Date:	**7/22/2015**	Analysis Date:	**7/24/2015**		SeqNo:	**833694**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	56	10	50.00	0	111	57.4	139			
Surr: DNOP	5.4		5.000		108	57.9	140			

Sample ID	**1507979-001AMS**	SampType:	**MS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**SHC1**	Batch ID:	**20380**		RunNo:	**27722**				
Prep Date:	**7/22/2015**	Analysis Date:	**7/24/2015**		SeqNo:	**833696**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	9.6	48.22	0	101	42.3	146			
Surr: DNOP	3.6		4.822		74.1	57.9	140			

Sample ID	**1507979-001AMSD**	SampType:	**MSD**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**SHC1**	Batch ID:	**20380**		RunNo:	**27722**				
Prep Date:	**7/22/2015**	Analysis Date:	**7/24/2015**		SeqNo:	**833697**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	9.6	47.98	0	89.4	42.3	146	12.6	28.9	
Surr: DNOP	3.1		4.798		64.0	57.9	140	0	0	

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#: **1507979**

30-Jul-15

Client: Souder, Miller & Associates

Project: Scrad Hawk

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#: **1507979**

30-Jul-15

Client: Souder, Miller & Associates

Project: Scrad Hawk

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.	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

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

Sample Log-In Check List

Client Name: SMA-CARLSBAD Work Order Number: 1507979 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 10:05:05 AM

Reviewed By: CS 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? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	11.4	Good	Yes			

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client: SMA

Mailing Address: 201 S Halagueno

Phone #: 575-689-5351

email or Fax#:

QA/QC Package: ☑ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ NELAP ☐ Other ☐ EDD (Type)

Turn-Around Time: ☑ Standard ☐ Rush

Project Name: Scrad Hawk

Project #:

Project Manager: Austin Weyant

Sampler: CM

On Ice: ☑ Yes ☐ No

Sample Temperature: 11.4

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1507979	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	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)
7/20/15	2:00	Soil	SHC 1	4oz	—	-001	✓		✓					✓				
7-20-15	2:00	Soil	SHC 2	4oz	—	-002	✓		✓					✓				
7/20/15	2:00		SHC 3	4oz	—	-003	✓		✓					✓				

Remarks:

Date:	Time:	Relinquished by:	Received by:	Date	Time
			Joe Ortiz	07/22/15	0915
Date:	Time:	Relinquished by:	Received by:	Date	Time

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

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 Scared Hawk State Com #1	Facility Type Well

Surface Owner State	Mineral Owner	API No. 30-015-35102

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	4	25S	28E	330	North	25	East	Eddy

Latitude 32.165635431036 **Longitude** -104.083854368812

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 30 bbls PW	Volume Recovered 5 bbls PW
Source of Release Flowline	Date and Hour of Occurrence 3/8/2015 11:00 am	Date and Hour of Discovery 3/8/2015 11:00 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher - NMOCD	
By Whom? Amanda Trujillo	Date and Hour 3/9/2015 5:49 pm	
Was a Watercourse Reached? ☐ Yes ☒ 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 the weld in a poly flowline failed to hold. Vacuum trucks were dispatched to recover any standing fluids.

Describe Area Affected and Cleanup Action Taken.*

The impacted area occurred within the pasture and road, approximately 150' x 90'. 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: A Trujillo

Printed Name: Amanda Trujillo

Title: Senior Environmental Coordinator

E-mail Address: atruiillowiconcho.com

Date: August 8,2015 Phone: 575-748-6940

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: Expiration Date:

Conditions of Approval: Attached ☐

* Attach Additional Sheets If Necessary

Appendix C:
API Amigo Summary

AMIGO

New File | Browse... | Save | Quick Start | Manual | AMIGO

Units

○ Metric (m) ◉ English (inches)

Climate

Arid Hot (NM/W.Texas, Hobbs)

Input for a Distant Well

Distance to Well	1000	[ft]
Source Width	50	[ft]
Longitudinal Dispersivity	10	[-]
Transverse Dispersivity	1	[-]

Groundwater Characterictics

Background Cl Concentration in Aquifer	cGW =	400	[mg/L]
Aquifer porosity	n =	0.3	[-]
Groundwater Table Depth	D =	10	[ft]
Aquifer Thickness	H =	9.84	[ft]
Slope of Water Table	i =	0.05	[-]
Hydraulic Conductivity	Ks =	3.28	[ft/d]
Groundwater Flux	Q =	1.61	[ft2/d]

Source Characteristics

Chloride Load: M = 12.23 [kg/m2]

Max. length of the spill in direction of GW flow: L = 178 [ft]

Plant Uptake Trigger

◉ 1% Input Concentration
○ 10% Input Concentration

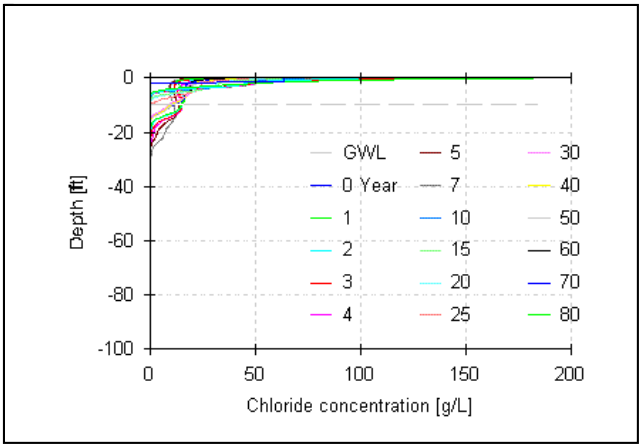
Soil Profiles

Surface Layer: Loam

Soil Profile: P7 - Sandy Clay (1) + Caliche (1) + Medium Sand (1)

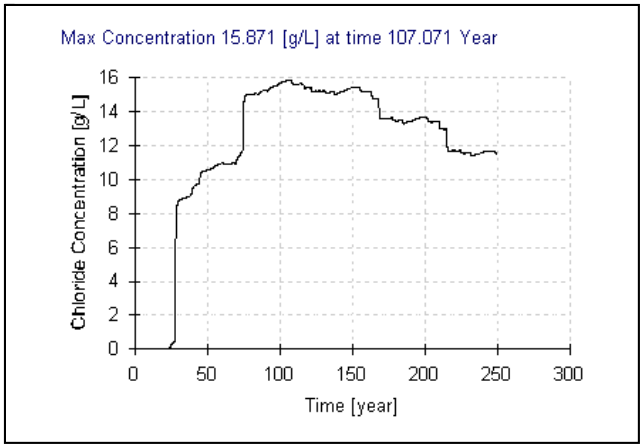
Output Charts

Quantity 1: Chloride concentration [g/L]



Reduce | Display All | ☑ Legend | Export | Export All

Quantity 2: Chloride Concentration [g/L]



Refresh | ☐ Auto-Refresh | Export | Export All