



**RECEIVED**  
By JKeys at 12:20 pm, Apr 13, 2016

**APPROVED**

April 11, 2016

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

SUBJECT: FINAL CLOSURE REPORT FOR INCIDENT 1RP-3952 PINTAIL 3 FEDERAL SWD #1 , 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 at the Pintail 3 Federal SWD #1 in Lea County, New Mexico. The purpose of the final closure report is to obtain approval from the New Mexico Oil Conservation Division (NMOCD) for remediation of the release discovered on October 3, 2015.

At the request of COG, SMA assessed, delineated and remediated soil affected by produced oil and produced water at Pintail 3 Federal SWD #1 well location. The release was initially reported to NMOCD by COG Operating on November 17, 2015 as a release from a lightning strike. 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	Pintail 3 Federal SWD #1				
Location	Incident Number	API Number	Section, Township, Range		
		1RP-3952	30-025-41208	SW/NE (Unit J)	Section 3
Estimated Date of Release	October 3, 2015				
Date Reported to NMOCD	November 17, 2015				
Reported by	Amanda Trujillo Davis, COG Operating LLC				
Land Owner	Federal (Bureau of Land Management)				
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Lightning Strike				
Released Material	Produced Water and Oil				
Released Volume	1380 bbls Produced Water and 120 bbls Crude Oil				
Recovered Volume	1380 bbls Produced Water and 120 bbls Crude Oil				
Net Release	0 bbls Produced Water and 0 bbls Crude Oil				
Nearest Waterway	Bobcat Draw is 0.28 miles to the south of the location.				
Depth to Groundwater	Estimated to be 150 feet				
Nearest Domestic Water Source	Greater than 1,000 feet				

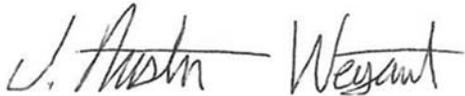


NMOCD Ranking	0
SMA Response Dates	Initial: 11/5/15 Mitigation Activities: 1/11/16
Subcontractors	TCS
Disposal Facility	R-360, Halfway Facility, NM
Estimated Yd <sup>3</sup> Contaminated Soil Excavated and Disposed	540

A copy of the C-141 Initial is located in Appendix B. For questions or comments pertaining to the release or the attached Work Plan, please feel free to contact either of us.

Submitted by:

SOUDER, MILLER & ASSOCIATES



Austin Weyant  
Project Scientist

Reviewed by:



Cynthia Gray, CHMM  
Senior Scientist



**SOIL REMEDIATION FINAL CLOSURE REPORT FOR  
INCIDENT 1RP-3952  
COG OPERATING LLC  
PINTAIL 3 FEDERAL SWD #1  
API# 30-025-41208  
SECTION 3, T26S R32E, 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

April 11, 2016  
SMA Reference  
5B23978 BG14



## Table of Contents

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

### Figures:

Figure 1: Vicinity Map

Figure 2: Site Map

### Tables:

Table 1: Release Information and Site Ranking

Table 2: Summary of Laboratory Analyses

Table 3: Summary of Field Screening Results

### Appendices:

Appendix A: Laboratory Analytical Reports

Appendix B: Form C141 Final

## **1.0 Introduction**

On behalf of COG Operating LLC (COG), SMA has prepared this report describing the assessment, initial delineation and mitigation of the crude oil and produced water release 1RP-3952 associated with the Pintail 3 Federal SWD #1 release site. The site is located in Section 3, T 26S, R 32 E NMPM, Lea County, New Mexico, on federal land administered by the Bureau of Land Management (BLM). Figure 1 illustrates the vicinity and location of the site.

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

The release site is located approximately 20 miles (> 1,000 feet) east of Pecos River, on federal BLM Land with an elevation of approximately 2,900 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 illustrates the location and 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 water supply well is located within a 1000 foot radius of the site. The physical location of this release is within the jurisdiction of NMOCD.

This release location has been assigned a NMOCD ranking of 0 for which "Guidelines for Remediation" require 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 shows site ranking rationale.

## **3.0 Assessment and Initial Results**

On January 11, 2016 after receiving 811 clearance, SMA personnel assessed the release area onsite with an auger, a Photo Ionization Detector (PID), and a mobile chlorides titration kit. The affected area was found to be 400 feet long and 70 feet wide. The release impact area was found to be on well pad. Delineation samples were taken to depths of three feet bgs on the pad. Sample locations are noted on Figure 2 Site Details and Sample Location Map. All samples were collected and processed according to NMOCD soil sampling procedures. The laboratory samples were sent under chain-of-custody protocols to Hall Environmental Analysis Laboratory for analysis for Benzene and Total BTEX using EPA Method 8021B, DRO and GRO by EPA Method 8015D, and total Chlorides using EPA Method 300.0.

## **4.0 Soil Remediation Summary**

SMA begin the excavation on January 11, 2016 of affected soils, with approval from area utilities owners via 811 and NMOCD. SMA personal continuously guide the excavation activities by collecting composite soil samples for field screening with a mobile titration unit (EPA 4500) and a calibrated PID. Delineation occurred to sufficiently map the plume of contamination by NMOCD standards. This delineation was used to determine excavation depths to affectively remove contaminated soil on the well pad. The pad was excavated to 1 foot bgs to remove contaminated soil. The excavation depths which are based on delineation was completed to achieve closure standards. Final samples were collected at the maximum depths of the excavation. Approximately 540 cubic yards of contaminated soil has been excavated. The contaminated soil was transported for proper disposal at New Mexico permitted R360 Red Halfway facility in New Mexico.

## 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 crude oil and produced water 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

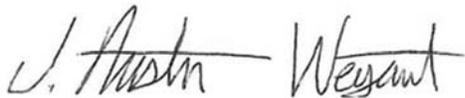
The scope of our services consisted of the performance of a preliminary spill assessment, verification of release stabilization, regulatory liaison, and preparation of a Remediation Work Plan and a Request for Closure. All work has been performed in accordance with generally accepted professional environmental 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:**

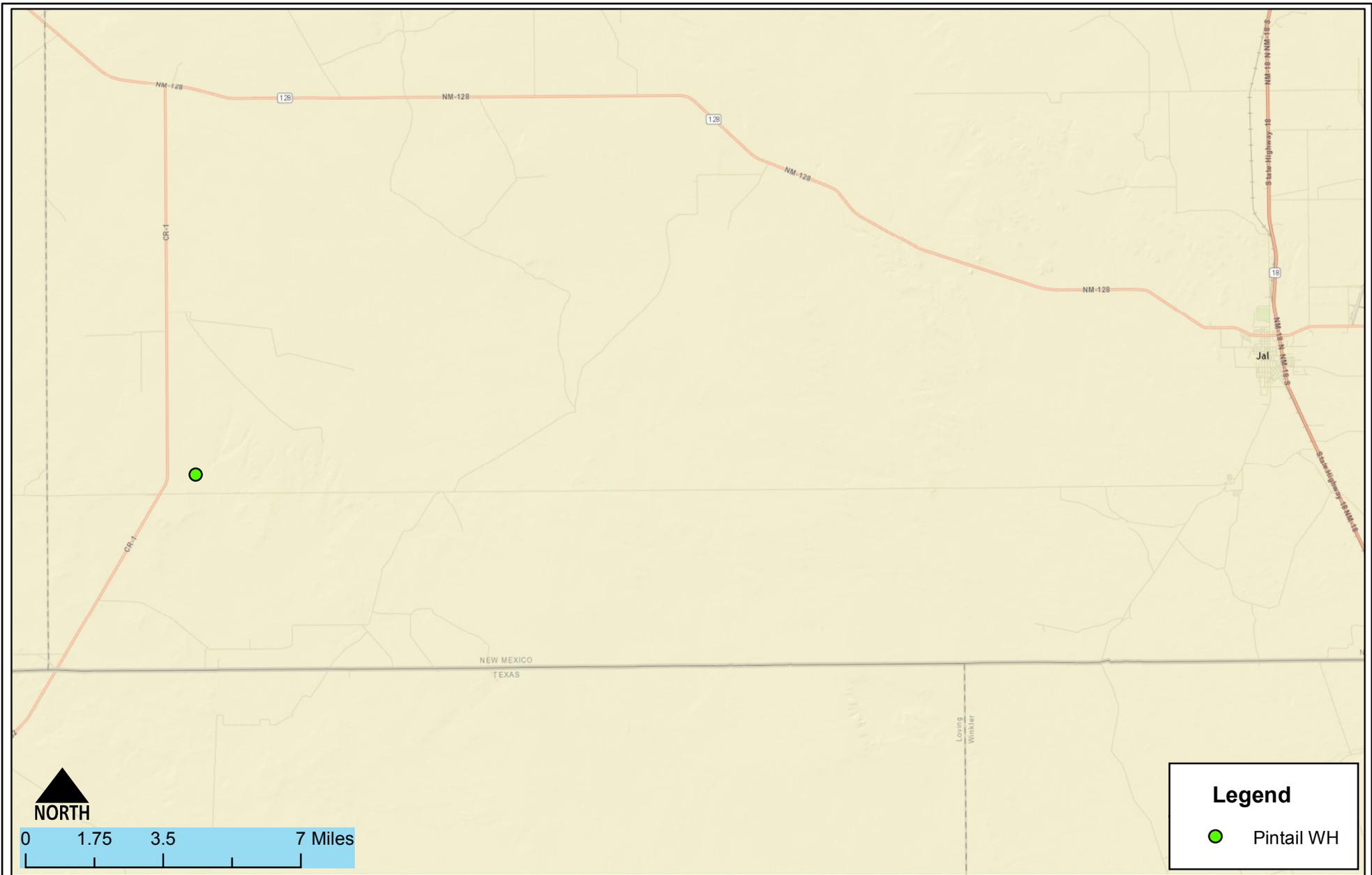
Table 1: Release Information and Site Ranking  
Table 2: Summary of Laboratory Analyses  
Table 3: Summary of Field Screening Results

**Appendices:**

Appendix A: Laboratory Analytical Reports  
Appendix B: Form C141 Final

# FIGURE 1

## VICINITY MAP



Vicinity Map  
 COG- Pintail 3 Federal SWD #1  
 Malaga, New Mexico

Figure 1

Date Saved: 9/8/2015  
 By: \_\_\_\_\_ Date: \_\_\_\_\_  
 By: \_\_\_\_\_ Date: \_\_\_\_\_  
 Copyright 2015 Souder, Miller & Associates - All Rights Reserved

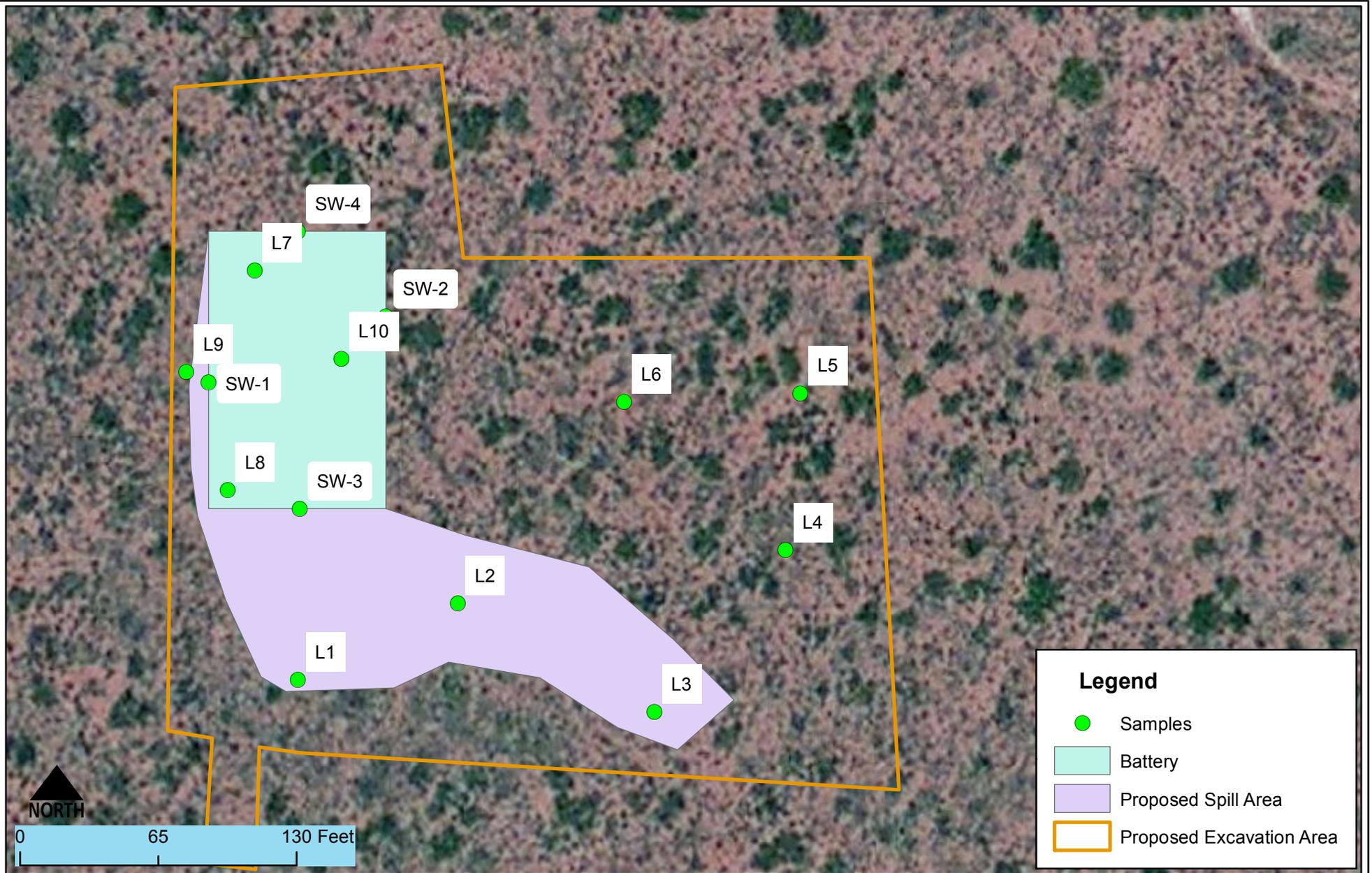
Revisions  
 Descr: \_\_\_\_\_  
 Descr: \_\_\_\_\_  
 Drawn Lucas Middleton  
 Checked \_\_\_\_\_  
 Approved \_\_\_\_\_



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- Pintail 3 Federal SWD #1  
 Malaga, New Mexico

Figure 2

Date Saved: 4/13/2016  
 By: \_\_\_\_\_ Date: \_\_\_\_\_ Descr: \_\_\_\_\_  
 By: \_\_\_\_\_ Date: \_\_\_\_\_ Descr: \_\_\_\_\_  
 Copyright 2015 Souder, Miller & Associates - All Rights Reserved

Drawn Lucas Middleton  
 Checked \_\_\_\_\_  
 Approved \_\_\_\_\_



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

# TABLE 1

## RELEASE INFORMATION AND SITE RANKING

Table 1: Release information and Site Ranking					
Name	Pintail 3 Federal SWD #1				
Location	Incident Number	API Number	Section, Township, Range		
	1RP-3952	30-025-41208	SW/NE (Unit J)	Section 3	T 26S, R 32E NMPM
Estimated Date of Release	October 3, 2015				
Date Reported to NMOCD	November 17, 2015				
Reported by	Amanda Trujillo Davis, COG Operating LLC				
Land Owner	Federal (Bureau of Land Management)				
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Lightning Strike				
Released Material	Produced Water and Oil				
Released Volume	1380 bbls Produced Water and 120 bbls Oil				
Recovered Volume	1380 bbls Produced Water and 120 bbls Oil				
Net Release	0 bbls Produced Water and 0 bbls Oil				
Nearest Waterway	Bobcat Draw is 0.28 miles to the south of the location.				
Depth to Groundwater	Estimated to be 150 feet				
Nearest Domestic Water Source	Greater than 1,000 feet				
NMOCD Ranking	0				
SMA Response Dates	Initial: 11/5/15 Mitigation Activities: 1/11/16				
Subcontractors	TCS				
Disposal Facility	Lea Land, LLC				
Estimated Yd <sup>3</sup> Contaminated Soil Excavated and Disposed	540				

# TABLE 2

## SUMMARY OF LABORATORY ANALYSES

**Table 2: Summary of Laboratory Analyses**

Analytical Report-	Sample Number on Figure 2 Map	Sample Date	Depth	BTEX	Benzene	GRO	DRO	Cl-
1601699 1601733				ppm	mg/Kg	mg/Kg	mg/Kg	mg/Kg
1601699-001	SW-1	1/13/2016	1'	N/A	N/A	N/A	N/A	600
1601699-002	SW2	1/13/2016	1'	N/A	N/A	N/A	N/A	2400
1601699-003	SW3	1/13/2016	3'	N/A	N/A	N/A	N/A	630
1601699-004	SW4	1/13/2016	3'	N/A	N/A	N/A	N/A	360
1601733-001	L1-1	1/11/2016	1'	N/A	N/A	N/A	N/A	2300
1601733-002	L1-2	1/1/2016	2'	N/A	N/A	N/A	N/A	290
1601733-003	L1-3	12/22/2015	3'	BDL	BDL	BDL	BDL	110
1601733-004	L2-1	12/12/2015	1'	N/A	N/A	N/A	N/A	640
1601733-005	L2-2	12/2/2015	2'	N/A	N/A	N/A	N/A	49
1601733-006	L3-0.5	11/22/2015	.5'	N/A	N/A	N/A	N/A	66
1601733-007	L3-1	11/12/2015	1'	N/A	N/A	N/A	N/A	1100
1601733-008	L3-2	11/2/2015	2'	BDL	BDL	BDL	BDL	760
1601733-009	L3-3	10/23/2015	3'	N/A	N/A	N/A	N/A	760
1601733-010	L4-2	10/13/2015	2'	N/A	N/A	N/A	N/A	1700
1601733-011	L5-1	10/3/2015	1'	N/A	N/A	N/A	N/A	560
1601733-012	L4-1	9/23/2015	1'	N/A	N/A	N/A	N/A	1400
1601733-013	L5-2	9/13/2015	2'	N/A	N/A	N/A	N/A	54

1601733-014	L6-1	9/3/2015	1	N/A	N/A	N/A	N/A	1300
1601733-015	L6-2	8/24/2015	2'	N/A	N/A	N/A	N/A	2400
1601733-016	L7-1	8/14/2015	1'	N/A	N/A	N/A	N/A	8000
1601733-017	L7-2	8/4/2015	2'	N/A	N/A	BDL	BDL	1800
1601733-018	L8-1	7/25/2015	1'	N/A	N/A	N/A	N/A	5900
1601733-019	L9-1	7/15/2015	1'	N/A	N/A	N/A	N/A	8000
1601733-020	L10-1	7/5/2015	1'	N/A	N/A	N/A	N/A	110
1601733-021	L10-2	6/25/2015	2'	N/A	N/A	N/A	N/A	170

# TABLE 3

## SUMMARY OF FIELD SCREENING RESULTS

Table 3: Summary of Field Screening Results

Pintail 3 Federal SWD #1  
 Produced Oil and Produce Water  
 1/11/15

<b>FIELD SCREENING RESULTS SUMMARY</b>					
Date	Time	Field Screening Reference	Sample Depth (Feet BGS)	Chlorides Results	Lab Sample Collected Y/N
1/11/2016	8:00	L1-0.5	0.5	1047	y
1/11/2016	8:00	L1-1	1	1004	y
1/11/2016	8:00	L1-2	2	373	y
1/11/2016	8:00	L1-3	3	120	y
1/11/2016	8:00	l2-0.5	0.5	109	y
1/11/2016	8:00	L2-1	1	502	y
1/11/2016	8:00	L2-2	2	205	y
1/11/2016	8:00	L3-0.5	0.5	--	y
1/11/2016	8:00	L3-1	1	--	y
1/11/2016	8:00	L3-2	2	774	y
1/11/2016	8:00	L3-3	3	--	y
1/11/2016	8:00	L4-2	2	1190	y
1/11/2016	8:00	L5-1	1	--	y
1/11/2016	8:00	L5-2	2	180	y
1/11/2016	8:00	L6-1	1	--	y
1/11/2016	8:00	L6-2	2	2781	y
1/11/2016	8:00	L7-1	1	--	y
1/11/2016	8:00	L7-2	2	1864	y
1/11/2016	8:00	L8-1	1	--	y
1/11/2016	8:00	L9-1	1	--	y
1/11/2016	8:00	L10-1	1	120	y
1/11/2016	8:00	L10-2	2	15	y
1/13/2015	10:00	SW1	1'	215	y
1/13/2015	10:00	SW2	1'	1200	y
1/13/2015	10:00	SW3	1'	387	y



# APPENDIX A

## LABORATORY ANALYTICAL REPORTS



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

January 29, 2016

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

RE: Pintail 3 SWD #1

OrderNo.: 1601733

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 21 sample(s) on 1/20/2016 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](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601733

Date Reported: 1/29/2016

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L1-1

**Project:** Pintail 3 SWD #1

**Collection Date:** 1/11/2016 8:00:00 AM

**Lab ID:** 1601733-001

**Matrix:** SOIL

**Received Date:** 1/20/2016 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	2300	75		mg/Kg	50	1/26/2016 2:34:34 AM	23358

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601733

Date Reported: 1/29/2016

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L1-2

**Project:** Pintail 3 SWD #1

**Collection Date:** 1/11/2016 8:00:00 AM

**Lab ID:** 1601733-002

**Matrix:** SOIL

**Received Date:** 1/20/2016 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	290	30		mg/Kg	20	1/22/2016 8:24:43 PM	23358

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601733

Date Reported: 1/29/2016

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L1-3

**Project:** Pintail 3 SWD #1

**Collection Date:** 1/11/2016 8:00:00 AM

**Lab ID:** 1601733-003

**Matrix:** SOIL

**Received Date:** 1/20/2016 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	110	30		mg/Kg	20	1/22/2016 8:37:08 PM	23358
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/22/2016 9:52:46 AM	23338
Surr: DNOP	82.5	70-130		%REC	1	1/22/2016 9:52:46 AM	23338
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/21/2016 4:44:44 PM	23316
Surr: BFB	90.2	66.2-112		%REC	1	1/21/2016 4:44:44 PM	23316
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.095		mg/Kg	1	1/21/2016 4:44:44 PM	23316
Benzene	ND	0.048		mg/Kg	1	1/21/2016 4:44:44 PM	23316
Toluene	ND	0.048		mg/Kg	1	1/21/2016 4:44:44 PM	23316
Ethylbenzene	ND	0.048		mg/Kg	1	1/21/2016 4:44:44 PM	23316
Xylenes, Total	ND	0.095		mg/Kg	1	1/21/2016 4:44:44 PM	23316
Surr: 4-Bromofluorobenzene	107	80-120		%REC	1	1/21/2016 4:44:44 PM	23316

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601733

Date Reported: 1/29/2016

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L2-1

**Project:** Pintail 3 SWD #1

**Collection Date:** 1/11/2016 8:00:00 AM

**Lab ID:** 1601733-004

**Matrix:** SOIL

**Received Date:** 1/20/2016 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	640	30		mg/Kg	20	1/22/2016 8:49:32 PM	23358

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601733

Date Reported: 1/29/2016

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L2-2

**Project:** Pintail 3 SWD #1

**Collection Date:** 1/11/2016 8:00:00 AM

**Lab ID:** 1601733-005

**Matrix:** SOIL

**Received Date:** 1/20/2016 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: LGT
Chloride	49	30		mg/Kg	20	1/22/2016 9:01:57 PM	23358

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601733

Date Reported: 1/29/2016

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L3-0.5

**Project:** Pintail 3 SWD #1

**Collection Date:** 1/11/2016 8:00:00 AM

**Lab ID:** 1601733-006

**Matrix:** SOIL

**Received Date:** 1/20/2016 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	66	30		mg/Kg	20	1/22/2016 9:14:21 PM	23358

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601733

Date Reported: 1/29/2016

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L3-1

**Project:** Pintail 3 SWD #1

**Collection Date:** 1/11/2016 8:00:00 AM

**Lab ID:** 1601733-007

**Matrix:** SOIL

**Received Date:** 1/20/2016 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	1100	30		mg/Kg	20	1/22/2016 9:26:46 PM	23358

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601733

Date Reported: 1/29/2016

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L3-2

**Project:** Pintail 3 SWD #1

**Collection Date:** 1/11/2016 8:00:00 AM

**Lab ID:** 1601733-008

**Matrix:** SOIL

**Received Date:** 1/20/2016 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	760	30		mg/Kg	20	1/22/2016 9:39:10 PM	23358
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	1/22/2016 10:57:04 AM	23338
Surr: DNOP	74.9	70-130		%REC	1	1/22/2016 10:57:04 AM	23338
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/21/2016 5:55:24 PM	23316
Surr: BFB	90.4	66.2-112		%REC	1	1/21/2016 5:55:24 PM	23316
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.096		mg/Kg	1	1/21/2016 5:55:24 PM	23316
Benzene	ND	0.048		mg/Kg	1	1/21/2016 5:55:24 PM	23316
Toluene	ND	0.048		mg/Kg	1	1/21/2016 5:55:24 PM	23316
Ethylbenzene	ND	0.048		mg/Kg	1	1/21/2016 5:55:24 PM	23316
Xylenes, Total	ND	0.096		mg/Kg	1	1/21/2016 5:55:24 PM	23316
Surr: 4-Bromofluorobenzene	107	80-120		%REC	1	1/21/2016 5:55:24 PM	23316

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601733

Date Reported: 1/29/2016

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L3-3

**Project:** Pintail 3 SWD #1

**Collection Date:** 1/11/2016 8:00:00 AM

**Lab ID:** 1601733-009

**Matrix:** SOIL

**Received Date:** 1/20/2016 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	760	30		mg/Kg	20	1/22/2016 10:16:23 PM	23358

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601733

Date Reported: 1/29/2016

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L4-2

**Project:** Pintail 3 SWD #1

**Collection Date:** 1/11/2016 8:00:00 AM

**Lab ID:** 1601733-010

**Matrix:** SOIL

**Received Date:** 1/20/2016 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	1700	75		mg/Kg	50	1/26/2016 2:46:58 AM	23358

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601733

Date Reported: 1/29/2016

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L5-1

**Project:** Pintail 3 SWD #1

**Collection Date:** 1/11/2016 8:00:00 AM

**Lab ID:** 1601733-011

**Matrix:** SOIL

**Received Date:** 1/20/2016 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	560	30		mg/Kg	20	1/22/2016 10:41:12 PM	23358

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601733

Date Reported: 1/29/2016

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L4-1

**Project:** Pintail 3 SWD #1

**Collection Date:** 1/11/2016 8:00:00 AM

**Lab ID:** 1601733-012

**Matrix:** SOIL

**Received Date:** 1/20/2016 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	1400	75		mg/Kg	50	1/26/2016 2:59:22 AM	23358

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601733

Date Reported: 1/29/2016

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L5-2

**Project:** Pintail 3 SWD #1

**Collection Date:** 1/11/2016 8:00:00 AM

**Lab ID:** 1601733-013

**Matrix:** SOIL

**Received Date:** 1/20/2016 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	54	30		mg/Kg	20	1/22/2016 11:06:02 PM	23358

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601733

Date Reported: 1/29/2016

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L6-1

**Project:** Pintail 3 SWD #1

**Collection Date:** 1/11/2016 8:00:00 AM

**Lab ID:** 1601733-014

**Matrix:** SOIL

**Received Date:** 1/20/2016 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: LGT
Chloride	1300	75		mg/Kg	50	1/26/2016 3:11:47 AM	23358

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601733

Date Reported: 1/29/2016

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L6-2

**Project:** Pintail 3 SWD #1

**Collection Date:** 1/11/2016 8:00:00 AM

**Lab ID:** 1601733-015

**Matrix:** SOIL

**Received Date:** 1/20/2016 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	2400	150		mg/Kg	100	1/26/2016 6:09:40 PM	23383

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601733

Date Reported: 1/29/2016

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L7-1

**Project:** Pintail 3 SWD #1

**Collection Date:** 1/11/2016 8:00:00 AM

**Lab ID:** 1601733-016

**Matrix:** SOIL

**Received Date:** 1/20/2016 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	8000	300		mg/Kg	200	1/26/2016 6:22:04 PM	23383

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601733

Date Reported: 1/29/2016

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L7-2

**Project:** Pintail 3 SWD #1

**Collection Date:** 1/11/2016 8:00:00 AM

**Lab ID:** 1601733-017

**Matrix:** SOIL

**Received Date:** 1/20/2016 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	1800	150		mg/Kg	100	1/26/2016 6:34:29 PM	23383
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/25/2016 10:49:30 AM	23352
Surr: DNOP	85.9	70-130		%REC	1	1/25/2016 10:49:30 AM	23352
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/23/2016 6:32:11 PM	23349
Surr: BFB	91.1	66.2-112		%REC	1	1/23/2016 6:32:11 PM	23349

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601733

Date Reported: 1/29/2016

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L8-1

**Project:** Pintail 3 SWD #1

**Collection Date:** 1/11/2016 8:00:00 AM

**Lab ID:** 1601733-018

**Matrix:** SOIL

**Received Date:** 1/20/2016 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	5900	300		mg/Kg	200	1/26/2016 6:46:53 PM	23383

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601733

Date Reported: 1/29/2016

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L9-1

**Project:** Pintail 3 SWD #1

**Collection Date:** 1/11/2016 8:00:00 AM

**Lab ID:** 1601733-019

**Matrix:** SOIL

**Received Date:** 1/20/2016 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	8000	300		mg/Kg	200	1/26/2016 6:59:17 PM	23383

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601733

Date Reported: 1/29/2016

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L10-1

**Project:** Pintail 3 SWD #1

**Collection Date:** 1/11/2016 8:00:00 AM

**Lab ID:** 1601733-020

**Matrix:** SOIL

**Received Date:** 1/20/2016 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	110	30		mg/Kg	20	1/25/2016 10:01:34 PM	23383

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1601733

Date Reported: 1/29/2016

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L10-2

**Project:** Pintail 3 SWD #1

**Collection Date:** 1/11/2016 8:00:00 AM

**Lab ID:** 1601733-021

**Matrix:** SOIL

**Received Date:** 1/20/2016 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	170	30		mg/Kg	20	1/25/2016 10:13:59 PM	23383

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1601733

29-Jan-16

**Client:** Souder, Miller & Associates

**Project:** Pintail 3 SWD #1

Sample ID	<b>MB-23358</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>23358</b>	RunNo:	<b>31638</b>					
Prep Date:	<b>1/22/2016</b>	Analysis Date:	<b>1/22/2016</b>	SeqNo:	<b>968148</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	<b>LCS-23358</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>23358</b>	RunNo:	<b>31638</b>					
Prep Date:	<b>1/22/2016</b>	Analysis Date:	<b>1/22/2016</b>	SeqNo:	<b>968149</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.5	90	110			

Sample ID	<b>MB-23383</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>23383</b>	RunNo:	<b>31665</b>					
Prep Date:	<b>1/25/2016</b>	Analysis Date:	<b>1/25/2016</b>	SeqNo:	<b>969063</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	<b>LCS-23383</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>23383</b>	RunNo:	<b>31665</b>					
Prep Date:	<b>1/25/2016</b>	Analysis Date:	<b>1/25/2016</b>	SeqNo:	<b>969064</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.2	90	110			

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1601733

29-Jan-16

**Client:** Souder, Miller & Associates

**Project:** Pintail 3 SWD #1

Sample ID <b>MB-23338</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>23338</b>		RunNo: <b>31617</b>							
Prep Date: <b>1/21/2016</b>	Analysis Date: <b>1/22/2016</b>		SeqNo: <b>967619</b>		Units: <b>mg/Kg</b>					
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	8.2		10.00		81.8	70	130			

Sample ID <b>1601733-003AMS</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>L1-3</b>	Batch ID: <b>23338</b>		RunNo: <b>31617</b>							
Prep Date: <b>1/21/2016</b>	Analysis Date: <b>1/22/2016</b>		SeqNo: <b>967635</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	39	10	50.15	0	78.2	31.2	162			
Surr: DNOP	3.9		5.015		77.1	70	130			

Sample ID <b>1601733-003AMSD</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>L1-3</b>	Batch ID: <b>23338</b>		RunNo: <b>31617</b>							
Prep Date: <b>1/21/2016</b>	Analysis Date: <b>1/22/2016</b>		SeqNo: <b>967843</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	39	10	50.40	0	77.8	31.2	162	0.0181	31.7	
Surr: DNOP	3.8		5.040		76.1	70	130	0	0	

Sample ID <b>LCS-23338</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>23338</b>		RunNo: <b>31617</b>							
Prep Date: <b>1/21/2016</b>	Analysis Date: <b>1/22/2016</b>		SeqNo: <b>967848</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	39	10	50.00	0	78.5	65.8	136			
Surr: DNOP	3.6		5.000		71.8	70	130			

Sample ID <b>MB-23352</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>23352</b>		RunNo: <b>31642</b>							
Prep Date: <b>1/22/2016</b>	Analysis Date: <b>1/25/2016</b>		SeqNo: <b>968284</b>		Units: <b>mg/Kg</b>					
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	7.8		10.00		77.9	70	130			

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1601733

29-Jan-16

**Client:** Souder, Miller & Associates

**Project:** Pintail 3 SWD #1

Sample ID	<b>1601733-017AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>L7-2</b>	Batch ID:	<b>23352</b>	RunNo:	<b>31643</b>					
Prep Date:	<b>1/22/2016</b>	Analysis Date:	<b>1/25/2016</b>	SeqNo:	<b>968380</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	36	9.9	49.50	0	73.3	31.2	162			
Surr: DNOP	3.6		4.950		73.1	70	130			

Sample ID	<b>1601733-017AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>L7-2</b>	Batch ID:	<b>23352</b>	RunNo:	<b>31643</b>					
Prep Date:	<b>1/22/2016</b>	Analysis Date:	<b>1/25/2016</b>	SeqNo:	<b>968381</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	9.9	49.60	0	93.9	31.2	162	24.9	31.7	
Surr: DNOP	4.2		4.960		84.9	70	130	0	0	

Sample ID	<b>LCS-23352</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>23352</b>	RunNo:	<b>31643</b>					
Prep Date:	<b>1/22/2016</b>	Analysis Date:	<b>1/25/2016</b>	SeqNo:	<b>968387</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.00	0	83.5	65.8	136			
Surr: DNOP	3.7		5.000		73.5	70	130			

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1601733

29-Jan-16

**Client:** Souder, Miller & Associates

**Project:** Pintail 3 SWD #1

Sample ID <b>MB-23316</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>23316</b>		RunNo: <b>31590</b>							
Prep Date: <b>1/20/2016</b>	Analysis Date: <b>1/21/2016</b>		SeqNo: <b>967276</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	910		1000		90.5	66.2	112			

Sample ID <b>LCS-23316</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>23316</b>		RunNo: <b>31590</b>							
Prep Date: <b>1/20/2016</b>	Analysis Date: <b>1/21/2016</b>		SeqNo: <b>967277</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	101	79.6	122			
Surr: BFB	1000		1000		101	66.2	112			

Sample ID <b>MB-23349</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>23349</b>		RunNo: <b>31633</b>							
Prep Date: <b>1/22/2016</b>	Analysis Date: <b>1/23/2016</b>		SeqNo: <b>967943</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	850		1000		84.6	66.2	112			

Sample ID <b>LCS-23349</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>23349</b>		RunNo: <b>31633</b>							
Prep Date: <b>1/22/2016</b>	Analysis Date: <b>1/23/2016</b>		SeqNo: <b>967944</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	93.5	79.6	122			
Surr: BFB	960		1000		95.7	66.2	112			

Sample ID <b>1601733-017AMS</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>L7-2</b>	Batch ID: <b>23349</b>		RunNo: <b>31633</b>							
Prep Date: <b>1/22/2016</b>	Analysis Date: <b>1/23/2016</b>		SeqNo: <b>967946</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.8	24.18	0	108	59.3	143			
Surr: BFB	960		967.1		99.5	66.2	112			

Sample ID <b>1601733-017AMSD</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>L7-2</b>	Batch ID: <b>23349</b>		RunNo: <b>31633</b>							
Prep Date: <b>1/22/2016</b>	Analysis Date: <b>1/23/2016</b>		SeqNo: <b>967947</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.8	24.18	0	108	59.3	143			
Surr: BFB	960		967.1		99.5	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#: 1601733

29-Jan-16

**Client:** Souder, Miller & Associates

**Project:** Pintail 3 SWD #1

Sample ID	1601733-017AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	L7-2	Batch ID:	23349	RunNo:	31633					
Prep Date:	1/22/2016	Analysis Date:	1/23/2016	SeqNo:	967947	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.8	24.13	0	108	59.3	143	0.859	20	
Surr: BFB	980		965.3		101	66.2	112	0	0	

**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#: 1601733

29-Jan-16

**Client:** Souder, Miller & Associates

**Project:** Pintail 3 SWD #1

Sample ID <b>MB-23316</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>23316</b>		RunNo: <b>31590</b>							
Prep Date: <b>1/20/2016</b>	Analysis Date: <b>1/21/2016</b>		SeqNo: <b>967296</b>		Units: <b>mg/Kg</b>					
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	1.1		1.000		107	80	120			

Sample ID <b>LCS-23316</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>23316</b>		RunNo: <b>31590</b>							
Prep Date: <b>1/20/2016</b>	Analysis Date: <b>1/21/2016</b>		SeqNo: <b>967298</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.72	0.10	1.000	0	71.5	67.2	121			
Benzene	0.90	0.050	1.000	0	90.3	80	120			
Toluene	0.93	0.050	1.000	0	93.5	80	120			
Ethylbenzene	1.0	0.050	1.000	0	100	80	120			
Xylenes, Total	3.0	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		111	80	120			

Sample ID <b>1601733-003AMS</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>L1-3</b>	Batch ID: <b>23316</b>		RunNo: <b>31590</b>							
Prep Date: <b>1/20/2016</b>	Analysis Date: <b>1/21/2016</b>		SeqNo: <b>967300</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.97	0.096	0.9560	0	101	69.2	128			
Benzene	0.98	0.048	0.9560	0	103	71.5	122			
Toluene	1.0	0.048	0.9560	0	109	71.2	123			
Ethylbenzene	1.1	0.048	0.9560	0	114	75.2	130			
Xylenes, Total	3.3	0.096	2.868	0	117	72.4	131			
Surr: 4-Bromofluorobenzene	1.1		0.9560		116	80	120			

Sample ID <b>1601733-003AMSD</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>L1-3</b>	Batch ID: <b>23316</b>		RunNo: <b>31590</b>							
Prep Date: <b>1/20/2016</b>	Analysis Date: <b>1/21/2016</b>		SeqNo: <b>967301</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	1.1	0.095	0.9524	0	111	69.2	128	8.85	20	
Benzene	0.94	0.048	0.9524	0	98.5	71.5	122	4.49	20	
Toluene	0.89	0.048	0.9524	0	93.3	71.2	123	15.7	20	
Ethylbenzene	0.94	0.048	0.9524	0	98.3	75.2	130	15.0	20	

**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#: 1601733

29-Jan-16

**Client:** Souder, Miller & Associates

**Project:** Pintail 3 SWD #1

Sample ID	<b>1601733-003AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>L1-3</b>	Batch ID:	<b>23316</b>	RunNo:	<b>31590</b>					
Prep Date:	<b>1/20/2016</b>	Analysis Date:	<b>1/21/2016</b>	SeqNo:	<b>967301</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	2.9	0.095	2.857	0	100	72.4	131	15.3	20	
Surr: 4-Bromofluorobenzene	1.0		0.9524		107	80	120	0	0	

Sample ID	<b>MB-23349</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>23349</b>	RunNo:	<b>31633</b>					
Prep Date:	<b>1/22/2016</b>	Analysis Date:	<b>1/23/2016</b>	SeqNo:	<b>967981</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.95		1.000		95.2	80	120			

Sample ID	<b>LCS-23349</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>23349</b>	RunNo:	<b>31633</b>					
Prep Date:	<b>1/22/2016</b>	Analysis Date:	<b>1/23/2016</b>	SeqNo:	<b>967982</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

**Qualifiers:**

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

# Sample Log-In Check List

Client Name: SMA-CARLSBAD

Work Order Number: 1601733

RcptNo: 1

Received by/date:

*[Signature]* 01/20/16

Logged By:

Lindsay Mangin

1/20/2016 9:20:00 AM

*[Signature]*

Completed By:

Lindsay Mangin

1/20/2016 2:57:17 PM

*[Signature]*

Reviewed By:

*[Signature]* 01/20/16

### Chain of Custody

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

### Log In

4. Was an attempt made to cool the samples? Yes  No  NA
5. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
6. Sample(s) in proper container(s)? Yes  No
7. Sufficient sample volume for indicated test(s)? Yes  No
8. Are samples (except VOA and ONG) properly preserved? Yes  No
9. Was preservative added to bottles? Yes  No  NA
10. VOA vials have zero headspace? Yes  No  No VOA Vials
11. Were any sample containers received broken? Yes  No
12. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes  No
13. Are matrices correctly identified on Chain of Custody? Yes  No
14. Is it clear what analyses were requested? Yes  No
15. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes  No

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

### Special Handling (if applicable)

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

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

17. Additional remarks:

### 18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.4	Good	Yes			



# Chain-of-Custody Record

Ident: SMA  Standard  Rush

Project Name: Pantal 3 Sub #1

Mailing Address: 201 S Helwegwood

Phone #: 575-499-9244

Mail or Fax#: Lucas, middleb@sonderman.com

A/QC Package:  Level 4 (Full Validation)  Other

Standard  NELAP  Other

Accreditation: AN

On Ice:  Yes  No

Sample Temperature: 5.4

Project Manager: Anstis Weyard

Sampler: AN

Container Type and #

Preservative Type

HEAL No.

Date

Time

Matrix

Sample Request ID

11-16

800

soil

L5-2

L6-1

L6-2

L7-1

L7-2

L4-1

L9-1

L10-1

L10-2

Turn-Around Time:

Standard  Rush

Project Name:

Pantal 3 Sub #1

Project #:

Project Manager:

Anstis Weyard

Sampler:

AN

On Ice:

Yes  No

Sample Temperature:

5.4

Container Type and #

Preservative Type

HEAL No.

1601733

-013

-014

-015

-016

-017

-018

-019

-020

-021

Received by:

[Signature]

Date

01/20/16

Time

0920

Received by:

[Signature]

Date

01/20/16

Time

0920

Remarks:

The bubble on jar the date is off

## Analysis Request

BTEX + MTBE + TMB's (8021)	
BTEX + MTBE + TPH (Gas only)	
TPH 8015B (GRO / DRO / MRO)	
TPH (Method 418.1)	
EDB (Method 504.1)	
PAH's (8310 or 8270 SIMS)	
RCA 8 Metals	
Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	X
8081 Pesticides / 8082 PCBs	
8260B (VOA)	
8270 (Semi-VOA)	
Air Bubbles (Y or N)	

# HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel: 505-345-3975 Fax 505-345-4107

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 noted on the analytical report.



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

January 28, 2016

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

RE: Pintal

OrderNo.: 1601699

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 4 sample(s) on 1/20/2016 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](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

Analytical Report

Lab Order: 1601699

Date Reported: 1/28/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: Pinal

Lab Order: 1601699

Lab ID: 1601699-001 Collection Date: 1/13/2016 10:00:00 AM

Client Sample ID: SW-1 Matrix: SOIL

Analyses Result RL Qual Units DF Date Analyzed Batch ID

EPA METHOD 300.0: ANIONS

Analyst: LGT

Chloride 600 30 mg/Kg 20 1/22/2016 6:08:14 PM 23358

Lab ID: 1601699-002 Collection Date: 1/13/2016 10:00:00 AM

Client Sample ID: SW-2 Matrix: SOIL

Analyses Result RL Qual Units DF Date Analyzed Batch ID

EPA METHOD 300.0: ANIONS

Analyst: LGT

Chloride 2400 75 mg/Kg 50 1/26/2016 2:22:09 AM 23358

Lab ID: 1601699-003 Collection Date: 1/13/2016 10:00:00 AM

Client Sample ID: SW-3 Matrix: SOIL

Analyses Result RL Qual Units DF Date Analyzed Batch ID

EPA METHOD 300.0: ANIONS

Analyst: LGT

Chloride 630 30 mg/Kg 20 1/22/2016 6:57:52 PM 23358

Lab ID: 1601699-004 Collection Date: 1/13/2016 10:00:00 AM

Client Sample ID: SW-4 Matrix: SOIL

Analyses Result RL Qual Units DF Date Analyzed Batch ID

EPA METHOD 300.0: ANIONS

Analyst: LGT

Chloride 360 30 mg/Kg 20 1/22/2016 7:10:17 PM 23358

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#: 1601699

28-Jan-16

**Client:** Souder, Miller & Associates

**Project:** Pintal

Sample ID	<b>MB-23358</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>23358</b>	RunNo:	<b>31638</b>					
Prep Date:	<b>1/22/2016</b>	Analysis Date:	<b>1/22/2016</b>	SeqNo:	<b>968148</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	<b>LCS-23358</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>23358</b>	RunNo:	<b>31638</b>					
Prep Date:	<b>1/22/2016</b>	Analysis Date:	<b>1/22/2016</b>	SeqNo:	<b>968149</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.5	90	110			

**Qualifiers:**

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

**Sample Log-In Check List**

Client Name: SMA-CARLSBAD

Work Order Number: 1601699

RcptNo: 1

Received by/date: JA 01/20/16

Logged By: Lindsay Mangin 1/20/2016 9:20:00 AM *[Signature]*

Completed By: Lindsay Mangin 1/20/2016 10:29:53 AM *[Signature]*

Reviewed By: JO 01/20/16

**Chain of Custody**

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

**Log In**

- 4. Was an attempt made to cool the samples? Yes  No  NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
- 6. Sample(s) in proper container(s)? Yes  No
- 7. Sufficient sample volume for indicated test(s)? Yes  No
- 8. Are samples (except VOA and ONG) properly preserved? Yes  No
- 9. Was preservative added to bottles? Yes  No  NA
- 10. VOA vials have zero headspace? Yes  No  No VOA Vials
- 11. Were any sample containers received broken? Yes  No
- 12. Does paperwork match bottle labels? 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	5.4	Good	Yes			

# Chain-of-Custody Record

Client: SMA

Mailing Address: CARISBAD

Phone #:

Mail or Fax#:

A/QC Package:

Standard  Level 4 (Full Validation)

Accreditation

NELAP  Other

EDD (Type)

Turn-Around Time:

Standard  Rush

Project Name:

Ph tal 1

Project #:

Project Manager:

Ansh Woyas

Sampler:

On Ice:  Yes  No

Sample Temperature: 5.4

Date

Sample Request ID

Container Type and #

Preservative Type

HEAL No.

13-16 1000

SW-1

SW-1

6 6

SW-2

SW-2

6 6

SW-3

SW-3

6 6

SW-4

SW-4

1601699  
-001  
-002  
-003  
-004

Date:

Relinquished by:

Received by:

Date

Remarks:

[Signature] 01/29/00 0920

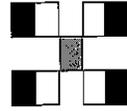
Date:

Relinquished by:

Received by:

Date

Remarks:



# 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 + TMBs (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
							X				
							X				
							X				
							X				

# APPENDIX B

## FORM C141 FINAL

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

State of New Mexico  
Energy Minerals and Natural Resources

Form C-141  
Revised August 8, 2011

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

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

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company: COG Operating LLC	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No. 432-230-0077
Facility Name: Pintail 3 Federal SWD #1	Facility Type: Battery

Surface Owner: Federal	Mineral Owner:	API No. 30-025-41208
------------------------	----------------	----------------------

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	3	26S	32E	2500	South	1400	East	Lea

Latitude 32.0719317402384 Longitude -103.658744163143

**NATURE OF RELEASE**

Type of Release: Oil & Produced Water	Volume of Release: 120 bbls Oil ; 1380 PW	Volume Recovered: 120 bbls Oil ; 1380 PW
Source of Release: Lightning Strike	Date and Hour of Occurrence: 10/3/2015 11:30 pm	Date and Hour of Discovery: 10/3/2015 11:30 pm
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 / Mr. Amos – BLM	
By Whom? Lupe Carrasco	Date and Hour: Sun 10/4/2015 7:58 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.\*

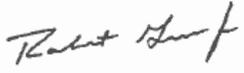
Describe Cause of Problem and Remedial Action Taken.\*

This release was caused by a lightning strike. The facility was a total loss. Once the fire was extinguished vacuum trucks were dispatched to recover all standing fluid and dispose of at an NMOCD approved facility.

Describe Area Affected and Cleanup Action Taken.\*

This release remained inside the containment area. 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: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Robert Grubbs Jr.	Approved by Environmental Specialist:	
Title: Senior Environmental Coordinator	Approval Date:	Expiration Date:
E-mail Address: <a href="mailto:rgrubbs@concho.com">rgrubbs@concho.com</a>	Conditions of Approval:	
Date: March 11, 2016 Phone: 432-683-7443	Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary