



September 25, 2015

#5B23978-BG3

NMOCD District II
Environmental Specialist
1301 W Grand Ave
Artesia NM 88210

SUBJECT: FINAL CLOSURE REPORT FOR INCIDENT 2RP-2844 Loco Hills 33 #6 SWD, EDDY COUNTY, NEW MEXICO

Dear Heather Patterson:

Souder Miller & Associates is pleased to submit the attached Final Closure Report of the remediation of the release site located on the Loco Hills 33 #6 SWD 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 Bureau of Land Management land on February 7th, 2015.

Souder, Miller & Associates (SMA) responded at the request of COG Operating to assess and delineate the release of production fluids associated with the Loco Hills 33 #6 SWD well location. The release was initially reported to NMOCD by COG Operating on February 27, 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	Loco Hills 33 #6 SWD				
Location	Incident Number	API Number	Section, Township, Range		
		2RP-2844	30-015-39478	SW/NE (Unit G)	Section 33
Estimated Date of Release	February 7, 2015				
Date Reported to NMOCD	February 27, 2015				
Reported by	Amanda Trujillo, COG Operating LLC				
Land Owner	Bureau of Land Management (BLM)				
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Flow line failure				
Released Material	Produced Water				
Released Volume	2246 bbls Produced Water				
Recovered Volume	2210 bbls Produced Water				
Net Release	36 bbl Produced Water				
Nearest Waterway	Pecos River is over 20 miles west of the location.				

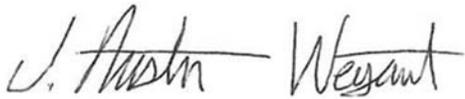


Depth to Groundwater	Estimated to be 80 feet
Nearest Domestic Water Source	Greater than 1,000 feet
NMOCD Ranking	10
SMA Response Dates	Initial: 5/11/15 Mitigation Activities: 9/8/15
Subcontractors	TCS
Disposal Facility	Lea Land, LLC
Estimated Yd ³ Contaminated Soil Excavated and Disposed	50

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-2844

COG OPERATING LLC

LOCO HILLS 33 #6 SWD
API# 30-015-39478
SECTION 33, T17S R30E, 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

September 25, 2015
SMA Reference
5B23978 BG3

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Table 1: Release Information and Site Ranking

Table 2: Summary of Laboratory Analyses

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1.0 Introduction

On behalf of COG Operating LLC (COG), SMA has prepared this report that describes the assessment and initial delineation and mitigation of a release associated with the Loco Hills 33 #6 SWD location. The site is located in Section 33, T 17S, R 30E NMPM, Eddy County, New Mexico, on land owned by the Bureau of Land Management (BLM). Figure 1 illustrates the vicinity and location of the site.

2.0 Site Ranking and Land Jurisdiction

The release site is located approximately 20 mile east of the Pecos River, in an area owned by the BLM with an elevation of approximately 3,600 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. No domestic or agricultural wells are located within a 1000 foot radius of the release site. Figure 1 depicts the site vicinity and Figure 2 depicts the site location.

Based on the NMOCD Guidelines Ranking Criteria, this release location has been assigned a NMOCD ranking of 10 which requires a soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm combined benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 1000 ppm total petroleum hydrocarbons (TPH). Table 1 illustrates site ranking rationale.

3.0 Assessment and Initial Results

On July 17, 2015 after receiving 811 clearance, SMA field personnel assessed the release area onsite with a gas powered auger, Photo Ionization Detector (PID), and a mobile chlorides titration kit. The affected area was found to be 863 yards squared. Surface samples were taken to determine the spill area. Specific sample locations for all samples are depicted on Figure 2 (Sample Location Map) along with sampling details. For additional information on the initial soil results and site assessment, please refer to the NMOCD approved work plan (Soil Remediation Work Plan for Incident 2RP-2844). Laboratory Analyses results are noted in Table 2 in the appendices. All samples were collected and processed according to NMOCD soil sampling procedures. Because the spilled material was limited to produced water and no evidence of petroleum impact was found with field screening using the PID, the samples were sent under chain-of-custody protocols to Hall Environmental Analysis Laboratory for analysis for Total Chlorides using EPA Method 300.0.

4.0 Soil Remediation Activities

On September 8, 2015, SMA and its subcontractor began the excavation of affected soils, with approval from area utilities owners via 811 and the NMOCD. SMA continuously guided the excavation activities by collecting and field screening composite soil samples with a mobile titration unit (EPA 4500) and a calibrated PID. Samples were taken to delineate the extent of the affected soil. Vertically, the soil was affected to a depth of approximately two and a half feet bgs. Sample Location LD-4 is a surface composite sample close to the battery. Full delineation sampling did not occur as the location of the tank battery interfered with delineation efforts. Closure samples were collected at the final depth of excavation and sent under chain-of-custody protocols to Hall Environmental Analysis Laboratory for analysis for Total Chlorides using EPA

Method 300.0, Total Petroleum Hydrocarbons (DRO-GRO) by EPA Method SW846 8015M/D, and BTEX using EPA Method SW846 8260B, as required by NMOCD closure requirements.

.Excavation was conducted in two areas on the well pad: east of the tank battery and northwest of the tank battery. Scraping of the pad occurred in the top three inches bgs in these areas with deeper excavation where necessary. Approximately 50 cubic yards of contaminated soil was removed and replaced with 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 10: 10 ppm (mg/kg) Benzene, 50 ppm total BTEX, and 1000 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 2. Laboratory reports are included in Appendix C.

Photo documentation is available by request.

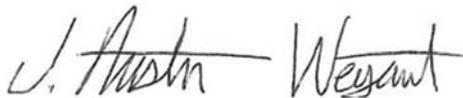
6.0 Closure and Limitations

The scope of our services consisted of the performance of a preliminary spill assessment, verification of release stabilization, regulatory liaison, preparation of a Remediation Work plan, implementation of the work plan, and verification of completion of the remedial activities. 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 Closure 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: Site Details and Sample Location Map

Tables:

Table 1: Release Information and Site Ranking

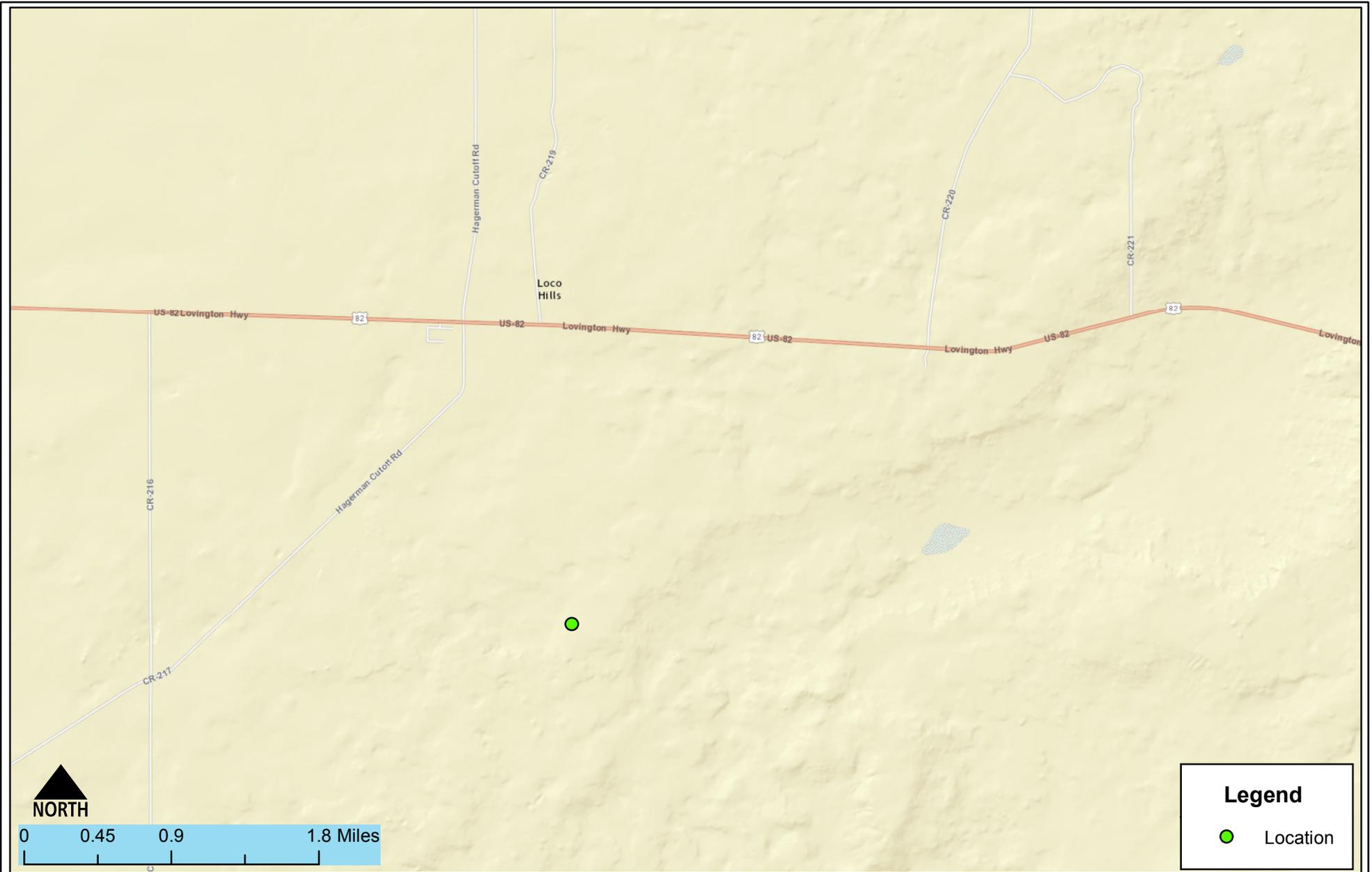
Table 2: Summary of Laboratory Analyses

Appendices:

Appendix A: Laboratory Analytical Reports

Appendix B: Form C141 Final

FIGURE 1 VICINITY MAP



Vicinity Map
 COG- Loco Hills 33 #6 SWD
 Malaga, New Mexico

Figure 1

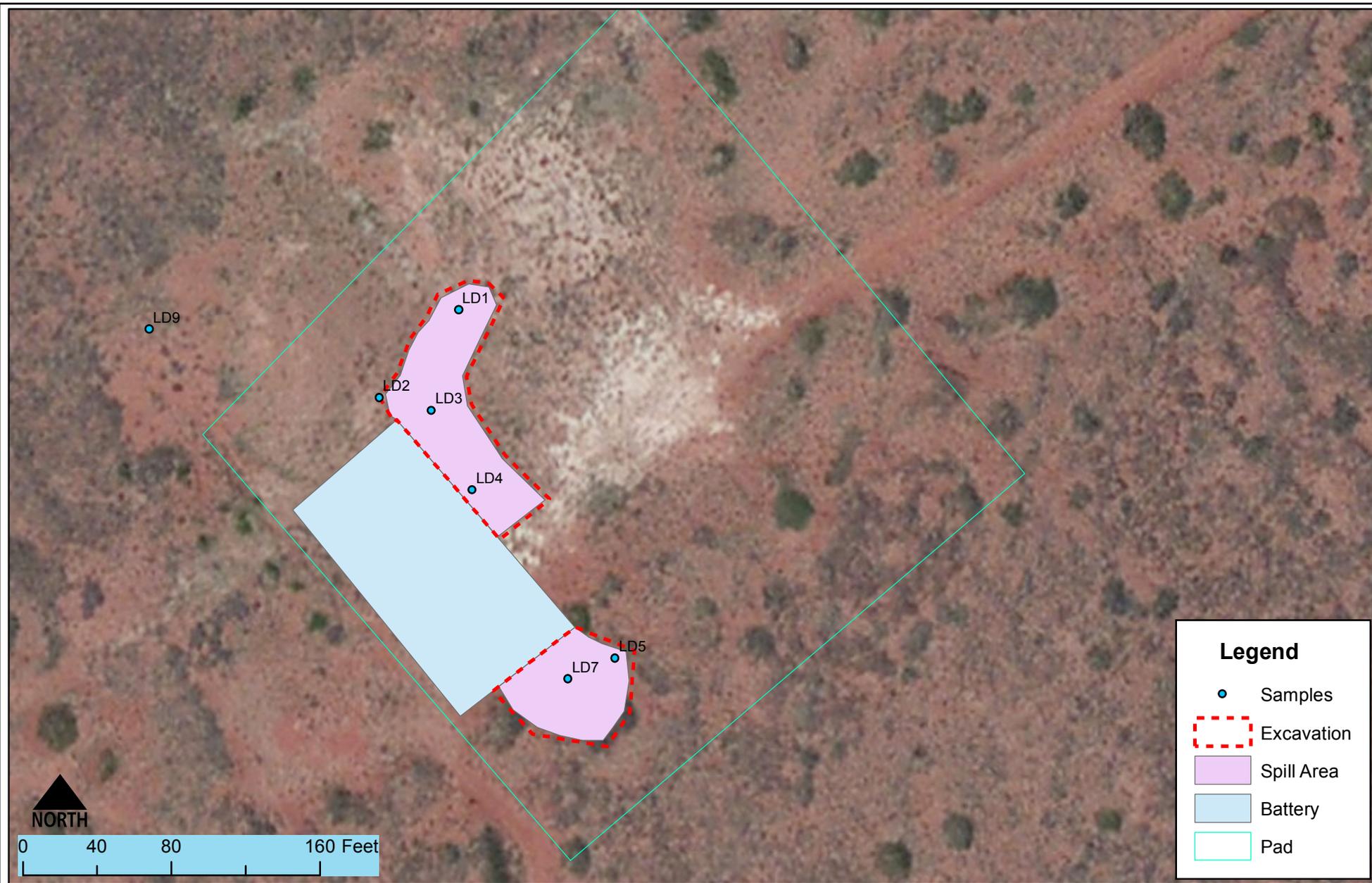
Date Saved: 8/12/2015	By: _____	Date: _____	Revisions	Descr: _____
	By: _____	Date: _____		Descr: _____
Copyright 2015 Souder, Miller & Associates - All Rights Reserved				

Drawn	<u>Lucas Middleton</u>
Checked	_____
Approved	_____



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 Carlsbad, New Mexico 88221
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Figure 2: Site Details and Sample Location Map



Legend

- Samples
- Excavation
- Spill Area
- Battery
- Pad

Detailed Site and Sample Map
 COG- Loco Hills 33 #6 SWD
 Malaga, New Mexico

Figure 2

Date Saved: 10/14/2015	By: _____	Date: _____	Revisions	Descr: _____
	By: _____	Date: _____		Descr: _____
Copyright 2015 Souder, Miller & Associates - All Rights Reserved				

Drawn	<u>Lucas Middleton</u>
Checked	_____
Approved	_____



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TABLE 1 RELEASE INFORMATION AND SITE RANKING

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Disposal Facility	Lea Land, LLC				
Estimated Yd ³ Contaminated Soil Excavated and Disposed	50				

TABLE 2

SUMMARY OF LABORATORY ANALYSES

Table 2: Summary of Laboratory Analyses

Analytical Report- 1507977 1509779	Sample Number on Figure 2 Map	Sample Date	Depth	BTEX ppm	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	Cl- mg/Kg
1507977-001	LD5	7/30/2015	Surface	N/A	N/A	N/A	N/A	2600
1507977-002	LD2	7/30/2015	1'	BDL	BDL	BDL	BDL	850
1507977-003	LD1	7/30/2015	1'	N/A	N/A	N/A	N/A	BDL
1507977-004	LD4	7/30/2015	Surface	BDL	BDL	BDL	BDL	2,000
1507977-005	LD3	7/30/2015	Surface	N/A	N/A	N/A	BDL	8,800
1509779-001	LD 1-2	9/8/2015	2'	N/A	N/A	N/A	N/A	870
1509779-002	LD 7-3	9/8/2015	3'	N/A	N/A	N/A	N/A	170
1509779-003	LD 7-4	9/8/2015	4'	BDL	BDL	BDL	BDL	110
1509779-004	LD 3-2	9/8/2015	2'	N/A	N/A	N/A	N/A	1000
1509779-005	LD 3-3	9/8/2015	3'	BDL	BDL	BDL	BDL	960

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

July 30, 2015

Lucas Middleton
Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL: (575) 689-5351
FAX

RE: Loco Hills

OrderNo.: 1507977

Dear Lucas Middleton:

Hall Environmental Analysis Laboratory received 5 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,

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 1507977

Date Reported: 7/30/2015

CLIENT: Souder, Miller & Associates

Client Sample ID: LHD3 

Project: Loco Hills

Collection Date: 7/17/2015 1:00:00 AM

Lab ID: 1507977-001

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	2600	150		mg/Kg	100	7/29/2015 5:15:30 PM	20481

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1507977

Date Reported: 7/30/2015

CLIENT: Souder, Miller & Associates

Client Sample ID: LHD2-1

Project: Loco Hills

Collection Date: 7/17/2015 1:00:00 AM

Lab ID: 1507977-002

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	850	30		mg/Kg	20	7/28/2015 1:05:31 PM	20481
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/24/2015 2:03:47 AM	20387
Surr: BFB	110	70-130		%REC	1	7/24/2015 2:03:47 AM	20387
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/25/2015 5:41:29 AM	20379
Surr: DNOP	95.3	57.9-140		%REC	1	7/25/2015 5:41:29 AM	20379
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	7/24/2015 2:03:47 AM	20387
Benzene	ND	0.050		mg/Kg	1	7/24/2015 2:03:47 AM	20387
Toluene	ND	0.050		mg/Kg	1	7/24/2015 2:03:47 AM	20387
Ethylbenzene	ND	0.050		mg/Kg	1	7/24/2015 2:03:47 AM	20387
Xylenes, Total	ND	0.099		mg/Kg	1	7/24/2015 2:03:47 AM	20387
Surr: 1,2-Dichloroethane-d4	100	70-130		%REC	1	7/24/2015 2:03:47 AM	20387
Surr: 4-Bromofluorobenzene	96.6	70-130		%REC	1	7/24/2015 2:03:47 AM	20387
Surr: Dibromofluoromethane	113	70-130		%REC	1	7/24/2015 2:03:47 AM	20387
Surr: Toluene-d8	99.4	70-130		%REC	1	7/24/2015 2:03:47 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.

Analytical Report

Lab Order 1507977

Date Reported: 7/30/2015

CLIENT: Souder, Miller & Associates

Client Sample ID: LHD1-1

Project: Loco Hills

Collection Date: 7/17/2015 1:00:00 AM

Lab ID: 1507977-003

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	ND	30		mg/Kg	20	7/28/2015 1:17:55 PM	20481

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1507977

Date Reported: 7/30/2015

CLIENT: Souder, Miller & Associates

Client Sample ID: LHD4

Project: Loco Hills

Collection Date: 7/17/2015 1:00:00 AM

Lab ID: 1507977-004

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	2000	75		mg/Kg	50	7/29/2015 5:27:55 PM	20481
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/24/2015 2:31:17 AM	20387
Surr: BFB	108	70-130		%REC	1	7/24/2015 2:31:17 AM	20387
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/25/2015 6:08:31 AM	20379
Surr: DNOP	95.5	57.9-140		%REC	1	7/25/2015 6:08:31 AM	20379
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Methyl tert-butyl ether (MTBE)	ND	0.049		mg/Kg	1	7/24/2015 2:31:17 AM	20387
Benzene	ND	0.049		mg/Kg	1	7/24/2015 2:31:17 AM	20387
Toluene	ND	0.049		mg/Kg	1	7/24/2015 2:31:17 AM	20387
Ethylbenzene	ND	0.049		mg/Kg	1	7/24/2015 2:31:17 AM	20387
Xylenes, Total	ND	0.098		mg/Kg	1	7/24/2015 2:31:17 AM	20387
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1	7/24/2015 2:31:17 AM	20387
Surr: 4-Bromofluorobenzene	100	70-130		%REC	1	7/24/2015 2:31:17 AM	20387
Surr: Dibromofluoromethane	106	70-130		%REC	1	7/24/2015 2:31:17 AM	20387
Surr: Toluene-d8	96.8	70-130		%REC	1	7/24/2015 2:31:17 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.

Analytical Report

Lab Order 1507977

Date Reported: 7/30/2015

CLIENT: Souder, Miller & Associates

Client Sample ID: LHD3

Project: Loco Hills

Collection Date: 7/17/2015 1:00:00 AM

Lab ID: 1507977-005

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	8800	300		mg/Kg	200	7/29/2015 5:40:19 PM	20481

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#: 1507977

30-Jul-15

Client: Souder, Miller & Associates

Project: Loco Hills

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.
- 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#: 1507977

30-Jul-15

Client: Souder, Miller & Associates

Project: Loco Hills

Sample ID MB-20379	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 20379		RunNo: 27723							
Prep Date: 7/22/2015	Analysis Date: 7/24/2015		SeqNo: 834383		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	10		10.00		105	57.9	140			

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
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- ND Not Detected at the Reporting Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1507977

30-Jul-15

Client: Souder, Miller & Associates

Project: Loco Hills

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	ics-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			

Sample ID	mb-20417	SampType:	MBLK	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	PBS	Batch ID:	20417	RunNo:	27753					
Prep Date:	7/23/2015	Analysis Date:	7/24/2015	SeqNo:	834422	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.53		0.5000		105	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.4	70	130			
Surr: Dibromofluoromethane	0.55		0.5000		110	70	130			
Surr: Toluene-d8	0.48		0.5000		96.4	70	130			

Sample ID	ics-20417	SampType:	LCS	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	LCSS	Batch ID:	20417	RunNo:	27753					
Prep Date:	7/23/2015	Analysis Date:	7/24/2015	SeqNo:	834424	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

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#: 1507977

30-Jul-15

Client: Souder, Miller & Associates

Project: Loco Hills

Sample ID	Ics-20417		SampType:	LCS		TestCode:	EPA Method 8260B: Volatiles Short List			
Client ID:	LCSS		Batch ID:	20417		RunNo:	27753			
Prep Date:	7/23/2015		Analysis Date:	7/24/2015		SeqNo:	834424		Units: %REC	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		99.6	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		96.9	70	130			
Surr: Dibromofluoromethane	0.53		0.5000		107	70	130			
Surr: Toluene-d8	0.46		0.5000		92.5	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#: 1507977

30-Jul-15

Client: Souder, Miller & Associates

Project: Loco Hills

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	ics-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			

Sample ID	mb-20417	SampType:	MBLK	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	PBS	Batch ID:	20417	RunNo:	27753					
Prep Date:	7/23/2015	Analysis Date:	7/24/2015	SeqNo:	834490	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	550		500.0		110	70	130			

Sample ID	ics-20417	SampType:	LCS	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	LCSS	Batch ID:	20417	RunNo:	27753					
Prep Date:	7/23/2015	Analysis Date:	7/24/2015	SeqNo:	834491	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	560		500.0		112	70	130			

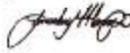
Qualifiers:

- | | |
|---|---|
| * 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 | |

Client Name: SMA-CARLSBAD

Work Order Number: 1507977

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 10:00:24 AM	
Reviewed By:	CS	07/22/15	

Chain of Custody

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

Log In

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

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

Special Handling (if applicable)

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

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

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	17.0	Good	Yes			

Chain-of-Custody Record

Client: SMA

Mailing Address: 201 S

Italgator St Carlsbad
 Phone #: 760-439-6887-5351

email or Fax#: www.m.dollar@eandersonllc.com

- QA/QC Package:
- Standard Level 4 (Full Validation)
 - Accreditation:
 - NELAP Other
 - EDD (Type)

Turn-Around Time:

Standard Rush

Project Name:

~~Italgator St~~ Hills

Project #:

Project Manager:

Sampler:

On Ice: Yes No

Sample Temperature: 17.0

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
7/17/15	100	Soil	LH D3	A02	-	1507977
7/17/15	100	Soil	LH D2-1	A07	-	-001
7/17/15	100	Soil	LH D1-1	A02	-	-002
7/17/15	100	Soil	LH D4	A07	-	-003
7/17/15	100	Soil	LH D3	A02	-	-004
						-005

Date: _____ Relinquished by: _____
 Date: _____ Relinquished by: _____

Received by: *Joe Aron* Date: 07/22/15 0915
 Received by: _____ Date: _____

Remarks:

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)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>				

Analysis Request

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 notated 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

September 28, 2015

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

RE: Loco Hills SWD

OrderNo.: 1509779

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 5 sample(s) on 9/16/2015 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,

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 1509779

Date Reported: 9/28/2015

CLIENT: Souder, Miller & Associates

Client Sample ID: LD1-2

Project: Loco Hills SWD

Collection Date: 9/8/2015 9:00:00 AM

Lab ID: 1509779-001

Matrix: SOIL

Received Date: 9/16/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	870	30		mg/Kg	20	9/22/2015 5:26:11 PM	21444

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1509779

Date Reported: 9/28/2015

CLIENT: Souder, Miller & Associates

Client Sample ID: LD7-3

Project: Loco Hills SWD

Collection Date: 9/8/2015 9:00:00 AM

Lab ID: 1509779-002

Matrix: SOIL

Received Date: 9/16/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	170	30		mg/Kg	20	9/22/2015 5:38:35 PM	21444

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1509779

Date Reported: 9/28/2015

CLIENT: Souder, Miller & Associates

Client Sample ID: LD7-4

Project: Loco Hills SWD

Collection Date: 9/8/2015 9:00:00 AM

Lab ID: 1509779-003

Matrix: SOIL

Received Date: 9/16/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	110	30		mg/Kg	20	9/22/2015 5:50:59 PM	21444
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	ND	48		mg/Kg	1	9/18/2015 5:50:53 PM	21355
Surr: BFB	113	70-130		%REC	1	9/18/2015 5:50:53 PM	21355
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/18/2015 6:06:33 PM	21361
Surr: DNOP	103	57.9-140		%REC	1	9/18/2015 6:06:33 PM	21361
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.48		mg/Kg	1	9/18/2015 5:50:53 PM	21355
Toluene	ND	0.48		mg/Kg	1	9/18/2015 5:50:53 PM	21355
Ethylbenzene	ND	0.48		mg/Kg	1	9/18/2015 5:50:53 PM	21355
Xylenes, Total	ND	0.95		mg/Kg	1	9/18/2015 5:50:53 PM	21355
Surr: 1,2-Dichloroethane-d4	95.3	70-130		%REC	1	9/18/2015 5:50:53 PM	21355
Surr: 4-Bromofluorobenzene	94.5	70-130		%REC	1	9/18/2015 5:50:53 PM	21355
Surr: Dibromofluoromethane	101	70-130		%REC	1	9/18/2015 5:50:53 PM	21355
Surr: Toluene-d8	88.2	70-130		%REC	1	9/18/2015 5:50:53 PM	21355

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1509779

Date Reported: 9/28/2015

CLIENT: Souder, Miller & Associates

Client Sample ID: LD3-2

Project: Loco Hills SWD

Collection Date: 9/8/2015 9:00:00 AM

Lab ID: 1509779-004

Matrix: SOIL

Received Date: 9/16/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	1000	75		mg/Kg	50	9/24/2015 5:46:18 AM	21444

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1509779

Date Reported: 9/28/2015

CLIENT: Souder, Miller & Associates

Client Sample ID: LD3-3

Project: Loco Hills SWD

Collection Date: 9/8/2015 9:00:00 AM

Lab ID: 1509779-005

Matrix: SOIL

Received Date: 9/16/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	960	30		mg/Kg	20	9/22/2015 6:15:48 PM	21444
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/18/2015 6:19:41 PM	21355
Surr: BFB	108	70-130		%REC	1	9/18/2015 6:19:41 PM	21355
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/18/2015 6:28:03 PM	21361
Surr: DNOP	91.3	57.9-140		%REC	1	9/18/2015 6:28:03 PM	21361
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.048		mg/Kg	1	9/18/2015 6:19:41 PM	21355
Toluene	ND	0.048		mg/Kg	1	9/18/2015 6:19:41 PM	21355
Ethylbenzene	ND	0.048		mg/Kg	1	9/18/2015 6:19:41 PM	21355
Xylenes, Total	ND	0.096		mg/Kg	1	9/18/2015 6:19:41 PM	21355
Surr: 1,2-Dichloroethane-d4	94.7	70-130		%REC	1	9/18/2015 6:19:41 PM	21355
Surr: 4-Bromofluorobenzene	96.8	70-130		%REC	1	9/18/2015 6:19:41 PM	21355
Surr: Dibromofluoromethane	102	70-130		%REC	1	9/18/2015 6:19:41 PM	21355
Surr: Toluene-d8	88.6	70-130		%REC	1	9/18/2015 6:19:41 PM	21355

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#: 1509779

28-Sep-15

Client: Souder, Miller & Associates

Project: Loco Hills SWD

Sample ID	MB-21444	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	21444	RunNo:	29028					
Prep Date:	9/22/2015	Analysis Date:	9/22/2015	SeqNo:	880818	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-21444	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	21444	RunNo:	29028					
Prep Date:	9/22/2015	Analysis Date:	9/22/2015	SeqNo:	880819	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.2	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#: 1509779

28-Sep-15

Client: Souder, Miller & Associates

Project: Loco Hills SWD

Sample ID MB-21361	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 21361		RunNo: 28945							
Prep Date: 9/17/2015	Analysis Date: 9/18/2015		SeqNo: 878628		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	11		10.00		111	57.9	140			

Sample ID LCS-21361	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 21361		RunNo: 28945							
Prep Date: 9/17/2015	Analysis Date: 9/18/2015		SeqNo: 878693		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	85.8	57.4	139			
Surr: DNOP	5.0		5.000		99.5	57.9	140			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1509779

28-Sep-15

Client: Souder, Miller & Associates

Project: Loco Hills SWD

Sample ID	lcs-21355		SampType:	LCS		TestCode:	EPA Method 8260B: Volatiles Short List				
Client ID:	LCSS		Batch ID:	21355		RunNo:	28954				
Prep Date:	9/17/2015		Analysis Date:	9/18/2015		SeqNo:	878783		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	1.1	0.050	1.000	0	106	70	130				
Toluene	0.91	0.050	1.000	0	90.6	70	130				
Ethylbenzene	1.0	0.050	1.000	0	102	70	130				
Xylenes, Total	3.1	0.10	3.000	0	103	70	130				
Surr: 1,2-Dichloroethane-d4	0.45		0.5000		89.3	70	130				
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.2	70	130				
Surr: Dibromofluoromethane	0.51		0.5000		103	70	130				
Surr: Toluene-d8	0.44		0.5000		87.8	70	130				

Sample ID	mb-21355		SampType:	MBLK		TestCode:	EPA Method 8260B: Volatiles Short List				
Client ID:	PBS		Batch ID:	21355		RunNo:	28954				
Prep Date:	9/17/2015		Analysis Date:	9/18/2015		SeqNo:	878784		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	ND	0.050									
Toluene	ND	0.050									
Ethylbenzene	ND	0.050									
Xylenes, Total	ND	0.10									
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		95.2	70	130				
Surr: 4-Bromofluorobenzene	0.50		0.5000		101	70	130				
Surr: Dibromofluoromethane	0.52		0.5000		104	70	130				
Surr: Toluene-d8	0.43		0.5000		86.4	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#: 1509779

28-Sep-15

Client: Souder, Miller & Associates

Project: Loco Hills SWD

Sample ID	ics-21355	SampType:	LCS	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	LCSS	Batch ID:	21355	RunNo:	28954					
Prep Date:	9/17/2015	Analysis Date:	9/18/2015	SeqNo:	878807	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	86.7	70	123			
Surr: BFB	550		500.0		109	70	130			

Sample ID	mb-21355	SampType:	MBLK	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	PBS	Batch ID:	21355	RunNo:	28954					
Prep Date:	9/17/2015	Analysis Date:	9/18/2015	SeqNo:	878808	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	570		500.0		114	70	130			

Qualifiers:

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



Sample Log-In Check List

Client Name: **SMA-CARLSBAD**

Work Order Number: **1509779**

RcptNo: **1**

Received by/date: *mgj*

09/16/15
9/16/2015 9:25:00 AM

Logged By: **Ashley Gallegos**

[Signature]

Completed By: **Ashley Gallegos**

9/16/2015 5:14:39 PM
09/17/15

[Signature]

Reviewed By:

[Signature]

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 # of preserved bottles checked for pH: (<2 or >12 unless noted)
- (Note discrepancies on chain of custody)
- 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? Yes No Checked by:
- (If no, notify customer for authorization.)

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	3.6	Good	Not Present			

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:

Laoco Hills SWD

Project #:

Project Manager:

Austin Weyant

Sampler: LCM

On Ice: Yes No

Sample Temperature: *3.6°*

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
<i>9-8-15</i>	<i>9:00</i>	<i>Soil</i>	<i>LD1-2</i>	<i>A02</i>		<i>15091779</i>
			<i>LD7-3</i>	<i>A02</i>		<i>-001</i>
			<i>LD7-4</i>	<i>A02</i>		<i>-002</i>
			<i>LD3-2</i>	<i>A02</i>		<i>-003</i>
			<i>LD3-3</i>	<i>A02</i>		<i>-004</i>
						<i>-005</i>

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, NO₃, NO₂, PO₄, SO₄)

8081 Pesticides / 8082 PCB's

8260B (VOA)

8270 (Semi-VOA)

Air Bubbles (Y or N)

Analysis Request

Received by: *[Signature]* Date: *09/16/15* Time: *0925*

Relinquished by: _____ Date: _____ Time: _____

Remarks: *Send MLO separately*

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

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: Loco Hills 33 #6 SWD	Facility Type: SWD Battery

Surface Owner: Federal	Mineral Owner:	API No. 30-015-37478
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	33	17S	30E	2210'	North	2145'	East	Eddy

Latitude 32.7922202589621 Longitude -103.975401459275

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 2246 bbls PW	Volume Recovered: 2210 bbls PW
Source of Release: Piping	Date and Hour of Occurrence: 2/7/2015 11:30 am	Date and Hour of Discovery: 2/7/2015 8:00 pm
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher – NMOCD / Jeff Robertson – BLM	
By Whom? Lupe Carrasco	Date and Hour: 2/8/2015 11:12 am	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

This spill was caused fiberglass piping. Vacuum trucks were dispatched to recover standing fluid and dispose of at an NMOCD approved facility. Fiberglass was replaced with poly piping.

Describe Area Affected and Cleanup Action Taken.*

The release occurred inside a lined facility, however approximately 36 bbls carried over the dike on to the location and into the pasture. The release was addressed per the approved work plan under the guidance on NMOCD.

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

Signature: 	<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Amanda Trujillo	Approved by Environmental Specialist:	
Title: Senior Environmental Coordinator	Approval Date:	Expiration Date:
E-mail Address: atrujillo@concho.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: September 1, 2015	Phone: 575-748-6940	

* Attach Additional Sheets If Necessary