



November 8, 2016

#5B25342-BG1

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

SUBJECT: WORK PLAN FOR INCIDENT 2RP-3738, Latham Federal Storage Facility, API# 30-015-24731,
EDDY COUNTY, NEW MEXICO

Dear Heather Patterson:

On behalf of BETTIS, BOYLE, & STOVALL, INC., Souder Miller & Associates (SMA) is pleased to submit a work plan summarizing the planned soil remediation for the release site located at the Latham Federal Storage Facility in Eddy County, New Mexico. The purpose of the work plan is to obtain approval from the New Mexico Oil Conservation Division (NMOCD) for the remediation of the release that occurred on Bureau of Land Management property on June 8, 2016.

SMA responded at the request of BETTIS, BOYLE, & STOVALL, INC., to assess and delineate the release of production fluids associated with the Latham Federal Storage Facility well location. The release was initially reported to NMOCD by BETTIS, BOYLE, & STOVALL, INC., on June 6, 2016 and was a result of a tank failure. The table below summarizes information regarding the release. Results of the assessment and, delineation are described in the following report.

Table 1: Release Information and Site Ranking					
Name	Latham Federal Storage Facility				
Location	Incident Number	API Number	Section, Township, Range		
		2RP-3738	30-015-24731	SW/NE (Unit P)	Section 15
Estimated Date of Release	June 6, 2016				
Date Reported to NMOCD	June 6, 2016				
Reported by	Kyle Berend				
Land Owner	The Bureau of Land Management				
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Equipment Failure				
Released Material	Produced Fluids				
Released Volume	<15 bbls of Produced Fluids				
Recovered Volume	0 bbls of Produced Fluids				
Net Release	<15 bbls of Produced Fluids				

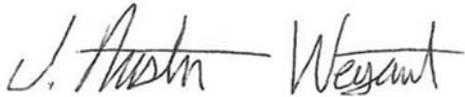


Nearest Waterway	3.1 miles West of the location
Depth to Groundwater	Estimated to be 60 feet
Nearest Domestic Water Source	Greater than 1,000 feet
NMOCD Ranking	10
SMA Response Dates	Mitigation Activities: 10/10/16
Subcontractors	TCS
Disposal Facility	??
Estimated Yd ³ Contaminated Soil Excavated and Disposed	480

A copy of the Initial C-141 form is attached in Appendix B of the enclosed work plan. 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:



Shawna Chubbuck
Senior Scientist

SOIL REMEDIATION WORK PLAN FOR INCIDENT 2RP-3738 BETTIS, BOYLE, & STOVALL, INC.

LATHAM FEDERAL STORAGE FACILITY
UL P, SECTION 15, T25S R29E, NMPM
API #30-015-24731
EDDY COUNTY, NM



Prepared for:
BETTIS, BOYLE, & STOVALL, INC.
P.O. Box 1240
Graham, TX 76450

Prepared by:
Souder, Miller & Associates
201 S. Halagueno
Carlsbad, NM 88221
575-689-7040

November 8, 2016
SMA Reference
5B25342 BG1

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 Work Plan.....	4
5.0	Closure and Limitations.....	5

Figures:

Figure 1: Vicinity Map

Figure 2: Detailed Site and Sample Map

Tables:

Table 1: Release Information and Site Ranking

Table 2: Summary Chloride Field Screening Results

Table 3: Summary of Laboratory Analyses

Appendices:

Appendix A: Laboratory Analytical Reports

Appendix B: Form C141 Initial

1.0 Introduction

On behalf of BETTIS, BOYLE, & STOVALL, INC., Souder, Miller & Associates (SMA) has prepared this report that describes the assessment, initial delineation and proposed remediation for a release associated with the Latham Federal Storage Facility location API# 30-015-24731. The site is located in Section 15, Township 25S, Range 29E NMPM, Eddy County, New Mexico, on federal land administered by the Bureau Land Management. Figure 1 illustrates the vicinity and location of the site.

2.0 Site Ranking and Land Jurisdiction

The release site is located approximately 3 miles east of the Pecos River, with an elevation of approximately 3,074 feet above sea level. After evaluation of the site using aerial photography and topographic maps, depth to groundwater is estimated to be 60 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. Three wells are located within a one mile radius of the site. Figure 1 depicts the site vicinity and Figure 2 shows the site itself. The physical location of this release is within the jurisdiction of NMOCD.

Based on the NMOCD Guidelines Ranking Criteria, this release location has been assigned a NMOCD ranking of 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 October 10, after receiving 811 clearance, SMA field personnel assessed the release area onsite with assistance from a backhoe. Soils were screened for hydrocarbons and chlorides using a calibrated Photo Ionization Detector (PID), and a mobile chlorides titration kit (EPA method 9045D) meter. The potentially affected area was determined to be approximately 60 feet long and 8 feet wide, with fingered flow 460 feet long and 2 foot wide off the pad. The site was excavated to 1 foot bgs at the concrete pad. No excavation occurred within the tank battery due to proximity to the equipment. The berm around the tank battery was repaired and elevated to 3 feet. For the affected area in the pasture, the asphaltenes were broken up and incorporated into the soil.

Delineation samples were collected. Specific sample locations for all samples are depicted on Figure 2 (Sample Location Map). All samples were collected and processed according to NMOCD soil sampling procedures. The samples were sent under chain-of-custody protocols to Hall Environmental Analysis Laboratory for analysis for Total Chlorides using EPA Method 300.0.

A summary of the laboratory analyses is included in Table 2. Laboratory reports are included in Appendix A. Photo documentation is available by request.

4.0 Soil Remediation Work Plan

SMA will begin the excavation of affected soils, with approval from area utilities owners via 811 and NMOCD. SMA will continuously guide the excavation activities by collecting composite soil

samples for field screening with a mobile titration unit (EPA 4500) and a calibrated PID. Excavation will occur to depths sufficient to delineate the plume by NMOCD standards. Closure samples will be collected at the final depth of excavation and sidewalls. The proposed areas of deferment are shown in Figure 2. This area cannot be excavated due to the proximity of the old equipment in those areas. Request for deferment on these two areas is being asked. Approximately 480 cubic yards of contaminated soil are projected to be removed and replaced with clean backfill material sufficient to return the contours to surface gradient. The contaminated soil will be transported for proper disposal at Lea Land, near Carlsbad, NM an NMOCD permitted facility.

After this soil remediation work plan is approved by NMOCD, SMA will begin soil remediation activities on site.

5.0 Closure and Limitations

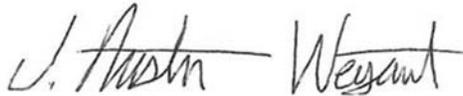
The scope of our services consisted of the performance of initial spill assessment sampling, verification of release stabilization, regulatory liaison, and preparation of this work plan. All work has been performed in accordance with generally accepted professional environmental consulting practices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

If there are any questions regarding this report, please contact either Austin Weyant at 575-689-7040 or Shawna Chubbuck at 505-325-7535.

Submitted by:

Reviewed by:

SOUDER, MILLER & ASSOCIATES



Austin Weyant
Project Scientist



Shawna Chubbuck
Senior Scientist

Figures:

Figure 1: Vicinity Map

Figure 2: Detailed Site and Sample Map

Tables:

Table 1: Release Information and Site Ranking

Table 2: Summary of Chloride Field Screening Results

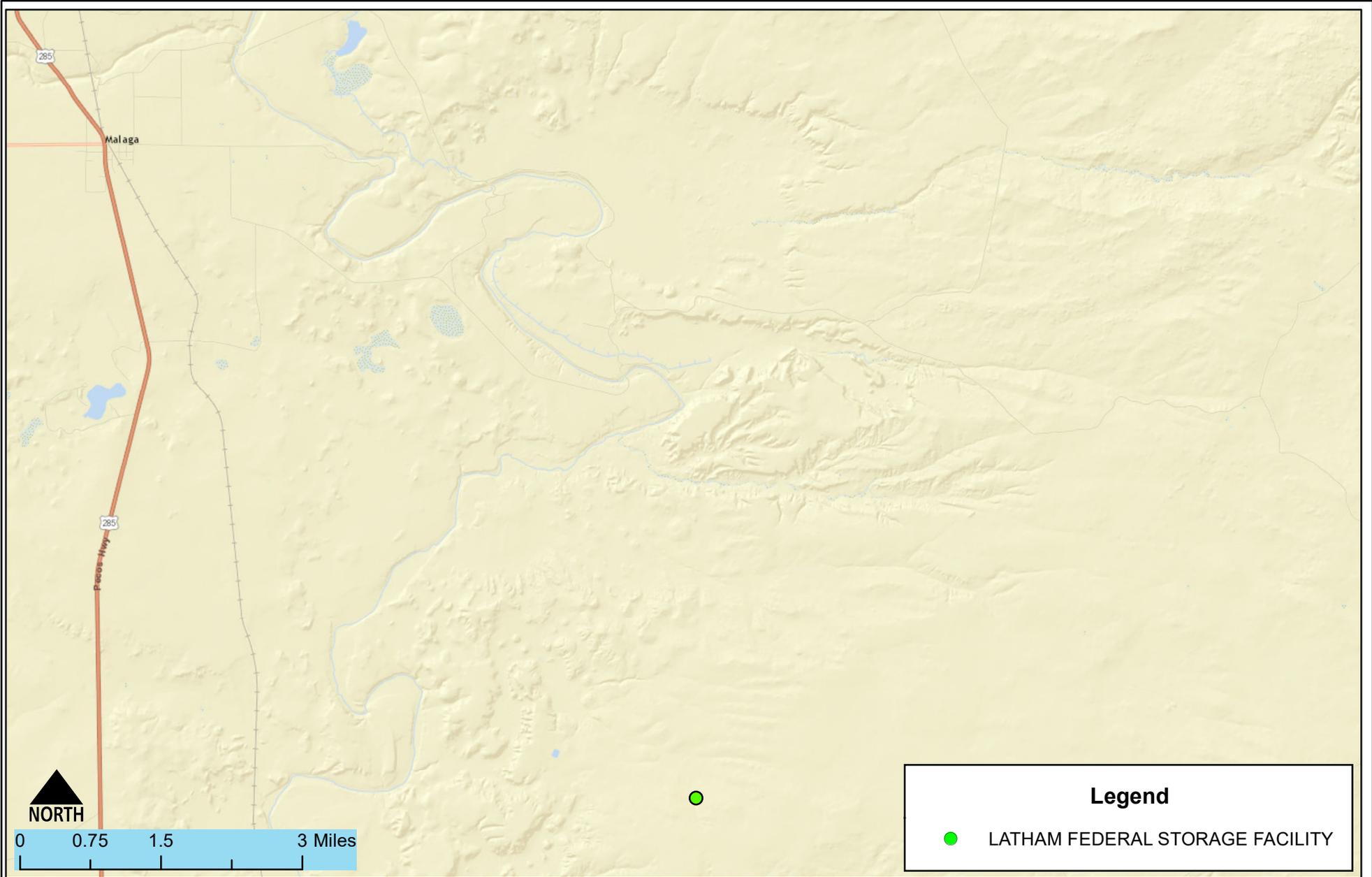
Table 3: Summary of Laboratory Analyses

Appendices:

Appendix A: Laboratory Analytical Reports

Appendix B: Form C141 Initial

FIGURE 1 VICINITY MAP



Legend	
●	LATHAM FEDERAL STORAGE FACILITY

Vicinity Map
LATHAM FEDERAL STORAGE FACILITY-BETTIS, BOYLE, & STOVALL, INC. S15, T25S R29E
 Malaga, New Mexico

Figure 1

Date Saved: 11/8/2016	By: _____	Date: _____	Revisions	Descr: _____
Copyright 2015 Souder, Miller & Associates - All Rights Reserved	By: _____	Date: _____		Descr: _____

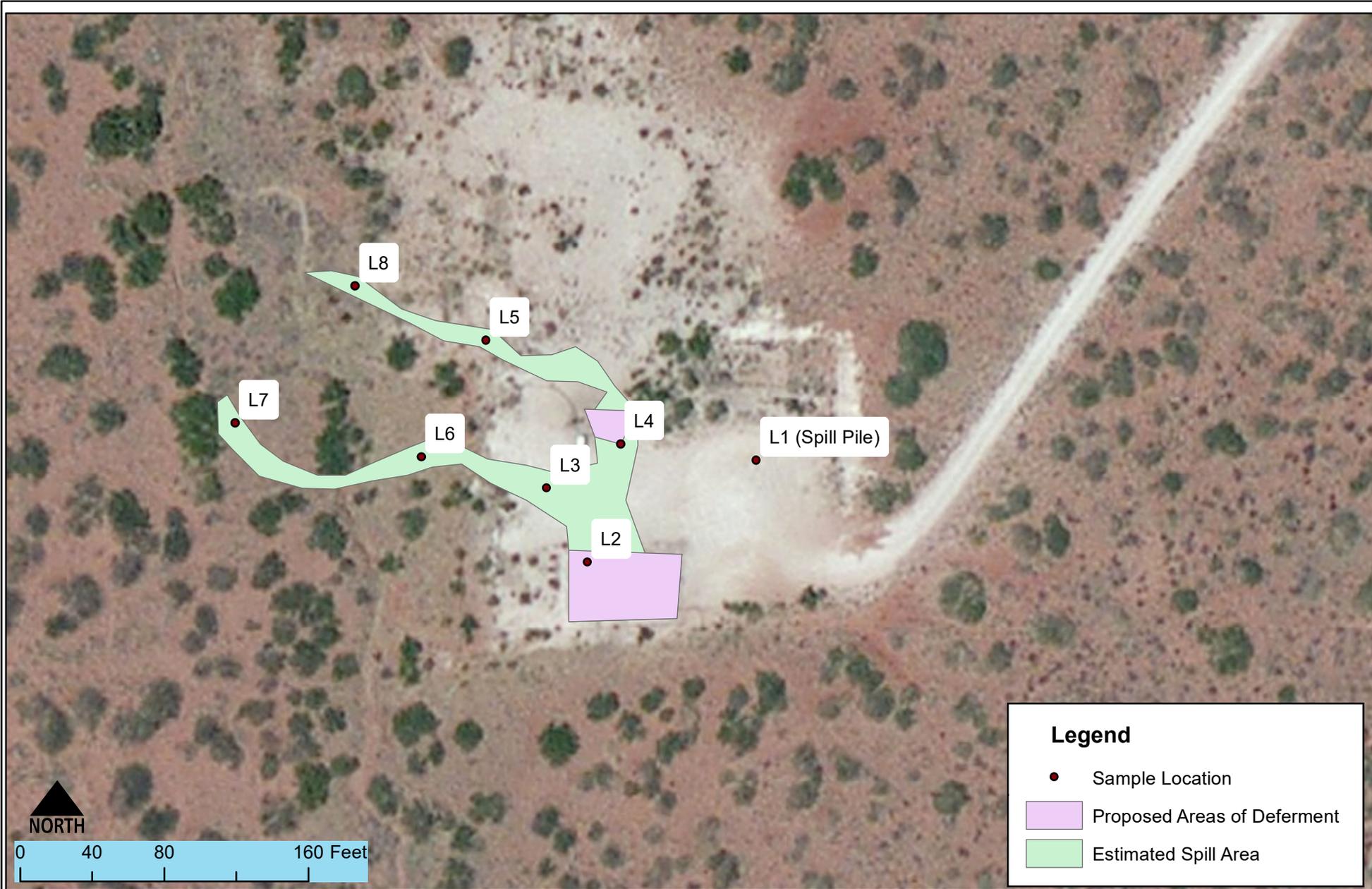
Drawn	<u>Lucas Middleton</u>
Checked	_____
Approved	_____



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

FIGURE 2

DETAILED SITE AND SAMPLE MAP



Legend

- Sample Location
- Proposed Areas of Deferment
- Estimated Spill Area

Detailed Site and Sample Map

LATHAM FEDERAL STORAGE FACILITY-BETTIS, BOYLE, & STOVALL, INC. S15, T25S R29E
Malaga, New Mexico

Figure 2

Date Saved: 11/8/2016	By: _____	Date: _____	Revisions	Descr: _____
	By: _____	Date: _____		Descr: _____
Copyright 2015 Souder, Miller & Associates - All Rights Reserved				

Drawn	<u>Lucas Middleton</u>
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	Latham Federal Storage Facility				
Location	Incident Number	API Number	Section, Township, Range		
	2RP-3738	30-015-24731	SW/NE (Unit P)	Section 15	T25S, R29E NMPM
Estimated Date of Release	June 6, 2016				
Date Reported to NMOCD	June 6, 2016				
Reported by	Kyle Berend				
Land Owner	The Bureau of Land Management				
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Equipment Failure				
Released Material	Produced Fluids				
Released Volume	<15 bbls of Produced Fluids				
Recovered Volume	0 bbls of Produced Fluids				
Net Release	<15 bbls of Produced Fluids				
Nearest Waterway	3.1 miles West of the location				
Depth to Groundwater	Estimated to be 60 feet				
Nearest Domestic Water Source	Greater than 1,000 feet				
NMOCD Ranking	10				
SMA Response Dates	Mitigation Activities: 10/10/16				
Subcontractors	TCS				
Disposal Facility					
Estimated Yd ³ Contaminated Soil Excavated and Disposed	480				

TABLE 2

SUMMARY OF CHLORIDE FIELD SCREENING RESULTS

Table 1: Summary of Chloride Field Screening Results Latham Federal Storage Facility
Sample Event
10/10/16

FIELD SCREENING RESULTS SUMMARY					
Date	Time	Field Screening Reference	Sample Depth (Feet BGS)	Chlorides Results	Lab Sample Collected Y/N
10/10/16	1:00 PM	L1-1	1'	7.21	Y
10/10/16	1:00 PM	L2-1	1'	1.78	Y
10/10/16	1:00 PM	L2-1.5	1.5'	1.08	Y
10/10/16	1:00 PM	L3-1	1'	0.16	Y
10/10/16	1:00 PM	L4-0.5	0.5'	2.48	Y
10/10/16	1:00 PM	L4-2	2'	2.57	Y
10/10/16	1:00 PM	L5-0.5	0.5'	0.00	Y
10/10/16	1:00 PM	L6-0.5	0.5'	0.00	Y
10/10/16	1:00 PM	L7-0.5	0.5'	0.05	Y
10/10/16	1:00 PM	L8-0.5	0.5'	0.01	Y



TABLE 3

SUMMARY OF LABORATORY ANALYSES

Table 3: Summary of Laboratory Analyses

Analytical Report- 1610715	Sample Number on Figure 2 Map	Sample Date	Depth	BTEX ppm	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	Cl- mg/Kg
NMOCD Site Ranking: 10				50 ppm	10 ppm	1000 ppm		
1610715-007	L1-1	10/10/2016	1	<0.99	<0.25	70	9900	8100
1610715-006	L2-1	10/10/2016	1	-	-	-	-	1900
1610715-008	L2-1.5	10/10/2016	1.5	-	-	<4.6	<9.7	1100
1610715-009	L3-1	10/10/2016	1	-	-	<4.6	<9.5	51
1610715-002	L4-0.5	10/10/2016	0.5	-	-	-	-	2700
1610715-010	L4-2	10/10/2016	2	-	-	-	-	2800
1610715-003	L5-0.5	10/10/2016	0.5	-	-	<4.7	<9.8	<30
1610715-004	L6-0.5	10/10/2016	0.5	<0.096	<0.024	-	-	<30
1610715-005	L7-0.5	10/10/2016	0.5	-	-	<4.7	<9.4	<30
1610715-001	L8-0.5	10/10/2016	0.5	-	-	<4.7	<9.6	<30

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

October 27, 2016

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

RE: Liatham Fed

OrderNo.: 1610715

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 10 sample(s) on 10/14/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data 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 1610715

Date Reported: 10/27/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: L8-0.5

Project: Liatham Fed

Collection Date: 10/10/2016 8:50:00 AM

Lab ID: 1610715-001

Matrix: SOIL

Received Date: 10/14/2016 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	ND	30		mg/Kg	20	10/20/2016 2:09:40 PM	28205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	10/17/2016 5:44:16 PM	28076
Surr: DNOP	89.5	70-130		%Rec	1	10/17/2016 5:44:16 PM	28076
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/18/2016 5:18:18 PM	28072
Surr: BFB	92.6	68.3-144		%Rec	1	10/18/2016 5:18:18 PM	28072

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	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1610715

Date Reported: 10/27/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: L4-0.5

Project: Liatham Fed

Collection Date: 10/10/2016 8:50:00 AM

Lab ID: 1610715-002

Matrix: SOIL

Received Date: 10/14/2016 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	2700	150		mg/Kg	100	10/22/2016 1:44:22 AM	28205

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	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1610715

Date Reported: 10/27/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: L5-0.5

Project: Liatham Fed

Collection Date: 10/10/2016 8:50:00 AM

Lab ID: 1610715-003

Matrix: SOIL

Received Date: 10/14/2016 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	ND	30		mg/Kg	20	10/20/2016 3:24:09 PM	28205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	10/17/2016 6:07:23 PM	28076
Surr: DNOP	89.3	70-130		%Rec	1	10/17/2016 6:07:23 PM	28076
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/18/2016 5:42:24 PM	28072
Surr: BFB	84.7	68.3-144		%Rec	1	10/18/2016 5:42:24 PM	28072

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	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1610715

Date Reported: 10/27/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: L6-0.5

Project: Liatham Fed

Collection Date: 10/10/2016 8:50:00 AM

Lab ID: 1610715-004

Matrix: SOIL

Received Date: 10/14/2016 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	ND	30		mg/Kg	20	10/20/2016 3:36:34 PM	28205
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	10/18/2016 6:06:44 PM	28072
Toluene	ND	0.048		mg/Kg	1	10/18/2016 6:06:44 PM	28072
Ethylbenzene	ND	0.048		mg/Kg	1	10/18/2016 6:06:44 PM	28072
Xylenes, Total	ND	0.096		mg/Kg	1	10/18/2016 6:06:44 PM	28072
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	10/18/2016 6:06:44 PM	28072

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	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1610715

Date Reported: 10/27/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: L7-0.5

Project: Liatham Fed

Collection Date: 10/10/2016 8:50:00 AM

Lab ID: 1610715-005

Matrix: SOIL

Received Date: 10/14/2016 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	ND	30		mg/Kg	20	10/20/2016 3:48:58 PM	28205
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	10/17/2016 6:30:40 PM	28076
Surr: DNOP	101	70-130		%Rec	1	10/17/2016 6:30:40 PM	28076
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/18/2016 6:31:03 PM	28072
Surr: BFB	87.8	68.3-144		%Rec	1	10/18/2016 6:31:03 PM	28072

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	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1610715

Date Reported: 10/27/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: L2-1

Project: Liatham Fed

Collection Date: 10/10/2016 8:50:00 AM

Lab ID: 1610715-006

Matrix: SOIL

Received Date: 10/14/2016 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	1900	75		mg/Kg	50	10/22/2016 1:56:47 AM	28205

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	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1610715

Date Reported: 10/27/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: L1-1

Project: Liatham Fed

Collection Date: 10/10/2016 8:50:00 AM

Lab ID: 1610715-007

Matrix: SOIL

Received Date: 10/14/2016 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	8100	300		mg/Kg	200	10/25/2016 9:38:54 PM	28232
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	9900	99		mg/Kg	10	10/18/2016 11:13:50 PM	28076
Surr: DNOP	0	70-130	S	%Rec	10	10/18/2016 11:13:50 PM	28076
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	70	50		mg/Kg	10	10/19/2016 7:50:05 PM	28072
Surr: BFB	129	68.3-144		%Rec	10	10/19/2016 7:50:05 PM	28072
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.25	D	mg/Kg	10	10/19/2016 7:50:05 PM	28072
Toluene	ND	0.50	D	mg/Kg	10	10/19/2016 7:50:05 PM	28072
Ethylbenzene	ND	0.50	D	mg/Kg	10	10/19/2016 7:50:05 PM	28072
Xylenes, Total	ND	0.99	D	mg/Kg	10	10/19/2016 7:50:05 PM	28072
Surr: 4-Bromofluorobenzene	108	80-120	D	%Rec	10	10/19/2016 7:50:05 PM	28072

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	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1610715

Date Reported: 10/27/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: L2-1.5

Project: Liatham Fed

Collection Date: 10/10/2016 8:50:00 AM

Lab ID: 1610715-008

Matrix: SOIL

Received Date: 10/14/2016 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	1100	30		mg/Kg	20	10/21/2016 1:56:54 PM	28232
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	10/17/2016 7:16:53 PM	28076
Surr: DNOP	98.5	70-130		%Rec	1	10/17/2016 7:16:53 PM	28076
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	10/18/2016 6:55:07 PM	28072
Surr: BFB	87.6	68.3-144		%Rec	1	10/18/2016 6:55:07 PM	28072

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	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1610715

Date Reported: 10/27/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: L3-1

Project: Liatham Fed

Collection Date: 10/10/2016 8:50:00 AM

Lab ID: 1610715-009

Matrix: SOIL

Received Date: 10/14/2016 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	51	30		mg/Kg	20	10/21/2016 2:09:19 PM	28232
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	10/17/2016 7:39:53 PM	28076
Surr: DNOP	93.1	70-130		%Rec	1	10/17/2016 7:39:53 PM	28076
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	10/18/2016 7:19:12 PM	28072
Surr: BFB	89.9	68.3-144		%Rec	1	10/18/2016 7:19:12 PM	28072

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	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1610715

Date Reported: 10/27/2016

CLIENT: Souder, Miller & Associates

Client Sample ID: L4-2

Project: Liatham Fed

Collection Date: 10/10/2016 8:50:00 AM

Lab ID: 1610715-010

Matrix: SOIL

Received Date: 10/14/2016 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	2800	150		mg/Kg	100	10/25/2016 9:51:19 PM	28232

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	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1610715

27-Oct-16

Client: Souder, Miller & Associates

Project: Liatham Fed

Sample ID	MB-28205	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	28205	RunNo:	38119					
Prep Date:	10/20/2016	Analysis Date:	10/20/2016	SeqNo:	1189347	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-28205	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	28205	RunNo:	38119					
Prep Date:	10/20/2016	Analysis Date:	10/20/2016	SeqNo:	1189348	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.7	90	110			

Sample ID	MB-28232	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	28232	RunNo:	38151					
Prep Date:	10/21/2016	Analysis Date:	10/21/2016	SeqNo:	1190570	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-28232	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	28232	RunNo:	38151					
Prep Date:	10/21/2016	Analysis Date:	10/21/2016	SeqNo:	1190571	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.3	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1610715

27-Oct-16

Client: Souder, Miller & Associates

Project: Liatham Fed

Sample ID	MB-28076	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	28076	RunNo:	37981					
Prep Date:	10/14/2016	Analysis Date:	10/17/2016	SeqNo:	1184449	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.6		10.00		85.7	70	130			

Sample ID	LCS-28076	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	28076	RunNo:	38007					
Prep Date:	10/14/2016	Analysis Date:	10/18/2016	SeqNo:	1184792	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	89.2	62.6	124			
Surr: DNOP	4.4		5.000		88.8	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1610715

27-Oct-16

Client: Souder, Miller & Associates

Project: Liatham Fed

Sample ID	MB-28072	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	28072	RunNo:	38021					
Prep Date:	10/14/2016	Analysis Date:	10/18/2016	SeqNo:	1185981	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	840		1000		84.1	68.3	144			

Sample ID	LCS-28072	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	28072	RunNo:	38021					
Prep Date:	10/14/2016	Analysis Date:	10/18/2016	SeqNo:	1185995	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	106	74.6	123			
Surr: BFB	930		1000		92.8	68.3	144			

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 | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1610715

27-Oct-16

Client: Souder, Miller & Associates

Project: Liatham Fed

Sample ID	MB-28072	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	28072	RunNo:	38021					
Prep Date:	10/14/2016	Analysis Date:	10/18/2016	SeqNo:	1186010	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.98		1.000		97.7	80	120			

Sample ID	LCS-28072	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	28072	RunNo:	38021					
Prep Date:	10/14/2016	Analysis Date:	10/18/2016	SeqNo:	1186011	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	92.0	75.2	115			
Toluene	0.93	0.050	1.000	0	93.5	80.7	112			
Ethylbenzene	0.96	0.050	1.000	0	95.9	78.9	117			
Xylenes, Total	2.8	0.10	3.000	0	94.9	79.2	115			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

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 | W Sample container temperature is out of limit as specified |



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

Sample Log-In Check List

Client Name: SMA-CARLSBAD

Work Order Number: 1610715

ReptNo: 1

Received by/date:	<u>AS</u>	<u>10/14/16</u>	
Logged By:	Michelle Garcia	10/14/2016 8:45:00 AM	<i>Michelle Garcia</i>
Completed By:	Michelle Garcia	10/14/2016 12:35:34 PM	<i>Michelle Garcia</i>
Reviewed By:	<u>AS</u>	<u>10/14/16</u>	

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? UPS

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? Yes No
(Note discrepancies on chain of custody)
- 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? 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)

- 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	1.7	Good	Yes			

Chain-of-Custody Record

Client: SMA

Turn-Around Time:

Standard Rush

Project Name:

201 S HALEKURO LATEX FEED

Project #:

CAESBAP NM 90220
575 699-7640

email or Fax#:

QA/QC Package:

Standard Level 4 (Full Validation)

Accreditation:

NELAP Other

EDD (Type)

Project Manager:

AUSTIN WEINAST

Sampler:

On Ice: Yes No

Sample Temperature: 1.70C

Date

Time

Sample Request ID

Container Type and #

Preservative Type

HEAL No.

10/10	8:50	41-0.5	4021		11010715
10/10	8:50	44-0.5	4021		
10/10	8:50	45-0.5			
10/10	8:50	46-0.5			
10/10	8:50	47-0.5			
10/10	8:50	42-1			
10/10	8:50	41-1			
10/10	8:50	43-1.5			
10/10	8:50	42-1			
10/10	8:50	44-2			

Date:

Time:

Relinquished by:

Date

Time

Date:

Time:

Relinquished by:

Date

Time

Received by: *Aud/Ann*

Date

Time

10/14/16 0845

Date

Time

Remarks: Verified analysis and project name with Austin.

Email MRO results, 10/14/16

10/14/16

10/14/16

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

<input checked="" type="checkbox"/> BTEX + MTBE + TMBs (8021)	<input checked="" type="checkbox"/> TPH Method 8015B (Gas/Diesel)	<input checked="" type="checkbox"/> TPH (Method 418.1)	<input checked="" type="checkbox"/> EDB (Method 504.1)	<input checked="" type="checkbox"/> 8310 (PNA or PAH)	<input checked="" type="checkbox"/> RCRA 8 Metals	<input checked="" type="checkbox"/> Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	<input checked="" type="checkbox"/> 8081 Pesticides / 8082 PCB's	<input checked="" type="checkbox"/> 8260B (VOA)	<input checked="" type="checkbox"/> 8270 (Semi-VOA)	<input type="checkbox"/> Air Bubbles (Y or N)
---	---	--	--	---	---	--	--	---	---	---

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 INITIAL

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

NM OIL CONSERVATION

ARTESIA DISTRICT

JUN 13 2016

RECEIVED

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

NAB 16116635458

OPERATOR

Initial Report Final Report

Name of Company	Bettis, Boyle & Stovall <i>2175</i>	Contact	Kyle Berend
Address	P.O Box 1240, Graham, TX 76450	Telephone No.	940-549-0780
Facility Name	Latham Federal Storage Facility	Facility Type	Oil & Produced Water Storage Facility
Surface Owner	Mineral Owner	BLM	API No. 30-015-24731

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	15	25S	29E	660	South	530	East	Eddy

Latitude _____ Longitude _____

NATURE OF RELEASE

Type of Release	Minor Release	Volume of Release	< 15 bbls	Volume Recovered	None
Source of Release	Oil and Produced Water	Date and Hour of Occurrence		Date and Hour of Discovery	06/06/16
Was Immediate Notice Given?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?			
By Whom?	Kyle Berend	Date and Hour	06/09/16 @ 8:00 a.m.		
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.*
Produced fluids have leaked from the storage tanks. Most of the contamination looks to be historic.

Describe Area Affected and Cleanup Action Taken.*
The release had breached the dike and had run several yards outside the containment area. We will dig up and replaced contaminated area along with improving the dike. ** site samples Required*

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:	<i>Kyle Berend</i>	OIL CONSERVATION DIVISION	
Printed Name:	Kyle Berend	Signed By <i>Mike Brannon</i> Approved by Environmental Specialist.	
Title:	Regulatory Analyst	Approval Date:	<i>6/14/16</i> Expiration Date: <i>N/A</i>
E-mail Address:	<i>kberend@bbsoil.com</i>	Conditions of Approval:	
Date:	06/06/16	Remediation per O.C.D. Rules & Guidelines SUBMIT REMEDIATION PROPOSAL NO LATER THAN: <i>7/14/16</i> Attached <input type="checkbox"/>	
Phone:	(940)549-0780	<i>ARP-5738</i>	

* Attach Additional Sheets If Necessary