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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

Initial Report xFinal Report

Name of Company Matador Resources Company	Contact Catherine Green
Address 500 N Main St Suite 1 Roswell NM 88201	Telephone No. 575-623-6601
Facility Name Federal AF 1	Facility Type Oil

RECEIVED
By OCD Dr Oberding at 12:44 pm, Dec 07, 2016

Surface Owner	Mineral Owner Federal	API No.30-025-27406

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	8	18S	32E	1980	S	1980	W	Lea

Latitude 32.7602425 **Longitude -103.7907257**

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 10 barrels	Volume Recovered 0
Source of Release tank over flowed	Date and Hour of Occurrence March 26-27, 2016	Date and Hour of Discovery March 27, 2016 11:00 am
Was Immediate Notice Given? XYes No Not Required	If YES, To Whom?Larry Brigance, foreman	
By Whom? Anthony Sanchez	Date and Hour March 27, 2016 11:30	
Was a Watercourse Reached? Yes XNo	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

Pumper miscalculated volume of water in tank. Did not call for water disposal truck in timely manner. Water spilled into containment. Remediation firm will collect soil samples, remove contaminated soil and replace.

Describe Area Affected and Cleanup Action Taken.*
Produced water spilled to containment. Contaminated soil was removed and replaced. Per Kristen Lynch, verbal conversation Sep. 9, 2016, 6 feet of soil was removed and replaced.

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: Catherine Green	OIL CONSERVATION DIVISION		
Printed Name: Catherine Green	Approved by ~~Environmental Specialist~~ Hydrologis:		
Title: Regulatory Analyst	Approval Date: 12/07/2016	Expiration Date: //	
E-mail Address: cgreen@matadorresources.com	Conditions of Approval: //	Attached 1R-4225	
Date Nov. 8, 2016 Phone: 575-623-6601			

* Attach Additional Sheets If Necessary

RECEIVED
By JKeyes at 11:12 am, Mar 28, 2016

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 M
Energy Minerals and Natural Resources

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1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

XInitial Report Final Report

Name of Company Matador Resources Company	Contact Catherine Green
Address 500 N Main St Suite 1 Roswell NM 88201	Telephone No. 575-623-6601
Facility Name Federal AF 1	Facility Type Oil

Surface Owner	Mineral Owner Federal	API No.30-025-27406

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	18	08	32E	1980	S	1980	W	Lea

Latitude 32.7602425 **Longitude -103.7907257**

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 10 barrels	Volume Recovered 0
Source of Release tank over flowed	Date and Hour of Occurrence March 26-27, 2016	Date and Hour of Discovery March 27, 2016 11:00 am
Was Immediate Notice Given? XYes No Not Required	If YES, To Whom? Larry Brigance, foreman	
By Whom? Anthony Sanchez	Date and Hour March 27, 2016 11:30	
Was a Watercourse Reached? Yes XNo	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.*		
Describe Cause of Problem and Remedial Action Taken.* Pumper miscalculated volume of water in tank. Did not call for water disposal truck in timely manner. Water spilled into containment. Remediation firm will collect soil samples, remove contaminated soil and replace.		

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: Catherine Green	OIL CONSERVATION DIVISION	
Printed Name: Catherine Green	Approved by Environmental Specialist:	
Title: Regulatory Analyst	Approval Date: 03/28/2016	Expiration Date: 05/28/2016
E-mail Address: cgreen@matadorresources.com	Conditions of Approval:	
Date:March 28, 2016 Phone: 575-623-6601	Discrete site samples only. Delineate and remediate per NMOCD guidelines.	Attached 1RP 4225

* Attach Additional Sheets If Necessary

nJXK1608840214
pJXK1608840286

2RP-4225

Investigation Summary and Work Plan

Federal AF #1

June 21, 2016

Introduction

This summary and work plan by Matador Resources details knowledge and plans for remediation of the Federal AF #1 spill between March 26 and 27, 2016. The Federal AF #1 is located in Section 8, Township 18S, Range 32E of Eddy County, NM. This is a federal lease. The geodetic position is 32°45.61455 N, 103°47.44354W. The release occurred between March 26 and 27, 2016. Approximately 10 barrels of fluid overflowed the produced water vessel. 0 barrels were recovered. The release was reported to the New Mexico Oil Conservation Division Hobbs office on March 28, 2016. OCD issued remediation project (RP) number 2RP-4225. Attachments include surveys, pictures, and map.

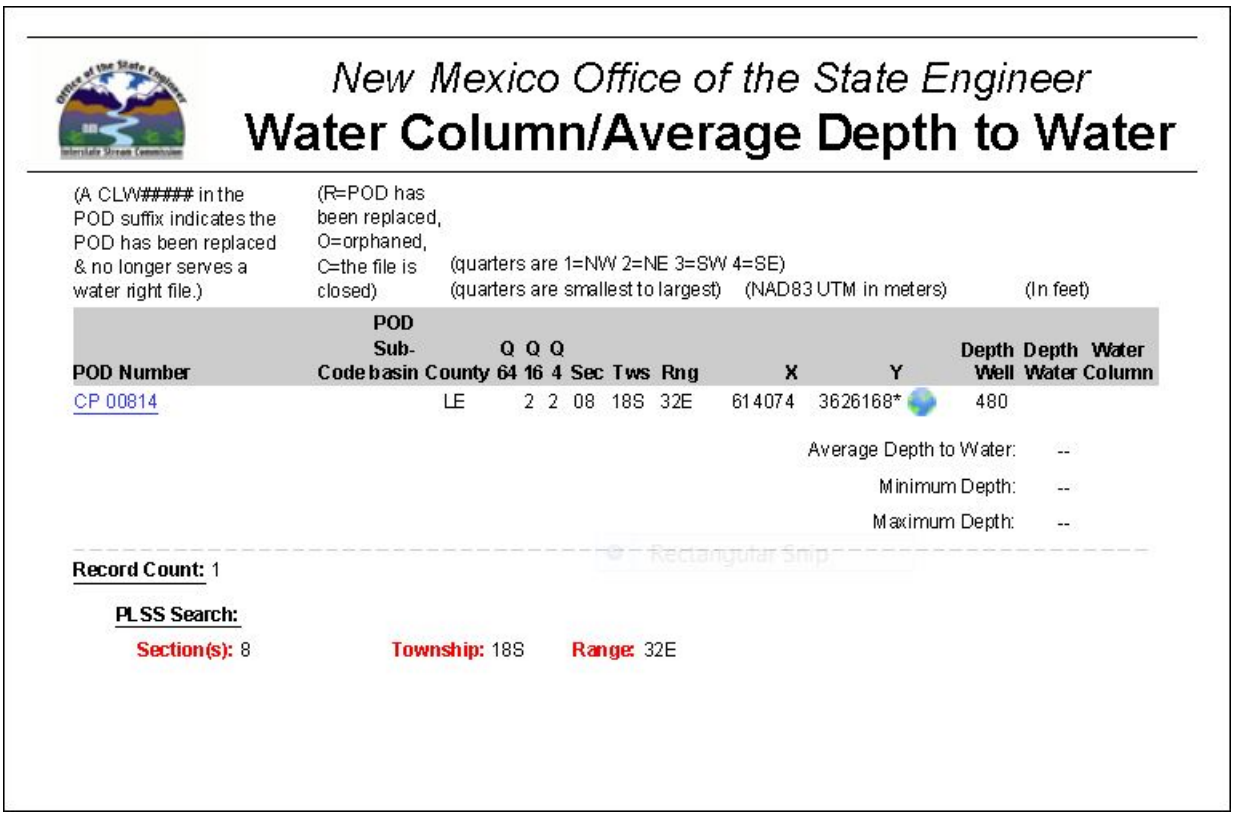
Setting

The setting is as follows:

- The surface elevation is approximately 3,756 feet above sea level.
- The topography is undulating sands with Kermit soils and dune land, along with Pyote and maljamar fine sands.
- Groundwater depth is unknown or not present according to records from the New Mexico Office of the State Engineer (OSE)
- No fresh water wells in the area. (See attached OSE water well reports)

Remediation Action

Collect soil samples at a minimum depth of 24 inches below surface near fire source to be analyzed by Cardinal Labs in Hobbs, NM. Upon return of results, determine whether or not soil needs to be remediated deeper than 24 inches below surface.



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
CP 00814			LE	2	2	08	18S	32E		614074	3626168*	480		

Average Depth to Water: --

Minimum Depth: --

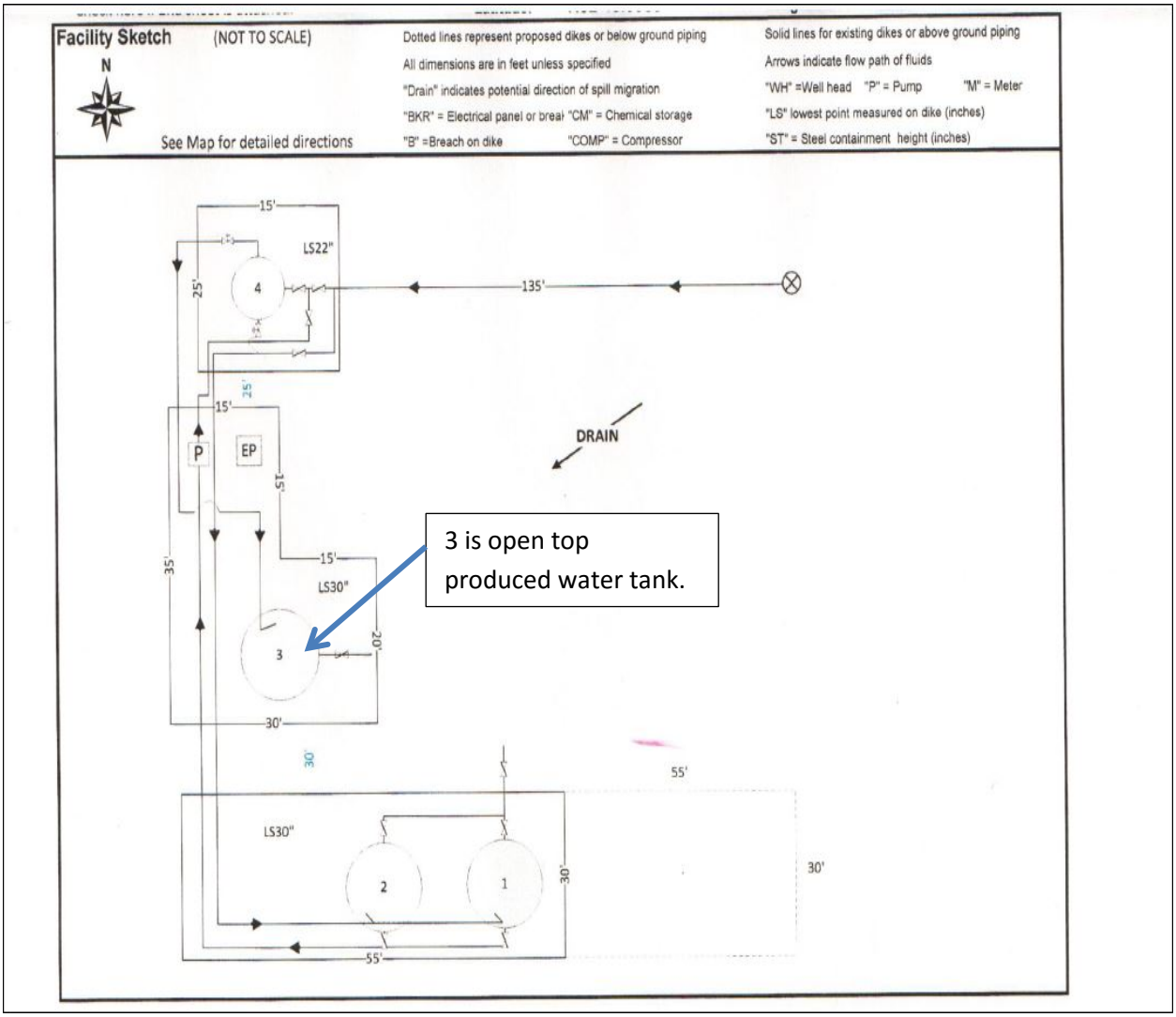
Maximum Depth: --

Record Count: 1

PLSS Search:

Section(s): 8 **Township:** 18S **Range:** 32E

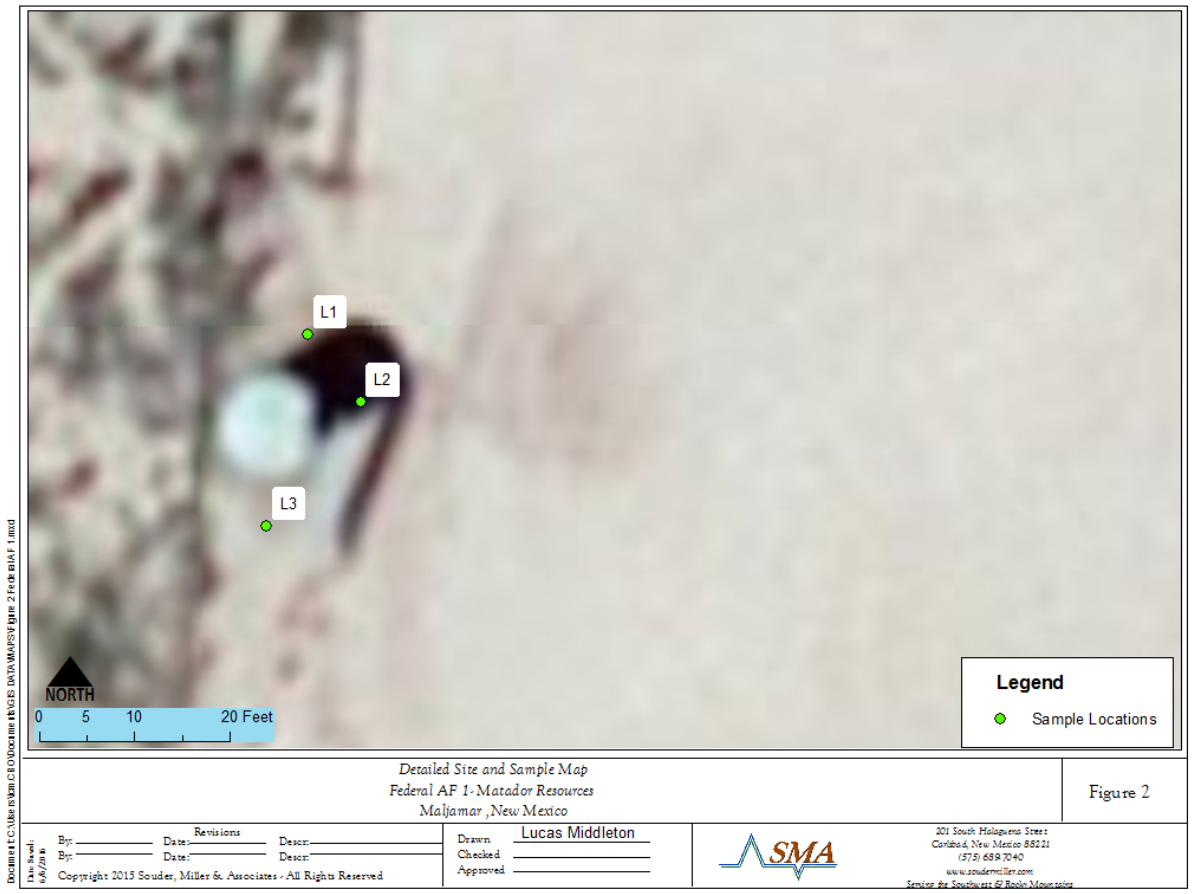
As can be seen above, one well has been drilled. However the depth of the well is 480 ft. This well was drilled in 1965 and water depth is blank.


Facility Sketch
(NOT TO SCALE)
N
See Map for detailed directions
Dotted lines represent proposed dikes or below ground piping
All dimensions are in feet unless specified
"Drain" indicates potential direction of spill migration
"BKR" = Electrical panel or breal "CM" = Chemical storage
"B" =Breach on dike "COMP" = Compressor
Solid lines for existing dikes or above ground piping
Arrows indicate flow path of fluids
"WH" =Well head "P" = Pump "M" = Meter
"LS" lowest point measured on dike (inches)
"ST" = Steel containment height (inches)
15'
LS22"
4
25'
135'
25'
15'
P
EP
15'
DRAIN
3 is open top produced water tank.
35'
15'
LS30"
3
20'
30'
30'
55'
LS30"
2
1
30'
30'
55'


2
0

Remediation Actions

Soil samples were collected as shown on the attached plat at the surface around the spill site.



The table depicting the results BTEX, TPH, and Chlorides is shown below.

Analytical Report- 1605A72	Sample Number on Figure 2 Map	Sample Date	Depth	BTEX ppm	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	Cl- mg/Kg
1605A72-001	L1	5/19/2016	0.5'	BDL	BDL	BDL	BDL	160
1605A72-002	L1-1	5/19/2016	1'	N/A	N/A	N/A	N/A	390
1605A72-003	L1-2	5/19/2016	2'	N/A	N/A	N/A	N/A	BDL
1605A72-004	L1-3	5/19/2016	3'	N/A	N/A	N/A	N/A	2500
1605A72-005	L2	5/19/2016	0.5'	BDL	BDL	BDL	BDL	580
1605A72-006	L2-1	5/19/2016	1'	N/A	N/A	N/A	N/A	45
1605A72-007	L2-2	5/19/2016	2'	N/A	N/A	N/A	N/A	2000
1605A72-008	L2-3	5/19/2016	3'	N/A	N/A	N/A	N/A	N/A
1605A72-009	L2-4	5/19/2016	4'	N/A	N/A	N/A	N/A	2300
1605A72-010	L3	5/19/2016	0.5	BDL	BDL	BDL	250	8200
1605A72-011	L3-1	5/19/2016	1'	N/A	N/A	N/A	N/A	4600
1605A72-012	L3-2	5/19/2016	2'	N/A	N/A	N/A	N/A	1600
1605A72-013	L3-3	5/19/2016	3'	N/A	N/A	N/A	N/A	260
1605A72-014	L3-4	5/19/2016	4'	N/A	N/A	N/A	N/A	470

The results of the soil analysis are attached for further investigation. Matador proposes to remove up to 6 feet of contaminated soil and replace with top soil from a local vendor.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

June 02, 2016

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

RE: Fed AF 1 OrderNo.: 1605A72

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 14 sample(s) on 5/24/2016 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

Analytical Report
Lab Order **1605A72**
Date Reported: **6/2/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: Fed AF 1
Lab ID: 1605A72-001 **Matrix:** SOIL

Client Sample ID: L1-0.5
Collection Date: 5/19/2016 3:00:00 PM
Received Date: 5/24/2016 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	160	30		mg/Kg	20	5/26/2016 4:47:26 PM	25539
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/27/2016 10:48:22 PM	25495
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/27/2016 10:48:22 PM	25495
Surr: DNOP	102	70-130		%Rec	1	5/27/2016 10:48:22 PM	25495
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/25/2016 2:17:08 PM	25461
Surr: BFB	121	80-120	S	%Rec	1	5/25/2016 2:17:08 PM	25461
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	0.094		mg/Kg	1	5/25/2016 2:17:08 PM	25461
Benzene	ND	0.023		mg/Kg	1	5/25/2016 2:17:08 PM	25461
Toluene	ND	0.047		mg/Kg	1	5/25/2016 2:17:08 PM	25461
Ethylbenzene	ND	0.047		mg/Kg	1	5/25/2016 2:17:08 PM	25461
Xylenes, Total	ND	0.094		mg/Kg	1	5/25/2016 2:17:08 PM	25461
Surr: 4-Bromofluorobenzene	114	80-120		%Rec	1	5/25/2016 2:17:08 PM	25461

Analytical Report
Lab Order **1605A72**
Date Reported: **6/2/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: Fed AF 1
Lab ID: 1605A72-002 **Matrix:** SOIL

Client Sample ID: L1-1
Collection Date: 5/19/2016 3:00:00 PM
Received Date: 5/24/2016 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	390	30		mg/Kg	20	5/31/2016 3:27:15 PM	25583

Analytical Report
Lab Order **1605A72**
Date Reported: **6/2/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-2
Project: Fed AF 1
Collection Date: 5/19/2016 3:00:00 PM
Lab ID: 1605A72-003
Matrix: SOIL
Received Date: 5/24/2016 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: LGT	
Chloride	ND	30		mg/Kg	20	5/31/2016 3:39:40 PM	25583

Analytical Report
Lab Order **1605A72**
Date Reported: **6/2/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-3
Project: Fed AF 1
Collection Date: 5/19/2016 3:00:00 PM
Lab ID: 1605A72-004
Matrix: SOIL
Received Date: 5/24/2016 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: LGT	
Chloride	2500	75		mg/Kg	50	6/2/2016 4:21:13 AM	25583

Analytical Report
Lab Order **1605A72**
Date Reported: **6/2/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L2-0.5
Project: Fed AF 1
Collection Date: 5/19/2016 3:00:00 PM
Lab ID: 1605A72-005 **Matrix:** SOIL **Received Date:** 5/24/2016 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	580	30		mg/Kg	20	5/31/2016 4:54:09 PM	25583
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/27/2016 11:10:11 PM	25495
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/27/2016 11:10:11 PM	25495
Surr: DNOP	101	70-130		%Rec	1	5/27/2016 11:10:11 PM	25495
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/25/2016 2:40:37 PM	25461
Surr: BFB	113	80-120		%Rec	1	5/25/2016 2:40:37 PM	25461
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	0.094		mg/Kg	1	5/25/2016 2:40:37 PM	25461
Benzene	ND	0.023		mg/Kg	1	5/25/2016 2:40:37 PM	25461
Toluene	ND	0.047		mg/Kg	1	5/25/2016 2:40:37 PM	25461
Ethylbenzene	ND	0.047		mg/Kg	1	5/25/2016 2:40:37 PM	25461
Xylenes, Total	ND	0.094		mg/Kg	1	5/25/2016 2:40:37 PM	25461
Surr: 4-Bromofluorobenzene	113	80-120		%Rec	1	5/25/2016 2:40:37 PM	25461

Analytical Report
Lab Order **1605A72**
Date Reported: **6/2/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-1
Project: Fed AF 1
Collection Date: 5/19/2016 3:00:00 PM
Lab ID: 1605A72-006 **Matrix:** SOIL **Received Date:** 5/24/2016 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	45	30		mg/Kg	20	5/31/2016 5:06:33 PM	25583

Analytical Report
Lab Order **1605A72**
Date Reported: **6/2/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: Fed AF 1
Lab ID: 1605A72-007
Matrix: SOIL
Client Sample ID: L1-2
Collection Date: 5/19/2016 3:00:00 PM
Received Date: 5/24/2016 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: LGT	
Chloride	2000	75		mg/Kg	50	6/2/2016 4:33:38 AM	25583

Analytical Report
Lab Order **1605A72**
Date Reported: **6/2/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: Fed AF 1
Lab ID: 1605A72-008
Matrix: SOIL
Client Sample ID: L1-3
Collection Date: 5/19/2016 3:00:00 PM
Received Date: 5/24/2016 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: LGT	
Chloride	ND	30		mg/Kg	20	5/31/2016 5:31:23 PM	25583

Analytical Report
Lab Order **1605A72**
Date Reported: **6/2/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: Fed AF 1
Lab ID: 1605A72-009
Matrix: SOIL
Client Sample ID: L2-4
Collection Date: 5/19/2016 3:00:00 PM
Received Date: 5/24/2016 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: LGT	
Chloride	2300	75		mg/Kg	50	6/2/2016 4:46:03 AM	25583

Analytical Report
Lab Order **1605A72**
Date Reported: **6/2/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L3-0.5
Project: Fed AF 1
Collection Date: 5/19/2016 3:00:00 PM
Lab ID: 1605A72-010 **Matrix:** SOIL **Received Date:** 5/24/2016 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	8200	300		mg/Kg	200	6/2/2016 4:58:27 AM	25583
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	100	10		mg/Kg	1	5/27/2016 11:31:47 PM	25495
Motor Oil Range Organics (MRO)	150	50		mg/Kg	1	5/27/2016 11:31:47 PM	25495
Surr: DNOP	120	70-130		%Rec	1	5/27/2016 11:31:47 PM	25495
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/25/2016 3:04:08 PM	25461
Surr: BFB	113	80-120		%Rec	1	5/25/2016 3:04:08 PM	25461
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	5/25/2016 3:04:08 PM	25461
Benzene	ND	0.025		mg/Kg	1	5/25/2016 3:04:08 PM	25461
Toluene	ND	0.050		mg/Kg	1	5/25/2016 3:04:08 PM	25461
Ethylbenzene	ND	0.050		mg/Kg	1	5/25/2016 3:04:08 PM	25461
Xylenes, Total	ND	0.10		mg/Kg	1	5/25/2016 3:04:08 PM	25461
Surr: 4-Bromofluorobenzene	115	80-120		%Rec	1	5/25/2016 3:04:08 PM	25461

Analytical Report
Lab Order **1605A72**
Date Reported: **6/2/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L3-1
Project: Fed AF 1
Collection Date: 5/19/2016 3:00:00 PM
Lab ID: 1605A72-011 **Matrix:** SOIL **Received Date:** 5/24/2016 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	4600	150		mg/Kg	100	6/2/2016 5:10:52 AM	25583

Analytical Report
Lab Order **1605A72**
Date Reported: **6/2/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: Fed AF 1
Lab ID: 1605A72-012 **Matrix:** SOIL

Client Sample ID: L3-2
Collection Date: 5/19/2016 3:00:00 PM
Received Date: 5/24/2016 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	1600	75		mg/Kg	50	6/2/2016 5:23:17 AM	25583

Analytical Report
Lab Order **1605A72**
Date Reported: **6/2/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: Fed AF 1
Lab ID: 1605A72-013 **Matrix:** SOIL

Client Sample ID: L3-3
Collection Date: 5/19/2016 3:00:00 PM
Received Date: 5/24/2016 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	260	30		mg/Kg	20	5/31/2016 6:33:26 PM	25583

Analytical Report
Lab Order **1605A72**
Date Reported: **6/2/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: Fed AF 1
Lab ID: 1605A72-014 **Matrix:** SOIL

Client Sample ID: L3-4
Collection Date: 5/19/2016 3:00:00 PM
Received Date: 5/24/2016 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	470	30		mg/Kg	20	5/31/2016 7:10:40 PM	25583

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1605A72

02-Jun-16

Client: Souder, Miller & Associates

Project: Fed AF 1

Sample ID	MB-25539	SampType:	mblk	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	25539	RunNo:	34533					
Prep Date:	5/26/2016	Analysis Date:	5/26/2016	SeqNo:	1065112	Units:	mg/Kg			

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

Sample ID	LCS-25539	SampType:	lcs	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	25539	RunNo:	34533					
Prep Date:	5/26/2016	Analysis Date:	5/26/2016	SeqNo:	1065113	Units:	mg/Kg			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.0	90	110			

Sample ID	MB-25583	SampType:	mblk	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	25583	RunNo:	34591					
Prep Date:	5/31/2016	Analysis Date:	5/31/2016	SeqNo:	1066733	Units:	mg/Kg			

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

Sample ID	LCS-25583	SampType:	lcs	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	25583	RunNo:	34591					
Prep Date:	5/31/2016	Analysis Date:	5/31/2016	SeqNo:	1066734	Units:	mg/Kg			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.2	90	110			

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1605A72

02-Jun-16

Client: Souder, Miller & Associates

Project: Fed AF 1

Sample ID	LCS-25495	SampType:	LCS		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	LCSS	Batch ID:	25495		RunNo:	34525				
Prep Date:	5/25/2016	Analysis Date:	5/27/2016		SeqNo:	1065528	Units:	mg/Kg		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	94.8	62.6	124			
Surr: DNOP	4.4		5.000		87.4	70	130			

Sample ID	MB-25495	SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS	Batch ID:	25495		RunNo:	34525				
Prep Date:	5/25/2016	Analysis Date:	5/27/2016		SeqNo:	1065529	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	9.6		10.00		95.8	70	130			

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1605A72

02-Jun-16

Client: Souder, Miller & Associates

Project: Fed AF 1

Sample ID	MB-25461	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	25461	RunNo:	34464					
Prep Date:	5/24/2016	Analysis Date:	5/25/2016	SeqNo:	1063448	Units:	mg/Kg			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		114	80	120			

Sample ID	LCS-25461	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	25461	RunNo:	34464					
Prep Date:	5/24/2016	Analysis Date:	5/25/2016	SeqNo:	1063449	Units:	mg/Kg			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	1.1	0.10	1.000	0	111	61	143			
Benzene	1.1	0.025	1.000	0	106	75.3	123			
Toluene	1.1	0.050	1.000	0	106	80	124			
Ethylbenzene	1.0	0.050	1.000	0	103	82.8	121			
Xylenes, Total	3.1	0.10	3.000	0	103	83.9	122			
Surr: 4-Bromofluorobenzene	1.2		1.000		118	80	120			

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1605A72

02-Jun-16

Client: Souder, Miller & Associates

Project: Fed AF 1

Sample ID **MB-25461** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **PBS** Batch ID: **25461** RunNo: **34464**

Prep Date: **5/24/2016** Analysis Date: **5/25/2016** SeqNo: **1063427** 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	1100		1000		110	80	120			

Sample ID **LCS-25461** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **LCSS** Batch ID: **25461** RunNo: **34464**

Prep Date: **5/24/2016** Analysis Date: **5/25/2016** SeqNo: **1064053** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	93.9	80	120			
Surr: BFB	1200		1000		121	80	120			S

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: **1605A72** RcptNo: 1

Received by/date: 05/24/16

Logged By: **Ashley Gallegos** **5/24/2016 9:40:00 AM**

Completed By: **Ashley Gallegos** **5/24/2016 11:24:36 AM**

Reviewed By: 05/24/16

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by:

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.6	Good	Yes			

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Client: Souder Miller & Associates
Mailing Address:
Phone #:
Email or Fax#:
QA/QC Package: Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time: ☐ Standard ☐ Rush
Project Name: Fed AF #1
Project #:
Project Manager: Austin Weyant
Sampler: LCM
On Ice: ☒ Yes ☐ No
Sample Temperature: 3.6-1.0CF=2.6

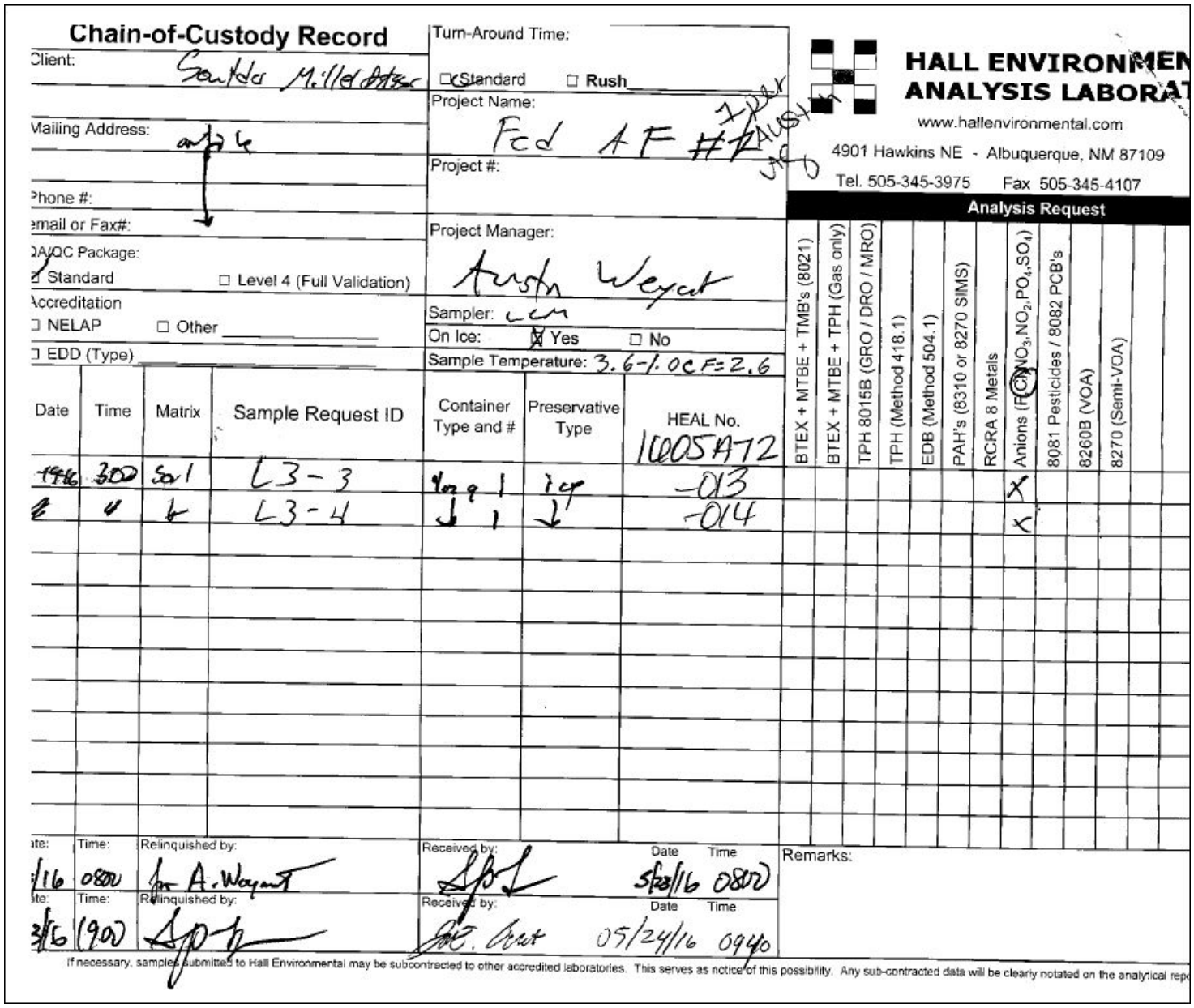
Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1605A72	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F^-, Cl^-, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)
5/19/16	3020	Soil	L1-0.5	4oz 1	ice	-001	X		X					X			
			1			-002								X			
			2			-003								X			
			3			-004								X			
			L2-0.5			-005	X		X					X			
			L1-1			-006								X			
			L1-2			-007								X			
			L1-3			-008								X			
			L2-4			-009								X			
			L3 0.5			-010	X		X					X			
			1			-011								X			
			2			-012								X			

Date	Time	Relinquished by:	Received by:	Date	Time
5/19/16	0800	[signature]	[signature]	5/20/16	0800
5/19/16	1900	[signature]	[signature]	05/24/16	0940

Remarks:

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



Chain-of-Custody Record

Client: Souder Miller Assoc

Mailing Address: [illegible]

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☐ Rush 1 DAY RUSH

Project Name: Fed AF #1

Project #:

Project Manager: Austin Weyant

Sampler: LM

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.6-1.0 °C F=2.6

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)		
5/6	1300	Soil	L3-3	4oz g 1	ice	1605A72-013								X					
"	"	"	L3-4	" 1	"	-014								X					

Date:	Time:	Relinquished by:	Received by:	Date	Time
5/6/16	0800	Austin Weyant	[signature]	5/20/16	0800
5/6/16	1900	[signature]	[signature]	05/24/16	0940

Remarks:

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

Detailed Site and Sample Map
Federal AF 1- Matador Resources
Maljamar ,New Mexico

Figure 2

Document: C:\Users\lcm.CBO\Documents\GIS DATA\MAPS\Figure 2 Federal AF 1.mxd

Date Saved: 9/26/2016

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

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Drawn Lucas Middleton
Checked
Approved

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

Table 2: Summary of Laboratory Analyses

Analytical Report- 1609E42	Sample Number on Figure 2 Map	Sample Date	Depth	BTEX ppm	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	Cl- mg/Kg
1609E42-001	L1	9/20/2016	5'	BDL	BDL	BDL	BDL	510
1609E42-002	L2	9/20/2016	5'	BDL	BDL	BDL	85	260
1609E42-003	L2	9/20/2016	6'	BDL	BDL	BDL	BDL	BDL
1609E42-004	L3	9/20/2016	4.5'	BDL	BDL	BDL	270	410
1609E42-005	L3	9/20/2016	6'	BDL	BDL	BDL	BDL	BDL

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

October 05, 2016

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

RE: Federal AF OrderNo.: 1609E42

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 5 sample(s) on 9/23/2016 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-5
Project: Federal AF
Collection Date: 9/20/2016 2:00:00 PM
Lab ID: 1609E42-001 **Matrix:** SOIL **Received Date:** 9/23/2016 9:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	510	30		mg/Kg	20	10/3/2016 11:41:29 PM	27860
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/28/2016 5:35:44 PM	27716
Surr: BFB	103	70-130		%Rec	1	9/28/2016 5:35:44 PM	27716
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/29/2016 4:27:57 PM	27772
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/29/2016 4:27:57 PM	27772
Surr: DNOP	110	70-130		%Rec	1	9/29/2016 4:27:57 PM	27772
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**	
Methyl tert-butyl ether (MTBE)	ND	0.047		mg/Kg	1	9/28/2016 5:35:44 PM	27716
Benzene	ND	0.024		mg/Kg	1	9/28/2016 5:35:44 PM	27716
Toluene	ND	0.047		mg/Kg	1	9/28/2016 5:35:44 PM	27716
Ethylbenzene	ND	0.047		mg/Kg	1	9/28/2016 5:35:44 PM	27716
Xylenes, Total	ND	0.095		mg/Kg	1	9/28/2016 5:35:44 PM	27716
Surr: 1,2-Dichloroethane-d4	91.2	70-130		%Rec	1	9/28/2016 5:35:44 PM	27716
Surr: 4-Bromofluorobenzene	93.5	70-130		%Rec	1	9/28/2016 5:35:44 PM	27716
Surr: Dibromofluoromethane	112	70-130		%Rec	1	9/28/2016 5:35:44 PM	27716
Surr: Toluene-d8	88.4	70-130		%Rec	1	9/28/2016 5:35:44 PM	27716

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.

CLIENT: Souder, Miller & Associates
Client Sample ID: L2-5
Project: Federal AF
Collection Date: 9/20/2016 2:00:00 PM
Lab ID: 1609E42-002 **Matrix:** SOIL **Received Date:** 9/23/2016 9:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	260	30		mg/Kg	20	10/4/2016 12:18:44 AM	27860
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/28/2016 6:04:25 PM	27716
Surr: BFB	105	70-130		%Rec	1	9/28/2016 6:04:25 PM	27716
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	85	9.4		mg/Kg	1	10/3/2016 12:27:17 PM	27809
Motor Oil Range Organics (MRO)	92	47		mg/Kg	1	10/3/2016 12:27:17 PM	27809
Surr: DNOP	107	70-130		%Rec	1	10/3/2016 12:27:17 PM	27809
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**	
Methyl tert-butyl ether (MTBE)	ND	0.047		mg/Kg	1	9/28/2016 6:04:25 PM	27716
Benzene	ND	0.024		mg/Kg	1	9/28/2016 6:04:25 PM	27716
Toluene	ND	0.047		mg/Kg	1	9/28/2016 6:04:25 PM	27716
Ethylbenzene	ND	0.047		mg/Kg	1	9/28/2016 6:04:25 PM	27716
Xylenes, Total	ND	0.095		mg/Kg	1	9/28/2016 6:04:25 PM	27716
Surr: 1,2-Dichloroethane-d4	93.8	70-130		%Rec	1	9/28/2016 6:04:25 PM	27716
Surr: 4-Bromofluorobenzene	89.7	70-130		%Rec	1	9/28/2016 6:04:25 PM	27716
Surr: Dibromofluoromethane	112	70-130		%Rec	1	9/28/2016 6:04:25 PM	27716
Surr: Toluene-d8	89.8	70-130		%Rec	1	9/28/2016 6:04:25 PM	27716

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.

CLIENT: Souder, Miller & Associates
Client Sample ID: L2-6
Project: Federal AF
Collection Date: 9/20/2016 2:00:00 PM
Lab ID: 1609E42-003 **Matrix:** SOIL **Received Date:** 9/23/2016 9:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	10/4/2016 12:31:09 AM	27860
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/28/2016 6:33:05 PM	27716
Surr: BFB	106	70-130		%Rec	1	9/28/2016 6:33:05 PM	27716
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/29/2016 5:54:14 PM	27772
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/29/2016 5:54:14 PM	27772
Surr: DNOP	105	70-130		%Rec	1	9/29/2016 5:54:14 PM	27772
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**	
Methyl tert-butyl ether (MTBE)	ND	0.048		mg/Kg	1	9/28/2016 6:33:05 PM	27716
Benzene	ND	0.024		mg/Kg	1	9/28/2016 6:33:05 PM	27716
Toluene	ND	0.048		mg/Kg	1	9/28/2016 6:33:05 PM	27716
Ethylbenzene	ND	0.048		mg/Kg	1	9/28/2016 6:33:05 PM	27716
Xylenes, Total	ND	0.096		mg/Kg	1	9/28/2016 6:33:05 PM	27716
Surr: 1,2-Dichloroethane-d4	98.1	70-130		%Rec	1	9/28/2016 6:33:05 PM	27716
Surr: 4-Bromofluorobenzene	91.6	70-130		%Rec	1	9/28/2016 6:33:05 PM	27716
Surr: Dibromofluoromethane	115	70-130		%Rec	1	9/28/2016 6:33:05 PM	27716
Surr: Toluene-d8	90.9	70-130		%Rec	1	9/28/2016 6:33:05 PM	27716

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.

CLIENT: Souder, Miller & Associates
Client Sample ID: L3-4.5
Project: Federal AF
Collection Date: 9/20/2016 2:00:00 PM
Lab ID: 1609E42-004 **Matrix:** SOIL **Received Date:** 9/23/2016 9:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	410	30		mg/Kg	20	10/4/2016 12:43:33 AM	27860
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/28/2016 7:01:47 PM	27716
Surr: BFB	105	70-130		%Rec	1	9/28/2016 7:01:47 PM	27716
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	270	9.9		mg/Kg	1	10/3/2016 12:49:16 PM	27809
Motor Oil Range Organics (MRO)	130	49		mg/Kg	1	10/3/2016 12:49:16 PM	27809
Surr: DNOP	108	70-130		%Rec	1	10/3/2016 12:49:16 PM	27809
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**	
Methyl tert-butyl ether (MTBE)	ND	0.048		mg/Kg	1	9/28/2016 7:01:47 PM	27716
Benzene	ND	0.024		mg/Kg	1	9/28/2016 7:01:47 PM	27716
Toluene	ND	0.048		mg/Kg	1	9/28/2016 7:01:47 PM	27716
Ethylbenzene	ND	0.048		mg/Kg	1	9/28/2016 7:01:47 PM	27716
Xylenes, Total	ND	0.096		mg/Kg	1	9/28/2016 7:01:47 PM	27716
Surr: 1,2-Dichloroethane-d4	99.6	70-130		%Rec	1	9/28/2016 7:01:47 PM	27716
Surr: 4-Bromofluorobenzene	86.5	70-130		%Rec	1	9/28/2016 7:01:47 PM	27716
Surr: Dibromofluoromethane	116	70-130		%Rec	1	9/28/2016 7:01:47 PM	27716
Surr: Toluene-d8	90.7	70-130		%Rec	1	9/28/2016 7:01:47 PM	27716

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.

CLIENT: Souder, Miller & Associates
Client Sample ID: L3-6
Project: Federal AF
Collection Date: 9/20/2016 2:00:00 PM
Lab ID: 1609E42-005 **Matrix:** SOIL **Received Date:** 9/23/2016 9:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	10/4/2016 12:55:57 AM	27860
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/28/2016 7:30:26 PM	27716
Surr: BFB	104	70-130		%Rec	1	9/28/2016 7:30:26 PM	27716
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	9/29/2016 7:20:19 PM	27772
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/29/2016 7:20:19 PM	27772
Surr: DNOP	87.9	70-130		%Rec	1	9/29/2016 7:20:19 PM	27772
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**	
Methyl tert-butyl ether (MTBE)	ND	0.046		mg/Kg	1	9/28/2016 7:30:26 PM	27716
Benzene	ND	0.023		mg/Kg	1	9/28/2016 7:30:26 PM	27716
Toluene	ND	0.046		mg/Kg	1	9/28/2016 7:30:26 PM	27716
Ethylbenzene	ND	0.046		mg/Kg	1	9/28/2016 7:30:26 PM	27716
Xylenes, Total	ND	0.092		mg/Kg	1	9/28/2016 7:30:26 PM	27716
Surr: 1,2-Dichloroethane-d4	99.7	70-130		%Rec	1	9/28/2016 7:30:26 PM	27716
Surr: 4-Bromofluorobenzene	88.9	70-130		%Rec	1	9/28/2016 7:30:26 PM	27716
Surr: Dibromofluoromethane	114	70-130		%Rec	1	9/28/2016 7:30:26 PM	27716
Surr: Toluene-d8	85.7	70-130		%Rec	1	9/28/2016 7:30:26 PM	27716

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

Qualifiers:

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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#: **1609E42**

05-Oct-16

Client: Souder, Miller & Associates

Project: Federal AF

Sample ID	**MB-27860**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**27860**	RunNo:	**37656**					
Prep Date:	**10/3/2016**	Analysis Date:	**10/3/2016**	SeqNo:	**1172612**	Units:	**mg/Kg**			

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

Sample ID	**LCS-27860**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**27860**	RunNo:	**37656**					
Prep Date:	**10/3/2016**	Analysis Date:	**10/3/2016**	SeqNo:	**1172613**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.6	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#: **1609E42**

05-Oct-16

Client: Souder, Miller & Associates

Project: Federal AF

Sample ID **LCS-27772**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **27772**	RunNo: **37555**
Prep Date: **9/28/2016**	Analysis Date: **9/29/2016**	SeqNo: **1169384** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	104	62.6	124			
Surr: DNOP	4.9		5.000		97.5	70	130			

Sample ID **MB-27772**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **27772**	RunNo: **37555**
Prep Date: **9/28/2016**	Analysis Date: **9/29/2016**	SeqNo: **1169386** 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	12		10.00		118	70	130			

Sample ID **LCS-27809**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **27809**	RunNo: **37625**
Prep Date: **9/30/2016**	Analysis Date: **10/3/2016**	SeqNo: **1171361** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	104	62.6	124			
Surr: DNOP	5.1		5.000		101	70	130			

Sample ID **MB-27809**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **27809**	RunNo: **37625**
Prep Date: **9/30/2016**	Analysis Date: **10/3/2016**	SeqNo: **1171362** 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	11		10.00		106	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#: **1609E42**

05-Oct-16

Client: Souder, Miller & Associates

Project: Federal AF

Sample ID **lcs-27716**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS**	Batch ID: **27716**	RunNo: **37515**
Prep Date: **9/26/2016**	Analysis Date: **9/28/2016**	SeqNo: **1166848** 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	1.1	0.025	1.000	0	111	49.2	155			
Toluene	0.89	0.050	1.000	0	88.7	52	154			
Ethylbenzene	0.96	0.050	1.000	0	96.0	70	130			
Xylenes, Total	2.8	0.10	3.000	0	94.9	70	130			
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		94.4	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		93.8	70	130			
Surr: Dibromofluoromethane	0.55		0.5000		111	70	130			
Surr: Toluene-d8	0.43		0.5000		86.0	70	130			

Sample ID **mb-27716**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **27716**	RunNo: **37515**
Prep Date: **9/26/2016**	Analysis Date: **9/27/2016**	SeqNo: **1166849** 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	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.54		0.5000		107	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.5000		92.1	70	130			
Surr: Dibromofluoromethane	0.61		0.5000		121	70	130			
Surr: Toluene-d8	0.45		0.5000		89.2	70	130			

Qualifiers:

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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#: **1609E42**

05-Oct-16

Client: Souder, Miller & Associates

Project: Federal AF

Sample ID	**lcs-27716**	SampType:	**LCS**		TestCode:	**EPA Method 8015D Mod: Gasoline Range**				
Client ID:	**LCSS**	Batch ID:	**27716**		RunNo:	**37515**				
Prep Date:	**9/26/2016**	Analysis Date:	**9/27/2016**		SeqNo:	**1166751**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	90.2	62.9	123			
Surr: BFB	520		500.0		105	70	130			

Sample ID	**mb-27716**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D Mod: Gasoline Range**				
Client ID:	**PBS**	Batch ID:	**27716**		RunNo:	**37515**				
Prep Date:	**9/26/2016**	Analysis Date:	**9/27/2016**		SeqNo:	**1166753**	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	550		500.0		110	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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: SMA-CARLSBAD | Work Order Number: 1609E42 | RcptNo: 1

Received by/date: AJ 09/23/16

Logged By: Michelle Garcia 9/23/2016 9:20:00 AM Michelle Garcia

Completed By: Michelle Garcia 9/26/2016 12:54:23 PM Michelle Garcia

Reviewed By: 09/26/16

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ 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	4.4	Good	Yes			

Chain-of-Custody Record

Client: SMA Carlsbad

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: Federal AF

Project #:

Project Manager: Austin Weyant

Sampler: LCM

On Ice: ☑ Yes ☐ No

Sample Temperature: 4.4°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1609E48	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)
9-2016	2:00	Soil	L1-5'	4oz		001	X		X					X								
			L2-5'			002	X		X	JMB 9/20/16				X							
			L2-6'			003	X		X					X								
			L3-4.5			004	X		X					X								
			L3 6			005	X		X					X								

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
9/22/16	0800			09/23/16	0920
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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