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

INFORMATION ONLY

June 10, 2016

#5B24624 BG4

Catherine Green
Regulatory Analyst
Matador Resources Company
PO Box 1933,
Roswell, NM 88202

SUBJECT: SUMMARY OF WORK PERFORMED AT THE Young Deep Unit 23 SURFACE LOCATION, LEA COUNTY, NEW MEXICO

Dear Mrs. Green,

Souder, Miller & Associates (SMA) is pleased to submit this summary of work and laboratory analytical results for the baseline environmental site assessment, related to the surface location of the Young Deep Unit 23. SMA staff based in the Carlsbad, New Mexico office, within 25 miles of the project site performed the field sampling survey staked location located at UL(J) Section 9 Township 18 South Range 32 East. All samples collected were sent under chain of custody to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico for laboratory analytical confirmation. Senior support and QAQC review on this project was provided by our Farmington office.

For questions or comments pertaining to the assessment, please feel free to contact me.

Submitted by:

SOUDER, MILLER & ASSOCIATES

J. Austin Weyant
Project Scientist

Reviewed by:

Cynthia Gray, CHMM
Senior Scientist

SITE ASSESSMENT AND SAMPLE RESULTS

YOUNG DEEP UNIT 23
API # 30-025-29896

UNIT J, SECTION 9, T18S R32E, NMPM
EDDY COUNTY, NM

Prepared for:
Matador Resources Company
PO Box 1933,
Roswell, NM 88202

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

June 9, 2016
SMA Reference
5B24270 BG4

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Table 1: Release information and Site Ranking					
Name	Young Deep Unit 23				
Location	Incident Number	API Number	Section, Township, Range		
	1RP-4157	30-025-29896	SW/NE (Unit J)	Section 9	T18 S, R 32E NMPM
Estimated Date of Release	February 6, 2016				
Date Reported to NMOCD	February 7, 2016				
Reported by	Catherone Green- Matador Resources				
Land Owner	Bureau of Land Management				
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Equipment Error				
Released Material	Hydrocarbon				
Released Volume	35 bbls Crude Oil				
Recovered Volume	8bbls Crude Oil				
Net Release	27 bbls Crude Oil				
Nearest Waterway	11 miles West of the location				
Depth to Groundwater	Estimated to be 65 bgs				
Nearest Domestic Water Source	Greater than 1,000 feet				
NMOCD Ranking	10				
SMA Response Dates	Initial: 5/19/16 Mitigation Activities: TBA				
Subcontractors	N/A				
Disposal Facility	N/A				
Estimated Yd^3 Contaminated Soil Excavated and Disposed	N/A				

1.0 Introduction

At the request of Matador Resources Company, Souder, Miller & Associates (SMA) has prepared this summary of soil sample results related to the Young Deep Unit 23 API 30-025-29896 which is located in Lea County, New Mexico, on land owned by Bureau of Land Management.

2.0 Site Assessment

On April 27, 2016, SMA Carlsbad Office personnel requested, on behalf of Matador Resources Company, that SMA should collect soil samples on the Young Deep Unit 23 in Lea County, New Mexico. The purpose of the sample event was to document current soil conditions of the property.

3.0 Summary of Work Performed

On May 20, 2016, after receiving clearance from Matador Resources CO, SMA field personnel went to the proposed location and assessed the soils with a Photo Ionization Detector RAE 2000 NMOCD Headspace method and a field (EC) Electro conductivity meter NRCS method 1:1. Samples were taken to depths of 1 foot below ground surface (bgs). Specific sample locations for all samples are depicted on Figure 2 (Sample Location Map) along with sampling details. All samples were collected and processed according to NMOCD, NRCS and SMA soil sampling procedures.

Each sample container was labeled, placed on ice in an insulated cooler, and chilled to a temperature of approximately 40°F (4°C). The cooler was then sealed for shipment to the laboratory. The soil samples were delivered to Hall Environmental Analysis Laboratory, in Albuquerque, New Mexico for TPH (GRO/ DRO) analysis by EPA Method 8015 (modified), BTEX analyses by EPA Method\8021B and Chlorides Anions EPA Method 300. Proper chain-of-custody documentation accompanied the samples to the laboratory.

4.0 Conclusions and Recommendations

Four samples locations were collected on Young Deep Unit 23 location. Sample depths were taken at .5 feet bgs and 1 foot bgs.

Each sample was analyzed by a Laboratory for baseline of Benzene, BTEX, TPH and Chlorides. Sample results (Table 3) exhibit below the NMOCD Recommend Remediation Action Levels (Guideline for Remediation of Leaks, Spills and Releases, 1993)

Soil sample locations are illustrated in Figure 2. A summary of laboratory analytical results is included in Table 2. Laboratory reports are included in Appendix A.

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

Submitted by:

SOUDER, MILLER & ASSOCIATES

Austin Weyant
Project Scientist

Reviewed by:

Cynthia Gray, CHMM
Senior Scientist

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Figure 1: Vicinity Map
Figure 2: Detailed Site and Sample Map

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Table 2: Summary of Lab Results

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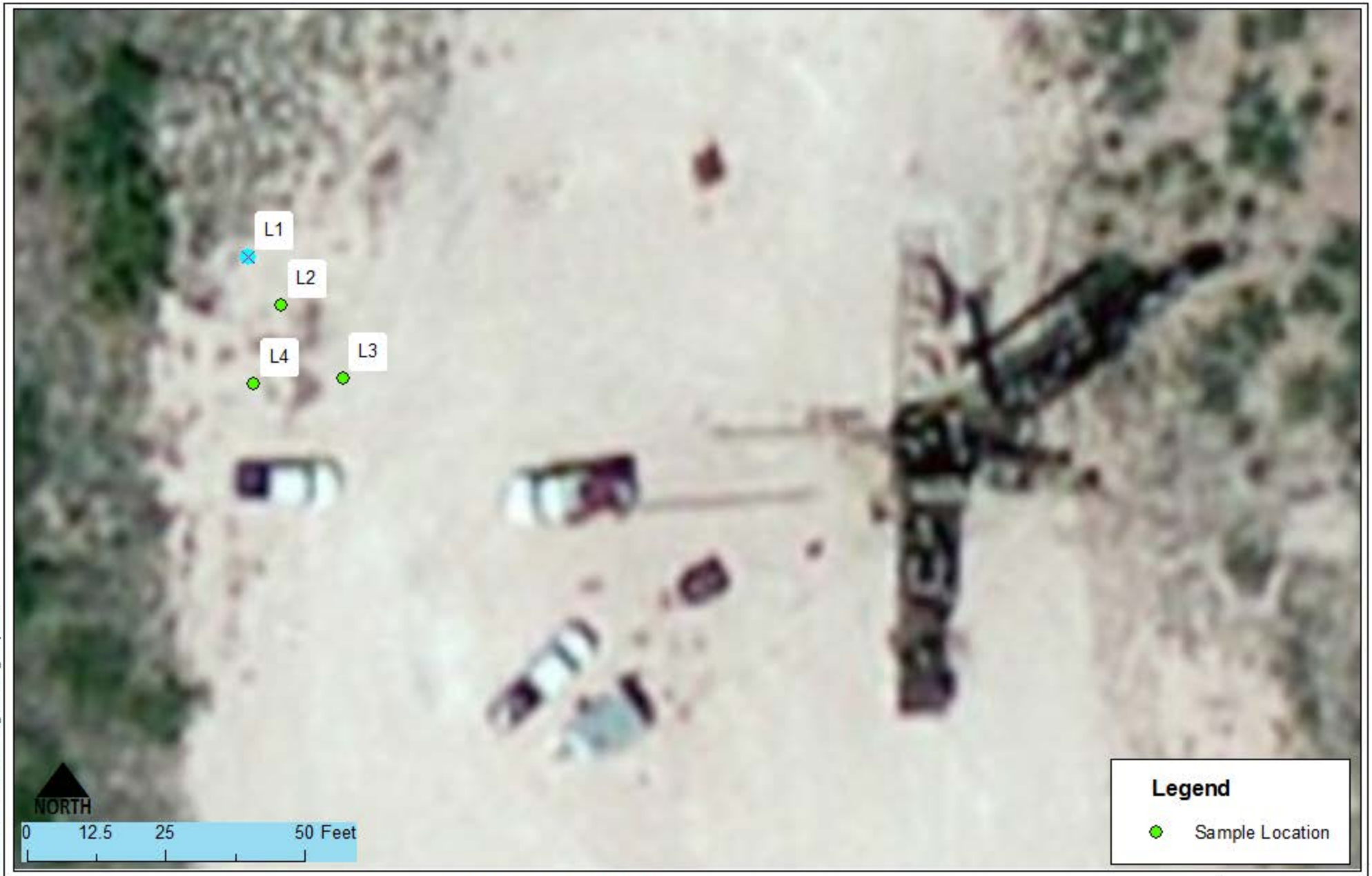
Appendix B: Photos and Field Notes

FIGURE 1
VICINITY MAP

FIGURE 2

DETAILED SITE AND SAMPLE MAP



Detailed Site and Sample Map
Young Deep Unit 32 = Matador Resources
Maljamar , New Mexico

Figure 2

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

Drawn: Lucas Middleton
Checked:
Approved:

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

Date Saved: 6/6/2016

Document1:C:\Users\lucas\Documents\GIS DATA\MAPS\Figure 2 Young Deep 23.mxd

TABLE 1
SUMMARY OF FIELD RESULTS

Table 2: Summary of Chloride Field Screening Results

Young Deep
Hydrocarbon
5/19/16

FIELD SCREENING RESULTS SUMMARY					
Date	Time	Field Screening Reference	Sample Depth (Feet BGS)	Chlorides Results	Lab Sample Collected Y/N
5/19/2016	2:00	L1	0.5'	198	Y
5/19/2016	2:00	L-1	1'	105	Y
5/19/2016	2:00	L2	0.5'	167	Y
5/19/2016	2:00	L2-1	1'	85	Y
5/19/2016	2:00	L3	0.5'	99	Y
5/19/2016	2:00	L3-1	1'	109	Y
5/19/2016	2:00	L4	.05'	162	Y
5/19/2016	2:00	L4-1	1'	122	Y

TABLE 2

SUMMARY OF LABORATORY ANALYSES

Table 3: Summary of Laboratory Analyses

Analytical Report- 1605A76	Sample Number on Figure 2 Map	Sample Date	Depth	BTEX ppm	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	Cl- mg/Kg
1605A76-001	L1	5/19/2016	0.5'	BDL	BDL	BDL	197	BDL
1605A76-002	L-1	5/19/2016	1'	BDL	BDL	BDL	BDL	BDL
1605A76-003	L2	5/19/2016	0.5'	N/A	N/A	N/A	N/A	BDL
1605A76-004	L2-1	5/19/2016	1'	N/A	N/A	N/A	N/A	BDL
1605A76-005	L3	5/19/2016	0.5'	BDL	BDL	BDL	BDL	36
1605A76-006	L3-1	5/19/2016	1'	BDL	BDL	BDL	BDL	64
1605A76-007	L4	5/19/2016	.05'	N/A	N/A	N/A	N/A	BDL
1605A76-008	L4-1	5/19/2016	1'	N/A	N/A	N/A	N/A	BDL

APPENDIX A
LABORATORY REPORT

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 01, 2016

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

RE: Young Deep 11 OrderNo.: 1605A76

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 8 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-05
Project: Young Deep 11
Collection Date: 5/19/2016 1:00:00 PM
Lab ID: 1605A76-001
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 8:49:56 PM	25584
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	27	9.9		mg/Kg	1	5/31/2016 9:25:16 AM	25495
Motor Oil Range Organics (MRO)	180	49		mg/Kg	1	5/31/2016 9:25:16 AM	25495
Surr: DNOP	102	70-130		%Rec	1	5/31/2016 9:25:16 AM	25495
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/25/2016 6:58:47 PM	25461
Surr: BFB	111	80-120		%Rec	1	5/25/2016 6:58:47 PM	25461
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	0.095		mg/Kg	1	5/25/2016 6:58:47 PM	25461
Benzene	ND	0.024		mg/Kg	1	5/25/2016 6:58:47 PM	25461
Toluene	ND	0.048		mg/Kg	1	5/25/2016 6:58:47 PM	25461
Ethylbenzene	ND	0.048		mg/Kg	1	5/25/2016 6:58:47 PM	25461
Xylenes, Total	ND	0.095		mg/Kg	1	5/25/2016 6:58:47 PM	25461
Surr: 4-Bromofluorobenzene	110	80-120		%Rec	1	5/25/2016 6:58:47 PM	25461

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: L1-1
Project: Young Deep 11
Collection Date: 5/19/2016 1:00:00 PM
Lab ID: 1605A76-002
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 9:51:59 PM	25584
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	5/28/2016 3:29:34 AM	25495
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/28/2016 3:29:34 AM	25495
Surr: DNOP	94.4	70-130		%Rec	1	5/28/2016 3:29:34 AM	25495
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/25/2016 7:22:17 PM	25461
Surr: BFB	109	80-120		%Rec	1	5/25/2016 7:22:17 PM	25461
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	0.098		mg/Kg	1	5/25/2016 7:22:17 PM	25461
Benzene	ND	0.025		mg/Kg	1	5/25/2016 7:22:17 PM	25461
Toluene	ND	0.049		mg/Kg	1	5/25/2016 7:22:17 PM	25461
Ethylbenzene	ND	0.049		mg/Kg	1	5/25/2016 7:22:17 PM	25461
Xylenes, Total	ND	0.098		mg/Kg	1	5/25/2016 7:22:17 PM	25461
Surr: 4-Bromofluorobenzene	109	80-120		%Rec	1	5/25/2016 7:22:17 PM	25461

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: L2-0.5
Project: Young Deep 11
Collection Date: 5/19/2016 1:00:00 PM
Lab ID: 1605A76-003 **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 10:04:23 PM	25584

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: L2-1
Project: Young Deep 11
Collection Date: 5/19/2016 1:00:00 PM
Lab ID: 1605A76-004
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	ND	30		mg/Kg	20	5/31/2016 10:16:48 PM	25584

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: L3-0.5
Project: Young Deep 11
Collection Date: 5/19/2016 1:00:00 PM
Lab ID: 1605A76-005 **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	36	30		mg/Kg	20	5/31/2016 10:29:13 PM	25584
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/28/2016 3:51:05 AM	25495
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/28/2016 3:51:05 AM	25495
Surr: DNOP	96.0	70-130		%Rec	1	5/28/2016 3:51:05 AM	25495
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	5/25/2016 7:45:46 PM	25461
Surr: BFB	108	80-120		%Rec	1	5/25/2016 7:45:46 PM	25461
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	0.092		mg/Kg	1	5/25/2016 7:45:46 PM	25461
Benzene	ND	0.023		mg/Kg	1	5/25/2016 7:45:46 PM	25461
Toluene	ND	0.046		mg/Kg	1	5/25/2016 7:45:46 PM	25461
Ethylbenzene	ND	0.046		mg/Kg	1	5/25/2016 7:45:46 PM	25461
Xylenes, Total	ND	0.092		mg/Kg	1	5/25/2016 7:45:46 PM	25461
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	5/25/2016 7:45:46 PM	25461

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: L3-1
Project: Young Deep 11
Collection Date: 5/19/2016 1:00:00 PM
Lab ID: 1605A76-006
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	64	30		mg/Kg	20	5/31/2016 10:41:37 PM	25584
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/28/2016 4:12:41 AM	25495
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/28/2016 4:12:41 AM	25495
Surr: DNOP	98.2	70-130		%Rec	1	5/28/2016 4:12:41 AM	25495
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/25/2016 8:09:18 PM	25461
Surr: BFB	109	80-120		%Rec	1	5/25/2016 8:09:18 PM	25461
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	0.094		mg/Kg	1	5/25/2016 8:09:18 PM	25461
Benzene	ND	0.023		mg/Kg	1	5/25/2016 8:09:18 PM	25461
Toluene	ND	0.047		mg/Kg	1	5/25/2016 8:09:18 PM	25461
Ethylbenzene	ND	0.047		mg/Kg	1	5/25/2016 8:09:18 PM	25461
Xylenes, Total	ND	0.094		mg/Kg	1	5/25/2016 8:09:18 PM	25461
Surr: 4-Bromofluorobenzene	109	80-120		%Rec	1	5/25/2016 8:09:18 PM	25461

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: L4-0.5
Project: Young Deep 11
Collection Date: 5/19/2016 1:00:00 PM
Lab ID: 1605A76-007 **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 10:54:02 PM	25584

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: L4-1
Project: Young Deep 11
Collection Date: 5/19/2016 1:00:00 PM
Lab ID: 1605A76-008
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 11:06:26 PM	25584

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#: **1605A76**

02-Jun-16

Client: Souder, Miller & Associates

Project: Young Deep 11

Sample ID	**MB-25584**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**25584**	RunNo:	**34591**					
Prep Date:	**5/31/2016**	Analysis Date:	**5/31/2016**	SeqNo:	**1066763**	Units:	**mg/Kg**			

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

Sample ID	**LCS-25584**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**25584**	RunNo:	**34591**					
Prep Date:	**5/31/2016**	Analysis Date:	**5/31/2016**	SeqNo:	**1066764**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.6	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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#: **1605A76**

02-Jun-16

Client: Souder, Miller & Associates

Project: Young Deep 11

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			

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#: **1605A76**

02-Jun-16

Client: Souder, Miller & Associates

Project: Young Deep 11

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

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#: **1605A76**

02-Jun-16

Client: Souder, Miller & Associates

Project: Young Deep 11

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			

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: **1605A76** RcptNo: **1**

Received by/date: JA 05/24/16

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

Completed By: **Ashley Gallegos** **5/24/2016 11:56:02 AM** AG

Reviewed By: JA 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

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: Young Ford Deep #11

Project #: per Lucas. mg 05/2/16

Project Manager: Ashley Wegat

Sampler: Lucas

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.6 - 1.0 CF = 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. 1605A76	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)
5/19/16	1000	Soil	L1-0.5	4oz		-001	X		X	X				X				
			L1-1			-002	X		X	X				X				
			L2-0.5			-003								X				
			L2-1			-004								X				
			L3-0.5			-005	X		X					X				
			L3-1			-006	X		X					X				
			L4-0.5			-007								X				
			L4-1			-008								X				

Date	Time	Relinquished by:	Received by:	Date	Time
5-23-16	800			5/23/16	0850
5/23/16	1900			05/24/16	0946

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.

APPENDIX B

PHOTOS AND FIELD NOTES

SUBJECT YOUNG DEEP #11 PROJECT PAGE 1/

CLIENT MATADOR Y DATE 5/19 BY JAW

CHECKED BY

SAMPLE LOCATION

H_2O BASE 0.1

	EC
L1 - 1	.02
L1 -0.5	.07
L2 -0.5	.01
L2 - 1	.01
L3 0.5	.03
L3 1	0.14
L4 0.5	0.07
L4 1	0.06

} BACKGROUND ?