2RP-3660

Investigation Summary and Work Plan

Parker Deep 5 Fed Com #3

June 23, 2016

Introduction

This summary and work plan by Matador Resources details knowledge and plans for remediation of the Parker Deep 5 Fed Com # 3 spill on April 24, 2016. The Parker Deep 5 Fed Com # 3 is located in Section 5, Township 18S, Range 31E of Eddy County, NM. This is a federal lease. The geodetic position is 32°46.32132 N, 103°53.63434W. The release occurred April 24, 2016. Approximately 10 barrels of fluid leaked into the containment from a hole in the fire tube in the heater treater. Less than 1 barrel was recovered from the ground. The release was reported to the New Mexico Oil Conservation Division Artesia office on April 24, 2016. OCD issued remediation project (RP) number 2RP-3660. Attachments include surveys, pictures, and map.

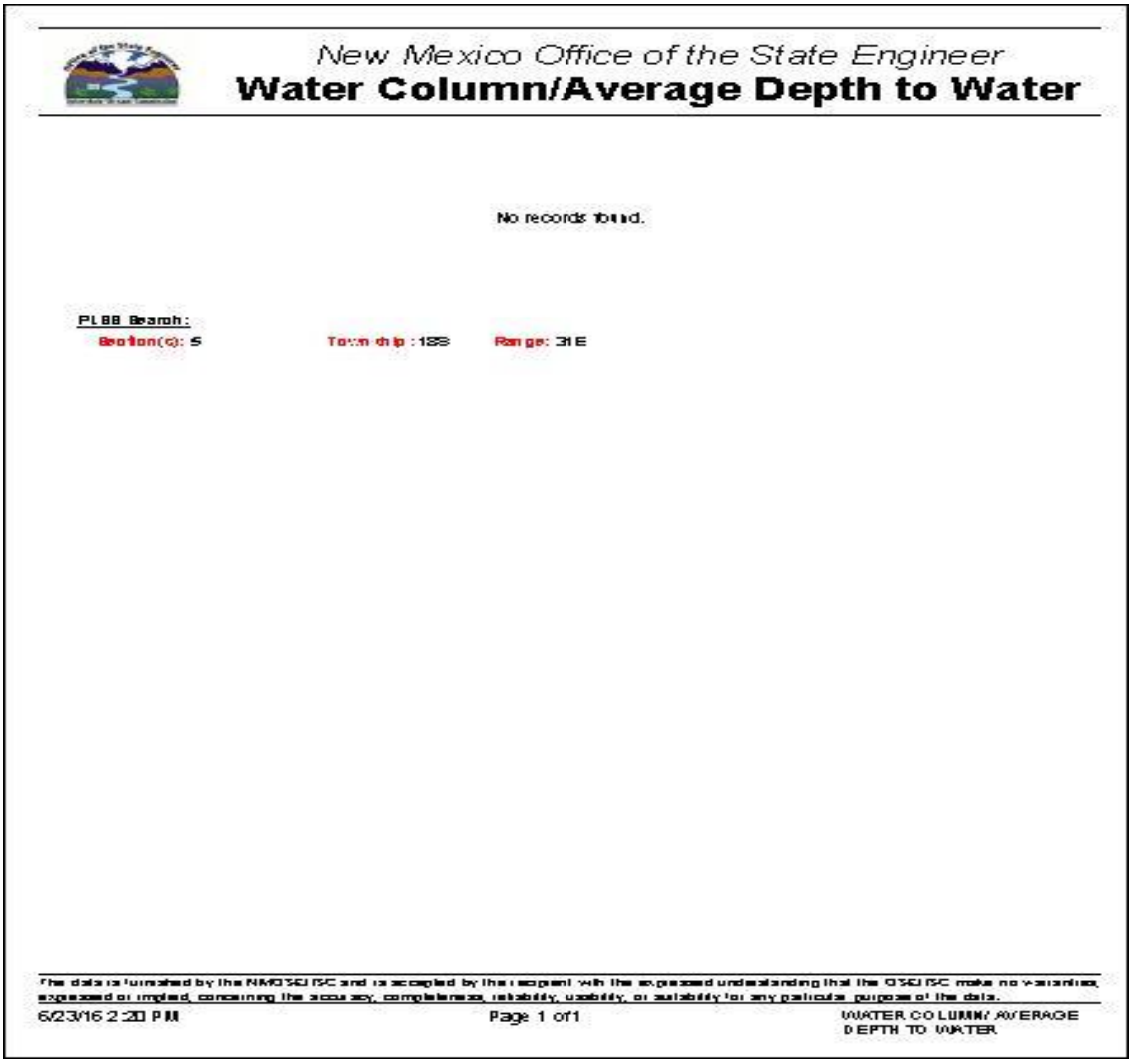
Setting

The setting is as follows:

- The surface elevation is approximately 3,698 feet above sea level.
- The topography is undulating sands with Kermit – Berino 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 Hall Environmental Labs in Albuquerque, 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

No records found.

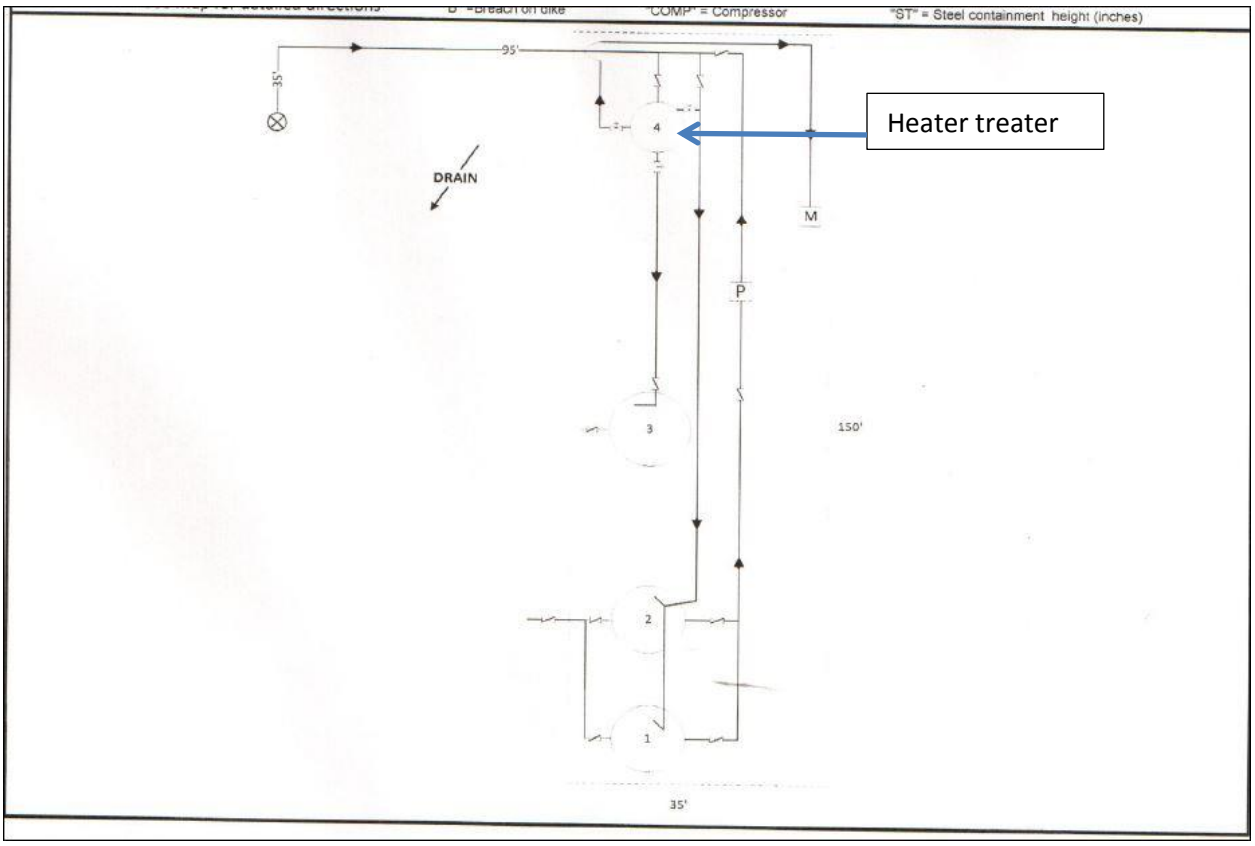
PLSS Search:

Section(s): 5 Township: 18S Range: 31E

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

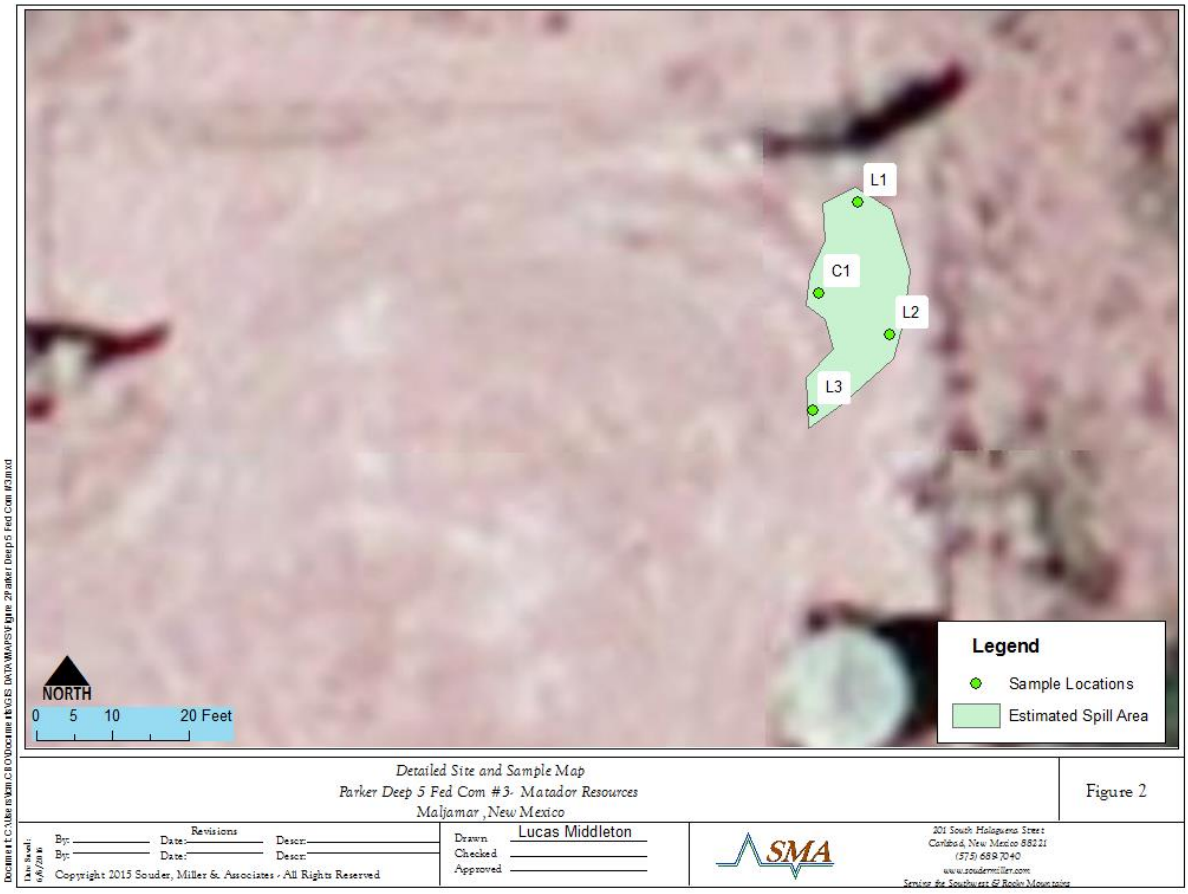
6/23/16 2:20 PM Page 1 of 1 WATER COLUMN/AVERAGE DEPTH TO WATER

As can be seen above, no wells have been drilled.


"COMP" = Compressor
"ST" = Steel containment height (inches)
95'
35'
DRAIN
4
M
P
3
150'
2
1
35'
Heater treater

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- 160A71	Sample Number on Figure 2 Map	Sample Date	Depth	BTEX ppm	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	Cl- mg/Kg
160A71-001	C1	5/20/2016	Surface	N/A	N/A	640	27,600	140
160A71-002	L1-1	5/20/2016	1'	279.21	0.21	2,000	6,700	N/A
160A71-003	L1-2	5/20/2016	2'	N/A	N/A	BDL	130	260
160A71-004	L2-1	5/20/2016	1'	1.33	BDL	39	244	N/A
160A71-005	L2-2	5/20/2016	2'	N/A	N/A	BDL	75	N/A
160A71-006	L2-3	5/20/2016	3'	306.4	1.4	3,700	10,100	49
160A71-007	L3-1	5/20/2016	1'	N/A	N/A	N/A	N/A	BDL
160A71-008	L3-2	5/20/2016	2'	121	N/A	11	246	BDL

The results of the soil analysis are attached for further investigation. Matador proposes to remove up to 4 feet of contaminated soil and replace with top soil from a local vendor.

Analytical Report
Lab Order **1605A71**
Date Reported: **6/7/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: C1
Project: Parker Deep 5 Fed 3
Collection Date: 5/20/2016 2:00:00 PM
Lab ID: 1605A71-001 **Matrix:** SOIL **Received Date:** 5/24/2016 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 418.1: TPH						Analyst: **TOM**	
Petroleum Hydrocarbons, TR	44000	1900		mg/Kg	100	5/27/2016	25529
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	140	30		mg/Kg	20	5/26/2016 3:57:48 PM	25539
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	18000	960		mg/Kg	100	6/3/2016 7:45:27 PM	25629
Motor Oil Range Organics (MRO)	9600	4800		mg/Kg	100	6/3/2016 7:45:27 PM	25629
Surr: DNOP	0	70-130	S	%Rec	100	6/3/2016 7:45:27 PM	25629
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	640	50		mg/Kg	10	6/2/2016 9:58:40 AM	25622
Surr: BFB	363	80-120	S	%Rec	10	6/2/2016 9:58:40 AM	25622

Analytical Report
Lab Order **1605A71**
Date Reported: **6/7/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-1
Project: Parker Deep 5 Fed 3
Collection Date: 5/20/2016 2:00:00 PM
Lab ID: 1605A71-002 **Matrix:** SOIL **Received Date:** 5/24/2016 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 418.1: TPH						Analyst: **TOM**	
Petroleum Hydrocarbons, TR	12000	1900		mg/Kg	100	5/27/2016	25529
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	5200	96		mg/Kg	10	6/3/2016 3:05:07 PM	25629
Motor Oil Range Organics (MRO)	1500	480		mg/Kg	10	6/3/2016 3:05:07 PM	25629
Surr: DNOP	0	70-130	S	%Rec	10	6/3/2016 3:05:07 PM	25629
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	2000	98		mg/Kg	20	5/25/2016 8:32:48 PM	25461
Surr: BFB	543	80-120	S	%Rec	20	5/25/2016 8:32:48 PM	25461
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	0.098		mg/Kg	1	5/25/2016 1:06:32 PM	25461
Benzene	0.21	0.025		mg/Kg	1	5/25/2016 1:06:32 PM	25461
Toluene	26	0.98		mg/Kg	20	5/25/2016 8:32:48 PM	25461
Ethylbenzene	12	0.98		mg/Kg	20	5/25/2016 8:32:48 PM	25461
Xylenes, Total	92	2.0		mg/Kg	20	5/25/2016 8:32:48 PM	25461
Surr: 4-Bromofluorobenzene	149	80-120	S	%Rec	20	5/25/2016 8:32:48 PM	25461

Analytical Report
Lab Order **1605A71**
Date Reported: **6/7/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-2
Project: Parker Deep 5 Fed 3
Collection Date: 5/20/2016 2:00:00 PM
Lab ID: 1605A71-003 **Matrix:** SOIL **Received Date:** 5/24/2016 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 418.1: TPH						Analyst: **TOM**	
Petroleum Hydrocarbons, TR	260	20		mg/Kg	1	5/27/2016	25529
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	73	9.3		mg/Kg	1	6/3/2016 5:53:59 PM	25629
Motor Oil Range Organics (MRO)	57	47		mg/Kg	1	6/3/2016 5:53:59 PM	25629
Surr: DNOP	93.0	70-130		%Rec	1	6/3/2016 5:53:59 PM	25629
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	6/2/2016 1:00:26 PM	25622
Surr: BFB	108	80-120		%Rec	1	6/2/2016 1:00:26 PM	25622

Analytical Report
Lab Order **1605A71**
Date Reported: **6/7/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L2-1
Project: Parker Deep 5 Fed 3
Collection Date: 5/20/2016 2:00:00 PM
Lab ID: 1605A71-004 **Matrix:** SOIL **Received Date:** 5/24/2016 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 418.1: TPH						Analyst: **TOM**	
Petroleum Hydrocarbons, TR	720	20		mg/Kg	1	5/27/2016	25529
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	160	9.3		mg/Kg	1	6/3/2016 6:22:06 PM	25629
Motor Oil Range Organics (MRO)	84	47		mg/Kg	1	6/3/2016 6:22:06 PM	25629
Surr: DNOP	92.9	70-130		%Rec	1	6/3/2016 6:22:06 PM	25629
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	39	4.7		mg/Kg	1	5/25/2016 10:07:06 PM	25461
Surr: BFB	267	80-120	S	%Rec	1	5/25/2016 10:07:06 PM	25461
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	0.094		mg/Kg	1	5/25/2016 10:07:06 PM	25461
Benzene	ND	0.023		mg/Kg	1	5/25/2016 10:07:06 PM	25461
Toluene	0.22	0.047		mg/Kg	1	5/25/2016 10:07:06 PM	25461
Ethylbenzene	0.16	0.047		mg/Kg	1	5/25/2016 10:07:06 PM	25461
Xylenes, Total	0.95	0.094		mg/Kg	1	5/25/2016 10:07:06 PM	25461
Surr: 4-Bromofluorobenzene	128	80-120	S	%Rec	1	5/25/2016 10:07:06 PM	25461

Analytical Report
Lab Order **1605A71**
Date Reported: **6/7/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: Parker Deep 5 Fed 3
Lab ID: 1605A71-005 **Matrix:** SOIL

Client Sample ID: L2-2
Collection Date: 5/20/2016 2:00:00 PM
Received Date: 5/24/2016 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 418.1: TPH						Analyst: **TOM**	
Petroleum Hydrocarbons, TR	240	20		mg/Kg	1	5/27/2016	25529
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	76	9.6		mg/Kg	1	6/3/2016 6:49:55 PM	25629
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/3/2016 6:49:55 PM	25629
Surr: DNOP	106	70-130		%Rec	1	6/3/2016 6:49:55 PM	25629
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/2/2016 1:23:58 PM	25622
Surr: BFB	120	80-120		%Rec	1	6/2/2016 1:23:58 PM	25622

Analytical Report
Lab Order **1605A71**
Date Reported: **6/7/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: Parker Deep 5 Fed 3
Lab ID: 1605A71-006 **Matrix:** SOIL

Client Sample ID: L2-3
Collection Date: 5/20/2016 2:00:00 PM
Received Date: 5/24/2016 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 418.1: TPH						Analyst: **TOM**	
Petroleum Hydrocarbons, TR	21000	1900		mg/Kg	100	5/27/2016	25529
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	49	30		mg/Kg	20	5/26/2016 4:10:12 PM	25539
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	7900	95		mg/Kg	10	6/3/2016 4:29:53 PM	25629
Motor Oil Range Organics (MRO)	2200	480		mg/Kg	10	6/3/2016 4:29:53 PM	25629
Surr: DNOP	0	70-130	S	%Rec	10	6/3/2016 4:29:53 PM	25629
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	3700	230		mg/Kg	50	5/25/2016 10:03:47 AM	25461
Surr: BFB	371	80-120	S	%Rec	50	5/25/2016 10:03:47 AM	25461
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	4.7		mg/Kg	50	5/25/2016 10:03:47 AM	25461
Benzene	1.4	1.2		mg/Kg	50	5/25/2016 10:03:47 AM	25461
Toluene	69	2.3		mg/Kg	50	5/25/2016 10:03:47 AM	25461
Ethylbenzene	28	2.3		mg/Kg	50	5/25/2016 10:03:47 AM	25461
Xylenes, Total	210	4.7		mg/Kg	50	5/25/2016 10:03:47 AM	25461
Surr: 4-Bromofluorobenzene	137	80-120	S	%Rec	50	5/25/2016 10:03:47 AM	25461

Analytical Report
Lab Order **1605A71**
Date Reported: **6/7/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L3-1
Project: Parker Deep 5 Fed 3
Collection Date: 5/20/2016 2:00:00 PM
Lab ID: 1605A71-007 **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	5/26/2016 4:22:37 PM	25539

Analytical Report
Lab Order **1605A71**
Date Reported: **6/7/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L3-2
Project: Parker Deep 5 Fed 3
Collection Date: 5/20/2016 2:00:00 PM
Lab ID: 1605A71-008 **Matrix:** SOIL **Received Date:** 5/24/2016 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 418.1: TPH						Analyst: **TOM**	
Petroleum Hydrocarbons, TR	370	20		mg/Kg	1	5/27/2016	25529
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	5/26/2016 4:35:01 PM	25539
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	160	9.8		mg/Kg	1	6/3/2016 7:17:39 PM	25629
Motor Oil Range Organics (MRO)	86	49		mg/Kg	1	6/3/2016 7:17:39 PM	25629
Surr: DNOP	95.4	70-130		%Rec	1	6/3/2016 7:17:39 PM	25629
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	11	5.0		mg/Kg	1	5/25/2016 1:53:29 PM	25461
Surr: BFB	172	80-120	S	%Rec	1	5/25/2016 1:53:29 PM	25461
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	5/25/2016 1:53:29 PM	25461
Benzene	ND	0.025		mg/Kg	1	5/25/2016 1:53:29 PM	25461
Toluene	ND	0.050		mg/Kg	1	5/25/2016 1:53:29 PM	25461
Ethylbenzene	ND	0.050		mg/Kg	1	5/25/2016 1:53:29 PM	25461
Xylenes, Total	ND	0.10		mg/Kg	1	5/25/2016 1:53:29 PM	25461
Surr: 4-Bromofluorobenzene	121	80-120	S	%Rec	1	5/25/2016 1:53:29 PM	25461

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1605A71

07-Jun-16

Client: Souder, Miller & Associates

Project: Parker Deep 5 Fed 3

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			

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1605A71

07-Jun-16

Client: Souder, Miller & Associates

Project: Parker Deep 5 Fed 3

Sample ID	MB-25629	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS	Batch ID:	25629	RunNo:	34675				
Prep Date:	6/2/2016	Analysis Date:	6/3/2016	SeqNo:	1069818	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	8.9		10.00		89.3	70	130			

Sample ID	LCS-25629	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	LCSS	Batch ID:	25629	RunNo:	34675				
Prep Date:	6/2/2016	Analysis Date:	6/3/2016	SeqNo:	1069819	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	4.3		5.000		85.2	70	130			

QC SUMMARY REPORT

WO#: **1605A71**

Hall Environmental Analysis Laboratory, Inc.

07-Jun-16

Client: Souder, Miller & Associates
Project: Parker Deep 5 Fed 3

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

Sample ID MB-25622	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 25622	RunNo: 34635							
Prep Date: 6/1/2016	Analysis Date: 6/2/2016	SeqNo: 1068922	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		106	80	120			

Sample ID LCS-25622	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 25622	RunNo: 34635							
Prep Date: 6/1/2016	Analysis Date: 6/2/2016	SeqNo: 1068923	Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	80	120			
Surr: BFB	1600		1000		161	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

WO# **1605A71**

Hall Environmental Analysis Laboratory, Inc.

07-Jun-16

Client: Souder, Miller & Associates
Project: Parker Deep 5 Fed 3

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			

Sample ID MB-25622	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 25622	RunNo: 34635							
Prep Date: 6/1/2016	Analysis Date: 6/2/2016	SeqNo: 1068955	Units: %Rec						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		105	80	120			

Sample ID LCS-25622	SampType: LCS	TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 25622	RunNo: 34635							
Prep Date: 6/1/2016	Analysis Date: 6/2/2016	SeqNo: 1068984	Units: %Rec						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		109	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: **1605A71** RcptNo: 1

Received by/date: JA 05/24/16

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

Completed By: **Ashley Gallegos** **5/24/2016 11:07:16 AM**

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

Page 1 of 1

Chain-of-Custody Record

ient: SMA
Carlsbad
ailing Address: on file
one #:
ail or Fax#:
/QC Package:
Standard ☐ Level 4 (Full Validation)
creditation
NELAP ☐ Other ________
EDD (Type) ________

Turn-Around Time:
☑ Standard ☐ Rush per Austin
Project Name: Parker Deep 5 Fed #3
Project #:
Project Manager: Austin Weyant
Sampler: Lcm
On Ice: ☒ Yes ☐ No
Sample Temperature: 3.6-1.0CF=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

ate	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1605A71	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)	Air Bubbles (Y or N)
...16	2:00	Soil	C1	4oz		-001			X	X				X				
			L1-1			-002	X		X	X								
			L1-2			-003			X	X								
			L2-1			-004	X		X	X								
			L2-2			-005			X	X								
			L2-3			-006	X		X	X				X				
			L3-1			-007								X				
			L3-2			-008	X		X	X				X				

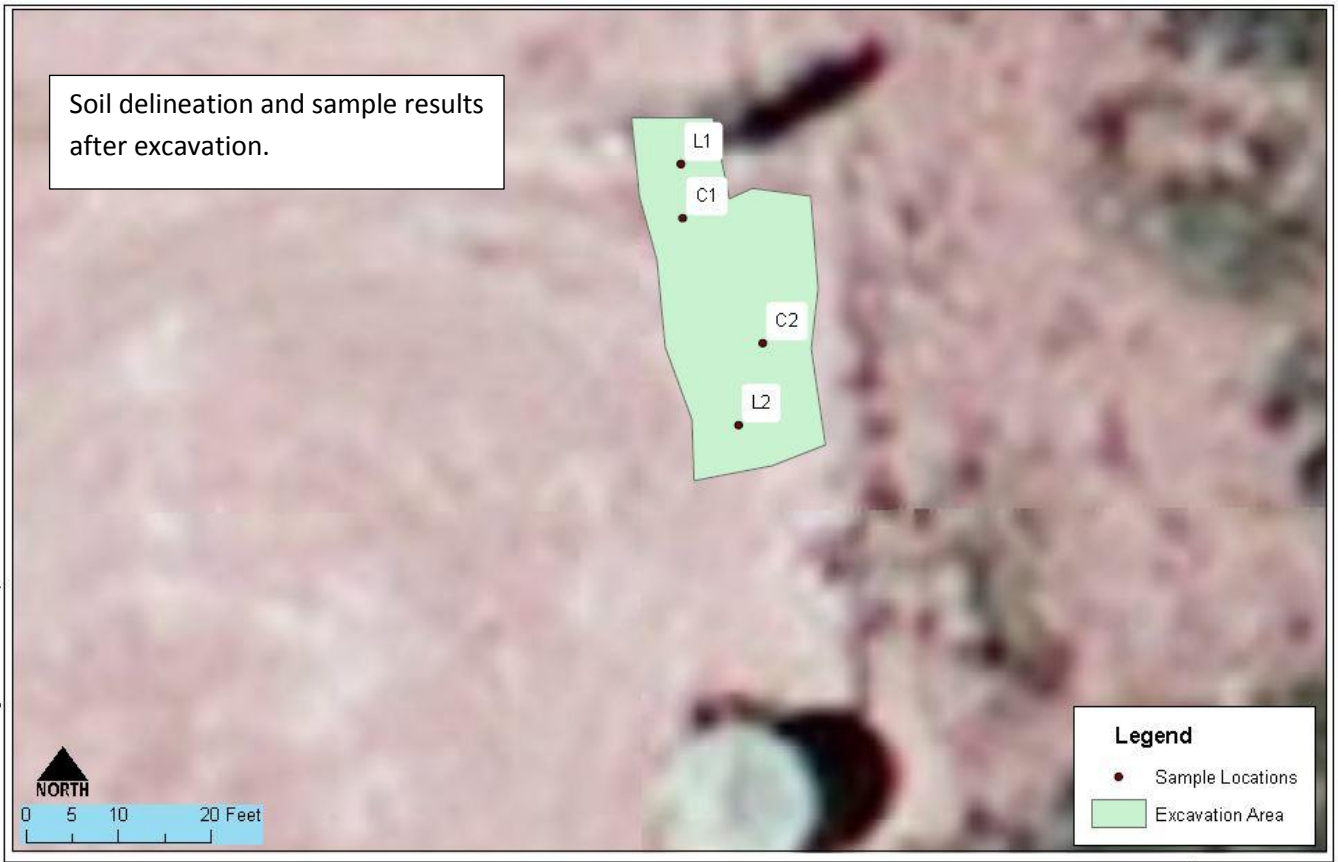
Per Austin JGJ 05/24/16

Time: 900 Relinquished by: [signature] Received by: 5/23/16 [signature] Date Time 0800
Time: 1900 Relinquished by: [signature] Received by: [signature] 05/24/16 0940

Remarks: Per Lucas, add GRO/DRO/MRO to the 418.1 samples JWS 6/1/16

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.

Soil delineation and sample results after excavation.



Detailed Site and Sample Map
Parker Deep 5 Fed Com #3· Matador Resources
Maljamar, New Mexico

Figure 2

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

Drawn Lucas Middleton
Checked
Approved

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Document: C:\Users\Kim.CBO\Documents\GIS DATA\MAPS\Figure 2 added Parker Deep 5 Fed Com #3m.mxd
Date & mxd: 8/2/2015

Table 1: Summary of Chloride Field Screening Results

Parker Deep 5 Fed Com 3
Baseline
7/29/16

FIELD SCREENING RESULTS SUMMARY					
Date	Time	Field Screening Reference	Sample Depth (Feet BGS)	Chlorides Results	Lab Sample Collected Y/N
7/29/2016	9:00	L1	1.5'	73	Y
7/29/2016	9:00	C1	0.5'	73	Y
7/29/2016	9:00	L2	1.5'	16	Y
7/29/2016	9:00	C2	0.5'	12	Y

Parker Deep 5 Fed Com 3
Baseline
7/29/16

Table 3: Summary of Site PID Field Screening Results

FIELD SCREENING RESULTS SUMMARY					
Date	Time	Field Screening Reference	Sample Depth (Feet BGS)	PID Reading	Lab Sample Collected Y/N
7/29/2016	9:00	L1	1.5'	8	Y
7/29/2016	9:00	C1	0.5'	72	Y
7/29/2016	9:00	L2	1.5'	0	Y
7/29/2016	9:00	C2	0.5'	9	Y