



September 19, 2013

#5122434

Karen L. Spray, PG
Colorado Oil & Gas Conservation Commission
P.O. Box 2651
Durango, CO 81302

**RE: STATUS UPDATE: CACHE SPILL #1 (REM #7786) AND #2 (REM #7787)
MONUMENT GLOBAL RESOURCES, INC. (OPER #10430)
CACHE FIELD, MONTEZUMA COUNTY, COLORADO**

Dear Ms. Spray:

On behalf of Monument Global Resources, Inc. (MGRI), Souder, Miller & Associates (SMA) is providing this update to the Colorado Oil & Gas Conservation Commission (COGCC) on the status of the referenced spills. Since the last status report was submitted (September 13, 2013), another flash flood occurred on the night of September 14, 2013. This time the flash flood was more severe and caused significant structural damage to MGRI's pipelines and other structures crossing the main wash (East McElmo Creek), as well as to the road crossing the wash. Mr. Tom Fox assessed the damage and took several photos. Because of the damage to the road, he was not able to access the upper portions of the area and the source area of Spill #2. However, it appears that most of the water was carried from areas above East McElmo Creek, therefore primarily affecting Spill #1.

Mr. Fox reports that the flood washed out up to four feet of soil in parts of the wash, exposing bedrock in places, and deposited several feet of soil in other places. The risers and pipelines crossing the wash were destroyed (see photos below). Fortunately, the pipes had been shut in since Spill #3 occurred in June, 2013 and no additional releases occurred. It is assumed that any remaining contamination from Spill #1 was washed out during the flood. MGRI and SMA are therefore requesting closure of this spill. As reported previously, treatment of Spill #1 had been occurring, and SMA collected soil samples following the previous flood on September 3, 2013. Those results are attached, as well as the data table with all previously collected soil samples for the spill. The results indicate slightly elevated Total Petroleum Hydrocarbons, but are below COGCC's Table 910-1 standards. Arsenic is also elevated, though only slightly above the background levels. If COGCC requests closure samples be collected from the wash, SMA will comply promptly; however, it is very unlikely that the soil collected will be the original soil impacted by the spill.

As mentioned, Mr. Fox has not been able to access the upper portion of Spill #2, but will assess that area as soon as the road dries out sufficiently and any damage to the road is repaired. However, he was able to access the lower part of Spill #2 and reports that soil staining was still observed, though not as much as before the flood. The excavation hole for Spill #3 remains open, and still no sheen has been observed on the standing water in the hole. MGRI and SMA believe that Spills #2 and #3 were impacted less because they were not in the main wash and received only the precipitation that fell directly in the area. MGRI will continue to treat Spill #2 as long as possible, and may request closure of both remaining spills by the end of the year, if field screening and soil sample results indicate both areas have been remediated.

If you have any questions regarding this report or related items, please feel free to contact either Shawna Chubbuck at (970) 565-4465 or Reid Allan at (505) 325-7535 or at the email addresses below.

Sincerely,
SOUDER, MILLER & ASSOCIATES

A handwritten signature in blue ink that reads "Shawna Chubbuck". The signature is written in a cursive, flowing style.

Shawna Chubbuck
Project Scientist
shawna.chubbuck@soudermiller.com

A handwritten signature in blue ink that reads "Reid S. Allan". The signature is written in a cursive, flowing style.

Reid S. Allan, P.G.
Vice President/Principal Scientist
reid.allan@soudermiller.com



9/18/13: View of wash near Spill #1



9/18/13: View of destroyed pipelines crossing washing near Spill #1



9/18/13: View of fence near source of Spill #1



9/18/13: View of flooded wash near Spill #1

Summary of Soil Analytical Results
 Monument Global Resources
 Release #200372184, Remediation #7786
 Cache Field, Montezuma County, CO

Sample Name / Date		Background	Source #1		End #1		
		5/23/2013	5/23/2013		9/3/2013		
COGCC Table 910-1					@ 6"	@ 12"	
Organic Compounds (mg/Kg)	TPH	500	<6.1	38035		220	73
	Benzene	0.17	0.0090	<0.015		<0.049	<0.049
	Toluene	85	0.022	0.045		<0.049	<0.049
	Ethyl-benzene	100	0.010	0.072		<0.049	<0.049
	Total Xylenes	175	0.020	0.470		<0.097	<0.097
	Acenaphthene	1000	<0.0057	<0.29		N/A	N/A
	Anthracene	1000	<0.0031	<0.16		N/A	N/A
	Benzo(A)anthracene	0.22	<0.0057	<0.29		N/A	N/A
	Benzo(B)fluoranthene	0.22	<0.0047	<0.24		N/A	N/A
	Benzo(K)fluoranthene	2.2	<0.0058	<0.29		N/A	N/A
	Benzo(A)pyrene	0.022	<0.0039	0.40		N/A	N/A
	Chrysene	22	<0.0037	5.10		N/A	N/A
	Dibenzo(A,H)anthracene	0.022	<0.0039	<0.20		N/A	N/A
	Fluoranthene	1000	<0.0035	<0.18		N/A	N/A
	Fluorene	1000	<0.0041	7.40		N/A	N/A
	Indeno(1,2,3,C,D)pyrene	0.22	<0.0078	<0.40		N/A	N/A
	Napthalene	23	<0.0043	1.10		N/A	N/A
Pyrene	1000	<0.0048	<0.24		N/A	N/A	
Inorganics	EC (mmhos/cm)	<4 or 2x background	300	550		140	200
	SAR	<12	0.17	4.9		1.6	5.5
	pH	6 - 9	8.80	8.70		8.31	8.82
Metals (mg/Kg)	Arsenic	0.39	1.2*	0.87		2.5	3.1
	Barium	15000	220	230		N/A	N/A
	Cadmium	70	<0.027	<0.027		N/A	N/A
	Chromium (III)	120000	3.80	3.30		N/A	N/A
	Chromium (VI)	23	<2.0	<2.0		N/A	N/A
	Copper	3100	3.9	4.4		N/A	N/A
	Lead	400	3.2	3.4		N/A	N/A
	Mercury	23	0.0061	0.0057		N/A	N/A
	Nickel	1600	3.7	3.2		N/A	N/A
	Selenium	390	<1.4	<1.4		N/A	N/A
	Silver	390	<0.035	<0.0035		N/A	N/A
Zinc	23000	19	17		N/A	N/A	

* Additional Arsenic background samples collected 5/23/13 were <0.63 and 2.2 mg/Kg

Summary of Soil Analytical Results
Monument Global Resources
Release #200372183, Remediation #7787
Cache Field, Montezuma County, CO

Sample Name / Date		Background	Source #2		End #2		
		5/23/2013	5/23/2013		9/3/2013		
COGCC Table 910-1					@ 6"	@ 12"	
Organic Compounds (mg/Kg)	TPH	500	<6.1	26083		<9.9	<10
	Benzene	0.17	0.0090	<0.015		<0.048	<0.048
	Toluene	85	0.022	0.120		<0.048	<0.048
	Ethyl-benzene	100	0.010	0.095		<0.048	<0.048
	Total Xylenes	175	0.020	1.50		<0.096	<0.097
	Acenaphthene	1000	<0.0057	<0.29		N/A	N/A
	Anthracene	1000	<0.0031	<0.16		N/A	N/A
	Benzo(A)anthracene	0.22	<0.0057	<0.28		N/A	N/A
	Benzo(B)fluoranthene	0.22	<0.0047	<0.24		N/A	N/A
	Benzo(K)fluoranthene	2.2	<0.0058	<0.29		N/A	N/A
	Benzo(A)pyrene	0.022	<0.0039	0.25		N/A	N/A
	Chrysene	22	<0.0037	3.70		N/A	N/A
	Dibenzo(A,H)anthracene	0.022	<0.0039	<0.19		N/A	N/A
	Fluoranthene	1000	<0.0035	<0.18		N/A	N/A
	Fluorene	1000	<0.0041	8.40		N/A	N/A
	Indeno(1,2,3,C,D)pyrene	0.22	<0.0078	<0.39		N/A	N/A
	Napthalene	23	<0.0043	5.10		N/A	N/A
Pyrene	1000	<0.0048	<0.24		N/A	N/A	
Inorganics	EC (mmhos/cm)	<4 or 2x background	300	4900		120	150
	SAR	<12	0.17	4.9		3.1	1.9
	pH	6 - 9	8.80	7.90		9.23	9.06
Metals (mg/Kg)	Arsenic	0.39	1.2*	<0.63		34	1.6
	Barium	15000	220	210		N/A	N/A
	Cadmium	70	<0.027	<0.027		N/A	N/A
	Chromium (III)	120000	3.80	3.20		N/A	N/A
	Chromium (VI)	23	<2.0	<2.0		N/A	N/A
	Copper	3100	3.9	1.3		N/A	N/A
	Lead	400	3.2	2.5		N/A	N/A
	Mercury	23	0.0061	0.0049		N/A	N/A
	Nickel	1600	3.7	1.4		N/A	N/A
	Selenium	390	<1.4	<1.4		N/A	N/A
	Silver	390	<0.035	<0.0035		N/A	N/A
Zinc	23000	19	12		N/A	N/A	

* Additional Arsenic background samples collected 5/23/13 were <0.63 and 2.2 mg/Kg



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

September 17, 2013

Shawna Chubbuck
Souder, Miller and Associates
2101 San Juan Boulevard
Farmington, NM 87401
TEL: (505) 325-5667
FAX (505) 327-1496

RE: Monument Global Cache Field

OrderNo.: 1309127

Dear Shawna Chubbuck:

Hall Environmental Analysis Laboratory received 4 sample(s) on 9/4/2013 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 qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1309127

Date Reported: 9/17/2013

CLIENT: Souder, Miller and Associates

Client Sample ID: Spill #1@6"

Project: Monument Global Cache Field

Collection Date: 9/3/2013 10:25:00 AM

Lab ID: 1309127-001

Matrix: SOIL

Received Date: 9/4/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	220	10		mg/Kg	1	9/13/2013 6:23:17 AM	9188
Motor Oil Range Organics (MRO)	110	50		mg/Kg	1	9/13/2013 6:23:17 AM	9188
Surr: DNOP	121	63-147		%REC	1	9/13/2013 6:23:17 AM	9188
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/6/2013 3:15:40 PM	9190
Surr: BFB	122	80-120	S	%REC	1	9/6/2013 3:15:40 PM	9190
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.049		mg/Kg	1	9/6/2013 3:15:40 PM	9190
Toluene	ND	0.049		mg/Kg	1	9/6/2013 3:15:40 PM	9190
Ethylbenzene	ND	0.049		mg/Kg	1	9/6/2013 3:15:40 PM	9190
Xylenes, Total	ND	0.097		mg/Kg	1	9/6/2013 3:15:40 PM	9190
Surr: 4-Bromofluorobenzene	110	80-120		%REC	1	9/6/2013 3:15:40 PM	9190
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Arsenic	2.5	2.5		mg/Kg	2	9/17/2013 7:06:42 AM	9212
SAR SOLUBLE CATIONS							Analyst: JLF
Calcium	100	1.0		mg/L	1	9/13/2013 10:13:00 AM	9261
Magnesium	9.9	1.0		mg/L	1	9/13/2013 10:13:00 AM	9261
Sodium	65	1.0		mg/L	1	9/13/2013 10:13:00 AM	9261
Sodium Adsorption Ratio	1.6	0			1	9/13/2013 10:13:00 AM	9261
CONDUCTANCE							Analyst: JML
Specific Conductance	140	1.0		µmhos/cm	1	9/9/2013 5:07:00 PM	R13266
SM4500-H+B: PH							Analyst: KS
pH	8.31	1.68		pH Units	1	9/11/2013 1:21:00 PM	R13288

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1309127

Date Reported: 9/17/2013

CLIENT: Souder, Miller and Associates

Client Sample ID: Spill #1@12"

Project: Monument Global Cache Field

Collection Date: 9/3/2013 10:30:00 AM

Lab ID: 1309127-002

Matrix: SOIL

Received Date: 9/4/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	73	9.9		mg/Kg	1	9/13/2013 6:54:44 AM	9188
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/13/2013 6:54:44 AM	9188
Surr: DNOP	114	63-147		%REC	1	9/13/2013 6:54:44 AM	9188
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/6/2013 4:41:37 PM	9190
Surr: BFB	103	80-120		%REC	1	9/6/2013 4:41:37 PM	9190
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.048		mg/Kg	1	9/6/2013 4:41:37 PM	9190
Toluene	ND	0.048		mg/Kg	1	9/6/2013 4:41:37 PM	9190
Ethylbenzene	ND	0.048		mg/Kg	1	9/6/2013 4:41:37 PM	9190
Xylenes, Total	ND	0.096		mg/Kg	1	9/6/2013 4:41:37 PM	9190
Surr: 4-Bromofluorobenzene	111	80-120		%REC	1	9/6/2013 4:41:37 PM	9190
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Arsenic	3.1	1.2		mg/Kg	1	9/17/2013 7:09:06 AM	9212
SAR SOLUBLE CATIONS							Analyst: JLF
Calcium	63	1.0		mg/L	1	9/13/2013 10:13:00 AM	9261
Magnesium	6.9	1.0		mg/L	1	9/13/2013 10:13:00 AM	9261
Sodium	170	1.0		mg/L	1	9/13/2013 10:13:00 AM	9261
Sodium Adsorption Ratio	5.5	0			1	9/13/2013 10:13:00 AM	9261
CONDUCTANCE							Analyst: JML
Specific Conductance	200	1.0		µmhos/cm	1	9/9/2013 5:07:00 PM	R13266
SM4500-H+B: PH							Analyst: KS
pH	8.82	1.68		pH Units	1	9/11/2013 1:21:00 PM	R13288

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
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
O	RSD is greater than RSDlimit	P Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1309127

Date Reported: 9/17/2013

CLIENT: Souder, Miller and Associates

Client Sample ID: Spill #2@6"

Project: Monument Global Cache Field

Collection Date: 9/3/2013 10:50:00 AM

Lab ID: 1309127-003

Matrix: SOIL

Received Date: 9/4/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/13/2013 7:26:13 AM	9188
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/13/2013 7:26:13 AM	9188
Surr: DNOP	112	63-147		%REC	1	9/13/2013 7:26:13 AM	9188
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/6/2013 6:07:40 PM	9190
Surr: BFB	97.1	80-120		%REC	1	9/6/2013 6:07:40 PM	9190
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.048		mg/Kg	1	9/6/2013 6:07:40 PM	9190
Toluene	ND	0.048		mg/Kg	1	9/6/2013 6:07:40 PM	9190
Ethylbenzene	ND	0.048		mg/Kg	1	9/6/2013 6:07:40 PM	9190
Xylenes, Total	ND	0.096		mg/Kg	1	9/6/2013 6:07:40 PM	9190
Surr: 4-Bromofluorobenzene	108	80-120		%REC	1	9/6/2013 6:07:40 PM	9190
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Arsenic	34	2.5		mg/Kg	2	9/17/2013 7:16:12 AM	9212
SAR SOLUBLE CATIONS							Analyst: JLF
Calcium	33	1.0		mg/L	1	9/13/2013 10:13:00 AM	9261
Magnesium	27	1.0		mg/L	1	9/13/2013 10:13:00 AM	9261
Sodium	99	1.0		mg/L	1	9/13/2013 10:13:00 AM	9261
Sodium Adsorption Ratio	3.1	0			1	9/13/2013 10:13:00 AM	9261
CONDUCTANCE							Analyst: JML
Specific Conductance	120	1.0		µmhos/cm	1	9/9/2013 5:07:00 PM	R13266
SM4500-H+B: PH							Analyst: KS
pH	9.23	1.68		pH Units	1	9/11/2013 1:21:00 PM	R13288

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
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
O	RSD is greater than RSDlimit	P Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1309127

Date Reported: 9/17/2013

CLIENT: Souder, Miller and Associates

Client Sample ID: Spill #2@12"

Project: Monument Global Cache Field

Collection Date: 9/3/2013 10:55:00 AM

Lab ID: 1309127-004

Matrix: SOIL

Received Date: 9/4/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/13/2013 7:57:25 AM	9188
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/13/2013 7:57:25 AM	9188
Surr: DNOP	108	63-147		%REC	1	9/13/2013 7:57:25 AM	9188
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/6/2013 6:36:18 PM	9190
Surr: BFB	95.9	80-120		%REC	1	9/6/2013 6:36:18 PM	9190
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.048		mg/Kg	1	9/6/2013 6:36:18 PM	9190
Toluene	ND	0.048		mg/Kg	1	9/6/2013 6:36:18 PM	9190
Ethylbenzene	ND	0.048		mg/Kg	1	9/6/2013 6:36:18 PM	9190
Xylenes, Total	ND	0.097		mg/Kg	1	9/6/2013 6:36:18 PM	9190
Surr: 4-Bromofluorobenzene	107	80-120		%REC	1	9/6/2013 6:36:18 PM	9190
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Arsenic	1.6	1.2		mg/Kg	1	9/17/2013 7:18:33 AM	9212
SAR SOLUBLE CATIONS							Analyst: JLF
Calcium	83	1.0		mg/L	1	9/13/2013 10:13:00 AM	9261
Magnesium	65	1.0		mg/L	1	9/13/2013 10:13:00 AM	9261
Sodium	96	1.0		mg/L	1	9/13/2013 10:13:00 AM	9261
Sodium Adsorption Ratio	1.9	0			1	9/13/2013 10:13:00 AM	9261
CONDUCTANCE							Analyst: JML
Specific Conductance	150	1.0		µmhos/cm	1	9/9/2013 5:07:00 PM	R13266
SM4500-H+B: PH							Analyst: KS
pH	9.06	1.68		pH Units	1	9/11/2013 1:21:00 PM	R13288

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
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
O	RSD is greater than RSDlimit	P Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1309127

17-Sep-13

Client: Souder, Miller and Associates

Project: Monument Global Cache Field

Sample ID MB-9188	SampType: MBLK		TestCode: EPA Method 8015D: Diesel Range Organics							
Client ID: PBS	Batch ID: 9188		RunNo: 13093							
Prep Date: 9/5/2013	Analysis Date: 9/5/2013		SeqNo: 373977		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.6		10.00		85.6	63	147			

Sample ID LCS-9188	SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 9188		RunNo: 13132							
Prep Date: 9/5/2013	Analysis Date: 9/6/2013		SeqNo: 374988		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	61	10	50.00	0	122	77.1	128			
Surr: DNOP	4.8		5.000		95.7	63	147			

Sample ID MB-9260	SampType: MBLK		TestCode: EPA Method 8015D: Diesel Range Organics							
Client ID: PBS	Batch ID: 9260		RunNo: 13281							
Prep Date: 9/11/2013	Analysis Date: 9/11/2013		SeqNo: 378007		Units: %REC					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		104	63	147			

Sample ID LCS-9260	SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 9260		RunNo: 13281							
Prep Date: 9/11/2013	Analysis Date: 9/11/2013		SeqNo: 378095		Units: %REC					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.6		5.000		112	63	147			

Qualifiers:

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- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1309127

17-Sep-13

Client: Souder, Miller and Associates

Project: Monument Global Cache Field

Sample ID MB-9190	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 9190		RunNo: 13161							
Prep Date: 9/5/2013	Analysis Date: 9/6/2013		SeqNo: 375487		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	940		1000		94.0	80	120			

Sample ID LCS-9190	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 9190		RunNo: 13161							
Prep Date: 9/5/2013	Analysis Date: 9/6/2013		SeqNo: 375488		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	101	74.5	126			
Surr: BFB	1000		1000		104	80	120			

Sample ID 1309127-002AMS	SampType: MS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: Spill #1@12"	Batch ID: 9190		RunNo: 13161							
Prep Date: 9/5/2013	Analysis Date: 9/6/2013		SeqNo: 375494		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.8	23.92	0	102	76	156			
Surr: BFB	1100		956.9		113	80	120			

Sample ID 1309127-002AMSD	SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: Spill #1@12"	Batch ID: 9190		RunNo: 13161							
Prep Date: 9/5/2013	Analysis Date: 9/6/2013		SeqNo: 375495		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.8	23.95	0	104	76	156	1.91	17.7	
Surr: BFB	1100		957.9		113	80	120	0	0	

Qualifiers:

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- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1309127

17-Sep-13

Client: Souder, Miller and Associates

Project: Monument Global Cache Field

Sample ID MB-9190	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 9190		RunNo: 13161							
Prep Date: 9/5/2013	Analysis Date: 9/6/2013		SeqNo: 375522		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

Sample ID LCS-9190	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 9190		RunNo: 13161							
Prep Date: 9/5/2013	Analysis Date: 9/6/2013		SeqNo: 375523		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	106	80	120			
Toluene	1.0	0.050	1.000	0	105	80	120			
Ethylbenzene	1.0	0.050	1.000	0	104	80	120			
Xylenes, Total	3.2	0.10	3.000	0	105	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		113	80	120			

Sample ID 1309127-001AMS	SampType: MS		TestCode: EPA Method 8021B: Volatiles							
Client ID: Spill #1@6"	Batch ID: 9190		RunNo: 13161							
Prep Date: 9/5/2013	Analysis Date: 9/6/2013		SeqNo: 375528		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.048	0.9671	0	101	67.3	145			
Toluene	0.99	0.048	0.9671	0.004446	102	66.8	144			
Ethylbenzene	0.99	0.048	0.9671	0.007889	102	61.9	153			
Xylenes, Total	3.0	0.097	2.901	0.03356	103	65.8	149			
Surr: 4-Bromofluorobenzene	1.1		0.9671		114	80	120			

Sample ID 1309127-001AMSD	SampType: MSD		TestCode: EPA Method 8021B: Volatiles							
Client ID: Spill #1@6"	Batch ID: 9190		RunNo: 13161							
Prep Date: 9/5/2013	Analysis Date: 9/6/2013		SeqNo: 375529		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.048	0.9690	0	102	67.3	145	1.40	20	
Toluene	0.99	0.048	0.9690	0.004446	101	66.8	144	0.0975	20	
Ethylbenzene	1.0	0.048	0.9690	0.007889	102	61.9	153	0.434	20	
Xylenes, Total	3.0	0.097	2.907	0.03356	103	65.8	149	0.843	20	
Surr: 4-Bromofluorobenzene	1.1		0.9690		114	80	120	0	0	

Qualifiers:

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1309127

17-Sep-13

Client: Souder, Miller and Associates

Project: Monument Global Cache Field

Sample ID	1309127-004ADUP	SampType:	DUP	TestCode:	CONDUCTANCE					
Client ID:	Spill #2@12"	Batch ID:	R13266	RunNo:	13266					
Prep Date:		Analysis Date:	9/9/2013	SeqNo:	377151	Units:	µmhos/cm			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Specific Conductance	150	1.0						4.73	20	

Qualifiers:

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- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1309127

17-Sep-13

Client: Souder, Miller and Associates

Project: Monument Global Cache Field

Sample ID	MB-9212	SampType:	MBLK	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	PBS	Batch ID:	9212	RunNo:	13264					
Prep Date:	9/9/2013	Analysis Date:	9/10/2013	SeqNo:	377120	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	2.5								

Sample ID	LCS-9212	SampType:	LCS	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	LCSS	Batch ID:	9212	RunNo:	13264					
Prep Date:	9/9/2013	Analysis Date:	9/10/2013	SeqNo:	377121	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	24	2.5	25.00	0	94.7	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1309127

RcptNo: 1

Received by/date:

Logged By: Lindsay Mangin

09/04/13
9/4/2013 10:00:00 AM

Completed By: Lindsay Mangin

9/5/2013 9:01:08 AM

Reviewed By:

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	2.8	Good	Yes			

