

FINAL REPORT SUMMARIZING CLOSURE FOR INCIDENT 2RP-2566

MADRON SERVICES INC
WEST BRUSHY 8 FEDERAL SWD #001
API# 30-015-31675
SECTION 8, T26S R29E, NM
EDDY COUNTY, NM



Prepared by:
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Carlsbad, NM 88221
575-689-7040

Prepared for:
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2859 Pecos HWY
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February 5, 2015
Reference 5B23545 BG1



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INTRODUCTION

On behalf of Madron Services INC (MSI), Souder Miller & Associates (SMA) has prepared this report of closure activities related to incident # 2RP-2566, providing a summary of the release and spill response efforts at the WEST BRUSHY 8 FEDERAL SWD #001, a lease held by COG Operating. On October 10, 2014, according to the Release Notification and Corrective Action Form C-141, the battery was down for repair due to a pump failure with a well watcher on site to maintain the well. The well watcher employed by MSI failed to recognize the pump failure alarm resulting in overflow of the tank battery. Vacuum truck trucks were dispatched to remove all standing fluid. According to the initial C-141, "The majority of the impact was contained within the lined facility" (Appendix B). The total volume of releases was estimated at 900 bbls of produced water. When Souder, Miller & Associates (SMA) personnel arrived, a vacuum truck had been used to recover 800 bbls of produced water from the surface of the pad, and a backhoe had begun excavating and stockpiling contaminated soil. The estimated 100 bbl of remaining produced water released had flowed across the WEST BRUSHY 8 pad down gradient to the North until it reached a soil berm surrounding the upper terrace of the location. The produced water collected at the base of the northern most berm of the upper terrace and leached down vertically 10 ft. to the adjacent terrace on the location. The lower terrace collected the majority of the released produced water because a large portion of the lower location is lined with 60 mil plastic and is the lowest point on the location. The site is located in Unit A, Section 8, Township 26 South, Range 29 East, Eddy County, New Mexico. Figure 1, Site Location Map, illustrates the location of the release.

This document presents the results of the initial assessment and soil sampling performed at the Site, the regulatory framework for existing activities, and a summary of work done at the location designed to facilitate incident mitigation and closure. Site details, sampling locations and the remedial excavation area are presented in Figure 2. Appendices include the laboratory analytical reports for the initial sampling, New Mexico Oil Conservation Division (NMOCD) form C-141 (final), and the manifest for the transport and disposal of RCRA exempt soils from the initial response to the NMOCD approved facility Lea Land Inc.

REGULATORY FRAMEWORK AND SITE CLASSIFICATION

This project was conducted under the regulatory jurisdiction of the NMOCD, which requires the vadose zone to be abated so that water contaminants in the vadose zone will not, with reasonable probability, contaminate groundwater or surface water (toxic pollutants as defined in 20.6.2.7 New Mexico Administration Code shall not be present) through leaching, percolation, or other transport mechanisms (19.15.1.19 NMAC, Subsection B, Paragraphs 1 and 2). The NMOCD hydrocarbon soil remediation levels are determined by ranking criteria on a site-by-site basis, as outlined in the NMOCD "Guidelines for Remediation of Spills, Leaks, and Releases", dated August 13, 1993. The ranking criteria are based on three site characteristics: depth to groundwater, wellhead protection, and distance to surface water.

According to the Office of the State Engineer's records, no water wells are located within 1,000 feet of the well pad and tank battery. The estimated depth to groundwater is less than 100 feet below ground surface. No surface water bodies are located within 1,000 feet of the well pad and battery. The table below illustrates the ranking criteria, used by the NMOCD, and includes site specific characteristics at the West Brushy 8 location.

Criteria Site Characteristics	Ranking Score	
Depth to Ground Water	<100 feet	10
Wellhead Protection Area	>1000 feet	0

Distance to Surface Water >1000 feet 0

Total Ranking Score 10

Based on the site characteristics and the NMOCD guidelines, the site has a ranking score of 20. Consequently, Recommended Remediation Action Levels (RRALs) of 10 milligrams per kilogram (mg/Kg) Benzene, 50 mg/Kg total Benzene, Toluene, Ethylbenzene, and total Xylenes (BTEX); and 1000 mg/Kg Total Petroleum Hydrocarbons (TPH) are proposed for remediation at the site.

SOIL SAMPLING RESULTS

Samples were taken at depths ranging from 6 inches below surface grade (bsg) to 10 feet in depth. Sample locations #1 through #6 shown in Table 1 are from the lower terrace after remedial excavation was completed. Specific sample locations are depicted on Figure 2 (Sample Location Map) along with sampling details. Samples represented in Table 2 are of the upper terrace taken between the well head and the northern most berm. Refer to Figure #2 Sample Location Map. All samples were collected and processed according to NMOCD soil sampling procedures. The samples were sent under chain-of-custody protocols to Hall Environmental Analysis Laboratory for analysis for BTEX utilizing EPA Method 8021B, and total Chlorides using EPA Method 300.0.

Previous sampling by others was performed on the spoils stockpile with the samples analyzed for Total Petroleum Hydrocarbons. The results were below the TPH RRALs for the site and were reported to the NMOCD.

TABLE 1 EXCAVATED AREA LOWER PAD

Analytical Report-1412496	Sample Number on Figure 2 Map	Sample Date	Depth	BTEX mg/Kg	GRO mg/Kg	DRO mg/Kg	Cl-mg/Kg
1412496-001	1	12/4/2014	2'	N/A	N/A	N/A	300
1412496-002	2	12/4/2014	2'	N/A	N/A	N/A	250
1412496-003	3	12/4/2014	3'	N/A	N/A	N/A	ND
1412496-004	4	12/4/2014	3'	N/A	N/A	N/A	7.5
1412496-005	5	12/4/2014	5'	N/A	N/A	N/A	8.4
1412496-006	6	12/4/2014	5'	N/A	N/A	N/A	180

TABLE 2 UPPER PAD

Analytical Report-1410C50	Sample Number on Figure 2 Map	Sample Date	Depth	BTEX mg/Kg	GRO mg/Kg	DRO mg/Kg	Cl-mg/Kg
1410C50-L1S1	L1	10/24/2014	4'	BDL	N/A	N/A	1400
1410C50-L1S2	L1	10/24/2014	8'	BDL	N/A	N/A	1400
1410C50-L1S3	L1	10/24/2014	10'	BDL	N/A	N/A	2300
1410C50-L2S1	L2	10/24/2014	6"	BDL	N/A	N/A	870
1410C50-L2S2	L2	10/24/2014	2'	BDL	N/A	N/A	5.7

N/A – Not Analyzed BDL – Below Detection Limits for the Method. Refer to Analytical Reports

Appendix A

All laboratory analytical results are below the site specific NMOCD RRALs based on the ranking criteria.

PROJECT SUMMARY

The initial soil assessment activities performed by SMA effectively delineated the horizontal and vertical extent of Chloride-affected soils in accordance to NMOCD regulatory guidance. The excavation was guided using EPA Method 4500 titrations done by SMA personnel in the field. MSI equipment and personnel performed the excavation. The contaminated soil on the lower terrace was excavated and transported off location to an NMOCD approved disposal facility. Soil samples were taken within the excavation to confirm that remediation goals had been achieved. The samples were sent to a third party laboratory for analysis and are summarized in Table #1 Excavated Area Lower Pad. Heavy equipment was utilized to remove all affected soils on the upper and lower terraces except for an area along the northern most berm of the upper terrace represent by samples L1S1, L1S2 and L1S3 in Table #2 and Figure #2.

The affected soils were left in place along the northern berm of the upper terrace from 4 feet bgs to 10 feet bgs because further excavation was not feasible. The area contains four below-grade steel flow-lines and the material is acting as the retaining wall for the upper terrace. Refer to the photo documentation in Appendix D. The impacted soils left in place is on the location pad, and is included in the lease held by COG Operating. The high salinity of the released produced water has left the remaining soils affected with concentrations of chloride ions several times higher than the area's natural background concentrations. With a 60mil plastic liner at 10 feet bgs and a 2 feet cap of clean compacted material at the surface of the upper terrace, the estimated 600 cubic yards of affected material will not significantly leach off location. Chloride leaching estimations were made using the API Amigo Massload Model and Analytical Report- 1410C50. Refer to Appendices A and E for details.

During final reclamation and re-contouring of WEST BRUSHY 8 FEDERAL SWD #001, the current operator and lessee Concho Resources INC (COG) will remove the affected retaining wall and dispose of the estimated 600 cubic yards of chloride impacted material in accordance with and as required by the Bureau of Land Management's *Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development*.

CONFIRMATION SAMPLING

Sample points were created by the use of a random number table to determine locations of the confirmation samples in the spill area (Figure 2). 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 sealed for shipment to the laboratory, accompanied by proper chain-of-custody documentation. The soil samples were delivered on 12/04/14 to Hall Environmental Analysis Laboratory, Inc., in Albuquerque, New Mexico for analysis by EPA METHOD 300.0.

SITE CLOSURE

All excavated impacted were transported to an NMOCD approved disposal facility. The soils remaining were sampled by SMA and tested by a third party laboratory (Table 2) confirming that the soil meets the site-specific NMOCD is cleanup levels of 10 mg/Kg Benzene, 50 mg/Kg total BTEX and 1000 mg/Kg TPH. A closure request was submitted to the NMOCD as a C-141 final on 02/05/14 (Appendix B).

LIST OF FIGURES

FIGURE 1 SITE LOCATION MAP

FIGURE 2 SITE DETAILS AND SAMPLE LOCATION MAP

APPENDICES

APPENDIX A LABORATORY ANALYTICAL REPORTS

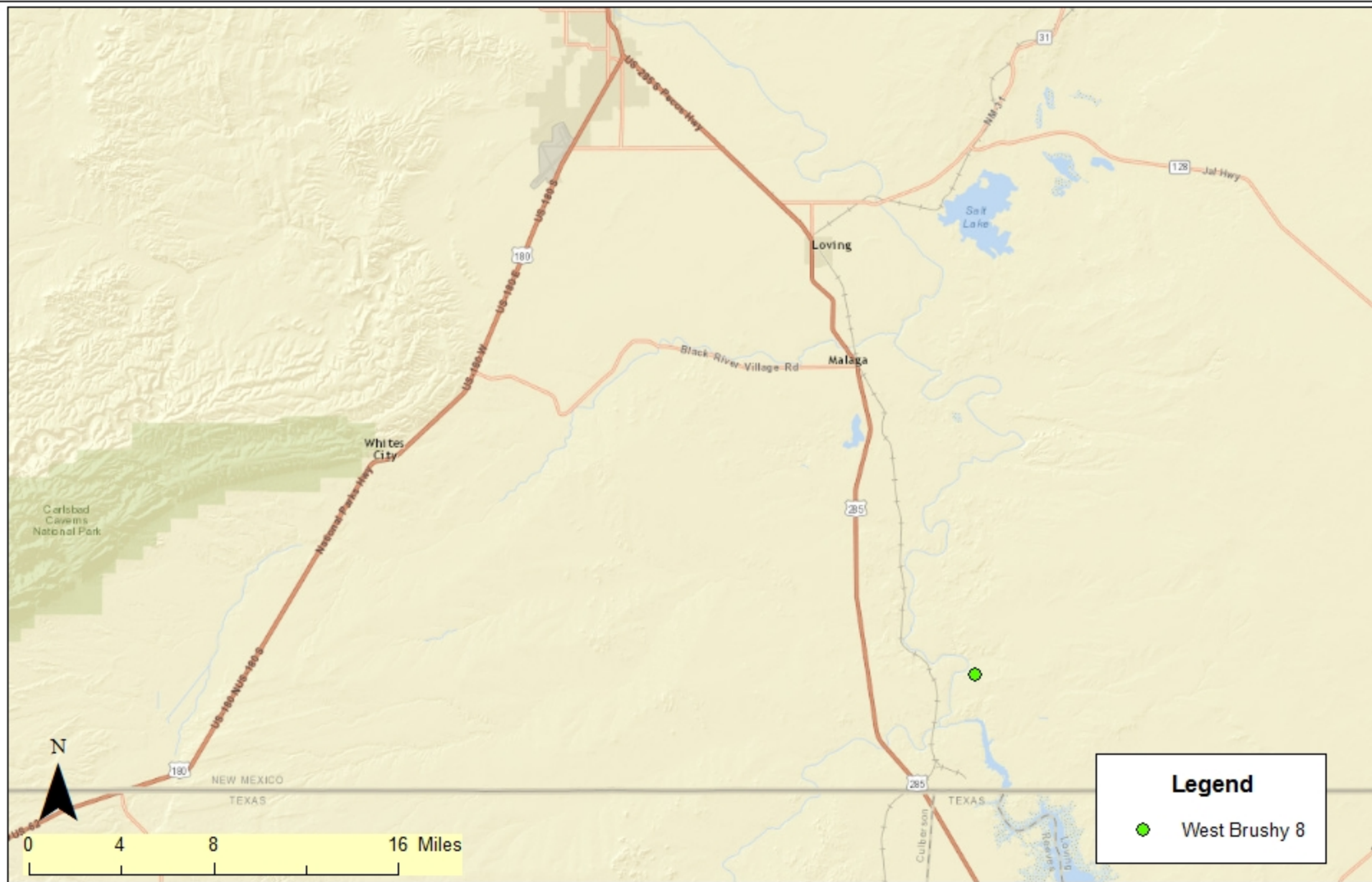
APPENDIX B FORM C141 FINAL

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FIGURE 1

SITE LOCATION MAP



Location Map for West Brushy 8
MSI- West Brushy Clean up
Malaga, New Mexico

Figure 1

Date Saved:
12/22/2014

Revisions		Descr:
By:	Date:	
By:	Date:	

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Drawn Lucas Middleton
Checked _____
Approved _____



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

FIGURE 2

SITE DETAILS AND SAMPLE LOCATIONs MAP



Site Map for West Brushy 8
MSI-West Brushy Clean up
Malaga, New Mexico

Figure 2

Date Saved:
1/6/2015

By: _____	Date: _____	Descr: _____
By: _____	Date: _____	Descr: _____

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Drawn Lucas Middleton
Checked _____
Approved _____



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APPENDIX A

LABORATORY ANALYTICAL REPORTS



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

INVOICE

Invoice#: 1412496

Date: 12/17/2014

INVOICE TO: ATTN: ACCOUNTS PAYABLE

Souder, Miller & Associates
Austin Weyant
201 S Halagueno
Carlsbad, NM 88221

Acct. Code:

Work Order: 1412496
Date Received: 12/10/2014
Priority: Routine
Phone: (575) 689-7040
Fax:
Project: MSI_West Brushy SWD
PO: 5B23545-BG1
CaseNo:
Submitted By: Souder, Miller & Associates
Austin Weyant

Item Description	Matrix	Remarks	Qty	Unit Price	Total
EPA Method 300.0: Anions	Soil		6	25.00	150.00

Sub Total: \$150.00
Misc. Charges: \$0.00
Surcharge: 0.00%
Tax: 0.00%

INVOICE Total: \$150.00

Pre-Paid Amount: \$0.00

TERMS:

Total Payable Amount: \$150.00

Sub Lab
Project # 5B 23545
Billing Group BG1
Phase _____
Billable Yes No
Cost + 10 %
Approval _____



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

INVOICE

Invoice#: **1412496**

Date: **12/17/2014**

INVOICE TO: ATTN: **ACCOUNTS PAYABLE**
Souder, Miller & Associates
Austin Weyant
201 S Halagueno
Carlsbad, NM 88221

Acct. Code:

Work Order: **1412496**
Date Received: 12/10/2014
Priority: Routine
Phone: (575) 689-7040
Fax:
Project: MSI_West Brushy SWD
PO: 5B23545-BG1
CaseNo:
Submitted By: Souder, Miller & Associates
Austin Weyant

Item Description	Matrix	Remarks	Qty	Unit Price	Total
EPA Method 300.0: Anions	Soil		6	25.00	150.00



Sub Total: \$150.00
Misc. Charges: \$0.00
Surcharge: 0.00%
Tax: 0.00%

INVOICE Total: \$150.00

Pre-Paid Amount: \$0.00

Total Payable Amount: \$150.00

TERMS:



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

November 03, 2014

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

RE: West Brush

OrderNo.: 1410C50

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 5 sample(s) on 10/28/2014 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 horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410C50

Date Reported: 11/3/2014

CLIENT: Souder, Miller & Associates

Client Sample ID: L1S1

Project: West Brush

Collection Date: 10/22/2014 9:00:00 AM

Lab ID: 1410C50-001

Matrix: SOIL

Received Date: 10/28/2014 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.094		mg/Kg	1	10/29/2014 5:26:31 PM	16122
Benzene	ND	0.047		mg/Kg	1	10/29/2014 5:26:31 PM	16122
Toluene	ND	0.047		mg/Kg	1	10/29/2014 5:26:31 PM	16122
Ethylbenzene	ND	0.047		mg/Kg	1	10/29/2014 5:26:31 PM	16122
Xylenes, Total	ND	0.094		mg/Kg	1	10/29/2014 5:26:31 PM	16122
Surr: 4-Bromofluorobenzene	92.0	80-120		%REC	1	10/29/2014 5:26:31 PM	16122
EPA METHOD 300.0: ANIONS							Analyst: LGP
Chloride	1400	75		mg/Kg	50	10/31/2014 10:28:31 AM	16138

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	Page 1 of 8
	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.	
	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 1410C50

Date Reported: 11/3/2014

CLIENT: Souder, Miller & Associates

Client Sample ID: L2S1

Project: West Brush

Collection Date: 10/22/2014 9:00:00 AM

Lab ID: 1410C50-002

Matrix: SOIL

Received Date: 10/28/2014 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.095		mg/Kg	1	10/29/2014 5:55:06 PM	16122
Benzene	ND	0.048		mg/Kg	1	10/29/2014 5:55:06 PM	16122
Toluene	ND	0.048		mg/Kg	1	10/29/2014 5:55:06 PM	16122
Ethylbenzene	ND	0.048		mg/Kg	1	10/29/2014 5:55:06 PM	16122
Xylenes, Total	ND	0.095		mg/Kg	1	10/29/2014 5:55:06 PM	16122
Surr: 4-Bromofluorobenzene	90.8	80-120		%REC	1	10/29/2014 5:55:06 PM	16122
EPA METHOD 300.0: ANIONS							Analyst: LGP
Chloride	870	30		mg/Kg	20	10/29/2014 1:22:01 PM	16138

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	Page 2 of 8
	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.	
	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 **1410C50**

Date Reported: **11/3/2014**

CLIENT: Souder, Miller & Associates

Client Sample ID: L1S2

Project: West Brush

Collection Date: 10/22/2014 9:00:00 AM

Lab ID: 1410C50-003

Matrix: SOIL

Received Date: 10/28/2014 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.095		mg/Kg	1	10/29/2014 6:23:37 PM	16122
Benzene	ND	0.047		mg/Kg	1	10/29/2014 6:23:37 PM	16122
Toluene	ND	0.047		mg/Kg	1	10/29/2014 6:23:37 PM	16122
Ethylbenzene	ND	0.047		mg/Kg	1	10/29/2014 6:23:37 PM	16122
Xylenes, Total	ND	0.095		mg/Kg	1	10/29/2014 6:23:37 PM	16122
Surr: 4-Bromofluorobenzene	91.2	80-120		%REC	1	10/29/2014 6:23:37 PM	16122
EPA METHOD 300.0: ANIONS							Analyst: LGP
Chloride	1400	75		mg/Kg	50	10/31/2014 10:40:56 AM	16138

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	Page 3 of 8
	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.	
	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 **1410C50**

Date Reported: **11/3/2014**

CLIENT: Souder, Miller & Associates

Client Sample ID: L2S2

Project: West Brush

Collection Date: 10/22/2014 9:00:00 AM

Lab ID: 1410C50-004

Matrix: SOIL

Received Date: 10/28/2014 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.099		mg/Kg	1	10/29/2014 6:52:11 PM	16122
Benzene	ND	0.049		mg/Kg	1	10/29/2014 6:52:11 PM	16122
Toluene	ND	0.049		mg/Kg	1	10/29/2014 6:52:11 PM	16122
Ethylbenzene	ND	0.049		mg/Kg	1	10/29/2014 6:52:11 PM	16122
Xylenes, Total	ND	0.099		mg/Kg	1	10/29/2014 6:52:11 PM	16122
Surr: 4-Bromofluorobenzene	91.4	80-120		%REC	1	10/29/2014 6:52:11 PM	16122
EPA METHOD 300.0: ANIONS							Analyst: LGP
Chloride	5.7	1.5		mg/Kg	1	10/29/2014 1:59:15 PM	16138

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.
	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 **1410C50**

Date Reported: **11/3/2014**

CLIENT: Souder, Miller & Associates

Client Sample ID: L1S3

Project: West Brush

Collection Date: 10/22/2014 9:00:00 AM

Lab ID: 1410C50-005

Matrix: SOIL

Received Date: 10/28/2014 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.096		mg/Kg	1	10/30/2014 2:29:26 AM	16122
Benzene	ND	0.048		mg/Kg	1	10/30/2014 2:29:26 AM	16122
Toluene	ND	0.048		mg/Kg	1	10/30/2014 2:29:26 AM	16122
Ethylbenzene	ND	0.048		mg/Kg	1	10/30/2014 2:29:26 AM	16122
Xylenes, Total	ND	0.096		mg/Kg	1	10/30/2014 2:29:26 AM	16122
Surr: 4-Bromofluorobenzene	93.6	80-120		%REC	1	10/30/2014 2:29:26 AM	16122
EPA METHOD 300.0: ANIONS							Analyst: LGP
Chloride	2300	75		mg/Kg	50	10/31/2014 10:53:20 AM	16138

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	Page 5 of 8
	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.	
	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#: 1410C50

03-Nov-14

Client: Souder, Miller & Associates

Project: West Brush

Sample ID	MB-16138		SampType:	MBLK		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS		Batch ID:	16138		RunNo:	22235				
Prep Date:	10/29/2014		Analysis Date:	10/29/2014		SeqNo:	655155		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	ND	1.5									

Sample ID	LCS-16138		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS		Batch ID: 16138		RunNo: 22235					
Prep Date:	10/29/2014		Analysis Date: 10/29/2014		SeqNo: 655156		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.0	90	110			

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.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410C50

03-Nov-14

Client: Souder, Miller & Associates

Project: West Brush

Sample ID	MB-16122		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 16122		RunNo: 22210					
Prep Date:	10/28/2014		Analysis Date: 10/29/2014		SeqNo: 654551		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	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.91		1.000		91.2	80	120			

Sample ID	LCS-16122		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 16122		RunNo: 22210					
Prep Date:	10/28/2014		Analysis Date: 10/29/2014		SeqNo: 654552		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.87	0.10	1.000	0	86.8	80	120			
Benzene	0.97	0.050	1.000	0	97.1	80	120			
Toluene	0.98	0.050	1.000	0	97.7	80	120			
Ethylbenzene	0.99	0.050	1.000	0	98.7	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.9	80	120			
Surr: 4-Bromofluorobenzene	0.95		1.000		95.1	80	120			

Sample ID	1410C50-001AMS		SampType: MS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	L1S1		Batch ID: 16122		RunNo: 22210					
Prep Date:	10/28/2014		Analysis Date: 10/29/2014		SeqNo: 654554		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.95	0.094	0.9416	0	101	73.2	146			
Benzene	0.96	0.047	0.9416	0	102	77.4	142			
Toluene	0.97	0.047	0.9416	0.007170	102	77	132			
Ethylbenzene	1.1	0.047	0.9416	0	112	77.6	134			
Xylenes, Total	3.1	0.094	2.825	0.01329	110	77.4	132			
Surr: 4-Bromofluorobenzene	0.93		0.9416		98.5	80	120			

Sample ID	1410C50-001AMSD		SampType: MSD		TestCode: EPA Method 8021B: Volatiles					
Client ID:	L1S1		Batch ID: 16122		RunNo: 22210					
Prep Date:	10/28/2014		Analysis Date: 10/29/2014		SeqNo: 654555		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.89	0.094	0.9407	0	94.4	73.2	146	6.35	21	
Benzene	0.89	0.047	0.9407	0	94.4	77.4	142	7.48	20	
Toluene	0.89	0.047	0.9407	0.007170	94.3	77	132	8.15	20	
Ethylbenzene	0.95	0.047	0.9407	0	101	77.6	134	10.2	20	

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.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410C50

03-Nov-14

Client: Souder, Miller & Associates

Project: West Brush

Sample ID		1410C50-001AMSD			SampType: MSD		TestCode: EPA Method 8021B: Volatiles				
Client ID:		L1S1		Batch ID:		16122		RunNo: 22210			
Prep Date:		10/28/2014		Analysis Date:		10/29/2014		SeqNo: 654555		Units: mg/Kg	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total		2.8	0.094	2.822	0.01329	100	77.4	132	9.84	20	
Surr: 4-Bromofluorobenzene		0.94		0.9407		99.8	80	120	0	0	

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.
RL Reporting Detection Limit

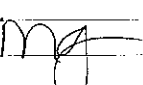
Sample Log-In Check List

Client Name: SMA-CARLSBAD

Work Order Number: 1410C50

RcptNo: 1

Received by/date:



10/28/14

Logged By: Michelle Garcia

10/28/2014 9:30:00 AM



Completed By: Michelle Garcia

10/28/2014 9:56:53 AM



Reviewed By:

CS

10/28/14

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?

Yes ☒

No ☐

(Note discrepancies on chain of custody)

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?

Yes ☒

No ☐

(If no, notify customer for authorization.)

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted?

Checked by:

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order?

Yes ☐

No ☐

NA ☒

Person Notified:

Date:

By Whom:

Via:

☐ eMail ☐ Phone ☐ Fax ☐ In Person

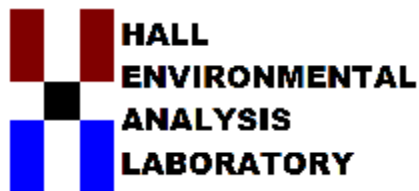
Regarding:

Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	17.2	Good	Yes			



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

December 17, 2014

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

RE: MSI_West Brushy SWD

OrderNo.: 1412496

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 6 sample(s) on 12/10/2014 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 **1412496**

Date Reported: **12/17/2014**

CLIENT: Souder, Miller & Associates

Client Sample ID: B-1

Project: MSI_West Brushy SWD

Collection Date: 12/4/2014 3:00:00 PM

Lab ID: 1412496-001

Matrix: SOIL

Received Date: 12/10/2014 9:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: lgp
Chloride	300	30		mg/Kg	20	12/12/2014 6:48:07 PM	16793

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	Page 1 of 7
	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.	
	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 **1412496**

Date Reported: **12/17/2014**

CLIENT: Souder, Miller & Associates

Client Sample ID: B-2

Project: MSI_West Brushy SWD

Collection Date: 12/4/2014 3:00:00 PM

Lab ID: 1412496-002

Matrix: SOIL

Received Date: 12/10/2014 9:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: lgp
Chloride	250	30		mg/Kg	20	12/12/2014 7:25:22 PM	16793

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	Page 2 of 7
	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.	
	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 **1412496**

Date Reported: **12/17/2014**

CLIENT: Souder, Miller & Associates

Client Sample ID: B-3

Project: MSI_West Brushy SWD

Collection Date: 12/4/2014 3:00:00 PM

Lab ID: 1412496-003

Matrix: SOIL

Received Date: 12/10/2014 9:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: lgp
Chloride	ND	30		mg/Kg	20	12/12/2014 7:37:46 PM	16793

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.
	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 **1412496**

Date Reported: **12/17/2014**

CLIENT: Souder, Miller & Associates

Client Sample ID: B-4

Project: MSI_West Brushy SWD

Collection Date: 12/4/2014 3:00:00 PM

Lab ID: 1412496-004

Matrix: SOIL

Received Date: 12/10/2014 9:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: lgp	
Chloride	7.5	1.5		mg/Kg	1	12/15/2014 11:41:55 AM	16822

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	Page 4 of 7
	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.	
	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 **1412496**

Date Reported: **12/17/2014**

CLIENT: Souder, Miller & Associates

Client Sample ID: B-5

Project: MSI_West Brushy SWD

Collection Date: 12/4/2014 3:00:00 PM

Lab ID: 1412496-005

Matrix: SOIL

Received Date: 12/10/2014 9:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: lgp	
Chloride	8.4	1.5		mg/Kg	1	12/15/2014 12:31:35 PM	16822

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.
	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 **1412496**

Date Reported: **12/17/2014**

CLIENT: Souder, Miller & Associates

Client Sample ID: B-6

Project: MSI_West Brushy SWD

Collection Date: 12/4/2014 3:00:00 PM

Lab ID: 1412496-006

Matrix: SOIL

Received Date: 12/10/2014 9:22:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: lgp	
Chloride	180	30		mg/Kg	20	12/15/2014 1:08:49 PM	16822

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	Page 6 of 7
	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.	
	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#: 1412496

17-Dec-14

Client: Souder, Miller & Associates

Project: MSI_West Brushy SWD

Sample ID	MB-16793		SampType: MBLK		TestCode: EPA Method 300.0: Anions					
Client ID:	PBS		Batch ID: 16793		RunNo: 23135					
Prep Date:	12/12/2014		Analysis Date: 12/12/2014		SeqNo: 683185		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-16793		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS		Batch ID: 16793		RunNo: 23135					
Prep Date:	12/12/2014		Analysis Date: 12/12/2014		SeqNo: 683186		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.1	90	110			

Sample ID	MB-16822		SampType:	MBLK		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS		Batch ID:	16822		RunNo:	23162				
Prep Date:	12/15/2014		Analysis Date:	12/15/2014		SeqNo:	684006		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	ND	1.5									

Sample ID	LCS-16822		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS		Batch ID: 16822		RunNo: 23162					
Prep Date:	12/15/2014		Analysis Date: 12/15/2014		SeqNo: 684007		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.1	90	110			

Sample ID	1412496-004AMS			SampType:	MS		TestCode:	EPA Method 300.0: Anions			
Client ID:	B-4			Batch ID:	16822		RunNo:	23162			
Prep Date:	12/15/2014			Analysis Date:	12/15/2014		SeqNo:	684009		Units:	mg/Kg
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	25	1.5	15.00	7.496	118	71.6	122				

Sample ID	1412496-004AMSD		SampType:	MSD		TestCode:	EPA Method 300.0: Anions				
Client ID:	B-4		Batch ID:	16822		RunNo:	23162				
Prep Date:	12/15/2014		Analysis Date:	12/15/2014		SeqNo:	684010		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	27	1.5	15.00	7.496	129	71.6	122	6.20	20	S	

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.
RL Reporting Detection Limit

Sample Log-In Check List

Client Name: SMA-CARLSBAD

Work Order Number: 1412496

RcptNo: 1

Received by/date:

CS 12/10/14

Logged By: Anne Thorne

12/10/2014 9:22:00 AM

Anne Thorne

Completed By: Anne Thorne

12/10/2014

Anne Thorne

Reviewed By:

[Signature]

12/10/14

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 ☐

APPROVED BY CLIENT

5. Were all samples received at a temperature of >0° C to 6.0° C Yes ☐ No ☒ NA ☐

Approved by client.

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	15.0	Good	Yes			



**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Client: Souder Miller and Associates				<input type="checkbox"/> Standard <input type="checkbox"/> Rush Project Name MSI _ West Brushy SWD		
Mailing Address:				Project #: 5B23545 --BG1		
201 S Halagueno Carlsbad, NM 88220						
Phone #: 575-499-9244				Project Manager: Austin Weyant		
email or Fax#: lucas.middleton@soudermiller.com						
QA/QC Package:						
<input type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)						
Accreditation:				Sampler:		
<input type="checkbox"/> NELAP <input type="checkbox"/> Other _____				On Ice: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
<input type="checkbox"/> EDD (Type) _____				Sample Temperature: 15.0°C		
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
12/4/14	3:00	Soil	B-1	4 oz Jar		1412496
12/4/14	3:00	Soil	B-2	4 oz Jar		-601
12/4/14	3:00	Soil	B-3	4 oz Jar		-602
12/4/14	3:00	Soil	B-4	4 oz Jar		-603
12/4/14	3:00	Soil	B-5	4 oz Jar		-604
12/4/14	3:00	Soil	B-6	4 oz Jar		-605
				4 oz Jar		-606
Date: 12-8-14	Time:	Relinquished by: Dan Miller		Received by: Delina Sanchez		Time: 8:22
Date:	Time:	Relinquished by:		Received by:		Time: Date

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

APPENDIX B

FORM C141 FINAL

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 ☒ Final Report

Name of Company: COG Operating LLC	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No. 432-230-0077
Facility Name: West Brushy 8 Federal SWD #1	Facility Type: SWD

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-31675
------------------------	------------------------	----------------------

LOCATION OF RELEASE

Unit Letter A	Section 8	Township 26S	Range 29E	Feet from the 660	North/South Line North	Feet from the 330	East/West Line East	County Eddy
------------------	--------------	-----------------	--------------	----------------------	---------------------------	----------------------	------------------------	----------------

Latitude 32.0625249053514 Longitude -103.99867482237

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 900 bbls	Volume Recovered: 800 bbls
Source of Release: Water tank overflow	Date and Hour of Occurrence: 10/10/2014 7:30 am	Date and Hour of Discovery: 10/10/2014 7:30 am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher – OCD / James Amos – BLM	
By Whom? Amanda Trujillo	Date and Hour: 10/10/2014 5:46 pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*


Describe Cause of Problem and Remedial Action Taken.*

Human error. The battery was down for repair due to a pump failure with a well watcher on site to maintain well. Vacuum truck trucks were dispatched to remove all standing fluid.

Describe Area Affected and Cleanup Action Taken.*

The majority of the impact was contained within the lined facility. Approximately 225'x100' was impacted outside the containment. All standing fluids were picked up and disposed of at an NMOCD approved facility. Souder, Miller and Associates addressed the clean-up of this location in accordance with NMOCD and BLM guidelines.

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: 	<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Amanda Trujillo	Approved by Environmental Specialist:	
Title: Senior Environmental Coordinator	Approval Date:	Expiration Date:
E-mail Address: atrujillo@concho.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: April 6, 2015 Phone: 575-748-6940		

* Attach Additional Sheets If Necessary

APPENDIX C

WASTE MANIFEST



Permlan Basin

Customer: COG OPERATING LLC
Customer #: CRI2120
Ordered by: NIKE BRANNAN
AFE #:
PO #:
Manifest #: 371450
Manif. Date: 12/5/2014
Hauler: MSI
Driver: JOSE
Truck #: 556
Card #
Job Ref #

Ticket #: 700-655437
Bid #: O6UJ9A00023L
Date: 12/5/2014
Generator: COG OPERATING LLC
Generator #:
Well Ser. #:
Well Name: WEST BRUSKY 8 FED
Well #: SWD 1
Field:
Field #:
Rig: NON-DRILLING
County

Facility: CRI

Product / Service	Quantity / Units
Contaminated Soil (RCRA Exempt)	12.00 yards

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

☒ RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

☐ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description above)

Driver / Agent Signature: _____ R360 Representative Signature: _____

Customer Approval: _____

THIS IS NOT AN INVOICE!

Approved By: _____

Date: _____



Permian Basin

Customer: COG OPERATING LLC
Customer #: CRI2120
Ordered by: MIKE BRANNAN
AFE #:
PO #:
Manifest #: 371450
Manif. Date: 12/5/2014
Hauler: MSI
Driver: JOSE
Truck #: 556
Card #
Job Ref #

Ticket #: 700-655510
Bld #: O6UJ9A00023L
Date: 12/5/2014
Generator: COG OPERATING LLC
Generator #:
Well Ser. #:
Well Name: WEST BRUSKY 8 FED
Well #: SWD 1
Field:
Field #:
Rlg: NON-DRILLING
County

Facility: CRI

Product/Service	Quantity/Unit
Contaminated Soil (RCRA Exempt)	12.00 yards

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

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Driver/Agent Signature	R360 Representative Signature

Customer Approval

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Approved By: _____

Date: _____



Permian Basin

Customer: COG OPERATING LLC
Customer #: CRI2120
Ordered by: MIKE BRANNAN
AFE #:
PO #:
Manifest #: 371450
Manif. Date: 12/5/2014
Hauler: MSI
Driver: JOSE
Truck #: 556
Card #
Job Ref #

Ticket #: 700-655593
Bid #: O6UJ9A00023L
Date: 12/5/2014
Generator: COG OPERATING LLC
Generator #:
Well Ser. #:
Well Name: WEST BRUSKY 8 FED
Well #: SWD 1
Field:
Field #:
Rig: NON-DRILLING
County

Facility: CRI

Product/Service	Quantity/Units
Contaminated Soil (RCRA Exempt)	12.00 yards

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

☒ RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

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☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description above)

Driver/Agent Signature	R360 Representative Signature

Customer Approval:

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Approved By: _____

Date: _____



Permian Basin

Customer: COG OPERATING LLC
Customer #: CRI2120
Ordered by: MIKE BRANNON
AFE #:
PO #:
Manifest #: 356476
Manif. Date: 12/8/2014
Hauler: MSI
Driver: JOSE
Truck #: 556
Card #
Job Ref #

Ticket #: 700-656371
Bid #: O6UJ9A00023L
Date: 12/8/2014
Generator: COG OPERATING LLC
Generator #:
Well Ser. #:
Well Name: WEST BRUSKY 8 FED
Well #: SWD 1
Field:
Field #:
Rig: NON-DRILLING
County

Facility: CRI

Product/Service Quantity/Units

Contaminated Soil (RCRA Exempt) 12.00 yards

Generator Certification Statement or Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

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☐ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

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Driver/Agent Signature R360 Representative Signature

Customer Approval

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Approved By: _____

Date: _____



Permian Basin

Customer: COG OPERATING LLC
Customer #: CRI2120
Ordered by: MIKE BRANNON
AFE #:
PO #:
Manifest #: 356476
Manif. Date: 12/8/2014
Hauler: MSI
Driver: JOSE
Truck #: 556
Card #
Job Ref #

Ticket #: 700-656442
Bid #: O6UJ9A00023L
Date: 12/8/2014
Generator: COG OPERATING LLC
Generator #:
Well Ser. #:
Well Name: WEST BRUSKY 8 FED
Well #: SWD 1
Field:
Field #:
Rig: NON-DRILLING
County

Facility: CRI

Product/Service: Quantity/Units:

Contaminated Soil (RCRA Exempt)

12.00 yards

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

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☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description above)

Driver/Agent Signature: R360 Representative Signature:

Customer Approval:

THIS IS NOT AN INVOICE!

Approved By: _____

Date: _____



Permian Basin

Customer: COG OPERATING LLC
Customer #: CRI2120
Ordered by: MIKE BRANNAN
AFE #:
PO #:
Manifest #: 356477
Manif. Date: 12/9/2014
Hauler: MSI
Driver: JOSE
Truck #: 556
Card #
Job Ref #

Ticket #: 700-656857
Bld #: O6UJ9A00023L
Date: 12/9/2014
Generator: COG OPERATING LLC
Generator #:
Well Ser. #:
Well Name: WEST BRUSKY 8 FED
Well #: SWD 1
Field:
Field #:
Rig: NON-DRILLING
County

Facility: CRI

Product/Service	Quantity/Units
Contaminated Soil (RCRA Exempt)	12.00 yards

Generator Certification Statement of Waste Status:

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

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☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description above)

Driver/Agent Signature	R360 Representative Signature

Customer Approval

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Approved By: _____

Date: _____



Permian Basin

Customer: COG OPERATING LLC
Customer #: CRI2120
Ordered by: MIKE BRANNAN
AFE #:
PO #:
Manifest #: 356477
Manif. Date: 12/9/2014
Hauler: MSI
Driver: JOSE
Truck #: 556
Card #
Job Ref #

Ticket #: 750-656857A
Bid #: Walk-in Bid
Date: 1/14/2015
Generator: COG OPERATING LLC
Generator #:
Well Ser. #:
Well Name: WEST BRUSKY 8 FED
Well #: SWD 1
Field:
Field #:
Rig: NON-DRILLING
County

Facility: CRI

Product / Service

Quantity Units

Contaminated Soil (RCRA Exempt)

12.00 yards

Generator Certification Statement of Waste Status

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Driver/ Agent Signature

R360 Representative Signature

Customer Approval

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Date: _____



Customer: COG OPERATING LLC
Customer #: CRI2120
Ordered by: MIKE BRANNON
AFE #:
PO #:
Manifest #: 356476
Manif. Date: 12/8/2014
Hauler: MSI
Driver: JOSE
Truck #: 556
Card #
Job Ref #

Ticket #: 750-656442A
Bid #: Walk-in Bid
Date: 1/14/2015
Generator: COG OPERATING LLC
Generator #:
Well Ser. #:
Well Name: WEST BRUSKY 8 FED
Well #: SWD 1
Field:
Field #:
Rig: NON-DRILLING
County

Permian Basin

Facility: CRI

Product / Service

Quantity Units

Contaminated Soil (RCRA Exempt)

12.00 yards

Generator Certification Statement of Waste Status

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Driver/ Agent Signature

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Permian Basin

Customer: COG OPERATING LLC
Customer #: CRI2120
Ordered by: MIKE BRANNON
AFE #:
PO #:
Manifest #: 356476
Manif. Date: 12/8/2014
Hauler: MSI
Driver: JOSE
Truck #: 556
Card #
Job Ref #

Ticket #: 750-656371A
Bid #: Walk-in Bid
Date: 1/14/2015
Generator: COG OPERATING LLC
Generator #:
Well Ser. #:
Well Name: WEST BRUSKY 8 FED
Well #: SWD 1
Field:
Field #:
Rig: NON-DRILLING
County

Facility: CRI

Product / Service

Quantity Units

Contaminated Soil (RCRA Exempt)

12.00 yards

Generator Certification Statement of Waste Status

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Driver/ Agent Signature

R360 Representative Signature

Customer Approval

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Approved By: _____

Date: _____



Permian Basin

Customer: COG OPERATING LLC
Customer #: CRI2120
Ordered by: MIKE BRANNAN
AFE #:
PO #:
Manifest #: 371450
Manif. Date: 12/5/2014
Hauler: MSI
Driver: JOSE
Truck #: 556
Card #
Job Ref #

Ticket #: 750-655593A
Bid #: Walk-in Bid
Date: 1/14/2015
Generator: COG OPERATING LLC
Generator #:
Well Ser. #:
Well Name: WEST BRUSKY 8 FED
Well #: SWD 1
Field:
Field #:
Rig: NON-DRILLING
County

Facility: CRI

Product / Service

Quantity Units

Contaminated Soil (RCRA Exempt)

12.00 yards

Generator Certification Statement of Waste Status

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Driver/ Agent Signature

R360 Representative Signature

Customer Approval

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Permian Basin

Customer: COG OPERATING LLC
Customer #: CRI2120
Ordered by: MIKE BRANNAN
AFE #:
PO #:
Manifest #: 371450
Manif. Date: 12/5/2014
Hauler: MSI
Driver: JOSE
Truck #: 556
Card #
Job Ref #

Ticket #: 750-655510A
Bid #: Walk-in Bid
Date: 1/14/2015
Generator: COG OPERATING LLC
Generator #:
Well Ser. #:
Well Name: WEST BRUSKY 8 FED
Well #: SWD 1
Field:
Field #:
Rig: NON-DRILLING
County

Facility: CRI

Product / Service	Quantity Units
Contaminated Soil (RCRA Exempt)	12.00 yards

Generator Certification Statement of Waste Status
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Driver/ Agent Signature	R360 Representative Signature
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_____	_____
-------	-------

Customer Approval

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Approved By: _____	Date: _____
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Permian Basin

Customer: COG OPERATING LLC
Customer #: CRI2120
Ordered by: MIKE BRANNAN
AFE #:
PO #:
Manifest #: 371450
Manif. Date: 12/5/2014
Hauler: MSI
Driver: JOSE
Truck #: 556
Card #
Job Ref #

Ticket #: 750-655437A
Bid #: Walk-in Bid
Date: 1/14/2015
Generator: COG OPERATING LLC
Generator #:
Well Ser. #:
Well Name: WEST BRUSKY 8 FED
Well #: SWD 1
Field:
Field #:
Rig: NON-DRILLING
County

Facility: CRI

Product / Service

Quantity Units

Contaminated Soil (RCRA Exempt)

12.00 yards

Generator Certification Statement of Waste Status

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Driver/ Agent Signature

R360 Representative Signature

Customer Approval

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Approved By: _____

Date: _____

APPENDIX D

PHOTO GALLERY



Excavated material removed taken on 12/05/14



Excavation on lower pad taken on 12/05/14



Excavation activities of lower pad taken on 12/05/14