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

January 30, 2016

#5B24094-BG4

NMOCD District I
Attn. Kellie Jones
1625 N. French Drive
Hobbs, New Mexico 88240

SUBJECT: FINAL CLOSURE REPORT FOR INCIDENT 1RP-3943 at the ARMSTRONG ENERGY CORP, GOVERNMENT E #7, API# 30-025-27896 LEA COUNTY, NEW MEXICO

Dear Ms. Jones:

On behalf of Armstrong Energy Corporation (Armstrong), Souder Miller & Associates (SMA) is pleased to submit the attached Final Closure Report summarizing the soil remediation activities performed for the produced water release at the Government E #7 in Lea County, New Mexico. The purpose of the Final Report is to obtain approval from the New Mexico Oil Conservation Division (NMOCD) for remediation and closure of the release that occurred on October 22, 2015.

At the request of Armstrong, SMA responded to assess and delineate a produced water release at the Government E #7 well location. The release was initially reported to NMOCD by Armstrong on October 26, 2015 and is the result of a lighting strike incident. The table below summarizes information regarding the produced water release. Results of the assessment and delineation follow in the attached closure report.

Table 1: Release information and Site Ranking

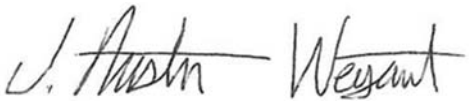
Name	Government E #7				
Location	Incident Number	API Number	Section, Township, Range		
	1RP-3943	30-025-27896	SW/NE (UL C)	Section 25	T 19S, R 34E NMPM
Estimated Date of Release	October 22, 2015				
Date Reported to NMOCD	October 26, 2015				
Reported by	Kyle Alpers, Armstrong Energy				
Land Owner	Federal Land administered by BLM				
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Produced Water Tank Struck by Lightning Strike				
Released Material	Produced Water				
Released Volume	45 bbls Produced Water and 0 bbls Oil				
Recovered Volume	20 bbls Produced Water and 0 bbls Oil				
Net Release	25 bbl Produced Water and 0 bbl Oil				
Nearest Waterway	6 miles east of the location.				
Depth to Groundwater	286 feet below ground surface				

Nearest Domestic Water Source	Greater than 1000 feet
NMOCD Ranking	0
SMA Response Dates	Initial: 11/04/15 Mitigation Activities: 11/5/15

A copy of the C-141 Initial / Final is located in Appendix B. For questions or comments pertaining to the release or the attached Final Closure Report, please feel free to contact either of us.

Submitted by:

SOUDER, MILLER & ASSOCIATES



Austin Weyant
Project Scientist

Reviewed by:

Cynthia Gray, CHMM
Senior Scientist

SOIL REMEDIATION FINAL CLOSURE FOR

INCIDENT 1RP-3943

ARMSTRONG ENERGY CORPORATION
GOVERNMENT E #7
API# 30-025-27896
UL C SECTION 25, T19S R34 E, NMPM
LEA COUNTY, NM

Prepared for:
Armstrong Energy Corporation
P.O. Box 1973
Roswell, NM 88202

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

January 30, 2016
SMA Reference
5B24094-BG4

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1.0 Introduction

On behalf of Armstrong Energy Corporation, SMA has prepared this report describing the assessment, initial delineation and soil remediation of a produced water release associated with the Government E #7 well location. The site API# 30-025-27896 is located in Unit letter C, Section 25, Township 19 South, Range 34 East NMPM, Lea County, New Mexico, on land administered by the Bureau of Land Management (BLM). Figure 1 illustrates the vicinity and location of the site.

2.0 Site Ranking and Land Jurisdiction

The release site is located approximately 43 mile east of the Pecos River, on Federal BLM land at an elevation of approximately 3,770 feet above sea level.

SMA searched the New Mexico State Engineer's Office online water well database for water wells in the vicinity of the release. No well is located within a 1000 foot radius of the site. After evaluation of the site using aerial photography and topographic maps, depth to groundwater is estimated greater than 100 feet below ground surface (bgs). Figure 2 depicts the site details and sample locations. The physical location of this release is within the jurisdiction of NMOCD.

This release location has been assigned a NMOCD ranking of 0 under "Guidelines Remediation of Leaks, Spills and Releases" which requires a soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm combined benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 5000 ppm total petroleum hydrocarbons (TPH). Table 1 illustrates site ranking rationale.

3.0 Assessment and Initial Results

On December 2, 2015 after receiving 811 clearance, SMA personnel assessed the release area at the well site with a gas powered auger, Photo Ionization Detector (PID), and a mobile chlorides titration kit. The proposed affected area marked with flags was found to be approximately 1000 square yards in a pasture over a current pipeline Right of Way (ROW). Surface samples were taken and field testing results indicated chloride and hydrocarbon levels at or below the action levels for constituents of concern. Delineation samples were taken to depths of 3 ft. bgs with permission from Chevron Pipe Line Company.

The samples were sent under chain-of-custody protocols to Hall Environmental Analysis Laboratory for analysis for Benzene and Total BTEX using EPA Method 8021B, DRO and GRO by EPA Method 8015D, as required by NMOCD closure requirements "Guidelines Remediation of Leaks, Spills and Releases" and total Chlorides using EPA Method 300. After initial sampling, field screening and tilling impacted soil *in situ*, SMA recommended no additional actions for this location, subsequently confirmed by laboratory analytical results. Sample locations are shown on Figure 2 "Site Details and Sample Location Map". Laboratory analytical results are noted in Table 2 in the appendices. All samples were collected and processed according to NMOCD soil sampling procedures.

4.0 Soil Remediation Summary

SMA began the *in situ* remediation December 2, 2015 of affected soils in pasture, with approval from area utilities owners via 811. Remediation was done using a tractor to till the top foot of

soil. The damaged tank and affected soils within the tank battery had been removed and disposed of prior to SMAs December 2nd assessment. SMA found no elevated EC levels within the recently excavated tank battery. Delineation was sufficient to map the plume of contamination by NMOCD Division I standards. This delineation was used to determine depths of contaminated soil in the pasture. Final samples were collected at 3 foot bgs. The contaminated soil was transported for proper disposal at New Mexico permitted R360 Red Halfway facility in New Mexico.

5.0 Conclusions and Recommendations

During the initial action for the release, affected soils in pasture area were treated by tilling *in situ* to remediate contaminated soils. All high chloride effected soils found within the tank berm where hauled off by a subcontractor of Armstrong to an NMOCD approved facility. Closure sample results taken during in the initial response are shown in Table 3.

Location GE3 and GE4 are within a current pipeline Right-of-Way and future road bore for Chevron. A Chevron representative allowed SMA to take samples and preform our surface tilling but would not authorize any additional disturbance of the ground due preliminary work already done for future road boring.

NMOCD "Guidelines for Remediation of Leaks, Spills, and Releases" have established the following action levels for contaminants of concern with a site ranking of 0: 10 ppm (mg/kg) Benzene, 50 ppm total BTEX, and 5000 ppm TPH. The release consisted of produced water with little evidence of petroleum impacts found during the assessment and delineation.

Soil sample locations taken during the initial delineation are illustrated in Figure 2. A summary of laboratory analytical results is included in Table 4. Laboratory analytical reports are included in Appendix A.

The analytical results for this site are at or below the action levels for constituents of concern. No further remedial activities are recommended.

6.0 Closure and Limitations

The scope of our services consisted of the performance of a preliminary spill assessment, verification of release stabilization, regulatory liaison, and preparation of a Remediation Work Plan and a Closure Report. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas releases in the Permian Basin in New Mexico.

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

Submitted by:

SOUDER, MILLER & ASSOCIATES

J. Austin Weyant

Austin Weyant

Reviewed by:

Cynthia Gray, CHMM

Project Scientist Senior Scientist

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Figure 1: Vicinity Map
Figure 2: Site Details and Sample Location Map

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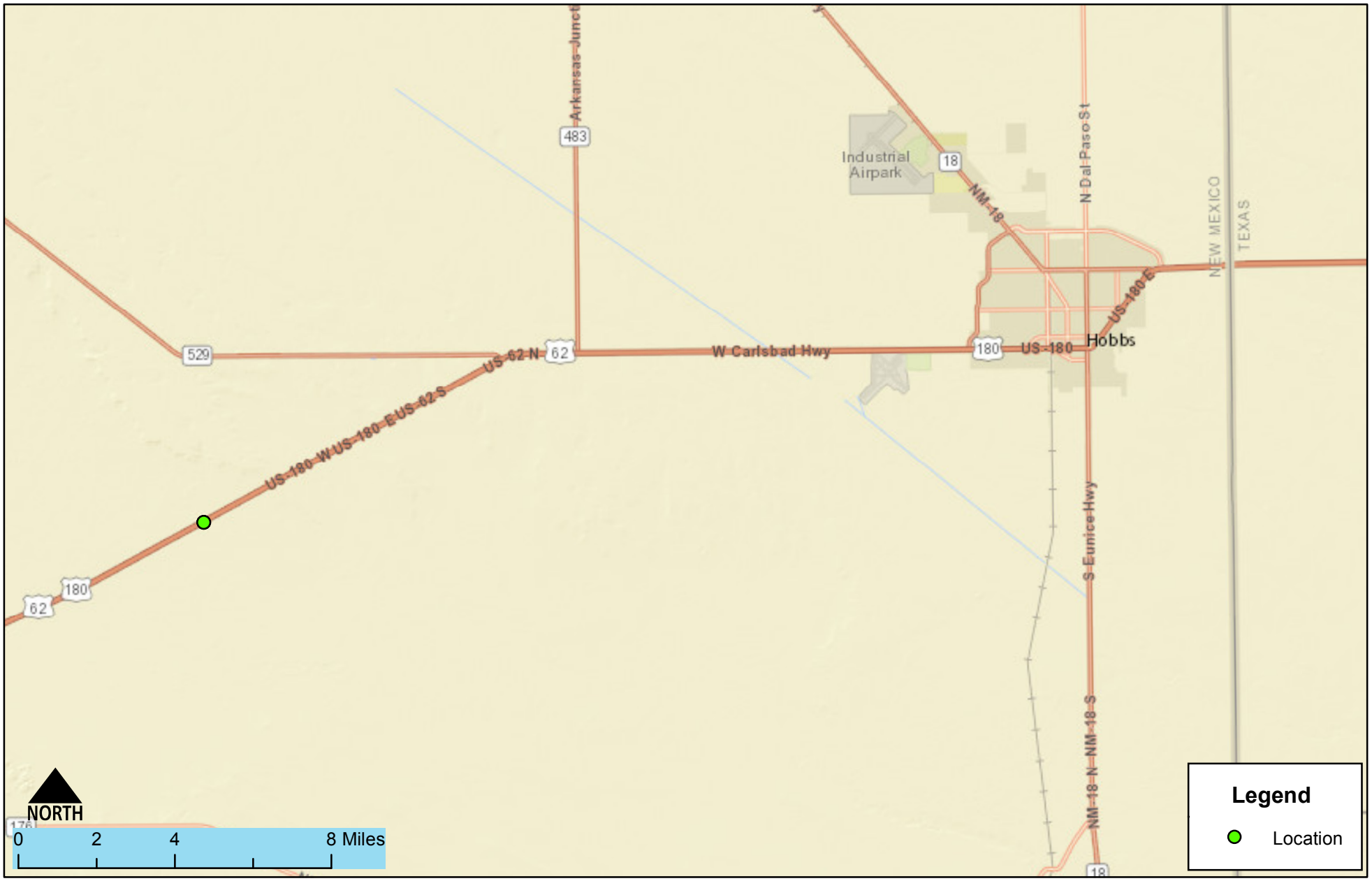
Table 2: Summary of Field Screening Results for Chlorides
Table 3: Summary of Laboratory Analyses

Appendices:

Appendix A: Laboratory Analytical Reports
Appendix B: Form C141 Final

FIGURE 1
VICINITY MAP



Vicinity Map
Armstong Energy- Government E #7
Hobbs, New Mexico

Figure 1

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

Drawn Lucas Middleton
Checked
Approved

201 South Halaguena Street
Carlsbad, New Mexico 88221
(575) 689.7040
www.soudermiller.com
Serving the Southwest & Rocky Mountains

Date Saved: 12/7/2015

Document: C:\Users\lcm\Documents\GIS DATA\MAPS\Figure 1 Government E #7z.mxd

Figure 2: Site Details and Sample Location Map

Site Detail and Sample Locations
Armstrong Energy- Government E #7
Hobbs, New Mexico

Figure 2

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

Drawn Lucas Middleton
Checked
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SMA
201 South Halaguena Street
Carlsbad, New Mexico 88221
(575) 689.7040
www.soudermiller.com
Serving the Southwest & Rocky Mountains

Date Saved: 1/7/2016

Document: C:\Users\lcm\Documents\GIS DATA\MAPS\Figure 2 Government E #7.mxd

TABLE 1
RELEASE INFORMATION AND SITE RANKING

Table 1: Release information and Site Ranking					
Name	Government E #7				
Location	Incident Number	API Number	Section, Township, Range		
	1RP-3943	30-025-27896	SW/NE (Unit C)	Section 25	T 19S, R 34E NMPM
Estimated Date of Release	October 22, 2015				
Date Reported to NMOCD	October 26, 2015				
Reported by	Kyle Alpers, Armstrong Energy				
Land Owner	Bureau of Land Management (BLM)				
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Lighting Strike				
Released Material	Produced Water				
Released Volume	45 bbls Produced Water and 0 bbls Oil				
Recovered Volume	20 bbls Produced Water and 0 bbls Oil				
Net Release	25 bbl Produced Water and 0 bbl Oil				
Nearest Waterway	6 miles east of the location.				
Depth to Groundwater	286 feet below ground surface				
Nearest Domestic Water Source	Greater than 1000 feet				
NMOCD Ranking	0				
SMA Response Dates	Initial: 11/04/15 Mitigation Activities: 11/5/15				

TABLE 2

SUMMARY OF FIELD SCREENING RESULTS FOR CHLORIDES

Table 2: Summary of Field Screening Results

FIELD SCREENING RESULTS SUMMARY					
Date	Time	Field Screening Reference	Sample Depth (Feet BGS)	Chlorides Results (PPM)	Lab Sample Collected Y/N
12/2/2015	9:00	Composite Sample 1	0.5	1027	N
12/2/2015	9:00	Composite Sample 2	0.5	927	N
12/2/2015	9:00	Composite Sample 3	1	302	N
12/2/2015	9:00	Composite Sample 4	1	387	N
12/2/2015	E1-S	Grab	0.5	420	Y
12/2/2015	E1-1	Grab	1	351	Y
12/2/2015	E1-2	Grab	2	ND	N
12/2/2015	E1-3	Grab	3	794	Y
12/2/2015	E1-5	Grab	5	158	Y
12/2/2015	E2-S	Grab	0.5	ND	N
12/2/2015	E2-1	Grab	1	ND	Y
12/2/2015	E2-2	Grab	2	ND	N
12/2/2015	E2-3	Grab	3	ND	Y
12/2/2015	E3-S	Grab	0.5	350	Y
12/2/2015	E3-1	Grab	1	302	Y
12/2/2015	E3-2	Grab	2	ND	N
12/2/2015	E3-3	Grab	3	1200	Y
12/2/2015	E3-5	Grab	5	ND	Y
12/2/2015	E4-1	Grab	1	ND	N
12/2/2015	E4-2	Grab	2	ND	N
12/3/2015	E4-3	Grab	2	ND	Y

TABLE 3

SUMMARY OF LABORATORY ANALYSES

Table 3: Summary of Laboratory Analyses

Analytical Report- 1512877	Sample Number on Figure 2 Map	Sample Date	Depth	BTEX ppm	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	Cl- mg/Kg
1512877-001	GE1-C-6"	12/2/2015	.5'	BDL	BDL	BDL	200	400
1512877-002	GE1-C-3'	12/2/2015	3'	N/A	N/A	N/A	N/A	870
1512877-003	GE2-C-6"	12/2/2015	.5'	N/A	N/A	BDL	15	190
1512877-004	GE3-C-S	12/2/2015	.5'	N/A	N/A	N/A	N/A	330
1512877-005	GE3-C-3'	12/2/2015	3'	N/A	N/A	N/A	N/A	1,100
1512877-006	GE4-C-3'	12/2/2015	3'	BDL	BDL	BDL	BDL	BDL
1512877-004	GE3-C-5'	12/2/2015	5'	N/A	N/A	N/A	N/A	330

APPENDIX A

LABORATORY ANALYTICAL REPORTS

APPENDIX C:
PHOTOS AND FIELD NOTES

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

January 05, 2016

Austin Weyant

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

RE: Government E #7 OrderNo.: 1512877

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 6 sample(s) on 12/16/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: GE1-C-6"
Project: Government E #7
Collection Date: 12/2/2015 4:00:00 PM
Lab ID: 1512877-001 **Matrix:** SOIL **Received Date:** 12/16/2015 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	400	30		mg/Kg	20	12/22/2015 12:06:10 PM	22923
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	200	9.8	H	mg/Kg	1	12/28/2015 10:51:26 AM	22891
Surr: DNOP	121	70-130	H	%REC	1	12/28/2015 10:51:26 AM	22891
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0	H	mg/Kg	1	12/21/2015 10:27:25 PM	22878
Surr: BFB	80.9	66.2-112	H	%REC	1	12/21/2015 10:27:25 PM	22878
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.050	H	mg/Kg	1	12/21/2015 10:27:25 PM	22878
Toluene	ND	0.050	H	mg/Kg	1	12/21/2015 10:27:25 PM	22878
Ethylbenzene	ND	0.050	H	mg/Kg	1	12/21/2015 10:27:25 PM	22878
Xylenes, Total	ND	0.10	H	mg/Kg	1	12/21/2015 10:27:25 PM	22878
Surr: 4-Bromofluorobenzene	108	80-120	H	%REC	1	12/21/2015 10:27:25 PM	22878

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: GE1-C-3'
Project: Government E #7
Collection Date: 12/2/2015 4:00:00 PM
Lab ID: 1512877-002 **Matrix:** SOIL **Received Date:** 12/16/2015 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	870	30		mg/Kg	20	12/22/2015 12:18:34 PM	22923

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: GE2-C-6"
Project: Government E #7
Collection Date: 12/2/2015 4:00:00 PM
Lab ID: 1512877-003
Matrix: SOIL
Received Date: 12/16/2015 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	190	30		mg/Kg	20	12/22/2015 12:30:59 PM	22923
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	15	9.6	H	mg/Kg	1	12/28/2015 11:34:49 AM	22891
Surr: DNOP	108	70-130	H	%REC	1	12/28/2015 11:34:49 AM	22891
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9	H	mg/Kg	1	12/21/2015 10:51:53 PM	22878
Surr: BFB	79.6	66.2-112	H	%REC	1	12/21/2015 10:51:53 PM	22878
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049	H	mg/Kg	1	12/21/2015 10:51:53 PM	22878
Toluene	ND	0.049	H	mg/Kg	1	12/21/2015 10:51:53 PM	22878
Ethylbenzene	ND	0.049	H	mg/Kg	1	12/21/2015 10:51:53 PM	22878
Xylenes, Total	ND	0.098	H	mg/Kg	1	12/21/2015 10:51:53 PM	22878
Surr: 4-Bromofluorobenzene	104	80-120	H	%REC	1	12/21/2015 10:51:53 PM	22878

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: GE3-C-5
Project: Government E #7
Collection Date: 12/2/2015 4:00:00 PM
Lab ID: 1512877-004
Matrix: SOIL
Received Date: 12/16/2015 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	330	30		mg/Kg	20	12/22/2015 12:43:24 PM	22923

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: GE3-C-3'
Project: Government E #7
Collection Date: 12/2/2015 4:00:00 PM
Lab ID: 1512877-005
Matrix: SOIL
Received Date: 12/16/2015 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	1100	75		mg/Kg	50	12/28/2015 5:47:51 PM	22923

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: GE4-C-3'
Project: Government E #7
Collection Date: 12/2/2015 4:00:00 PM
Lab ID: 1512877-006
Matrix: SOIL
Received Date: 12/16/2015 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	12/22/2015 1:08:13 PM	22923
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.6	H	mg/Kg	1	12/23/2015 5:23:10 PM	22891
Surr: DNOP	104	70-130	H	%REC	1	12/23/2015 5:23:10 PM	22891
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9	H	mg/Kg	1	12/21/2015 11:16:17 PM	22878
Surr: BFB	78.1	66.2-112	H	%REC	1	12/21/2015 11:16:17 PM	22878
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049	H	mg/Kg	1	12/21/2015 11:16:17 PM	22878
Toluene	ND	0.049	H	mg/Kg	1	12/21/2015 11:16:17 PM	22878
Ethylbenzene	ND	0.049	H	mg/Kg	1	12/21/2015 11:16:17 PM	22878
Xylenes, Total	ND	0.099	H	mg/Kg	1	12/21/2015 11:16:17 PM	22878
Surr: 4-Bromofluorobenzene	101	80-120	H	%REC	1	12/21/2015 11:16:17 PM	22878

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1512877**

05-Jan-16

Client: Souder, Miller & Associates

Project: Government E #7

Sample ID	**MB-22923**	SampType:	**MBLK**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**PBS**	Batch ID:	**22923**		RunNo:	**31049**				
Prep Date:	**12/22/2015**	Analysis Date:	**12/22/2015**		SeqNo:	**949689**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-22923**	SampType:	**LCS**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID:	**22923**		RunNo:	**31049**				
Prep Date:	**12/22/2015**	Analysis Date:	**12/22/2015**		SeqNo:	**949690**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.0	90	110			

Sample ID	**1512528-006AMS**	SampType:	**MS**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**BatchQC**	Batch ID:	**22923**		RunNo:	**31049**				
Prep Date:	**12/22/2015**	Analysis Date:	**12/22/2015**		SeqNo:	**949692**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	16	7.5	15.00	5.729	67.6	64.2	131			

Sample ID	**1512528-006AMSD**	SampType:	**MSD**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**BatchQC**	Batch ID:	**22923**		RunNo:	**31049**				
Prep Date:	**12/22/2015**	Analysis Date:	**12/22/2015**		SeqNo:	**949693**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	16	7.5	15.00	5.729	68.0	64.2	131	0.385	20	

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		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1512877**

05-Jan-16

Client: Souder, Miller & Associates

Project: Government E #7

Sample ID	**MB-22891**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**22891**		RunNo:	**31050**				
Prep Date:	**12/21/2015**	Analysis Date:	**12/23/2015**		SeqNo:	**949823**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.4		10.00		93.9	70	130			

Sample ID	**LCS-22891**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**22891**		RunNo:	**31050**				
Prep Date:	**12/21/2015**	Analysis Date:	**12/23/2015**		SeqNo:	**949824**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	90.4	65.8	136			
Surr: DNOP	4.3		5.000		86.4	70	130			

Sample ID	**MB-22933**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**22933**		RunNo:	**31045**				
Prep Date:	**12/23/2015**	Analysis Date:	**12/23/2015**		SeqNo:	**950382**	Units:	**%REC**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.3		10.00		92.5	70	130			

Sample ID	**LCS-22933**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**22933**		RunNo:	**31069**				
Prep Date:	**12/23/2015**	Analysis Date:	**12/28/2015**		SeqNo:	**950983**	Units:	**%REC**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.2		5.000		104	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- B Analyte detected in the associated Method Blank
- D Sample Diluted Due to Matrix
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S % Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1512877**

05-Jan-16

Client: Souder, Miller & Associates

Project: Government E #7

Sample ID	**MB-22878**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID:	**22878**	RunNo:	**30983**					
Prep Date:	**12/18/2015**	Analysis Date:	**12/21/2015**	SeqNo:	**947878**	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	790		1000		79.2	66.2	112			

Sample ID	**LCS-22878**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID:	**22878**	RunNo:	**30983**					
Prep Date:	**12/18/2015**	Analysis Date:	**12/21/2015**	SeqNo:	**947879**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	109	79.6	122			
Surr: BFB	1000		1000		101	66.2	112			

Sample ID	**1512867-001AMS**	SampType:	**MS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**BatchQC**	Batch ID:	**22878**	RunNo:	**30983**					
Prep Date:	**12/18/2015**	Analysis Date:	**12/21/2015**	SeqNo:	**947883**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.8	24.04	0	93.1	62.5	151			
Surr: BFB	860		961.5		89.0	66.2	112			

Sample ID	**1512867-001AMSD**	SampType:	**MSD**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**BatchQC**	Batch ID:	**22878**	RunNo:	**30983**					
Prep Date:	**12/18/2015**	Analysis Date:	**12/21/2015**	SeqNo:	**947884**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.8	24.02	0	97.7	62.5	151	4.73	22.1	
Surr: BFB	910		960.6		94.5	66.2	112	0	0	

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		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1512877**

05-Jan-16

Client: Souder, Miller & Associates

Project: Government E #7

Sample ID	**MB-22878**	SampType: **MBLK**		TestCode: **EPA Method 8021B: Volatiles**					
Client ID:	**PBS**	Batch ID: **22878**		RunNo: **30983**					
Prep Date:	**12/18/2015**	Analysis Date: **12/21/2015**		SeqNo: **947906**		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	1.0		1.000		103	80	120			

Sample ID	**LCS-22878**	SampType: **LCS**		TestCode: **EPA Method 8021B: Volatiles**					
Client ID:	**LCSS**	Batch ID: **22878**		RunNo: **30983**					
Prep Date:	**12/18/2015**	Analysis Date: **12/21/2015**		SeqNo: **947907**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	103	80	120			
Toluene	1.1	0.050	1.000	0	106	80	120			
Ethylbenzene	1.1	0.050	1.000	0	107	80	120			
Xylenes, Total	3.3	0.10	3.000	0	109	80	120			
Surr: 4-Bromofluorobenzene	1.3		1.000		132	80	120			S

Sample ID	**1512869-001AMS**	SampType: **MS**		TestCode: **EPA Method 8021B: Volatiles**					
Client ID:	**BatchQC**	Batch ID: **22878**		RunNo: **30983**					
Prep Date:	**12/18/2015**	Analysis Date: **12/21/2015**		SeqNo: **947909**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.80	0.047	0.9452	0	84.2	69.6	136			
Toluene	0.87	0.047	0.9452	0	92.3	76.2	134			
Ethylbenzene	0.90	0.047	0.9452	0	94.8	75.8	137			
Xylenes, Total	2.7	0.095	2.836	0	96.1	78.9	133			
Surr: 4-Bromofluorobenzene	1.2		0.9452		122	80	120			S

Sample ID	**1512869-001AMSD**	SampType: **MSD**		TestCode: **EPA Method 8021B: Volatiles**					
Client ID:	**BatchQC**	Batch ID: **22878**		RunNo: **30983**					
Prep Date:	**12/18/2015**	Analysis Date: **12/21/2015**		SeqNo: **947910**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.79	0.047	0.9470	0	83.4	69.6	136	0.825	20	
Toluene	0.84	0.047	0.9470	0	88.6	76.2	134	3.90	20	
Ethylbenzene	0.87	0.047	0.9470	0	91.9	75.8	137	2.93	20	
Xylenes, Total	2.6	0.095	2.841	0	92.5	78.9	133	3.61	20	
Surr: 4-Bromofluorobenzene	1.1		0.9470		119	80	120	0	0	

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		

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: 1512877 RcptNo: 1

Received by/date: JA 12/10/15

Logged By: Ashley Gallegos 12/16/2015 9:10:00 AM

Completed By: Ashley Gallegos 12/18/2015 8:50:23 AM

Reviewed By: MJ 12/18/15

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	2.9	Good	Yes			

Chain-of-Custody Record

Client: Sander Miller & Associates

Mailing Address: 201 S Halagueno

Phone #: 575-689-5351

email or Fax#: lauren.middleton@sandermiller

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____

Project Name:

Project #: Goverent E #7

Project Manager: Austin Weyant

Sampler: Lauren Taylor

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.9

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1512877	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F^-, Cl^-, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
12-15	400	Soil	GE1-C-6"	4oz		-001	X		X					X								
			GE1-C-3'			-002								X								
			GE2-C-6"			-003	X		X					X								
			GE3-C-6"			-004								X								
			GE3-C-3'			-005								X								
			GE4-C-3'			-006	X		X					X								

Date:	Time:	Relinquished by:	Received by:	Date	Time
			Jac. Cruz	12/14/15	0910
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

APPENDIX B
FORM C141 FINAL

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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 October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company Armstrong Energy Corporation	Contact Kyle Alpers
Address PO BOX 1973 Roswell, NM 88202	Telephone No. 575-625-2222
Facility Name Government E #7	Facility Type Oil Well

Surface Owner U.S.	Mineral Owner U.S.	Lease No. 30-025-27896

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	25	19S	34E	600	North	1980	West	Lea

Latitude 32.63652 **Longitude** -103.51534

NATURE OF RELEASE

Type of Release PRODUCED WATER	Volume of Release ~45 BBLS	Volume Recovered ~20BBLS
Source of Release LIGHTNING STRIKE, FG WATER TANK	Date and Hour of Occurrence 10/22/15 HOUR UNKNOWN	Date and Hour of Discovery 10/22/15 ~ 7:00 AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Maxey Brown, OCD	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
LIGHTNING STRUCK F WATER TANK SOMETIME DURING THE NIGHT. WAS DISCOVERED FRIDAY MORNING DURING ROUNDS. TANK SPLIT ALONG ENTIRE CIRCUMFERENCE, ALL BUT THE BASE OF THE TANK WAS RELOCATED TO THE OTHER SIDE OF THE LOCATION. LAST GAUGE WAS 40 BBLS THE DAY BEFORE. VAC TRUCK IN AND RECOVERED ROUGHLY 20 BBLS OF FLUID. SPILL BREACHED CONTAINMENT IN TWO SPOTS AND SETTLED IN LOW SPOTS OFF LOCATION BETWEEN BATTERY AND HIGHWAY

Describe Area Affected and Cleanup Action Taken.*
ONE SPOT OF IRREGULAR SHAPE TO THE SOUTH OF THE BATTERY, ESTIMATED AROUND 1000 SQUARE FEET, AND ANOTHER SPOT OF IRREGULAR SHAPE SOUTHEAST OF THE BATTERY, ESTIMATED AROUND 2000 SQUARE FEET. BOTH AREAS HAVE MINIMAL OIL SKIM IN SPOTS AND ARE WATER WET WITH NO STANDING LIQUID AS OF NOON FRIDAY. CAV TRUCK PICKED UP ALL STANDING FLUID INSIDE CONTAINMENT. FLUID THAT ESCAPED CONTAINMENT WAS CONTAINED BY DUNES AND WILL BE DUG OUT AND HAULED TO DISPOSAL.

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: K. Alpers	OIL CONSERVATION DIVISION	
Printed Name: KYLE ALPERS	Approved by District Supervisor:	
Title:FIELD ENGINEER	Approval Date: 04/06/2016	Expiration Date: ////
E-mail Address:kalpers@armstrongenergycorp.com	Conditions of Approval: Ensure BLM conccurence/approval	Attached ☐ 1RP 3943
Date: 4/5/16 Phone:575-625-2222 ext305		

* Attach Additional Sheets If Necessary