



July 1, 2015

#5B23978-BG2

NMOCD District II
 1301 W Grand Ave
 Artesia, NM 88210

SUBJECT: FINAL CLOSURE REPORT FOR INCIDENT 2RP-2809 MCINTYRE A WEST #16, EDDY COUNTY, NEW MEXICO

Dear Ms. Heather Patterson:

Souder Miller & Associates is pleased to submit the attached Final Closure Report of the remediation of the release site located on the MCINTYRE A WEST #16 in Eddy County, New Mexico. The purpose of the Final Report is to obtain approval from New Mexico Oil Conservation Division (NMOCD) and the Bureau of Land Management (BLM) for the closure of the release that occurred on BLM property on January 27, 2015.

Souder, Miller & Associates (SMA) responded at the request of COG Operating to assess and delineate the release of production fluids associated with the McIntyre A West #16 well location. The release was initially reported to NMOCD by COG Operating on January 27, 2015 and was a result of a flow line failure. The table below summarizes information regarding the release. Results of the assessment and delineation are detailed in the following report.

TABLE 1: RELEASE INFORMATION AND SITE RANKING					
Name	McIntyre A West #16 Production Liquids Release				
Location	Incident Number	API Number	Section, Township, Range		
		2RP-2809	30-015- 31855	SW/NE (Unit O)	Section 20
Estimated Date of Release	January 27, 2015				
Date Reported to NMOCD	February 12, 2015				
Reported by	Amanda Trujillo, COG Operating LLC				
Land Owner	Bureau of Land Management (BLM)				
Reported To	NM Oil Conservation Division (NMOCD) and BLM				
Source of Release	Flow line failure				
Released Material	Produced Water and Oil				
Released Volume	15 bbls Produced Water and 5 bbls Oil				
Recovered Volume	15 bbls Produced Water and 3 bbls Oil				
Net Release	0 bbls Produced Water and 2 bbls Oil				
Nearest Waterway	The Pecos River is over two miles to the west of the location.				
Depth to Groundwater	Estimated to be 80 feet				

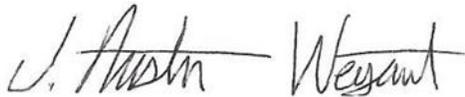


Nearest Domestic Water Source	Greater than 1,000 feet
NMOCD Ranking	10
SMA Response Dates	Initial: April 28, 2015 Mitigation Activities: May 7, 2015
Subcontractors	TCS
Disposal Facility	Lea Land, LLC
Yd ³ Contaminated Soil Excavated and Disposed	528 (Reported on Completed C-138)

A copy of the C-141 Final is located in Appendix B. For questions or comments pertaining to the release or the attached 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



FINAL CLOSURE REPORT FOR INCIDENT 2RP-2809

COG OPERATING LLC

MCINTYRE A WEST #16
API# 30-015-31855
SECTION 20, T17S R30E, NMPM
EDDY COUNTY, NM



Prepared for:
COG Operating LLC
2407 Pecos Ave
Artesia, NM 88210

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

July 1, 2015
SMA Reference
5B23978 BG2



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1.0 Introduction

On behalf of COG Operating LLC (COG), SMA has prepared this report that describes the assessment, initial delineation, and mitigation of a release associated with the McIntyre A West #16 release site. The site is located in Section 20, T 17S, R 30E NMPM, Eddy County, New Mexico, on land owned by the BLM. Figure 1 illustrates the vicinity and location of the site.

2.0 Site Ranking and Land Jurisdiction

The release site is located approximately 18 miles east of the Pecos River, in an area owned by the BLM with an elevation of approximately 3,618 feet above sea level. After evaluation of the site using aerial photography and topographic maps, depth to groundwater is estimated to be less than 100 feet below ground surface (bgs).

SMA searched the New Mexico State Engineer's Office online water well database for water wells in the vicinity of the release. No wells were located within a one mile radius of the site. Figure 1 depicts the site vicinity and Figure 2 shows the site itself. The physical location of this release is within the jurisdiction of BLM and NMOCD.

Based on the NMOCD Guidelines Ranking Criteria, this release location has been assigned a NMOCD ranking of 10 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 100 ppm total petroleum hydrocarbons (TPH). Table 1 illustrates site ranking rationale.

3.0 Assessment and Initial Results

On May 7th, 2015 after receiving 811 clearance, SMA field personal assessed the release area onsite with a gas powered auger, Photo Ionization Detector, and a mobile chlorides titration kit. The potentially affected area was found to be approximately 100 feet long and 25 feet wide. The northern extent exhibited only background levels of all contaminants of concern at approximately 2 feet bsg. The southernmost portion contained the highest concentration of contaminants below three foot bsg, due to the proximity to the failed flow line and site topography. For additional information on the initial soil results and site assessment, please refer to the NMOCD approved work plan (Soil Remediation Workplan for Incident 2RP-2809). Soil samples were taken at depths ranging from 1 foot below surface grade (bsg) to 36 inches bsg. Specific sample locations for all samples are depicted on Figure 2 (Sample Location Map) along with sampling details. All samples were collected and processed according to NMOCD soil sampling procedures. 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, Total Petroleum Hydrocarbons by EPA Method 418.1, and total Chlorides using EPA Method 300.0.

4.0 Soil Remediation Summary

SMA returned to the site on May 29, 2015 to begin the excavation of affected soils, with approval from area utilities owners via 811. SMA continuously guided the excavation activities by collecting composite soil samples for field screening with a mobile titration unit (EPA 4500) and a calibrated PID. Field screening results indicated all soils related to the incident had been removed to the delineated extent of the area of impact. Final samples were collected at the total depth of excavation and from the side walls. The final excavation measured approximately 100 feet long by 25 feet wide with a varying depths from 2 to 4 feet, covering an area of approximately 2,846 square feet. A detailed excavation map is enclosed as Figure 2. It is believed that the southern area of the excavation is over an historic spill from the old buried pit. This area is adjacent to the pit. The sample taken in this area is E4 shown in Table 3. Sample E4 exhibited higher concentrations than any of the samples taken in the area of the spill. In the southern area, a cap was placed at four foot bsg to contain the soils left in place. The construction of the in-situ cap (Figure #3) has been designed to prevent both capillary and leaching movement of the brine affected soils. Starting from four feet below surface grade, plastic liner was added as a capillary break between the affected soils and the proposed caliche cap. The caliche cap has two feet of contaminant-free material placed, and compacted. Then, a plastic liner was added above the caliche cap and compacted to form an intrusion barrier. This barrier will prevent leaching and formation of deep root systems into the cap itself. The topsoil was then placed on top of the cap. The plastic liner on both sides of the caliche cap will effectively break the communication of precipitation through the compacted cap. Samples were then taken in the sidewalls and bottom to ensure contaminated soils were removed. These samples confirm that all contaminated soil from release 2RP-2809 were removed in the horizontal and vertical plane. Contaminated soil was removed and replaced with clean backfill material to surface grade to promote vegetation growth. The contaminated soil was transported to Lea Land Landfill, near Carlsbad, NM. Waste manifest documentation is available by request.

A total of 5 soil samples were submitted for closure confirmation by laboratory analysis per EPA Methods: 8021 for benzene, toluene, ethylbenzene, and xylenes (BTEX) and 418.1 for Total Petroleum Hydrocarbons. All samples were analyzed by Hall Environmental Analytical Laboratory in Albuquerque, New Mexico. Figure 2 illustrates the extent of the excavation, laboratory soil sample locations, and laboratory results.

5.0 Conclusions and Recommendations

NMOCD Guidelines for Remediation of Leaks, Spills, and Releases have established the following action levels for contaminants of concern with a site ranking of 10: 10 ppm (mg/kg) Benzene, 50 ppm total BTEX, and 1000 ppm TPH.

Laboratory analytical results for all final closure samples collected were below NMOCD action levels for Benzene, BTEX, and TPH as well as below laboratory detection limits for the methods used.

Soil contaminant concentrations are illustrated in Figure 2. A summary of laboratory analytical results is included in Table 3. Laboratory reports are included in Appendix C.

Photo documentation is available by request.

SMA recommends no further action at the McIntyre A West #16 release location with regards to Incident #2RP-2809.

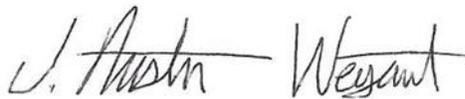
6.0 Closure and Limitations

The scope of our services consisted of the performance of a preliminary spill assessment and delineation, documentation of the removal of impacted soils, verification of release stabilization, regulatory liaison, and preparation of this Final Closure Report for Incident #2RP-2809. 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 report, please contact either Austin Weyant at 575-689-7040 or Cindy Gray at 505-325-7535.

Submitted by:

SOUDER, MILLER & ASSOCIATES



Austin Weyant
Project Scientist

Reviewed by:



Cynthia Gray, CHMM
Senior Scientist

Figures:

Figure 1: Vicinity Map
Figure 2: Site Map

Tables:

Table 2: Summary of Field Screening
Table 3: Summary of Laboratory Analyses

Appendices:

Appendix A: Laboratory Analytical Reports
Appendix B: Form C141 Final
Appendix C: Cultural Resources Survey

FIGURE 1 VICINITY MAP



Site Location Map
 McIntyre A West #16 - COG
 Loco Hills, New Mexico

Figure 1

Date Saved:
6/2/2015

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

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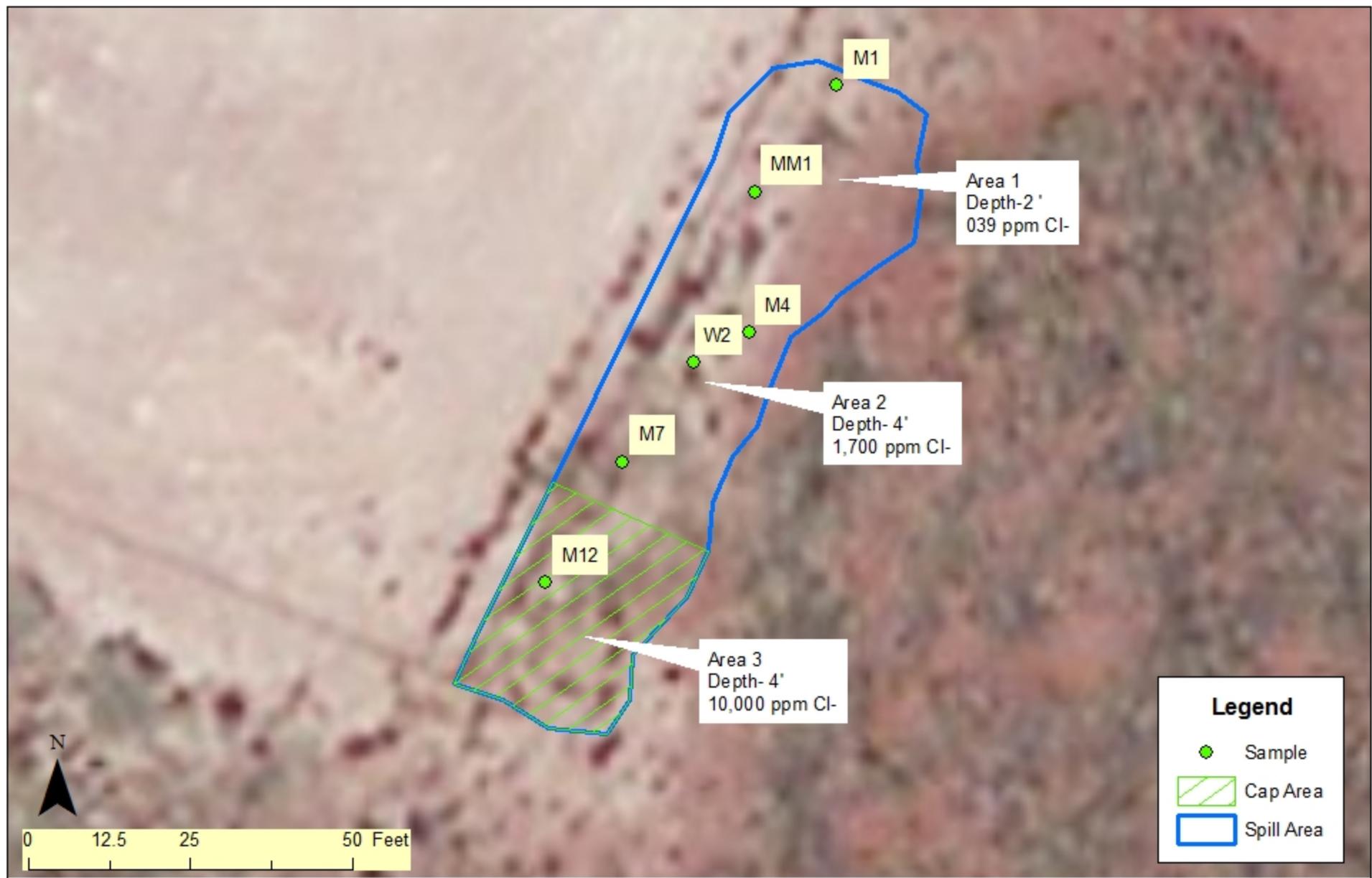
Drawn Lucas Middleton
 Checked _____
 Approved _____



201 South Halaguena Street
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 (575) 689-3331
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 Service the Southwest & Rocky Mountain States

FIGURE 2

SITE MAP



Site Map
McIntyre A West #16 - COG
Loco Hills, New Mexico

Figure 2

Date Revised:
6/18/2015

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

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Drawn **Lucas Middleton**
Checked _____
Approved _____



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TABLE 2

SUMMARY OF FIELD SCREENING

Table 2: Summary of Field Screening Results

McIntyre A West #16
 Produced Water
 5/20/15

FIELD SCREENING RESULTS SUMMARY					
Date	Time	Field Screening Reference	Sample Depth (Feet BGS)	Chlorides Results	Lab Sample Collected Y/N
5/20/2015	12:00	M1	18"	180	Y
5/20/2015	12:00	M2	18"	>3100	Y
5/20/2015	12:00	M3	36"	>3800	Y
5/20/2015	12:00	M4	4'	1063	Y
5/20/2015	12:00	M5	6'	567	Y
5/20/2015	12:00	M6	1'	425	Y
5/20/2015	12:00	M7	1'	1134	Y
5/20/2015	12:00	M8	4'	>2600	Y
5/20/2015	12:00	M9	5'	2977	Y
5/20/2015	12:00	M10	8'	>2100	Y
5/20/2015	12:00	M11	6'	1500	Y
5/20/2015	12:00	M12	6'	6239	Y



TABLE 3

SUMMARY OF LABORATORY ANALYSES

Table 3: Summary of Laboratory Analyses

Analytical Report- 1505720	Sample Number on Figure 2 Map	Sample Date	Depth	BTEX ppm	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	Cl- mg/Kg
1505720-001	W1	4/28/2015	18"	N/A	BDL	BDL	BDL	54
1505720-002	W3	4/28/2015	18"	N/A	BDL	BDL	BDL	120
1505720-003	W2	4/28/2015	12"	0.54	BDL	BDL	BDL	8600
1506005-001	M1	5/21/2015	2'	BDL	BDL	BDL	BDL	210
1506005-002	MM1	5/21/2015	2'	BDL	BDL	BDL	BDL	39
1506005-003	M4	5/21/2015	4'	BDL	BDL	BDL	BDL	1700
1506005-004	M12	5/21/2015	4'	BDL	BDL	BDL	BDL	10,000
1506005-005	M7	5/21/2015	5'	BDL	BDL	BDL	BDL	1700

APPENDIX A

LABORATORY ANALYTICAL

REPORTS



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

May 22, 2015

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

RE: McIntyre

OrderNo.: 1505720

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 3 sample(s) on 5/15/2015 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 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 white background.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1505720

Date Reported: 5/22/2015

CLIENT: Souder, Miller & Associates

Client Sample ID: W1

Project: McIntyre

Collection Date: 5/13/2015 9:00:00 AM

Lab ID: 1505720-001

Matrix: SOIL

Received Date: 5/15/2015 9:08:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	54	30		mg/Kg	20	5/19/2015 3:05:08 PM	19298
EPA METHOD 8021B: VOLATILES							Analyst: RAA
Methyl tert-butyl ether (MTBE)	ND	0.099		mg/Kg	1	5/18/2015 10:10:49 PM	19255
Benzene	ND	0.049		mg/Kg	1	5/18/2015 10:10:49 PM	19255
Toluene	ND	0.049		mg/Kg	1	5/18/2015 10:10:49 PM	19255
Ethylbenzene	ND	0.049		mg/Kg	1	5/18/2015 10:10:49 PM	19255
Xylenes, Total	ND	0.099		mg/Kg	1	5/18/2015 10:10:49 PM	19255
Surr: 4-Bromofluorobenzene	114	80-120		%REC	1	5/18/2015 10:10:49 PM	19255

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 Not In Range
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 1505720

Date Reported: 5/22/2015

CLIENT: Souder, Miller & Associates

Client Sample ID: W3

Project: McIntyre

Collection Date: 5/13/2015 9:00:00 AM

Lab ID: 1505720-002

Matrix: SOIL

Received Date: 5/15/2015 9:08:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	120	30		mg/Kg	20	5/19/2015 3:42:21 PM	19298
EPA METHOD 8021B: VOLATILES							Analyst: RAA
Methyl tert-butyl ether (MTBE)	ND	0.098		mg/Kg	1	5/18/2015 10:39:30 PM	19255
Benzene	ND	0.049		mg/Kg	1	5/18/2015 10:39:30 PM	19255
Toluene	ND	0.049		mg/Kg	1	5/18/2015 10:39:30 PM	19255
Ethylbenzene	ND	0.049		mg/Kg	1	5/18/2015 10:39:30 PM	19255
Xylenes, Total	ND	0.098		mg/Kg	1	5/18/2015 10:39:30 PM	19255
Surr: 4-Bromofluorobenzene	113	80-120		%REC	1	5/18/2015 10:39:30 PM	19255

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 Not In Range
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 1505720

Date Reported: 5/22/2015

CLIENT: Souder, Miller & Associates

Client Sample ID: X2

Project: McIntyre

Collection Date: 5/13/2015 9:00:00 AM

Lab ID: 1505720-003

Matrix: SOIL

Received Date: 5/15/2015 9:08:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	8600	300		mg/Kg	200	5/20/2015 5:24:26 PM	19298
EPA METHOD 8021B: VOLATILES							Analyst: RAA
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	5	5/20/2015 12:49:16 PM	19269
Benzene	ND	0.25		mg/Kg	5	5/20/2015 12:49:16 PM	19269
Toluene	ND	0.25		mg/Kg	5	5/20/2015 12:49:16 PM	19269
Ethylbenzene	0.27	0.25		mg/Kg	5	5/20/2015 12:49:16 PM	19269
Xylenes, Total	0.54	0.50		mg/Kg	5	5/20/2015 12:49:16 PM	19269
Surr: 4-Bromofluorobenzene	135	80-120	S	%REC	5	5/20/2015 12:49:16 PM	19269

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 Not In Range
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#: 1505720

22-May-15

Client: Souder, Miller & Associates

Project: McIntyre

Sample ID	MB-19298	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	19298	RunNo:	26305					
Prep Date:	5/19/2015	Analysis Date:	5/19/2015	SeqNo:	781402	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-19298	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	19298	RunNo:	26305					
Prep Date:	5/19/2015	Analysis Date:	5/19/2015	SeqNo:	781403	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.6	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- 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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1505720

22-May-15

Client: Souder, Miller & Associates

Project: McIntyre

Sample ID MB-19255	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 19255		RunNo: 26255							
Prep Date: 5/15/2015	Analysis Date: 5/18/2015		SeqNo: 779647		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	1.0		1.000		101	80	120			

Sample ID LCS-19255	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 19255		RunNo: 26255							
Prep Date: 5/15/2015	Analysis Date: 5/18/2015		SeqNo: 779908		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	1.1	0.10	1.000	0	112	69.8	143			
Benzene	1.2	0.050	1.000	0	115	76.6	128			
Toluene	1.1	0.050	1.000	0	110	75	124			
Ethylbenzene	1.1	0.050	1.000	0	113	79.5	126			
Xylenes, Total	3.4	0.10	3.000	0	113	78.8	124			
Surr: 4-Bromofluorobenzene	1.2		1.000		117	80	120			

Sample ID MB-19269	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 19269		RunNo: 26270							
Prep Date: 5/16/2015	Analysis Date: 5/19/2015		SeqNo: 780317		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	1.0		1.000		104	80	120			

Sample ID LCS-19269	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 19269		RunNo: 26270							
Prep Date: 5/16/2015	Analysis Date: 5/19/2015		SeqNo: 781904		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	1.1	0.10	1.000	0	108	69.8	143			
Benzene	1.1	0.050	1.000	0	106	76.6	128			
Toluene	1.0	0.050	1.000	0	101	75	124			
Ethylbenzene	1.0	0.050	1.000	0	104	79.5	126			

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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1505720

22-May-15

Client: Souder, Miller & Associates

Project: McIntyre

Sample ID	LCS-19269	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	19269	RunNo:	26270					
Prep Date:	5/16/2015	Analysis Date:	5/19/2015	SeqNo:	781904	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	3.1	0.10	3.000	0	103	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		112	80	120			

Qualifiers:

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

Sample Log-In Check List

Client Name: SMA-CARLSBAD

Work Order Number: 1505720

RcptNo: 1

Received by/date: CS 05/15/15

Logged By: Ashley Gallegos 5/15/2015 9:08:00 AM AG

Completed By: Ashley Gallegos 5/15/2015 11:45:21 AM AG

Reviewed By: CS 05/15/15

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? 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	5.5	Good	Yes			



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

June 10, 2015

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

RE: McIntyre #16

OrderNo.: 1506005

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 5 sample(s) on 6/1/2015 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 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 white background.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1506005

Date Reported: 6/10/2015

CLIENT: Souder, Miller & Associates

Client Sample ID: M1

Project: McIntyre #16

Collection Date: 5/21/2015 3:00:00 PM

Lab ID: 1506005-001

Matrix: SOIL

Received Date: 6/1/2015 8:42:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 418.1: TPH							Analyst: TOM
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	6/3/2015	19514
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	210	30		mg/Kg	20	6/4/2015 10:49:56 AM	19567
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	6/2/2015 3:44:11 PM	19486
Benzene	ND	0.050		mg/Kg	1	6/2/2015 3:44:11 PM	19486
Toluene	ND	0.050		mg/Kg	1	6/2/2015 3:44:11 PM	19486
Ethylbenzene	ND	0.050		mg/Kg	1	6/2/2015 3:44:11 PM	19486
Xylenes, Total	ND	0.10		mg/Kg	1	6/2/2015 3:44:11 PM	19486
Surr: 4-Bromofluorobenzene	95.9	80-120		%REC	1	6/2/2015 3:44:11 PM	19486

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	Page 1 of 9
	O RSD is greater than RSDlimit	P Sample pH Not In Range	
	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 1506005

Date Reported: 6/10/2015

CLIENT: Souder, Miller & Associates

Client Sample ID: MM1

Project: McIntyre #16

Collection Date: 5/21/2015 11:00:00 AM

Lab ID: 1506005-002

Matrix: SOIL

Received Date: 6/1/2015 8:42:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	39	30		mg/Kg	20	6/4/2015 11:27:10 AM	19567
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	6/2/2015 4:12:59 PM	19486
Benzene	ND	0.050		mg/Kg	1	6/2/2015 4:12:59 PM	19486
Toluene	ND	0.050		mg/Kg	1	6/2/2015 4:12:59 PM	19486
Ethylbenzene	ND	0.050		mg/Kg	1	6/2/2015 4:12:59 PM	19486
Xylenes, Total	ND	0.10		mg/Kg	1	6/2/2015 4:12:59 PM	19486
Surr: 4-Bromofluorobenzene	98.1	80-120		%REC	1	6/2/2015 4:12:59 PM	19486

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	Page 2 of 9
	O RSD is greater than RSDlimit	P Sample pH Not In Range	
	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 1506005

Date Reported: 6/10/2015

CLIENT: Souder, Miller & Associates

Client Sample ID: M4

Project: McIntyre #16

Collection Date: 5/21/2015 11:00:00 AM

Lab ID: 1506005-003

Matrix: SOIL

Received Date: 6/1/2015 8:42:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	1700	75		mg/Kg	50	6/8/2015 8:47:19 PM	19567
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.099		mg/Kg	1	6/2/2015 4:41:51 PM	19486
Benzene	ND	0.050		mg/Kg	1	6/2/2015 4:41:51 PM	19486
Toluene	ND	0.050		mg/Kg	1	6/2/2015 4:41:51 PM	19486
Ethylbenzene	ND	0.050		mg/Kg	1	6/2/2015 4:41:51 PM	19486
Xylenes, Total	ND	0.099		mg/Kg	1	6/2/2015 4:41:51 PM	19486
Surr: 4-Bromofluorobenzene	94.4	80-120		%REC	1	6/2/2015 4:41:51 PM	19486

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 Not In Range	Page 3 of 9
	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 1506005

Date Reported: 6/10/2015

CLIENT: Souder, Miller & Associates

Client Sample ID: M12

Project: McIntyre #16

Collection Date: 5/21/2015 11:00:00 AM

Lab ID: 1506005-004

Matrix: SOIL

Received Date: 6/1/2015 8:42:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	10000	750		mg/Kg	500	6/8/2015 8:59:44 PM	19567
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	6/2/2015 5:10:39 PM	19486
Benzene	ND	0.050		mg/Kg	1	6/2/2015 5:10:39 PM	19486
Toluene	ND	0.050		mg/Kg	1	6/2/2015 5:10:39 PM	19486
Ethylbenzene	ND	0.050		mg/Kg	1	6/2/2015 5:10:39 PM	19486
Xylenes, Total	ND	0.10		mg/Kg	1	6/2/2015 5:10:39 PM	19486
Surr: 4-Bromofluorobenzene	98.3	80-120		%REC	1	6/2/2015 5:10:39 PM	19486

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 Not In Range
	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 1506005

Date Reported: 6/10/2015

CLIENT: Souder, Miller & Associates

Client Sample ID: M7

Project: McIntyre #16

Collection Date: 5/21/2015 11:00:00 AM

Lab ID: 1506005-005

Matrix: SOIL

Received Date: 6/1/2015 8:42:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	1700	75		mg/Kg	50	6/8/2015 9:12:08 PM	19567
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.099		mg/Kg	1	6/2/2015 5:39:24 PM	19486
Benzene	ND	0.049		mg/Kg	1	6/2/2015 5:39:24 PM	19486
Toluene	ND	0.049		mg/Kg	1	6/2/2015 5:39:24 PM	19486
Ethylbenzene	ND	0.049		mg/Kg	1	6/2/2015 5:39:24 PM	19486
Xylenes, Total	ND	0.099		mg/Kg	1	6/2/2015 5:39:24 PM	19486
Surr: 4-Bromofluorobenzene	98.6	80-120		%REC	1	6/2/2015 5:39:24 PM	19486

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 Not In Range
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#: 1506005

10-Jun-15

Client: Souder, Miller & Associates

Project: McIntyre #16

Sample ID	MB-19567	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	19567	RunNo:	26642					
Prep Date:	6/4/2015	Analysis Date:	6/4/2015	SeqNo:	793483	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-19567	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	19567	RunNo:	26642					
Prep Date:	6/4/2015	Analysis Date:	6/4/2015	SeqNo:	793484	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	101	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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1506005

10-Jun-15

Client: Souder, Miller & Associates

Project: McIntyre #16

Sample ID	MB-19514	SampType:	MBLK	TestCode:	EPA Method 418.1: TPH					
Client ID:	PBS	Batch ID:	19514	RunNo:	26593					
Prep Date:	6/2/2015	Analysis Date:	6/3/2015	SeqNo:	791547	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	ND	20								

Sample ID	LCS-19514	SampType:	LCS	TestCode:	EPA Method 418.1: TPH					
Client ID:	LCSS	Batch ID:	19514	RunNo:	26593					
Prep Date:	6/2/2015	Analysis Date:	6/3/2015	SeqNo:	791548	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	100	20	100.0	0	105	86.7	126			

Sample ID	LCSD-19514	SampType:	LCSD	TestCode:	EPA Method 418.1: TPH					
Client ID:	LCSS02	Batch ID:	19514	RunNo:	26593					
Prep Date:	6/2/2015	Analysis Date:	6/3/2015	SeqNo:	791549	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	110	20	100.0	0	109	86.7	126	3.94	20	

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 Not In Range |
| 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#: 1506005

10-Jun-15

Client: Souder, Miller & Associates

Project: McIntyre #16

Sample ID MB-19486	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 19486		RunNo: 26568							
Prep Date: 6/1/2015	Analysis Date: 6/2/2015		SeqNo: 790542		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	0.99		1.000		98.8	80	120			

Sample ID LCS-19486	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 19486		RunNo: 26568							
Prep Date: 6/1/2015	Analysis Date: 6/2/2015		SeqNo: 790543		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.90	0.10	1.000	0	89.6	69.8	143			
Benzene	0.98	0.050	1.000	0	97.6	76.6	128			
Toluene	0.96	0.050	1.000	0	96.4	75	124			
Ethylbenzene	0.99	0.050	1.000	0	99.1	79.5	126			
Xylenes, Total	3.0	0.10	3.000	0	98.7	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Sample ID 1505D10-002AMS	SampType: MS		TestCode: EPA Method 8021B: Volatiles							
Client ID: BatchQC	Batch ID: 19486		RunNo: 26568							
Prep Date: 6/1/2015	Analysis Date: 6/2/2015		SeqNo: 790546		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	1.0	0.099	0.9881	0	104	71.8	123			
Benzene	1.1	0.049	0.9881	0	108	69.2	126			
Toluene	1.1	0.049	0.9881	0.01001	106	65.6	128			
Ethylbenzene	1.1	0.049	0.9881	0	110	65.5	138			
Xylenes, Total	3.2	0.099	2.964	0.01914	109	63	139			
Surr: 4-Bromofluorobenzene	1.1		0.9881		108	80	120			

Sample ID 1505D10-002AMSD	SampType: MSD		TestCode: EPA Method 8021B: Volatiles							
Client ID: BatchQC	Batch ID: 19486		RunNo: 26568							
Prep Date: 6/1/2015	Analysis Date: 6/2/2015		SeqNo: 790547		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.90	0.099	0.9862	0	91.0	71.8	123	13.3	21.2	
Benzene	0.99	0.049	0.9862	0	100	69.2	126	7.77	18.5	
Toluene	1.0	0.049	0.9862	0.01001	100	65.6	128	5.75	20.6	
Ethylbenzene	1.0	0.049	0.9862	0	104	65.5	138	5.51	20.1	

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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1506005

10-Jun-15

Client: Souder, Miller & Associates

Project: McIntyre #16

Sample ID	1505D10-002AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	BatchQC	Batch ID:	19486	RunNo:	26568					
Prep Date:	6/1/2015	Analysis Date:	6/2/2015	SeqNo:	790547	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	3.1	0.099	2.959	0.01914	103	63	139	5.84	21.1	
Surr: 4-Bromofluorobenzene	1.0		0.9862		104	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 Not In Range
- RL Reporting Detection Limit

Sample Log-In Check List

Client Name: SMA-CARLSBAD

Work Order Number: 1506005

RcptNo: 1

Received by/date: _____

Logged By: Anne Thorne 6/1/2015 8:42:00 AM *Anne Thorne*

Completed By: Anne Thorne 6/1/2015 *Anne Thorne*

Reviewed By: *[Signature]* 6/1/2015 *6/1/2015*

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: AUSTIN WEYANT Date: 6/1/2015
 By Whom: Anne Thorne Via: eMail Phone Fax In Person
 Regarding: SAMPLE TEMPERATURE-22.9
 Client Instructions: PROCEED WITH ANALYSIS

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	22.9	Good	Yes			

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

Form C-141
Revised August 8, 2011

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

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: McIntyre A West 16	Facility Type: Well

Surface Owner: Federal	Mineral Owner:	API No. 30-015-31855
------------------------	----------------	----------------------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	20	17S	30E	330	South	2160	East	Eddy

Latitude 32.8137613030574 **Longitude** -103.992641972529

NATURE OF RELEASE

Type of Release: Oil and Produced Water	Volume of Release: 5 bbls oil; 15 bbls PW	Volume Recovered: 3 bbls oil; 15 bbls PW
Source of Release: flowline	Date and Hour of Occurrence: 1/27/2015 10:00 am	Date and Hour of Discovery: 1/27/2015 10:00 am
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

This release was caused by corrosion on a steel flowline. Vacuum trucks were dispatched to recover all standing fluid.

Describe Area Affected and Cleanup Action Taken.*

The impacted area in the pasture off the east side of the pad. The approved work plan was completed accordance with NMOCD and BLM guidance.

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:	
Date: July 1, 2015 Phone: 575-748-6940	Attached <input type="checkbox"/>	

* Attach Additional Sheets If Necessary

APPENDIX C

CULTURAL RESOURCES SURVEY

NMCRIS INVESTIGATION ABSTRACT FORM (NIAF)

1. NMCRIS Activity No.: 133417	2a. Lead (Sponsoring) Agency: Bureau of Land Management-Carlsbad Field Office	2b. Other Permitting Agency(ies): N/A	3. Lead Agency Report No.: N/A												
4. Title of Report: Cultural Resource Survey Report for Souder Miller and Associates of Two Disturbed Locations (0.80 Acres) near Loco Hills within Sections 20, Township 17 South, Range 30 East in Eddy County, New Mexico Author(s) Michael Stowe, M.A., RPA			5. Type of Report <input checked="" type="checkbox"/> Negative <input type="checkbox"/> Positive												
6. Investigation Type <input type="checkbox"/> Research Design <input checked="" type="checkbox"/> Survey/Inventory <input type="checkbox"/> Test Excavation <input type="checkbox"/> Excavation <input type="checkbox"/> Collections/Non-Field Study <input type="checkbox"/> Overview/Lit Review <input type="checkbox"/> Monitoring <input type="checkbox"/> Ethnographic study <input type="checkbox"/> Site specific visit <input type="checkbox"/> Other															
7. Description of Undertaking (what does the project entail?): The project was defined as the survey of two disturbed locations (0.80 Acres) near Loco Hills within Sections 20, Township 17 South, Range 30 East in Eddy County, New Mexico. The northern most parcel is located just to the northwest of the town of Loco Hills and measures roughly 0.63 acres and has been severely impacted by existing roadways and various oil and gas industry activities. The second parcel is located just southwest of the town of Loco Hills and measures 0.20 acres and is immediately adjacent (east) of an existing well pad location and has been severely impacted due to the proximity to this well location and associated oil and gas activities. Project area lands surveyed for the project area are owned and administered by the Bureau of Land Management-Carlsbad field office.		8. Dates of Investigation: (from: 5/17/2015 to: 5/17/2015) 9. Report Date: May 20, 2015													
10. Performing Agency/Consultant: Advanced Archaeological Solutions (ADAS) Principal Investigator: Michael Stowe, M.A., RPA Field Supervisor: Michael Stowe, M.A., RPA Field Personnel Names: Michael Stowe, M.A., RPA		11. Performing Agency/Consultant Report No.: AAS 15-327 12. Applicable Cultural Resource Permit No(s): 216-2920-06B, NM State Permit 15-172													
13. Client/Customer (project proponent): Souder Miller and Associates Contact: Austin Weyant Address: 201 South Halagueno Carlsbad, New Mexico 88220 Phone: (575) 689-7040		14. Client/Customer Project No.: N/A													
15. Land Ownership Status (<u>Must</u> be indicated on project map): <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 50%;">Land Owner</th> <th style="width: 25%;">Acres Surveyed</th> <th style="width: 25%;">Acres in APE</th> </tr> </thead> <tbody> <tr> <td>Bureau of Land Management-Carlsbad Field Office</td> <td style="text-align: center;">0.80</td> <td style="text-align: center;">0.80</td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td style="text-align: right;">TOTALS</td> <td style="text-align: center;">0.80</td> <td style="text-align: center;">0.80</td> </tr> </tbody> </table>				Land Owner	Acres Surveyed	Acres in APE	Bureau of Land Management-Carlsbad Field Office	0.80	0.80				TOTALS	0.80	0.80
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16 Records Search(es): <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 33%;">Date(s) of ARMS File Review 5/10/15</td> <td style="width: 33%;">Name of Reviewer(s) M.Stowe</td> <td style="width: 34%;"></td> </tr> <tr> <td>Date(s) of NR/SR File Review 5/10/15</td> <td>Name of Reviewer(s) M.Stowe</td> <td></td> </tr> <tr> <td>Date(s) of Other Agency File Review 5/20/15</td> <td>Name of Reviewer(s) M.Stowe</td> <td>Agency BLM-Carlsbad, per email with Hila Nelson</td> </tr> </table>				Date(s) of ARMS File Review 5/10/15	Name of Reviewer(s) M.Stowe		Date(s) of NR/SR File Review 5/10/15	Name of Reviewer(s) M.Stowe		Date(s) of Other Agency File Review 5/20/15	Name of Reviewer(s) M.Stowe	Agency BLM-Carlsbad, per email with Hila Nelson			
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20. a. Percent Ground Visibility: 75-100 percent b. Condition of Survey Area (grazed, bladed, undisturbed, etc.):

Disturbed (roughly 95% of survey area is previously disturbed) and portions of undisturbed, large portions of the project area have been impacted by activities associated with bladed dirt roadways (located within immediate proximity of bladed caliche capped road). In addition, a large portion of the project is bordered by existing buried gas pipelines as well as numerous above ground poly pipelines and existing well pads and oil industry site areas.

21. CULTURAL RESOURCE FINDINGS Yes, See Page 3 No, Discuss Why:

Sterile of cultural materials due in large part to a majority of the project area having been disturbed by various previous oil and gas activities and roadways.

22. Required Attachments (check all appropriate boxes):

- USGS 7.5 Topographic Map with sites, isolates, and survey area clearly drawn
- Copy of NMCRIS Mapserver Map Check
- LA Site Forms - new sites (*with sketch map & topographic map*)
- LA Site Forms (update) - previously recorded & un-relocated sites (*first 2 pages minimum*)
- Historic Cultural Property Inventory Forms
- List and Description of isolates, if applicable
- List and Description of Collections, if applicable

23. Other Attachments:

- Photographs and Log
 - Other Attachments
- (Describe): BLM Record Check Map

24. I certify the information provided above is correct and accurate and meets all applicable agency standards.

Principal Investigator/Responsible Archaeologist: Michael Stowe, M.A., RPA

Signature 

Date 5/20/15 Title (if not PI): Principal Investigator

25. Reviewing Agency:
Reviewer's Name/Date

Accepted () Rejected ()

Tribal Consultation (if applicable): Yes No

26. SHPO
Reviewer's Name/Date:

HPD Log #:

SHPO File Location:

Date sent to ARMS:

CULTURAL RESOURCE FINDINGS

[fill in appropriate section(s)]

1. NMCRIS Activity No.: 133417	2. Lead (Sponsoring) Agency: BLM- Carlsbad Field Office	3. Lead Agency Report No.: N/A
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SURVEY RESULTS:

Sites discovered and registered: 0
 Sites discovered and NOT registered: 0
 Previously recorded sites revisited (*site update form required*): 0
 Previously recorded sites not relocated (*site update form required*): 0
 TOTAL SITES VISITED: 0
 Total isolates recorded: 0 Non-selective isolate recording?
 Total structures recorded (*new and previously recorded, including acequias*): 0

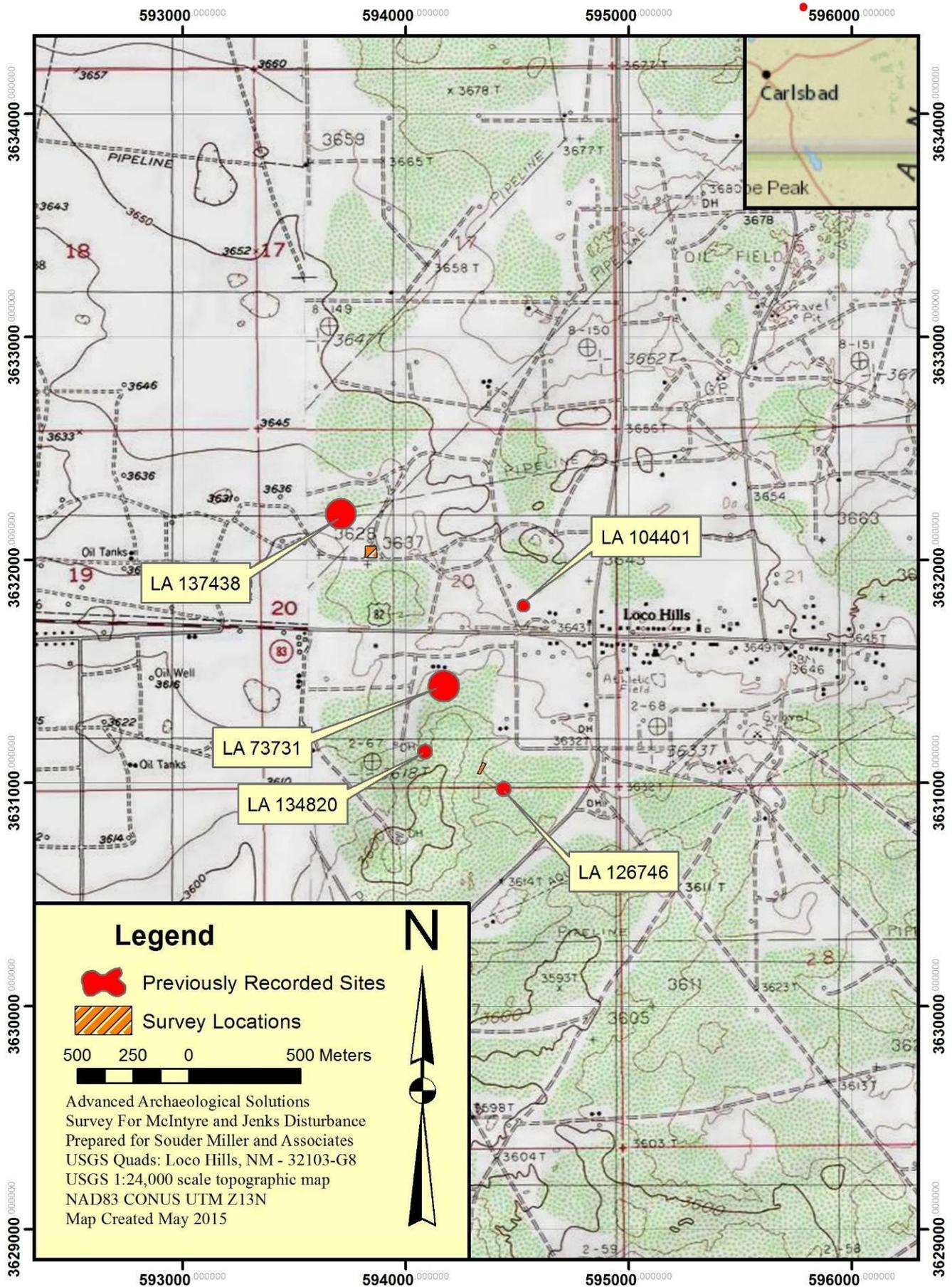
MANAGEMENT SUMMARY:

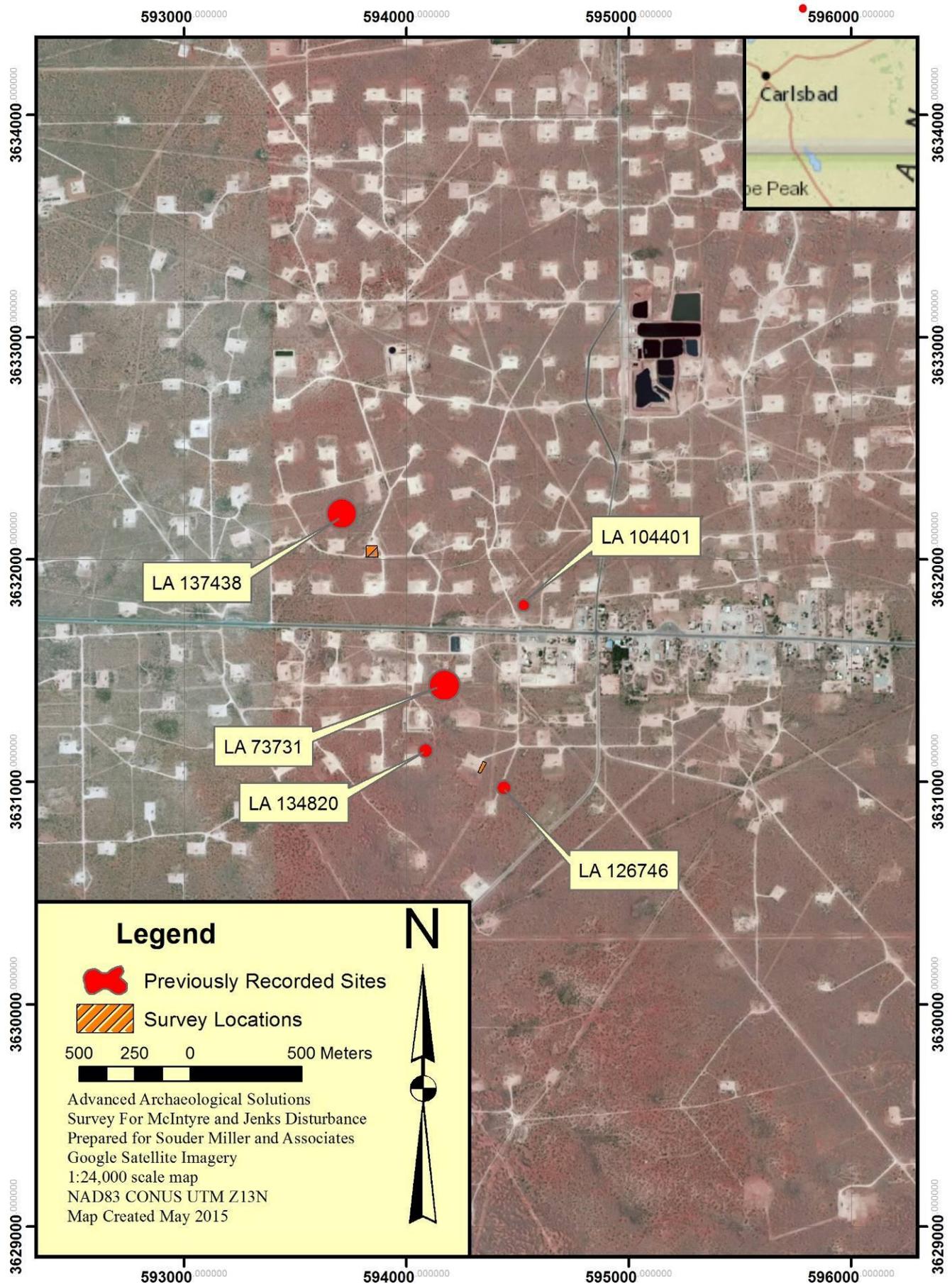
No new archaeological sites or historic properties (built environment) were encountered during the current survey. Additionally, no isolated occurrences were observed within the survey area. During a preliminary records search of state and federal files five archaeological sites were noted within 1/2 mile of the project area (see attached table for brief site description, size and eligibility determination). All five of these previously recorded sites are located well outside (located a minimum of 500 meters away from proposed undertaking) of the proposed project pipeline ROW area (proposed area of potential effect) and will not be affected by this undertaking.

Archaeological clearance for Two Disturbed Locations (0.80 Acres) near Loco Hills within Sections 20, Township 17 South, Range 30 East in Eddy County, New Mexico is recommended to proceed as currently staked. The BLM and Advanced Archaeological Solutions should be immediately notified if cultural resources are encountered during the construction phase of this undertaking.

Previously Recorded Sites located within ½ Mile of the Jenks/ McIntyre Survey Area

<i>LA Number</i>	<i>Size (sq m)</i>	<i>Temporal Affiliation</i>	<i>NRHP Eligibility</i>	<i>Comments</i>
104401	1200	Early Pithouse through Late Pithouse (A.D. 650-1150)	Undetermined	Roughly 100's of artifacts that include lithic debitage, ceramics, ground stone and a scatter of FCR noted throughout the site area. No features were noted within the site area.
137438	43200	Historic Period	Not Eligible	Roughly 1000's of historic artifacts that include diagnostic glass artifacts as well as many types and colors of glass shards, historic ceramics and miscellaneous historic trash. One windmill, corral, dump and structure. Site has been severely impacted.
73731	20000	Early Pithouse through Late Pithouse (A.D. 200-850)	Eligible, Criterion D	Roughly 1000's of artifacts that include lithic debitage, chipped-stone tools, diagnostic projectile points, ground stone and a scatter of FCR noted throughout the site area. Trowel tests indicate subsurface deposits to 5-10 cm below surface. Two FCR features noted.
126746	3990	Late Pithouse through Late Pueblo (A.D. 1150-1450)	Eligible, Criterion D	Roughly 1000's of artifacts that include lithic debitage, chipped-stone tools, diagnostic projectile points, ground stone and a scatter of FCR noted throughout the site area. Trowel tests indicate subsurface deposits to 5-10 cm below surface. Two FCR features noted.
134820	3160	Historic Period	Eligible, Criterion D	Roughly 10,000's of historic artifacts that include diagnostic glass artifacts as well as many types and colors of glass shards, historic ceramics and miscellaneous historic trash.





NMCRIS DCA Core Spatial Application

CTA Training and Documentation
[Web Mapping Application Help](#)

Editor PLSS Quad Top Quad Names Geo Names Surveys Sikes Struts Bridge Objects Linear Props Disks Print

The screenshot displays the NMCRIS Core Spatial Application interface. At the top, there is a navigation bar with icons for home, search, and other functions. Below this is a menu bar with options like Editor, PLSS, Quad Top, Quad Names, Geo Names, Surveys, Sikes, Struts, Bridge, Objects, Linear, Props, Disks, and Print. The main area is a map showing a grid of yellow lines representing a survey or street layout. Overlaid on this are various colored shapes and markers, including red circles and purple polygons, which represent different data layers. A legend on the right side of the map lists several layers: NMCRIS, Archaeological Sites, Architectural Resources, Properties and Districts, NMCRIS Activities, Other Layers, Background Reference Layers, Counties, Towns, DRGS, NM 2009 NAD Color Aerial Photos, Satellite Imagery, and ESRI Imagery World_20. The map also shows contour lines and elevation markers.

<https://nmcris.dea.state.nm.us/nmcrisgis/default.aspx?username=MASTOWE2&password=TWfZcyMxOTcz>

5/18/2015



Source: Esri, DigitalGlobe, GeoEye, Earthstar (Earthstar), CNES/Airbus DS, USDA, USGS, Aero, Sambaing, AeroGRID, IGN, Esri, Mapbox, and the GIS User Community