

February 7, 2017

#5B25501-BG4

NMOCD District I Olivia Yu 1625 N. French Dr. Hobbs, NM 88240

### SUBJECT: FINAL CLOSURE REPORT FOR INCIDENT, BARR NONE FEDERAL #1 UNIT E SECTION 10-T22S-R32E NMPM, API# 30-025-32221, LEA COUNTY, NEW MEXICO

Dear Olivia Yu:

On behalf Judah Oil, LLC, Souder Miller & Associates (SMA) is pleased to submit Final Closure Report summarizing the remediation of the release site located at the Barr None Federal #1 in Lea County, New Mexico. The purpose of this Final Closure is to obtain closure from the New Mexico Oil Conservation Division (NMOCD) for the remediation of the release that occurred on Bureau of Land Management land.

SMA responded on December 3, 2016 at the request of Judah Oil, to assess and delineate the release of production fluids associated with the Barr None Federal #1 well location. The release was initially reported to NMOCD by Judah Oil. The table below summarizes information regarding the release. Results of the assessment and delineation are described in the following Soil Remediation Workplan.

Table 1: Release information and Site Ranking								
Name		Barr I	None Fede	ral #1				
	Incident Number	API Number	Section	, Township	, Range			
Location	1RP- 4574	30-025- 32221	SW/NE (Unit )	Section 10	T22 S, R 32E NMPM			
Estimated Date of Release	January 8	, 2016						
Date Reported to NMOCD	January 2	3, 2017						
Reported by	James Ca	mpanella						
Land Owner	Bureau of	f Land Man	agement					
Reported To	NM Oil Co	onservatior	n Division (	NMOCD)				
Source of Release	Flowline l	oreak						
Released Material	Producte	d Water an	d Crude Oi					
Released Volume	30 bbls Produced Water and 12 bbls Crude Oil							
Recovered Volume	0 bbls Pr	oduced Wa	iter and 0 k	bls Crude	Oil			



Net Release	30 bbls Produced Water and 12 bbls Crude Oil
Nearest Waterway	18.8 miles west of the location
Depth to Groundwater	Estimated to be 300 feet
Nearest Domestic Water Source	Greater than 1,000 feet
NMOCD Ranking	0
SMA Response Dates	Initial: Mitigation Activities:
Subcontractors	MMX
Disposal Facility	TBD
Estimated Yd <sup>3</sup> Contaminated Soil Excavated and Disposed	110

Attached is a copy of the C-141 initial located in Appendix B. For questions or comments pertaining to the release or the attached work plan please feel free to contact either of us.

Submitted by:

Reviewed by:

SOUDER, MILLER & ASSOCIATES

J. Austr Weyant

Austin Weyant Project Scientist

Shauna Chubbuck

Shawna Chubbuck Senior Scientist

# SOIL REMEDIATION FINAL CLOSURE REPORT FOR INCIDENT 1RP-TBD

## JUDAH OIL, LLC

BARR NONE FEDERAL #1 UL E, SECTION 10, T22S R32E, NMPM API #30-025-32221 LEA COUNTY, NM



Prepared for: Judah Oil, LLC 611 West Mahone Drive # D Artesia, NM 88210 Phone: (575) 746-1280 Prepared by: Souder, Miller & Associates 201 S. Halagueno Carlsbad, NM 88221 575-689-7040

> February 7, 2017 SMA Reference 5B25501-BG4

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### 1.0 Introduction

On behalf of Judah Oil, LLC, Souder, Miller & Associates (SMA) has prepared this report that describes the assessment, initial delineation and remediation actions for a release associated with the Barr None Federal #1 location API# 30-025-32221. The site is located in Section 10, Township 22S, Range 32E NMPM, Lea County, New Mexico, on Bureau of Land Management property. Figure 1 illustrates the vicinity and location of the site.

### 2.0 Site Ranking and Land Jurisdiction

The release site is located approximately 11.5 miles east of Pecos River, with an elevation of approximately 3,805 feet above sea level. After evaluation of the site using aerial photography and topographic maps, depth to groundwater is estimated to be 350 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. Zero wells are 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 NMOCD.

Based on the NMOCD Guidelines Ranking Criteria, this release location has been assigned a NMOCD ranking of 0 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 November 9, 2016 after receiving 811 clearance, SMA field personnel assessed the release area with soil samples collected using a gas powered auger. Samples were screened for hydrocarbons using a calibrated Photo Ionization Detector (PID), and for chlorides using a mobile chlorides titration kit (EPA method 9045D) meter. Field screening results are included in Table 2. The potentially affected area was determined to be approximately 140 feet long and 20 feet wide. The site delineation samples were taken to depths of 1.5 feet bgs. In the north area of the spill over the old pit a plastic liner was found at 8 inches bgs. Samples indicate the impacted soil does not appear to extend past one foot bgs. Specific sample locations for all samples are depicted on Figure 2 (Sample Location Map). All samples were collected and processed according to NMOCD soil sampling procedures. The samples were sent under chain-of-custody protocols to Hall Environmental Analysis Laboratory for analyses of BTEX (EPA Method 8021B), TPH (EPA Method 8015) and/or total chlorides (EPA Method 300.0).

Soil contaminant concentrations found during the initial delineation are included in Table 3. Laboratory reports are included in Appendix A. Photo documentation is available by request.

### 4.0 Soil Remediation Summary

Judah and its subcontractors excavated the affected soils, with approval from area utilities owners via 81. SMA continuously guide the excavation activities by collecting composite soil samples for field screening with a mobile titration unit (NRCS1:1) and a calibrated PID. Excavation occur to depths to sufficient to delineate the plume, which was estimated to be 1 feet bgs. Excavation on

the pad was done to remove all the affected soils to 1 foot bgs. Excavation occurred in the north area over the old drill pit no more than 6" bgs to protect the underlying liner for the pit. Closure samples were collected at the final depth of excavation and sidewalls. Approximately 110 cubic yards of contaminated soil was removed and replaced with clean backfill material sufficient to return the contours to surface gradient. The contaminated soil was transported for proper disposal at an NMOCD permitted facility.

### 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 0: 10 ppm (mg/kg) Benzene, 50 ppm total BTEX, and 5000 ppm TPH.

Laboratory analytical results for the closure sample collected was below NMOCD closure standards for benzene, BTEX, and TPH. Chlorides ranged from below detection limits (30 mg/Kg) to 3,500 mg/Kg. No further remedial activities are recommended. Soil sample locations are illustrated in Figure 2. A summary of laboratory analytical results is included in Table 3. Laboratory reports are included in Appendix A.

### 6.0 Limitations

The scope of our services consisted of the performance of initial spill assessment sampling, verification of release stabilization, regulatory liaison, and preparation of this Closure Document. 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:

Reviewed by:

SOUDER, MILLER & ASSOCIATES

1 Austr Nevant

Austin Weyant Project Scientist

hauna Chubbuck

Shawna Chubbuck Senior Scientist

### Figures:

Figure 1: Vicinity Map Figure 2: Detailed Site and Sample Map

### Tables:

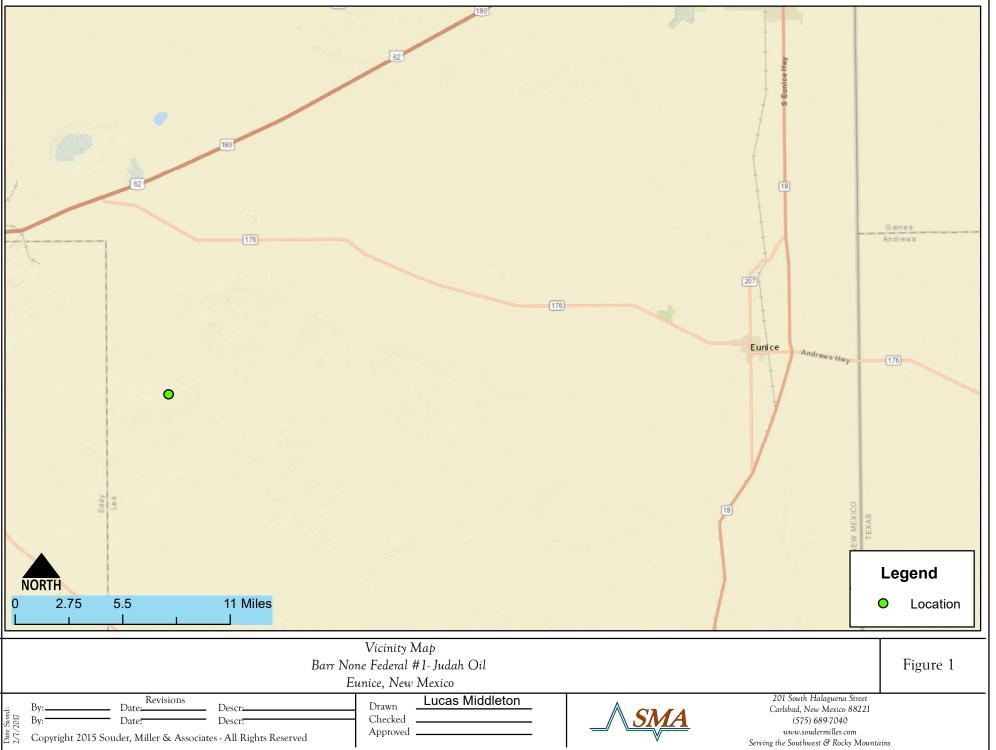
Table 1: Release Information and Site Ranking Table 2: Summary of Chloride Field Screening Results Table 3: Summary of Laboratory Analyses

### Appendices:

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

# FIGURE 1 VICINITY MAP

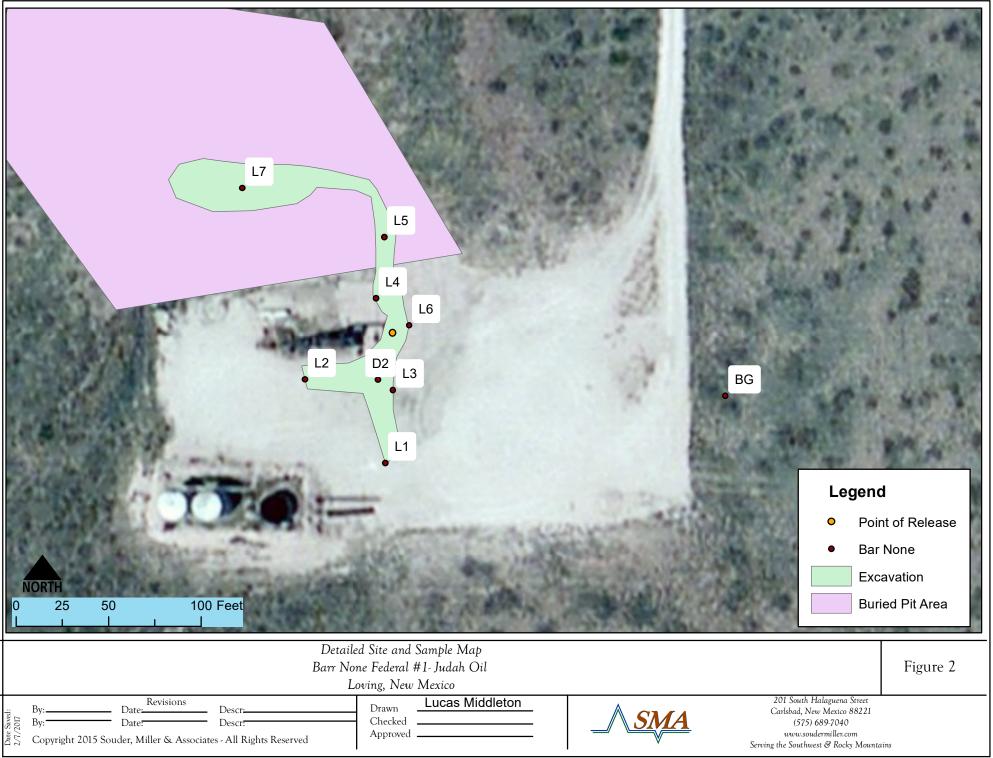
www.soudermiller.com



Document: C:\Users\lcm.CBO\Documents\GIS DATA\MAPS\barn none Figure1.mxd

# FIGURE 2 DETAILED SITE AND SAMPLE MAP

www.soudermiller.com



# TABLE 1

# RELEASE INFORMATION AND SITE RANKING

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Table 1: Release information and Site Ranking							
Name		Barr None Federal #1					
	Incident Number	Section, Township, Ra					
Location	1RP-4574	30-025- 32221	SW/NE (Unit )	Section 10	T22 S, R 32E NMPM		
Estimated Date of Release	January 8,	2016					
Date Reported to NMOCD	January 23	, 2017					
Reported by	James Cam	ipanella					
Land Owner	Bureau of I	Land Mana	gement				
Reported To	NM Oil Cor	nservation [	Division (NN	NOCD)			
Source of Release	Flowline br	eak					
Released Material	Producted	Water and	Crude Oil				
Released Volume	30 bbls Pr	oduced Wa	iter and 12	bbls Crude	Oil		
Recovered Volume	0 bbls Produced Water and 0 bbls Crude Oil						
Net Release	30 bbls Pr	oduced Wa	iter and 12	bbls Crude	Oil		
Nearest Waterway	18.8 miles	west of the	e location				
Depth to Groundwater	Estimated <sup>•</sup>	to be 300 fe	eet				
Nearest Domestic Water Source	Greater th	an 1,000 fe	et				
NMOCD Ranking	0						
SMA Response Dates	Initial: Mit	igation Acti	vities:				
Subcontractors	MMX						
Disposal Facility	TBD						
Estimated Yd <sup>3</sup> Contaminated Soil Excavated and Disposed	110						

# TABLE 2 SUMMARY OF CHLORIDE FIELD SCREENING RESULTS

	FIELD SCREENING RESULTS SUMMARY									
Date Time Field Screening Reference		Sample Depth (Feet BGS)	Chlorides Results	Lab Sample Collected Y/N						
12/13/2016	10:00	L1	Surface	256	Y					
12/13/2016	10:00	L2	Surface	244	Y					
12/13/2016	10:00	L3	Surface	632	Y					
12/13/2016	10:00	L5	Surface	575	Y					
12/13/2016	10:00	L7	Surface	2870	Y					
12/12/2016	10:00	D2-3	3 Feet	301	Y					
12/12/2016	10:00	D2-2	2 Feet	313	Y					
12/13/2016	10:00	L4	Surface	667	Y					
12/13/2016	10:00	L6	Surface	530	Y					



# TABLE 3 SUMMARY OF LABORATORY ANALYSES

Analytical Report- 1612A79	Sample Number on Figure 1 Map	Sample Date	Depth	BTEX ppm	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	Cl- mg/Kg
1612B63- 001	L1	12/13/2016	Surface	N/A	N/A	N/A	N/A	170
1612B63- 002	L2	12/13/2016	Surface	N/A	N/A	N/A	N/A	210
1612B63- 003	L3	12/13/2016	Surface	NA	N/A	N/A	N/A	290
1612B63- 004	L5	12/13/2016	Surface	N/A	N/A	N/A	N/A	72
1612B63- 005	L7	12/13/2016	Surface	N/A	N/A	N/A	N/A	4,500
1612B63- 006	D2-3	12/13/2016	3 Feet	<0.055	<0.024	<4.9	<9.2	420
1612B63- 007	D2-2	12/13/2016	2 Feet	N/A	N/A	N/A	N/A	230
1612B63- 008	L4	12/13/2016	Surface	N/A	N/A	N/A	N/A	35
1612B63- 009	L6	12/13/2016	Surface	N/A	N/A	N/A	N/A	600

## **Table 3: Summary of Laboratory Analyses**

# APPENDIX A LABORATORY ANALYTICAL REPORTS

www.soudermiller.com



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

January 06, 2017

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

OrderNo.: 1612B53

RE: Barr None

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 9 sample(s) on 12/20/2016 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 <u>www.hallenvironmental.com</u> 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Hall Environmental Analys	IC.	Date Reported: 1/6/2017						
CLIENT: Souder, Miller & Associates			Client Sampl	<b>e ID:</b> L1				
Project: Barr None		Collection Date: 12/13/2016 10:00:00 AM						
Lab ID: 1612B53-001	Matrix: SOIL		<b>Received</b>	<b>Received Date:</b> 12/20/2016 9:40:00 AM				
Analyses	Result	PQL	Qual Units	DF Date Analyzed	Batch			
EPA METHOD 300.0: ANIONS				Analyst	LGT			
Chloride	170	30	mg/Kg	20 12/28/2016 4:11:45 PM	29432			

00 9 Dof to the and sample login checklist for flagged OC date and preservation inform ation.

Refer to the	QC Summar	y report and	sample login	checklist for	nagged QC	data and prese	rvation informati

Qualifiers: *	Value exceeds Maximum	Contaminant Level.
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- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 13 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysi	Date Reported: 1/6/2017					
CLIENT: Souder, Miller & Associates			Client Sampl	le ID: L2		
Project: Barr None			Collection 1	Date: 12	/13/2016 10:00:00 A	Μ
Lab ID: 1612B53-002	Matrix: S	SOIL	Received Date: 12/20/2016 9:40:00 AM			
Analyses	Result	PQL Qua	l Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	/st: LGT
Chloride	210	30	mg/Kg	20	12/28/2016 4:48:59 F	PM 29432

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

Qu	alifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte de
		D	Sample Diluted Due to Matrix	Е	Value abo
		Н	Holding times for preparation or analysis exceeded	J	Analyte de
		ND	Not Detected at the Reporting Limit	Р	Sample pH
		R	RPD outside accepted recovery limits	RL	Reporting
		S	% Recovery outside of range due to dilution or matrix	W	Sample co

- detected in the associated Method Blank
- ove quantitation range
- detected below quantitation limits Page 2 of 13
- H Not In Range
- g Detection Limit
- container temperature is out of limit as specified

Hall Environmental Analys	IC.	Date Reported: 1/6/2017							
CLIENT: Souder, Miller & Associates			Client Samp	le ID: L3	;				
Project: Barr None		Collection Date: 12/13/2016 10:00:00 AM							
Lab ID: 1612B53-003	Matrix:	SOIL	<b>Received</b>	<b>Received Date:</b> 12/20/2016 9:40:00 AM					
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch			
EPA METHOD 300.0: ANIONS					Analy	/st: LGT			
Chloride	290	30	mg/Kg	20	12/28/2016 5:01:23 F	PM 29432			

d e vation info rt ai la la sin abaal-list for fl ed OC data and pre Defen to the OC S ation.

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation info	ormati
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Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	_	

- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 3 of 13 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysi	Date Reported: 1/6/2017					
CLIENT: Souder, Miller & Associates			Client Sampl	le ID: L5		
Project: Barr None			Collection 1	Date: 12	/13/2016 10:00:00 A	Μ
Lab ID: 1612B53-004	Matrix: S	SOIL	<b>Received</b>	Date: 12	/20/2016 9:40:00 AN	Л
Analyses	Result	PQL Qua	l Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	/st: LGT
Chloride	72	30	mg/Kg	20	12/28/2016 5:13:48 F	PM 29432

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	Н	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	R	RPD outside accepted recovery limits
	S	% Recovery outside of range due to dilution or matrix

- Analyte detected in the associated Method Blank В
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 4 of 13 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Hall Environmental Analysi	Date Reported: 1/6/2017						
CLIENT: Souder, Miller & Associates			Client Sampl	e ID: L7			
Project: Barr None			Collection 1	Date: 12/13/2016 10:00:00 AN	1		
Lab ID: 1612B53-005	Matrix:	SOIL	Received Date: 12/20/2016 9:40:00 AM				
Analyses	Result	PQL Qu	al Units	DF Date Analyzed	Batch		
EPA METHOD 300.0: ANIONS				Analys	t: MRA		
Chloride	4500	150	mg/Kg	100 1/3/2017 1:32:17 PM	29432		

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Refer to the	QC Summar	y report and	i sample login	checklist for	nagged QC	aata and pi	reservation 1	nformati

Qualifiers: *	Value exceeds Maximum Contaminant Level.
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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 5 of 13 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Analytical Report Lab Order 1612B53 Date Reported: 1/6/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates

Project: Barr None

**Client Sample ID:** D2-3 **Collection Date:** 12/13/2016 10:00:00 AM

Lab ID: 1612B53-006	Matrix:	SOIL	Received 1	Received Date: 12/20/2016 9:40:00 AM				
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch		
EPA METHOD 300.0: ANIONS					Analyst	LGT		
Chloride	420	30	mg/Kg	20	12/28/2016 5:38:38 PM	29432		
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analyst	том		
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	12/28/2016 1:01:51 PM	29384		
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	12/28/2016 1:01:51 PM	29384		
Surr: DNOP	93.8	70-130	%Rec	1	12/28/2016 1:01:51 PM	29384		
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	NSB		
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	12/27/2016 10:25:59 AM	/ 29391		
Surr: BFB	96.3	68.3-144	%Rec	1	12/27/2016 10:25:59 AM	/ 29391		
EPA METHOD 8021B: VOLATILES					Analyst	NSB		
Benzene	ND	0.024	mg/Kg	1	12/27/2016 10:25:59 AM	/ 29391		
Toluene	ND	0.049	mg/Kg	1	12/27/2016 10:25:59 AM	/ 29391		
Ethylbenzene	ND	0.049	mg/Kg	1	12/27/2016 10:25:59 AM	/ 29391		
Xylenes, Total	ND	0.098	mg/Kg	1	12/27/2016 10:25:59 AN	/ 29391		
Surr: 4-Bromofluorobenzene	110	80-120	%Rec	1	12/27/2016 10:25:59 AM	/1 29391		

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

	. J 1	 1 0			I	

- \* Value exceeds Maximum Contaminant Level.
  - D Sample Diluted Due to Matrix

**Oualifiers:** 

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 6 of 13
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysi	Date Reported: 1/6/2017					
CLIENT: Souder, Miller & Associates			Client Samp	le ID: D2	2-2	
Project: Barr None			Collection 1	Date: 12	/13/2016 10:00:00 A	M
Lab ID: 1612B53-007	Matrix:	SOIL	<b>Received</b>	<b>Date:</b> 12	/20/2016 9:40:00 AN	M
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	/st: LGT
Chloride	230	30	mg/Kg	20	12/28/2016 9:35:05 I	PM 29448

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	Н	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit

- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 7 of 13 J
- Р Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified W

Hall Environmental Analysi	• Date Reported: 1/6/2017						
CLIENT: Souder, Miller & Associates			Client Samp	le ID: L4			
Project: Barr None			Collection	Date: 12/13/2016 10:00:00 AM			
Lab ID: 1612B53-008	Matrix:	SOIL	Received Date: 12/20/2016 9:40:00 AM				
Analyses	Result	PQL Qu	al Units	DF Date Analyzed Batc			
EPA METHOD 300.0: ANIONS				Analyst: LGT			
Chloride	35	30	mg/Kg	20 12/28/2016 10:12:18 PM 2944			

Dofe r to the OC S ort and sample login checklist for flagged OC data and preservation inform ation.

Refer to the	QC Summai	ry report an	a sample log	gin checklist	for flagged	QC data and	preservation i	nformati

Qualifiers: *	Value exceeds Maximum	Contaminant Level.
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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 8 of 13 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.   Date Reported: 1/6/2017									
CLIENT: Souder, Miller & Associates	5		Client Sampl	<b>e ID:</b> L6					
Project: Barr None			Collection 1	Date: 12/13/2016 10:00:00 AM	Л				
Lab ID: 1612B53-009	Matrix:	SOIL	<b>Received Date:</b> 12/20/2016 9:40:00 AM						
Analyses	Result	PQL Qu	al Units	DF Date Analyzed	Batch				
EPA METHOD 300.0: ANIONS				Analys	st: LGT				
Chloride	600	30	mg/Kg	20 12/28/2016 10:24:42 F	PM 29448				

Dof to the OC S ...+ and sample login checklist for flagged OC data and preservation inform ation.

Refer to the	QC Summ	ary repor	t and sample	e login ch	ecklist for	nagged (	2C data	and prese	rvation i	nformati

Qualifiers: *	Value exceeds Maximum Contaminant Level.
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- D Sample Diluted Due to Matrix
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- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Client: Project:	Souder, N Barr Non	filler & Associates							
-	MB-29448	SampType: MBL	ĸ	TestCode: F	PA Method	300.0: Anion:			
Client ID:	PBS	Batch ID: 2944		RunNo:		SUU.U. AIIIOII	•		
							~		
Prep Date:	12/20/2010	Analysis Date: 12/2	:0/2010	SeqNo:	1244207	Units: mg/K	y		
Analyte			SPK value SPK F	Ref Val %REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND 1.5							
Sample ID	LCS-29448	SampType: LCS		TestCode: E	EPA Method	300.0: Anion	6		
Client ID:	LCSS	Batch ID: 2944	8	RunNo:	39709				
Prep Date:	12/28/2016	Analysis Date: 12/2	8/2016	SeqNo:	1244208	Units: mg/K	g		
Analyte		Result PQL S	SPK value SPK F	Ref Val %REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14 1.5	15.00	0 92.0	90	110			
Sample ID	MB-29432	SampType: MBL	К	TestCode: E	EPA Method	300.0: Anion:	6		
Client ID:	PBS	Batch ID: 2943	2	RunNo:	39711				
Prep Date:	12/28/2016	Analysis Date: 12/2	8/2016	SeqNo:	1244304	Units: mg/K	g		
Analyte		Result PQL S	SPK value SPK F	Ref Val %REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND 1.5							
Sample ID	LCS-29432	SampType: LCS		TestCode:	EPA Method	300.0: Anion	5		
Client ID:		Batch ID: 2943		RunNo:					
Prep Date:		Analysis Date: 12/2	-	SeqNo:		Units: mg/K	a		
							5		
Analyta					ا میں ایس ا	Light inst	0/ 000		Qual
Analyte Chloride		Result PQL S	SPK value SPK F 15.00	Ref Val %REC 0 93.5		HighLimit 110	%RPD	RPDLimit	Qual

#### **Qualifiers:**

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

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Result

45

4.1

Result

ND

ND

8.7

PQL

SampType: MBLK

Batch ID: 29384

Analysis Date: 12/28/2016

PQL

10

50

10

SPK value SPK Ref Val

50.00

5.000

10.00

Soude Barr N	r, Miller & Associates Ione	
9384	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics
	Batch ID: 29384	RunNo: <b>39672</b>
/2016	Analysis Date: 12/28/2016	SeqNo: <b>1243438</b> Units: <b>mg/Kg</b>

HighLimit

TestCode: EPA Method 8015M/D: Diesel Range Organics

Units: mg/Kg

130

HighLimit

116

130

%RPD

%RPD

**RPDLimit** 

RPDLimit

LowLimit

63.8

70

70

%REC

89.2

82.6

RunNo: 39672

86.6

SeqNo: 1243440

0

SPK value SPK Ref Val %REC LowLimit

Qualifiers:
-------------

**Client:** 

**Project:** 

Client ID:

Prep Date:

Surr: DNOP

Prep Date:

Surr: DNOP

Analyte

Analyte

Sample ID LCS-29384

Diesel Range Organics (DRO)

Sample ID MB-29384

Diesel Range Organics (DRO)

Motor Oil Range Organics (MRO)

Client ID: PBS

LCSS

12/23/2016

12/23/2016

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 11 of 13

Qual

Qual

Client: Soude Project: Barr N	r, Miller & A Ione	ssociate	es							
Sample ID MB-29391	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015D: Gasc	line Rang	e	
Client ID: PBS Batch ID: 29391			R	RunNo: 3	9665					
Prep Date: 12/23/2016 Analysis Date: 12/27/2016			S	SeqNo: 1	242742	Units: <b>mg/k</b>	(g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	950		1000		94.8	68.3	144			
Sample ID LCS-29391	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015D: Gasc	line Rang	е	
Client ID: LCSS	Batch	n ID: <b>29</b>	391	R	RunNo: 3	9665				
Prep Date: 12/23/2016	Analysis D	Date: 12	2/27/2016	S	SeqNo: 1	242743	Units: <b>mg/k</b>	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	74.6	123			
Surr: BFB	1000		1000		99.6	68.3	144			

#### **Qualifiers:**

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

Page 12 of 13

Client: Project:	Souder, N Barr Non	Miller & A	Associate	es							
Sample ID	MB-29391	Samp	Type: ME	BLK	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID:					RunNo: 3						
Prep Date:	12/23/2016	Analysis [	Date: 12	2/27/2016	ç	SeqNo: 1	242788	Units: mg/k	(a		
		Result						•	•	RPDLimit	Qual
Analyte Benzene		ND	PQL 0.025	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLIMI	Qual
Toluene		ND	0.050								
Ethylbenzene		ND	0.050								
Xylenes, Total		ND	0.10								
	nofluorobenzene	1.1	0.10	1.000		109	80	120			
Sample ID	1 CE 20204	Sama	Type: LC	· C	Too	+Codo: E	DA Mathad	8021B: Vola	llee		
	LCS-29391	•							liles		
Client ID:			h ID: 29			RunNo: 3					
Prep Date:	12/23/2016	Analysis [	Jate: 12	2/27/2016	2	SeqNo: 1	242789	Units: mg/k	kg		
Analyte		Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		1.0	0.025	1.000	0	103	75.2	115			
Toluene		0.96	0.050	1.000	0	96.4	80.7	112			
Ethylbenzene		0.94	0.050	1.000	0	93.6	78.9	117			
Xylenes, Total		2.8	0.10	3.000	0	94.4	79.2	115			
Surr: 4-Bron	nofluorobenzene	1.1		1.000		110	80	120			
Sample ID	1612B53-006AMS	Samp	Type: MS	3	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID:	D2-3	Batc	h ID: 29	391	F	RunNo: 3	9665				
Prep Date:	12/23/2016	Analysis [	Date: 12	2/27/2016	S	SeqNo: 1	242792	Units: <b>mg/k</b>	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		0.95	0.023	0.9183	0	104	61.5	138			
Toluene		0.88	0.046	0.9183	0	96.2	71.4	127			
Ethylbenzene		0.85	0.046	0.9183	0	92.0	70.9	132			
Xylenes, Total		2.5	0.092	2.755	0	92.1	76.2	123			
Surr: 4-Bron	nofluorobenzene	1.1		0.9183		115	80	120			
Sample ID	1612B53-006AMS	D Samp	Туре: МS	SD	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID:	D2-3	Batc	h ID: 29	391	F	RunNo: 3	9665				
Prep Date:	12/23/2016	Analysis [	Date: 12	2/27/2016	S	SeqNo: 1	242793	Units: mg/h	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		0.85	0.023	0.9217	0	91.8	61.5	138	11.7	20	
Toluene		0.84	0.046	0.9217	0	90.8	71.4	127	5.43	20	
Ethylbenzene		0.83	0.046	0.9217	0	90.2	70.9	132	1.64	20	
Xylenes, Total		2.5	0.092	2.765	0	91.0	76.2	123	0.851	20	

#### **Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix

Surr: 4-Bromofluorobenzene

H Holding times for preparation or analysis exceeded

1.1

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range

116

- J Analyte detected below quantitation limits
- P Sample pH Not In Range

0.9217

- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

80

120

0

0

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WO#: 1612B53 06-Jan-17

	HALL
	ENVIRONMENTAL
	ANALYSIS
2 J.	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	: 1612B53		RcptNo: 1	
Received by/date: AJ 12 20 16					
Logged By: Lindsey Cuncha	12/20/2016 9:40:00 A	м			
Completed By: Lindsby Concha	12/21/10				
Reviewed By: OUT	12/22/16				,
Chain of Custody					
1. Custody seals intact on sample bottles?		Yes	No	Not Present 🗹	
2. Is Chain of Custody complete?		Yes 🗹	No 🗌	Not Present	
3. How was the sample delivered?		Courier			
Log In					
4. Was an attempt made to cool the samples	?	Yes 🔽	No 🗌	NA 🗌	
5. Were all samples received at a temperature	e of >0° C to 6.0°C	Yes 🔽	No 🗌		
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) prope	erly 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 brok	ken?	Yes	No 🗹	# of preserved	·
12. Does paperwork match bottle labels?		Yes 🗹	No 🗌	bottles checked for pH:	
(Note discrepancies on chain of custody)				(<2 or	>12 unless noted)
13. Are matrices correctly identified on Chain of	of Custody?	Yes 🖌	No 🗌	Adjusted?	
14. Is it clear what analyses were requested?		Yes 🗹	No 🗌		
<ol> <li>Were all holding times able to be met? (If no, notify customer for authorization.)</li> </ol>		Yes 🗹	No 🗌	Checked by:	
Special Handling (if applicable)			•• 🗂	• • • • •	
16. Was client notified of all discrepancies with	this order?	Yes 🗌	No 🗌	NA 🗹	
Person Notified:	Date				
By Whom:	Via:	🗌 eMail 🔄 P	hone 🗌 Fax	In Person	
Regarding:		7773 - 7			
Client Instructions:					<u>_</u>
17. Additional remarks:					

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Yes			

Chain-of-Custody Record				Turn-Around Time: Standard D Rush Project Name: Burn Mane Project #:				HALL ENVIRONMENTAL ANALYSIS LABORATORY www.hallenvironmental.com 4901 Hawkins NE - Albuquerque, NM 87109 Tel. 505-345-3975 Fax 505-345-4107													
Mailing Address:																					
Phone	#:												_		Req						
email or Fax#:			Project Manager:					() () () () () () () () () () () () () (													
QA/QC Package:			Austin Weyert				Gas oi	(Gas/Diesel)					,PO4,SO4)	PCB's							
	Accreditation:			Sampler: /_LAX			+ TMB's (8021)	Э. Н	ő	~	_	_		Š.	8082						
		D Other		On Ice: 15 Yes 🗆 No				⊨ +	15E	°≣	64.1	AH)		o°,N	-		₹				or N
EDD (Type)				Sample Temperature: \\\00			围	H	90 0	8	od 5	ъ Ч	etals	Ž	3de	R	18				Σ
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX + MTBE	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, CI, NO <sub>3</sub> , NO <sub>2</sub> ,	8081 Pesticides	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y
-13-16	17:0)	5.	LI	402		-001		_		- I				Ŷ		Ť	Ť				
	1	i	42	1		-002			_					X				<u> </u>			
			/ 3	1		-003								X							
			1.5	17		-004								X							
			L7	1		-005								X							
	Π		02-3			-006	x		r					X							
			02-2			-007			9					X						1	
			44			-008								X							
	V	1	46	V		- 009								オ						r.	
			·····																		
	Date: Time: Relinquished by:		Received by: Date Time			Ren	narks	:							. —						
Date:	Time:	Relinquishe	d by:	Received by:		Date Time															
	<u>I</u>			I	· · · · · · · · · · · · · · · · · · ·																

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

# APPENDIX B FORM C141 FINAL

www.soudermiller.com

State of New Mexico Energy Minerals and Natural Resources

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

Revised August 8, 2011

Form C-141

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

1220 S. St. Plan	cis Di., Salit	a i e, i vivi 8750.		<u> </u>	<u>ınta Fe</u>	<u>, NM 875</u>	05							
			Rele	ease Notific	ation	and Co	orrective A	ction						
						<b>OPERA</b>	ГOR		Initial Report					
Name of Co	mpany Ju	had Oil, LLO			Contact James Campanella									
Address P.C					Telephone No. 575-748-1280									
Facility Nar	ne Barr N	one Federal	#1			Facility Typ								
Surface Ow	ner	BL	М	Mineral C	)wner B	BLM		A	API No. 30-025-32221					
				LOCA	TION	DN OF RELEASE								
Unit Letter	Section	Township	Range	Feet from the		South Line	Feet from the	East/West	Line	County				
Е	10	228	32E	1980'		North	660'	West		•	Lea			
L			Latitu	de 32.4079	36° L	ongitude	-103 668888°							
			Latitu											
NATURE OF RELEASE           Type of Release Crude oil and Produced water         Volume of Release 12 bbl oil, 30         Volume Recovered 0 bbl oil												0 bbl		
i jpe of field						bbl produc		· ·	oducted			0 001		
Source of Re							lour of Occurrenc			Hour of Disc	covery			
Broken Flow Was Immedia		7				11-8-16, 1 If YES, To		11	-8-16, 9	:00 am				
was minedia			Yes	] No 🗌 Not Re	equired	Division 1	whom?							
By Whom? J	Iames B Ca				1	Date and H	Iour							
Was a Water							olume Impacting t	he Waterco	urse.					
			] Yes 🔀	No		,	1 8							
If a Watercou	urse was Im	pacted, Descr	ibe Fully.	*										
No														
Describe Cau					:+									
A now nine o	oke causing	g mulds to lear	k on pad a	nd over old drill p	nı.									
Describe Are				cen.* feet wide. Sample	o will be	takan and w	ork plan submitta	d for aloon						
The affected	area was to	be 220 leet h	Sing by 55	leet wide. Sample	s will be	taken and w	ork plan submitte	d for clean	up.					
I harabu aarti	fry that the	information a	iven abov	e is true and comp	lata ta th	a hast of my	Irrowladge and u	ndorstand tl	ot pure	uent to NM(		las and		
				nd/or file certain r										
				ce of a C-141 repo										
should their o	operations h	ave failed to	adequately	v investigate and r	emediate	e contaminati	on that pose a thr	eat to groun	d water,	, surface wa	ter, hun	nan health		
				otance of a C-141	report do	pes not reliev	e the operator of	responsibili	ty for co	mpliance w	ith any	other		
federal, state,	, or local la	ws and/or reg	ulations.				OIL CON	SEDVAT			N			
	01						OIL CON	SERVAL	IUN	DI VISIO	<u>1N</u>			
	1 Cana	2												
	91				1	Approved by	Environmental S	pecialist:						
Signature:														
Printed Name	e: James B	Campanella												
Title: Membe	er/ Manager	•			1	Approval Date: Expiration Date:								
E-mail Addre	ese ibc@in	dahoil com			Approval									
E-mail Audit	.ss. jocaju	uanon.com			`	Conditions of Approval: Attached								

Date: 2/6/17 Phone:

\* Attach Additional Sheets If Necessary