



**APPROVED**

**By Olivia Yu at 3:42 pm, Jul 11, 2018**

July 6, 2018

#5E27122-BG17

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

NMOCD approves the fire flare incident (nOY1734132118) for partial closure. Deferral of sidewalks to be addressed upon reclamation or time of abandonment, retrofit, or inactivity.

SUBJECT: SOIL REMEDIATION CLOSURE REPORT FOR THE RUSTY ANCHOR 7 FEDERAL COM #001H (now named Black Horse Federal Com 20 33 07 SB #001H), LEA COUNTY, NEW MEXICO

Dear Ms. Yu:

On behalf of Marathon Oil Company (Marathon), Souder, Miller & Associates (SMA) has prepared this CLOSURE REPORT that describes the assessment, and initial remediation for a release associated with the Rusty Anchor 7 Federal Com #001H. The site is in UNIT M, SECTION 7, TOWNSHIP 20S, RANGE 33E, NMPM, Lea County, New Mexico, on Federal land. Figure 1 illustrates the vicinity and location of the site. Table 1, below, summarizes information regarding the release.

Table 1: Release information and Site Ranking	
Name	Rusty Anchor 7 Federal Com #001H
Company	Marathon Oil Company
Incident Number	nOY1734132118
API Number	30-025-43240
Location	32.58160463, -103.707935
Estimated Date of Release	11/19/2017
Date Reported to NMOCD	11/20/2017
Land Owner	Federal
Reported To	NMOCD District I
Source of Release	Flare
Released Material	Crude
Released Volume	unknown
Recovered Volume	unknown
Net Release	unknown
Nearest Waterway	Laguna Gatuna Salt Playa is 404 feet east of the location
Depth to Groundwater	Estimated to be greater than 100 feet
Nearest Domestic Water Source	Greater than 1,000 feet
NMOCD Ranking	10
SMA Response Dates	6/20/2018

## **1.0 Background**

On November 19, 2017, vessel overloading occurred, causing fluid to be sent to the flare resulting in a small fire. The fire remained on location and self-extinguished. The surface impact was approximately 8 feet wide and 10 feet in the area surrounding the flare. The well was shut in while Marathon performed an initial action scraping the impacted area and replacing it with clean backfill to match the contours of the pad.

## **2.0 Site Ranking and Land Jurisdiction**

The release site is located approximately 32 miles northeast of Carlsbad, with an elevation of approximately 3,534 feet above sea level. SMA searched the New Mexico State Engineer's Office (NMOSE) online water well database for water wells in the vicinity of the release. Several wells are located within a three-mile radius of the site. After evaluation of the site using aerial photography and topographic maps, depth to groundwater is estimated to be greater than 100 feet below ground surface (bgs).

Recommended Remediation Action Levels (RRALs) are determined by the site ranking according to the NMOCD *Guidelines for Remediation of Leaks, Spills, and Releases* (1993). Below in Table 2 are the remediation standards and the site ranking for this location. Justification for this site ranking is found in Figure 1 and Appendix B.

Table 2.

<b>Soil Remediation Standards</b>	<b>0 to 9</b>	<b>10 to 19</b>	<b>&gt;19</b>
<b>Benzene</b>	<b>10 PPM</b>	<b>10 PPM</b>	<b>10 PPM</b>
<b>BTEX</b>	<b>50 PPM</b>	<b>50 PPM</b>	<b>50 PPM</b>
<b>TPH</b>	<b>5000 PPM</b>	<b>1000 PPM</b>	<b>100 PPM</b>

<b>Depth to Groundwater</b>	<b>NMOCD Numeric Rank</b>
< 50 BGS = 20	
50' to 99' = 10	
>100' = 0	0
<b>Distance to Nearest Surface Water</b>	<b>NMOCD Numeric Rank</b>
< 200' = 20	
200' - 1000' = 10	10
>1000' = 0	
<b>Well Head Protection</b>	<b>NMOCD Numeric Rank</b>
<1000' (or <200' domestic) = 20	
> 1000' = 0	0
<b>Total Site Ranking</b>	<b>10</b>

## **3.0 Release Characterization**

On June 20, 2018, SMA field personnel assessed the release. As Marathon had removed surficial staining, field screening with an EC meter was used to characterize the release both horizontally and

vertically. Samples were collected from a centralized point within the release area, L1, down to 2 feet bgs, where refusal was met. The release was horizontally characterized with four sidewall samples (SW1-SW4). SW3 is located adjacent to a berm on the northeast side of the location and SW4 was collected as close to the flare as safely practicable. Neither SW3 or SW4 could be laterally extended any further.

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 MRO, DRO, and GRO by EPA Method 8015D and Chlorides by Method 300. Sample locations are depicted on Figure 2. All laboratory results are summarized in Table 3. Laboratory reports are included in Appendix C.

#### **4.0 Soil Remediation Summary**

Confirmation samples indicate that the release was successfully vertically remediated. All samples returned hydrocarbon concentrations below laboratory detection limits, or below NMOCD RRALs. Sample results for SW1 and SW2 show the release was horizontally delineated to the northwest and to the southeast. Elevated chloride concentrations were returned from SW3 and SW4. As existing infrastructure and safety reasons prevent further lateral excavation, deferral is requested for those areas.

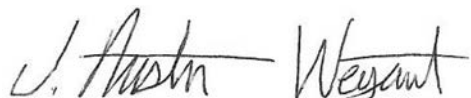
#### **5.0 Scope and Limitations**

The scope of our services consisted of the performance of assessment sampling, verification of release stabilization, regulatory liaison, and preparation of this closure report. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas releases in the Permian Basin in New Mexico.

If there are any questions regarding this report, please contact either Austin Weyant at 575-689-8801 or Shawna Chubbuck at 505-325-7535.

Submitted by:  
SOUDER, MILLER & ASSOCIATES

Reviewed by:



Austin Weyant  
Project Scientist



Shawna Chubbuck  
Senior Scientist

**ATTACHMENTS:**

**Figures:**

Figure 1: Vicinity and Well Head Protection Map

Figure 2: Site and Sample Location Map

**Tables:**

Table 3: Summary of Sample Results

**Appendices:**

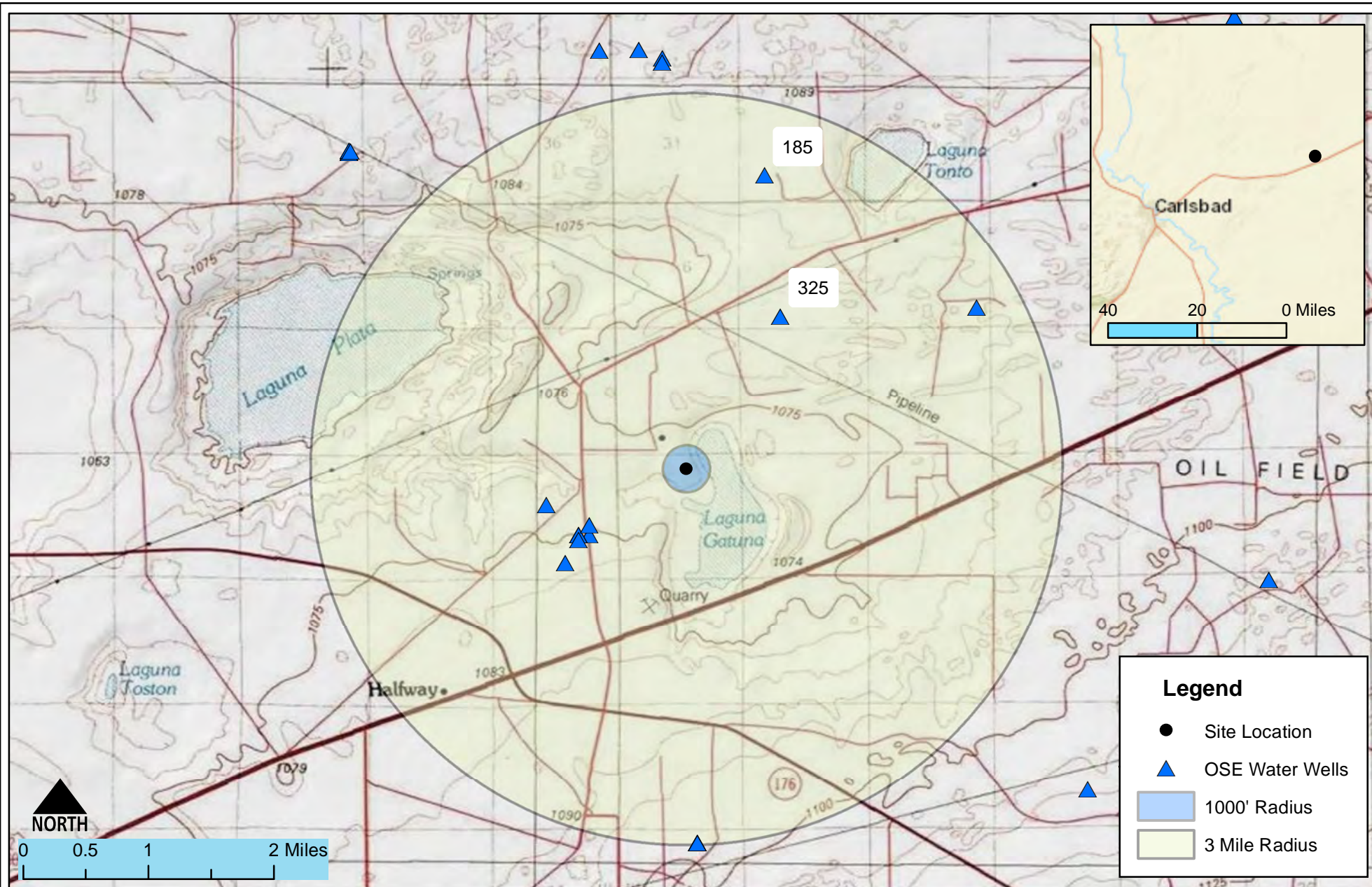
Appendix A: Form C141 Initial and Final

Appendix B: NMOSE Wells Report

Appendix C: Laboratory Analytical Reports

FIGURE 1  
VICINITY AND NMOSE  
DATA MAP





Site Vicinity & NMOSE Well Location Map  
 Rusty Anchor 7 Federal Com. #001H - Marathon Oil Permian LLC  
 Sec. 7, T20S, R33E Lea County, New Mexico

Figure 1

Date Saved: 6/27/2018	By: _____	Date: _____	Revisions	Descr: _____
	By: _____	Date: _____		Descr: _____
Copyright 2015 Souder, Miller & Associates - All Rights Reserved				

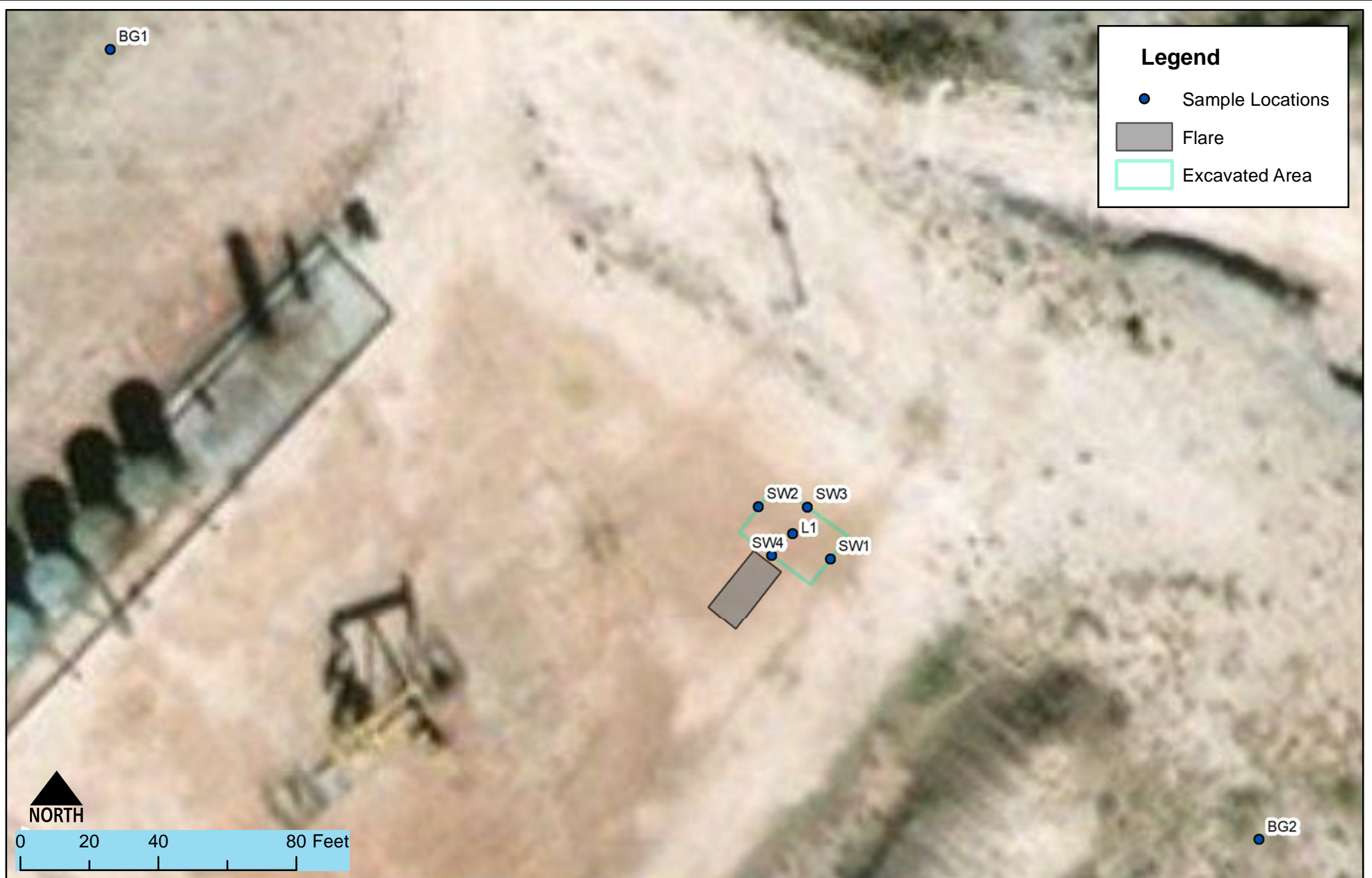
Drawn	<u>Melodie Sanjari</u>
Checked	_____
Approved	_____



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**FIGURE 2**  
**SITE AND SAMPLE**  
**LOCATION MAP**





Site & Sample Location Map  
 Rusty Anchor 7 Federal Com. #001H - Marathon Oil Permian LLC  
 Sec. 7, T20S, R33E Lea County, New Mexico

Figure 2

Date Saved:  
6/27/2018

By: \_\_\_\_\_ Date: \_\_\_\_\_  
 By: \_\_\_\_\_ Date: \_\_\_\_\_  
 Copyright 2015 Souder, Miller & Associates - All Rights Reserved

Revisions  
 Descr: \_\_\_\_\_  
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 Descr: \_\_\_\_\_

Drawn Melodie Sanjari  
 Checked \_\_\_\_\_  
 Approved \_\_\_\_\_



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**TABLE 3**  
**SUMMARY SAMPLE RESULTS**

## Rusty Anchor 7 Federal Com #001H Sample Summary Table

Sample Number on Figure 2	Sample Date	Depth (feet bgs)	Completed Action	BTEX ppm	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	MRO mg/Kg	Total TPH mg/Kg	Cl-Lab mg/Kg
NMOCD RRAL's for Site Ranking 10				50 mg/Kg	10 mg/Kg				1000 mg/Kg	600 mg/kg
L1	6/20/2018	surface	excavated	--	--	<4.9	<9.2	<46	<60.1	58
	6/20/2018	0.5	excavated	--	--	<4.6	<9.2	<46	<59.8	110
	6/20/2018	1	excavated	--	--	<4.6	<9.3	<46	<59.9	1100
	6/20/2018	2	in-situ	--	--	<4.7	<9.4	<47	<61.1	430
SW1	6/20/2018	sidewall	in-situ	--	--	<4.7	<9.8	<49	<63.5	530
SW2	6/20/2018	sidewall	in-situ	--	--	<4.6	<10	<51	<65.6	590
SW3	6/20/2018	sidewall	in-situ	--	--	<4.9	65	61	126	920
SW4	6/20/2018	sidewall	in-situ	--	--	<4.7	57	<50	57	770
BG1	6/20/2018	2	--	--	--	--	--	--	--	550
BG2	6/20/2018	2	--	--	--	--	--	--	--	430

excavated

**exceeds RRAL's**

"--" = Not Analyzed

**APPENDIX A**  
**FORM C141 INITIAL AND FINAL**

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

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

Form C-141  
Revised April 3, 2017

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: Marathon Oil Permian LLC	Contact: Raquel Chacon	
Address: 5555 San Felipe St., Houston, TX 77056	Telephone No.: 281-910-0441	
Facility Name: RUSTY ANCHOR 7 FEDERAL COM #001H	Facility Type: Oil Well	
Surface Owner: Federal	Mineral Owner: Federal	API No.: 30-025-43240

### LOCATION OF RELEASE

Unit Letter M	Section 07	Township 20S	Range 33E	Feet from the 420	North/South Line FSL	Feet from the 996	East/West Line FWL	County Lea
------------------	---------------	-----------------	--------------	----------------------	-------------------------	----------------------	-----------------------	---------------

Latitude 32.58160463 Longitude -103.707935 NAD83

### NATURE OF RELEASE

Type of Release: Crude Oil	Volume of Release:	Volume Recovered:
Source of Release: Flare	Date and Hour of Occurrence: Unknown	Date and Hour of Discovery: 11/19/2017: 0900 hrs
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Shelly Tucker BLM (Email), Olivia Yu OCD (Email)	
By Whom? Raquel Chacon	Date and Hour: 11/20/2017 0753 HRS	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

**RECEIVED**

**By Olivia Yu at 8:58 am, Dec 07, 2017**


Describe Cause of Problem and Remedial Action Taken.\*

As a result of a vessel overloading, fluid was sent to flare causing a small fire. Fire was on location and well was shut down for repair. The fire self-extinguished. The well was shut in pending further investigation.

Describe Area Affected and Cleanup Action Taken.\*

Approximately 8'X 10' area around the flare. The contaminated soil has been removed and disposed of appropriately.

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: <i>Raquel Chacon</i>		<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Raquel Chacon		Approved by Environmental Specialist: 	
Title: HES Professional		Approval Date: 12/7/2017	Expiration Date:
E-mail Address: rchacon@marathonoil.com		Conditions of Approval:	
Date: 12/04/2017 Phone: 281-910-0441		Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary

nOY1734132118

# APPENDIX B

## NMOSE WELLS REPORT





# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,  
O=orphaned,  
C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
<a href="#">CP 00317</a>	CP	LE		3	4	3	05	20S	33E	623054	3607235*	2391	680	325	355
<a href="#">L 07023</a>	L	LE		2	3	3	32	19S	33E	622840	3609047*	3749	262	185	77
<a href="#">CP 00653 POD1</a>	CP	LE		4	4	04	20S	33E	625573	3607367*		4635	60		

Average Depth to Water: **255 feet**

Minimum Depth: **185 feet**

Maximum Depth: **325 feet**

**Record Count:** 3

**UTM NAD83 Radius Search (in meters):**

**Easting (X):** 621270.14

**Northing (Y):** 3605641.55

**Radius:** 5000

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

APPENDIX C  
LABORATORY ANALYTICAL  
REPORTS

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1806E48**

Date Reported:

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** SW1

**Project:** Rusty Anchor

**Collection Date:** 6/20/2018 12:00:00 PM

**Lab ID:** 1806E48-001

**Matrix:** SOIL

**Received Date:** 6/23/2018 10:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	530	30		mg/Kg	20	6/29/2018 6:17:33 PM	38971
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	6/27/2018 5:28:44 PM	38862
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/27/2018 5:28:44 PM	38862
Surr: DNOP	82.5	70-130		%Rec	1	6/27/2018 5:28:44 PM	38862
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	6/26/2018 8:53:48 PM	38869
Surr: BFB	81.5	15-316		%Rec	1	6/26/2018 8:53:48 PM	38869

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 1 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1806E48**

Date Reported:

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** SW2

**Project:** Rusty Anchor

**Collection Date:** 6/20/2018 12:15:00 PM

**Lab ID:** 1806E48-002

**Matrix:** SOIL

**Received Date:** 6/23/2018 10:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	590	30		mg/Kg	20	6/29/2018 6:29:58 PM	38971
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/26/2018 7:13:10 PM	38862
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	6/26/2018 7:13:10 PM	38862
Surr: DNOP	92.1	70-130		%Rec	1	6/26/2018 7:13:10 PM	38862
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	6/26/2018 9:17:22 PM	38869
Surr: BFB	82.3	15-316		%Rec	1	6/26/2018 9:17:22 PM	38869

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 2 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1806E48**

Date Reported:

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** SW3

**Project:** Rusty Anchor

**Collection Date:** 6/20/2018 12:45:00 PM

**Lab ID:** 1806E48-003

**Matrix:** SOIL

**Received Date:** 6/23/2018 10:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	920	30		mg/Kg	20	6/29/2018 6:42:23 PM	38971
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	65	10		mg/Kg	1	6/26/2018 7:35:27 PM	38862
Motor Oil Range Organics (MRO)	61	50		mg/Kg	1	6/26/2018 7:35:27 PM	38862
Surr: DNOP	104	70-130		%Rec	1	6/26/2018 7:35:27 PM	38862
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/26/2018 9:40:49 PM	38869
Surr: BFB	79.0	15-316		%Rec	1	6/26/2018 9:40:49 PM	38869

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 3 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1806E48**

Date Reported:

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** SW4

**Project:** Rusty Anchor

**Collection Date:** 6/20/2018 1:00:00 PM

**Lab ID:** 1806E48-004

**Matrix:** SOIL

**Received Date:** 6/23/2018 10:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	770	30		mg/Kg	20	6/29/2018 7:44:25 PM	38971
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	57	10		mg/Kg	1	6/26/2018 7:58:04 PM	38862
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/26/2018 7:58:04 PM	38862
Surr: DNOP	87.4	70-130		%Rec	1	6/26/2018 7:58:04 PM	38862
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/27/2018 12:14:19 PM	38869
Surr: BFB	81.7	15-316		%Rec	1	6/27/2018 12:14:19 PM	38869

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 4 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1806E48**

Date Reported:

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L1-Surface

**Project:** Rusty Anchor

**Collection Date:** 6/20/2018 11:06:00 AM

**Lab ID:** 1806E48-005

**Matrix:** SOIL

**Received Date:** 6/23/2018 10:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	58	30		mg/Kg	20	6/29/2018 7:56:50 PM	38971
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	6/26/2018 8:20:23 PM	38862
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	6/26/2018 8:20:23 PM	38862
Surr: DNOP	96.5	70-130		%Rec	1	6/26/2018 8:20:23 PM	38862
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/27/2018 12:37:50 PM	38869
Surr: BFB	79.6	15-316		%Rec	1	6/27/2018 12:37:50 PM	38869

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 5 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1806E48**

Date Reported:

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L1-0.5

**Project:** Rusty Anchor

**Collection Date:** 6/20/2018 11:14:00 AM

**Lab ID:** 1806E48-006

**Matrix:** SOIL

**Received Date:** 6/23/2018 10:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	110	30		mg/Kg	20	6/29/2018 8:09:15 PM	38971
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	6/26/2018 8:42:46 PM	38862
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	6/26/2018 8:42:46 PM	38862
Surr: DNOP	94.5	70-130		%Rec	1	6/26/2018 8:42:46 PM	38862
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	6/27/2018 1:01:26 PM	38869
Surr: BFB	80.4	15-316		%Rec	1	6/27/2018 1:01:26 PM	38869

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 6 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1806E48**

Date Reported:

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L1-1

**Project:** Rusty Anchor

**Collection Date:** 6/20/2018 11:27:00 AM

**Lab ID:** 1806E48-007

**Matrix:** SOIL

**Received Date:** 6/23/2018 10:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	1100	75		mg/Kg	50	7/2/2018 7:59:55 PM	38987
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	6/26/2018 9:04:56 PM	38862
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	6/26/2018 9:04:56 PM	38862
Surr: DNOP	91.9	70-130		%Rec	1	6/26/2018 9:04:56 PM	38862
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	6/27/2018 1:25:03 PM	38869
Surr: BFB	83.3	15-316		%Rec	1	6/27/2018 1:25:03 PM	38869

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 7 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1806E48**

Date Reported:

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L1-2

**Project:** Rusty Anchor

**Collection Date:** 6/20/2018 11:40:00 AM

**Lab ID:** 1806E48-008

**Matrix:** SOIL

**Received Date:** 6/23/2018 10:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	430	30		mg/Kg	20	7/1/2018 4:51:55 PM	38987
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	6/26/2018 9:27:20 PM	38862
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/26/2018 9:27:20 PM	38862
Surr: DNOP	94.2	70-130		%Rec	1	6/26/2018 9:27:20 PM	38862
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	6/27/2018 5:23:36 PM	38869
Surr: BFB	88.1	15-316		%Rec	1	6/27/2018 5:23:36 PM	38869

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 8 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1806E48**

Date Reported:

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** BG1

**Project:** Rusty Anchor

**Collection Date:** 6/20/2018 10:30:00 AM

**Lab ID:** 1806E48-009

**Matrix:** SOIL

**Received Date:** 6/23/2018 10:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	550	30		mg/Kg	20	7/1/2018 5:04:20 PM	38987

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 9 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1806E48**

Date Reported:

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** BG2

**Project:** Rusty Anchor

**Collection Date:** 6/20/2018 10:37:00 AM

**Lab ID:** 1806E48-010

**Matrix:** SOIL

**Received Date:** 6/23/2018 10:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	430	30		mg/Kg	20	7/1/2018 5:41:35 PM	38987

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

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

**From:** [Yu, Olivia, EMNRD](#)  
**To:** [Karrigan, Callie N. \(MRO\)](#); [Hernandez, Christina, EMNRD](#); [Tucker, Shelly](#)  
**Subject:** RE: Marathon Oil Company - Final C141 - nOY1734132118 - Rusty Anchor 7 Federal Com 1H  
**Date:** Wednesday, July 11, 2018 3:56:00 PM  
**Attachments:** approved\_Nov2017\_FireFlare\_Rusty Anchor Closure Report.pdf

---

Dear Ms. Karrigan:

Please note that since the sidewalls are not within permissible levels, the incident will not receive full closure. Therefore, the final C-141 is not necessary.

However, NMOCD will consider the rest of the impacted area for incident **nOY1734132118** to be resolved. The remaining impacted area to be addressed at time of abandonment, retrofit, or reclamation.

Like approval from BLM required.

Thanks,

Olivia Yu  
Environmental Specialist  
NMOCD, District I  
[Olivia.yu@state.nm.us](mailto:Olivia.yu@state.nm.us)  
575-393-6161 x113

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

---

**From:** Karrigan, Callie N. (MRO) <cnkarrigan@marathonoil.com>  
**Sent:** Tuesday, July 10, 2018 2:36 PM  
**To:** Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>; Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>; Tucker, Shelly <stucker@blm.gov>  
**Subject:** Marathon Oil Company - Final C141 - nOY1734132118 - Rusty Anchor 7 Federal Com 1H

All,

Please see the final C141 for the release at the Rusty Anchor 7 Federal Com 1H occurring on 11/19/2017. Closure report was prepared by SMA.

Callie

**From:** Tucker, Shelly  
**To:** [Yu, Olivia, EMNRD](#)  
**Cc:** [Karrigan, Callie N. \(MRO\)](#); [Hernandez, Christina, EMNRD](#)  
**Subject:** Re: [EXTERNAL] RE: Marathon Oil Company - Final C141 - nOY1734132118 - Rusty Anchor 7 Federal Com 1H  
**Date:** Wednesday, September 19, 2018 3:39:50 PM

---

## BLM concurs with NMOCD deferral and partial closure.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

*Shelly J Tucker*

Environmental Protection Specialist  
O&G Spill/Release Coordinator

575.234.5905 - Direct  
575.361.0084 - Cellular  
575.234.6235 - Emergency Spill Number

[stucker@blm.gov](mailto:stucker@blm.gov)

**Bureau of Land Management**  
620 E. Greene St  
Carlsbad, NM 88220

The **BLM acceptance/approval does not** relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that may pose a threat to groundwater, surface water, human health or the environment or if the location fails to reclaim properly. **In such an event a site does not achieve successful restoration, or future issues with contaminants are encountered, the operator will be asked to address these issues until they are fully mitigated and the location is successfully reclaimed.** In addition, BLM approval does not relieve the operator of responsibility for compliance with any other federal, state or local laws/regulations.

**Confidentiality Warning:** This message along with any attachments are intended only for use of the individual or entity to which it is addressed and may contain information that is privileged or confidential and exempt from disclosure under applicable law. If the reader of this message is not the intended recipient or the employee or agent responsible for delivering this message to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this communication is strictly prohibited. If you have received this communication in error, please notify the sender immediately.

**NOTE: LPC Timing Stipulations - from March 1st through June 15th. Please plan remedial activities accordingly. Check for African Rue...treat (before it gets out of control).**

On Wed, Jul 11, 2018 at 3:58 PM Yu, Olivia, EMNRD <[Olivia.Yu@state.nm.us](mailto:Olivia.Yu@state.nm.us)> wrote:

Dear Ms. Karrigan:

Please note that since the sidewalls are not within permissible levels, the incident will not receive full closure. Therefore, the final C-141 is not necessary.

However, NMOCD will consider the rest of the impacted area for incident **nOY1734132118** to be resolved. The remaining impacted area to be addressed at time of abandonment, retrofit, or reclamation.

Like approval from BLM required.

Thanks,

Olivia Yu

Environmental Specialist

NMOCD, District I

[Olivia.yu@state.nm.us](mailto:Olivia.yu@state.nm.us)

575-393-6161 x113

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

---

**From:** Karrigan, Callie N. (MRO) <[cnkarrigan@marathonoil.com](mailto:cnkarrigan@marathonoil.com)>

**Sent:** Tuesday, July 10, 2018 2:36 PM

**To:** Yu, Olivia, EMNRD <[Olivia.Yu@state.nm.us](mailto:Olivia.Yu@state.nm.us)>; Hernandez, Christina, EMNRD <[Christina.Hernandez@state.nm.us](mailto:Christina.Hernandez@state.nm.us)>; Tucker, Shelly <[stucker@blm.gov](mailto:stucker@blm.gov)>

**Subject:** Marathon Oil Company - Final C141 - nOY1734132118 - Rusty Anchor 7 Federal Com 1H

All,

Please see the final C141 for the release at the Rusty Anchor 7 Federal Com 1H occurring on 11/19/2017. Closure report was prepared by SMA.

| Callie