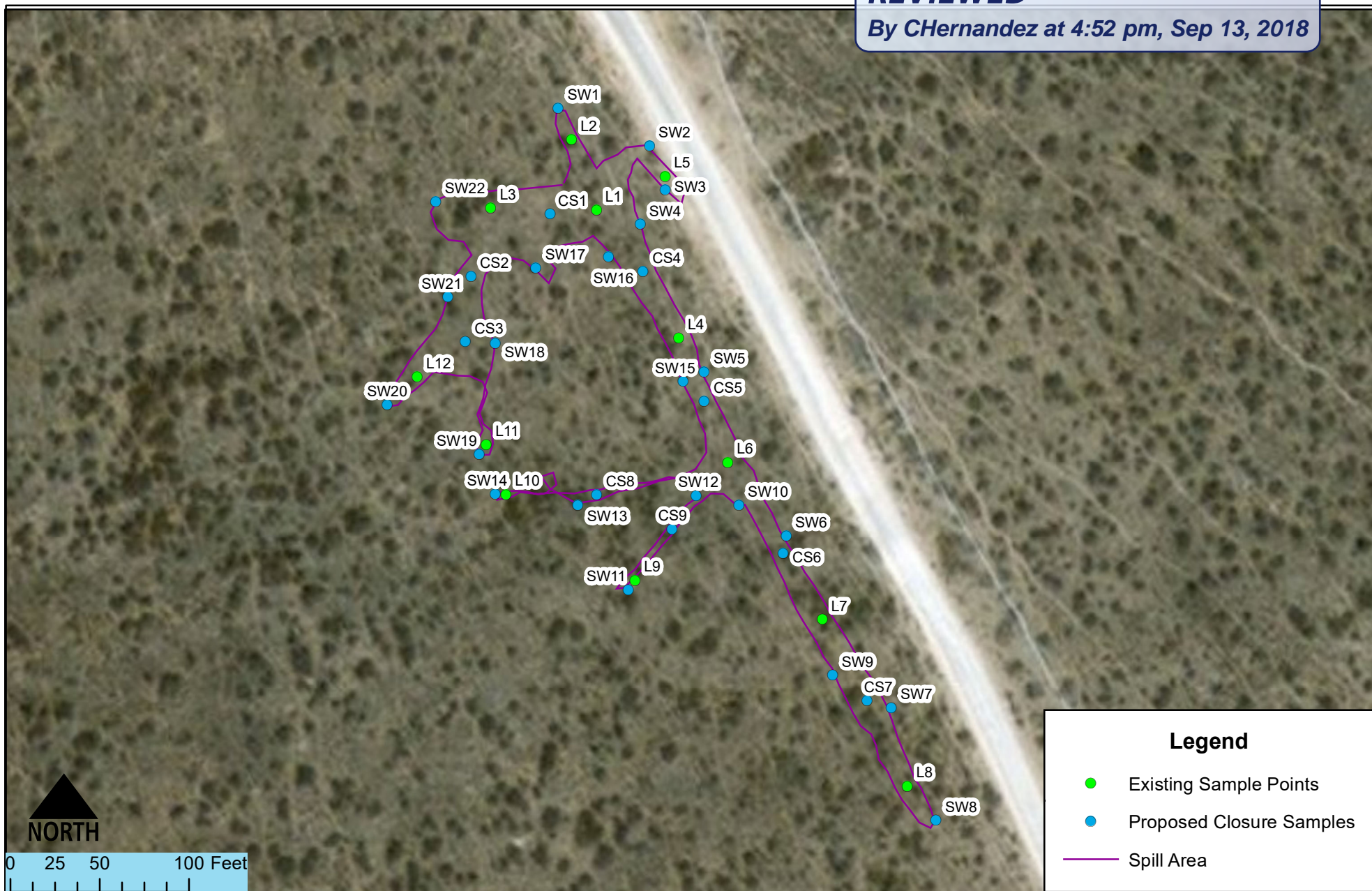


**REVIEWED**

By *CHernandez* at 4:52 pm, Sep 13, 2018



**Legend**

- Existing Sample Points
- Proposed Closure Samples
- Spill Area

Site and Sample Location Map  
Abe Unit #2/Battle 34 - Marathon  
S 28-T21S-R33E, New Mexico

Figure 2

Date Saved:  
9/10/2018

By:	Date:	Revisions	Descr:

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Drawn	Heather Patterson
Checked	
Approved	



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**REVIEWED***By CHernandez at 4:52 pm, Sep 13, 2018***Abe Unit #2**

Table 3.

Sample Number on Figure 2	Sample Date	Depth (feet bgs)	Proposed Action	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	MRO mg/Kg	Total TPH mg/Kg	Cl- Field Screens (ppm)	Cl- Laboratory mg/Kg
NMOCD Closure Criteria (mg/Kg)				50	10				2500		20000
L1	9/5/2018	1.5	excavated							14022	
	9/5/2018	2.5	excavated							981	
	9/5/2018	3.5	in-situ							<300	
L2	9/5/2018	1.5	in-situ							<300	
L3	9/5/2018	1	in-situ							<300	
L4	9/5/2018	1	excavated							11371	
	9/5/2018	2.5	in-situ							<300	
L5	9/5/2018	1	excavated							1080	
	9/5/2018	1.5	in-situ							357	
	9/5/2018	2.5	in-situ							<300	
L6	9/5/2018	1	excavated							11556	
	9/5/2018	1.5	excavated							1350	
	9/5/2018	2.5	in-situ							<300	
L7	9/5/2018	1.5	excavated							5347	
	9/5/2018	2.5	in-situ							<300	
L8	9/5/2018	1.5	in-situ							<300	
L9	9/5/2018	1	in-situ							<300	
L10	9/5/2018	1.5	excavated							8763	
	9/5/2018	2.5	in-situ							<300	
L11	9/5/2018	1.5	in-situ							<300	
L12	9/5/2018	2	excavated							825	
	9/5/2018	3	in-situ							<300	

"--" = Not Analyzed

**From:** [Hernandez, Christina, EMNRD](#)  
**To:** "Heather Patterson"; [Yu, Olivia, EMNRD](#)  
**Cc:** [Karrigan, Callie N. \(MRO\)](#); [Bradley Blevins](#); [Austin Weyant](#); [Castro, Isaac \(MRO\)](#)  
**Subject:** RE: Marathon Oil - Initial C141 - Abe Unit No. 2  
**Date:** Thursday, September 13, 2018 4:56:00 PM  
**Attachments:** [image001.png](#)  
[Abe Unit #2 figure.pdf](#)  
[Abe Unit #2 Sample Summary.pdf](#)

---

Ms. Patterson:

Notes

- Spill/release calculations must be provided in the initial C-141 form. Verification from production is not sufficient; show how volumes are calculated.

Please be advised to

- Submit Benzene, BTEX, and TPH extended lab analyses for closure samples. In the future, please submit all aforementioned lab analyses for delineation samples as denoted by Table I of 19.15.29.12 NMAC.
- Please provide an additional scaled map showing all excavations depths and their extents/boundaries.

Thanks,

Christina Hernandez

EMNRD-OCD

Environmental Specialist

1625 N. French Drive

Hobbs, NM 88240

575-393-6161 x111

[Christina.Hernandez@state.nm.us](mailto:Christina.Hernandez@state.nm.us)

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:** Heather Patterson <heather.patterson@soudermiller.com>

**Sent:** Monday, September 10, 2018 11:33 AM

**To:** Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>; Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>

**Cc:** Karrigan, Callie N. (MRO) <cnkarrigan@marathonoil.com>; Bradley Blevins <bblevins5252@gmail.com>; Austin Weyant <austin.veyant@soudermiller.com>; Castro, Isaac (MRO) <icastro@marathonoil.com>

**Subject:** RE: Marathon Oil - Initial C141 - Abe Unit No. 2

Good Morning,

This email is to inform all interested parties that SMA will be collecting closure samples beginning at approximately 9 a.m. on September 12, 2018 per NMAC 19.15.29.12 (D)(1)a. This email will serve as our 48 hour notification. We will send an update if this time or date changes.

Please find the attached figure and table. The green points are the current sample point locations that were used to guide the emergency action excavation. These samples are outlined in the table and have been sent for laboratory confirmation. The blue points are our proposed closure samples. They include 9 additional discrete bottom hole samples (CS) and 22 composite sidewall samples (SW). SMA is using a sampling method as described in EPA's Final Sampling Guidance for SW-846 2002. Judgmental sampling design was chosen due to the uniform soil type and the known boundaries of the release.

Please don't hesitate to call if you have any questions or concerns.

Thank you,

Heather Patterson  
*Staff Scientist*  
(575) 200-5343 (mobile)



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---

**From:** Karrigan, Callie N. (MRO) <[cnkarrigan@marathonoil.com](mailto:cnkarrigan@marathonoil.com)>  
**Sent:** Friday, September 7, 2018 11:03 AM  
**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)>  
**Cc:** Heather Patterson <[heather.patterson@soudermiller.com](mailto:heather.patterson@soudermiller.com)>  
**Subject:** Marathon Oil - Initial C141 - Abe Unit No. 2

Good morning,

Please see the attached initial C141 as well as a survey of the affected area. We also changed the volume released to 200 bbl produced water, which was verified by production as the number of barrels that was transferred.

Callie

---

**From:** Karrigan, Callie N. (MRO)

**Sent:** Sunday, September 2, 2018 10:16 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)>

**Cc:** 'Heather Patterson' <[heather.patterson@soudermiller.com](mailto:heather.patterson@soudermiller.com)>

**Subject:** Marathon Oil - 24 hour notification - Abe Unit No. 2/ Battle 34

Good evening,

At approximately 1:45 pm, Marathon received a third party notification that a flow line between the Abe Unit No. 2 and the Battle 34 was leaking. Upon further investigation, the pumper found the water transfer line had ruptured and released an estimated 50-100 barrels of produced water in the surrounding area of the line. The Pumper had previously began transferring water between the two locations. The cause of the release is under investigation. A vac truck was dispatched to recover standing fluids.

All standing liquids were recovered via vac truck by 5:30 pm. Additional initial response for recoverable materials will begin the morning of 9/3. The affected area of the release will also be surveyed on 9/3.

Please let me know if you have any questions.

*Callie Karrigan*

HES Professional – Environmental

Office: 575-297-0956

Cell: 405-202-1028