

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 **APR 30 2018**

Form C-141  
Revised April 3, 2017

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.  
**DISTRICT II-ARTESIA O.C.D.**

### Release Notification and Corrective Action

**NAB1812233389**

#### OPERATOR

☒ Initial Report ☐ Final Report

|  |   |
|--|---|
| Name of Company Marathon Oil Permian LLC <b>372098</b> | Contact Callie Karrigan                                 |
| Address 5555 San Felipe Street, Houston, Texas 77056   | Telephone No. 405-202-1028 (cell) 575-297-0956 (office) |
| Facility Name: Sterling 20 State 1H                    | Facility Type Oil and gas production facilities         |
| Surface: Owner: state                                  | Mineral: Owner: state                                   |
| API No. : 30-015-42731                                 |   |

#### LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|-------------|---------|----------|-------|---------------|------------------|---------------|----------------|--------|
| O           | 17      | 23S      | 27E   | 240           | south            | 1950          | east           | Eddy   |

Latitude 32.2985. Longitude -104.2086

#### NATURE OF RELEASE

|  |   |  |
|--|---|--|
| Type of Release: produced water  | Volume of Release 5.18 bbl  | Volume Recovered: 4.50 bbl                       |
| Source of Release: flare   | Date and Hour of Occurrence<br>04/17/2018 6:00 am                                   | Date and Hour of Discovery<br>04/17/2018 6:00 am |
| Was Immediate Notice Given?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required | If YES, To Whom?<br>Eddy County – Mike Bratcher and Crystal Weaver, SLO – Ryan Mann |  |
| By Whom? Callie Karrigan   | Date and Hour 04/17/2018 3:15 pm  |  |
| Was a Watercourse Reached?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  | If YES, Volume Impacting the Watercourse.   |  |

If a Watercourse was Impacted, Describe Fully.\*  
Not applicable.

Describe Cause of Problem and Remedial Action Taken.\*

Flowback Operator reported that the free water knock out (FWKO) lost supply gas, not allowing the vessel to dump fluids. The FWKO high leveled and traveled down the flare line, sending fluids out the flare and an overspray. Fluid also released from the back pressure valve on the FWKO inside containment, releasing an estimated 3.50 barrels. Overspray traveled from the flare on and off location (see attached survey).

Describe Area Affected and Cleanup Action Taken.\*

Standing fluids in containment were recovered via vac track. Absorbent material was used to recover excess fluids and the liner was washed. The liner integrity was inspected with no damage or breach of the liner. The offsite release has been marked off for clean-up. The area will be scraped 0-6 inches with soil samples taken for lab analysis. The affected area will be backfilled and seeded.

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.

|   |  |                             |                         |
|---|--|-----------------------------|-------------------------|
| Callie Karrigan<br>Signature:                                       | <b>OIL CONSERVATION DIVISION</b>                         |                             |                         |
| Printed Name: Callie Karrigan                                       | Approved by Environmental Specialist: <i>[Signature]</i> |                             |                         |
| Title: HES Environmental Professional                               | Approval Date: <b>5/1/18</b>                             | Expiration Date: <b>N/A</b> |                         |
| E-mail Address: cnkarrigan@marathonoil.com                          | Conditions of Approval:<br><b>See attached</b>           |                             | Attached <b>2P-4725</b> |
| Date: 04/30/2018<br>Phone: 405-202-1028(cell) 575-297-0956 (office) |  |                             |                         |

\* Attach Additional Sheets If Necessary



Operator/Responsible Party,

The OCD has received the form C-141 you provided on 4/30/2018 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2RP-4725 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

*The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]*

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District 2 office in ARTESIA on or before 5/30/2018. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

**Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.**

**Jim Griswold**  
OCD Environmental Bureau Chief  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505  
505-476-3465  
jim.griswold@state.nm.us

## **Bratcher, Mike, EMNRD**

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**From:** Karrigan, Callie N. (MRO) <cnkarrigan@marathonoil.com>  
**Sent:** Monday, April 30, 2018 3:27 PM  
**To:** Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD; Mann, Ryan  
**Subject:** FW: Marathon Oil Company - Sterling 20 State 1H - Initial C141  
**Attachments:** C-141 Form Marathon Oil.doc; Hazardous Spill - Produced Water - Sterling 20 State # 1H - 04-16-2018.pdf

Good afternoon,

Please see the attached initial C141 for the Sterling 20 State 1H release occurring on 4/17/2018.

Thank you,

Callie

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**From:** Karrigan, Callie N. (MRO)  
**Sent:** Tuesday, April 17, 2018 3:16 PM  
**To:** 'Weaver, Crystal, EMNRD' <Crystal.Weaver@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; 'Mann, Ryan' <rmann@slo.state.nm.us>  
**Subject:** Marathon Oil Company - Sterling 20 State 1H - 24 hour notice

Good afternoon,

At 6:00 am, Flowback Operator reported that the free water knock out (FWKO) lost supply gas at the Sterling 20 State 1H, not allowing the vessel to dump fluids. The FWKO high leveled and traveled down the flare line, sending fluid out the flare and an overspray. Fluid also released from the back pressure valve on the FWKO inside containment. Approximately 5.18 bbls of produced water was released, with 3.5 bbls contained in lined containment. A light mist traveled west off location.

Standing fluids have been recovered via vac truck. A survey crew was also dispatched to assess the area offsite.

Please let me know if you have any questions. A C141 will be submitted.

Thank you,

Callie



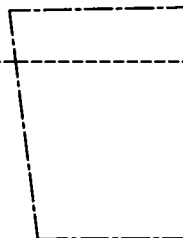
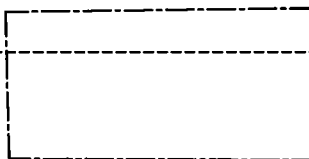
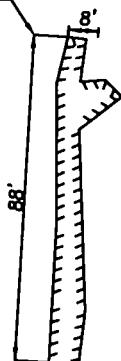
GRID  
NAD-83  
NM East  
U.S. Feet

SCALE:  
1"=50'

T23S-R27E

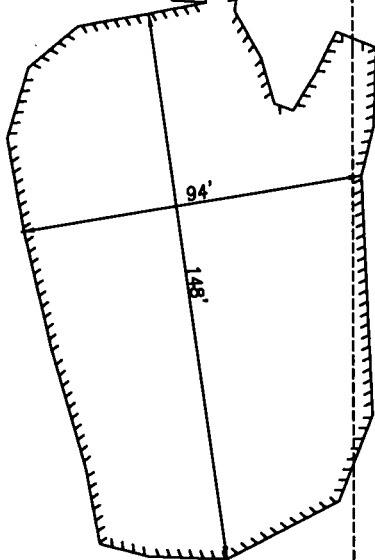
17

Lat: 32.298676°  
Lon: -104.209528°



Produced Water Spill  
04/16/2018

12497.7 Sq. Feet  
0.29 Acres



Lat: 32.298021°  
Lon: -104.209499°

STERLING 20 STATE #1H  
240' FSL - 1650 FEL  
SECTION 17

O.H.E.

O.H.E.

O.H.E.

O.H.E.

O.H.E.

O.H.E.

HAZARDOUS SPILL SKETCH FOR  
MARATHON OIL

STERLING 20 STATE #1h  
SALT WATER SPILL

SECTION 17

TOWNSHIP 23 SOUTH - RANGE 27 EAST  
EDDY COUNTY, NEW MEXICO

**NOTE:**

This sketch is intended for Marathon Oil Company purposes only and is NOT to be relied upon as a boundary survey and is NOT to be used to convey or establish real property interests.

This information was gathered with GPS RTK methods using OPUS Solutions.

|         |            |
|---------|------------|
| STAKED: | MM         |
| DATE:   | 04/17/2018 |
| DRAWN:  | CRW        |
| DATE:   | 04/17/2018 |
| JOB #:  | R3771      |

## Bratcher, Mike, EMNRD

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**To:** Weaver, Crystal, EMNRD; Bratcher, Mike, EMNRD; Mann, Ryan  
**Subject:** Marathon Oil Company - Sterling 20 State 1H - 24 hour notice  
**Attachments:** IMG\_0440.jpg; IMG\_0439.jpg; IMG\_0442.jpg; IMG\_0443.jpg

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Callie