

# State of Colorado Oil and Gas Conservation Commission

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Document Number:

402277061

Receive Date:

Report taken by:

## Site Investigation and Remediation Workplan (Supplemental Form)

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. However, this shall not preclude the Operator from taking immediate action to protect public health or safety, the environment, wildlife, or livestock.

This Form 27 describes site conditions as currently understood by the Operator; approval of this Form 27 by COGCC is based on the site conditions accurately described herein; any changes in site conditions identified during or subsequent to the performance of the approved workplan may necessitate additional investigation or remediation which shall be described on a supplemental Form 27. This Form 27 is intended to provide basic information regarding the proposed site investigation and remediation actions, but the workplan may be more fully described in attached documentation.  
Refer to Rules 340, 905, 906, 907, 908, 909, and 910

### OPERATOR INFORMATION

Name of Operator: ANDEAVOR FIELD SERVICES LLC	Operator No: 10551	<b>Phone Numbers</b>
Address: 539 S MAIN STREET		Phone: (253) 896-8731
City: FINDLAY State: OH Zip: 45840		Mobile: (425) 502-1616
Contact Person: Kyle Waldron	Email: KAWaldron@Marathonpetroleum.com	

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 10389

Initial Form 27 Document #: \_\_\_\_\_

#### PURPOSE INFORMATION

- |  |  |
|--|--|
| <input type="checkbox"/> 901.e. Sensitive Area Determination                                       | <input type="checkbox"/> 909.c.(5), Rule 910.b.(4): Remediation of impacted ground water                   |
| <input checked="" type="checkbox"/> 909.c.(1), Rule 905: Pit or PW vessel closure                  | <input type="checkbox"/> Rule 909.e.(2)A.: Notice completion of remediation in accordance with Rule 909.b. |
| <input checked="" type="checkbox"/> 909.c.(2), Rule 906: Spill/Release Remediation                 | <input type="checkbox"/> Rule 909.e.(2)B.: Closure of remediation project                                  |
| <input type="checkbox"/> 909.c.(3), Rule 907.e.: Land treatment of oily waste                      | <input type="checkbox"/> Rule 906.c.: Director request   |
| <input type="checkbox"/> 909.c.(4), Rule 908.g.: Centralized E&P Waste Management Facility closure | <input type="checkbox"/> Other _____   |

#### SITE INFORMATION

N Multiple Facilities ( in accordance with Rule 909.c. )

Facility Type: PIT	Facility ID: 449140	API #: _____	County Name: MOFFAT
Facility Name: Powder North CS South Pit	Latitude: 40.963472	Longitude: -108.310401	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NENE	Sec: 32	Twp: 12n	Range: 97w Meridian: 6 Sensitive Area? No

#### SITE CONDITIONS

General soil type - USCS Classifications ML

Most Sensitive Adjacent Land Use Rangeland

Is domestic water well within 1/4 mile? No

Is surface water within 1/4 mile? No

Is groundwater less than 20 feet below ground surface? No

Other Potential Receptors within 1/4 mile

# SITE INVESTIGATION PLAN

## TYPE OF WASTE:

☒ E&P Waste

☐ Other E&P Waste

☐ Non-E&P Waste

☒ Produced Water

☐ Workover Fluids

☐ Oil

☐ Tank Bottoms

☒ Condensate

☐ Pigging Waste

☐ Drilling Fluids

☐ Rig Wash

☐ Drill Cuttings

☐ Spent Filters

☐ Pit Bottoms

☐ Other (as described by EPA)

## DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	SOILS	70' by 40' by 32' bgs (estimated)	Soil Sampling

## INITIAL ACTION SUMMARY

Description of initial action or emergency response measures take to abate, investigate, and/or remediate impacts associated with E&P Waste.

Please refer to the eForm 27 submitted to the Colorado Oil and Gas Conservation Commission (COGCC) on May 18, 2017. In addition, a site summary/conceptual site model is included as an attachment.

## PROPOSED SAMPLING PLAN

### Proposed Soil Sampling

☐ Will soil samples be collected as part of this investigation? ( Number, type (grab/composite), analyses, and locations of samples ):

### Proposed Groundwater Sampling

☐ Will groundwater samples be collected as part of this investigation? ( Number, analyses, and locations of samples ):

### Proposed Surface Water Sampling

☐ Will surface water samples be collected as part of this investigation? ( Number, analyses, and locations of samples ):

### Additional Investigative Actions

☐ Additional alternative investigative actions described in attached Site Investigation Plan ( summary ):

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 12

Number of soil samples exceeding 910-1 12

Was the areal and vertical extent of soil contamination delineated? Yes

Approximate areal extent (square feet) 2800

### NA / ND

-- Highest concentration of TPH (mg/kg) 13051

-- Highest concentration of SAR 1.9

BTEX > 910-1 Yes

Vertical Extent > 910-1 (in feet) 36

### Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet) \

Number of groundwater monitoring wells installed

Number of groundwater samples exceeding 910-1

-- Highest concentration of Benzene (µg/l)

-- Highest concentration of Toluene (µg/l)

-- Highest concentration of Ethylbenzene (µg/l)

-- Highest concentration of Xylene (µg/l)

NA Highest concentration of Methane (mg/l)

### Surface Water

0 Number of surface water samples collected

Number of surface water samples exceeding 910-1

If surface water is impacted, other agency notification may be required.

## OTHER INVESTIGATION INFORMATION

☐ Were impacts to adjacent property or offsite impacts identified?

☐ Were background samples collected as part of this site investigation?

☐ Was investigation derived waste (IDW) generated as part of this investigation?

Volume of solid waste (cubic yards)

Volume of liquid waste (barrels)

☒ Is further site investigation required?

Additional soil borings will be advanced following additional remediation activities. See attached Conceptual Site Model.

# REMEDIAL ACTION PLAN

Does this Supplemental Form 27A include changes to a previously approved Remedial Action Plan? No \_\_\_\_\_

## **SOURCE REMOVAL SUMMARY**

Describe how source is to be removed.

Impacted material will be remediated in-situ and remediation success will be demonstrated through sample collection and laboratory analysis.

## **REMEDICATION SUMMARY**

Describe how remediation of existing impacts to soil and groundwater is to be accomplished (i.e. summarize remedial action plan). Provide a brief narrative description including: technical justification, schedule for implementation, estimated time to attain NFA status, plus plans and specifications for the selected remedial action technology.

The petroleum hydrocarbon impacts associated with the pit will be remediated in-situ using a solar powered soil vapor extraction (SVE) system. An SVE pilot test was conducted on site on May 23, 2016. Please refer to the supplemental eForm 27 submitted to the COGCC on May 18, 2017, for additional details regarding pilot test results and SVE well installation.

In July 2017, two additional SVE wells were installed at the site. In October 2018, one additional SVE well was installed to ensure SVE influence throughout the impacted zone. In November 2019, four additional SVE wells were installed to ensure influence throughout the impacted zone (impacted zone ~ 20' to 35' bgs). Drilling logs are included as an attachment. The well layout is included as a site figure.

The solar SVE system was installed and began operation on July 19, 2017. The solar SVE system consists of a five horsepower blower, a variable frequency drive, and 20 solar panels providing 6 kilowatts (kw) of power. Average system throughput flow throughout the day is 30 cubic feet per minute (cfm) at 75 inches of water vacuum. The stack is vented to the atmosphere, air emissions are reported to the CDPHE as an air pollution emission notice (APEN) to ensure compliance. The system is scheduled to operate for a two to three year period. Field operation and maintenance (O&M) activities include stack effluent air monitoring, maintaining equipment, and adjustments to the system to optimize efficiency. The updated air emissions table and graph are included as an attachment. To date approximately 6.9 tons of total volatile petroleum hydrocarbons have been removed by the SVE system.

## **Soil Remediation Summary**

☒ In Situ

No Bioremediation ( or enhanced bioremediation ) \_\_\_\_\_

No Chemical oxidation \_\_\_\_\_

Yes Air sparge / Soil vapor extraction \_\_\_\_\_

No Natural Attenuation \_\_\_\_\_

No Other \_\_\_\_\_

☐ Ex Situ

Excavate and offsite disposal \_\_\_\_\_

If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_

Name of Licensed Disposal Facility or COGCC Facility ID # \_\_\_\_\_

Excavate and onsite remediation \_\_\_\_\_

Land Treatment \_\_\_\_\_

Bioremediation (or enhanced bioremediation) \_\_\_\_\_

Chemical oxidation \_\_\_\_\_

Other \_\_\_\_\_

## **Groundwater Remediation Summary**

☐ Bioremediation ( or enhanced bioremediation ) \_\_\_\_\_

☐ Chemical oxidation \_\_\_\_\_

☐ Air sparge / Soil vapor extraction \_\_\_\_\_

☐ Natural Attenuation \_\_\_\_\_

☐ Other \_\_\_\_\_

## **GROUNDWATER MONITORING**

If groundwater has been impacted, describe proposed monitoring plan, including # of wells or sample points, monitoring schedule, analytical methods, points of compliance. Attach a groundwater monitoring location diagram.

## REMEDIATION PROGRESS UPDATE

### PERIODIC REPORTING

**Frequency:** ☐ Quarterly ☒ Semi-Annually ☐ Annually ☐ Other \_\_\_\_\_

**Report Type:** ☐ Groundwater Monitoring ☐ Land Treatment Progress Report ☒ O&M Report  
☐ Other \_\_\_\_\_

### WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? ☐ No \_\_\_\_\_

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

Volume of E&P Waste (solid) in cubic yards \_\_\_\_\_

E&P waste (solid) description \_\_\_\_\_

COGCC Disposal Facility ID #, if applicable: \_\_\_\_\_

Non-COGCC Disposal Facility: \_\_\_\_\_

Volume of E&P Waste (liquid) in barrels \_\_\_\_\_

E&P waste (liquid) description \_\_\_\_\_

COGCC Disposal Facility ID #, if applicable: \_\_\_\_\_

Non-COGCC Disposal Facility: \_\_\_\_\_

## REMEDIATION COMPLETION REPORT

### REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? ☐ No \_\_\_\_\_

Do all soils meet Table 910-1 standards? \_\_\_\_\_

Does the previous reply indicate consideration of background concentrations? \_\_\_\_\_

Are the only residual soil impacts pH, SAR, or EC at depths greater than 3 feet below ground surface? \_\_\_\_\_

Does Groundwater meet Table 910-1 standards? \_\_\_\_\_

Is additional groundwater monitoring to be conducted? \_\_\_\_\_

## RECLAMATION PLAN

### RECLAMATION PLANNING

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing.

Any disturbances associated with this project will be reclaimed to match preexisting grade. Site reclamation will be carried out when appropriate, based on productivity and plans for future development.

Is the described reclamation complete? ☐ No \_\_\_\_\_

Does the reclamation described herein constitute interim or final reclamation of the Oil and Gas Location?

☐ Interim? ☐ Final?

Did the Surface Owner approve the seed mix? \_\_\_\_\_

If NO, does the seed mix comply with local soil conservation district recommendations? \_\_\_\_\_

## IMPLEMENTATION SCHEDULE

### **PRIOR DATES**

Date of Surface Owner notification/consultation, if required. \_\_\_\_\_

Actual Spill or Release date, if known. \_\_\_\_\_

### **SITE INVESTIGATION DATES**

Date of Initial Actions described in Site Investigation Plan (start date). 11/05/2015

Date of commencement of Site Investigation. 11/05/2015

Date of completion of Site Investigation. 11/06/2015

### **REMEDIAL ACTION DATES**

Date of commencement of Remediation. 07/10/2017

Date of completion of Remediation. \_\_\_\_\_

### **SITE RECLAMATION DATES**

Date of commencement of Reclamation. \_\_\_\_\_

Date of completion of Reclamation. \_\_\_\_\_

**OPERATOR COMMENT**

Due to the lack of PAHs, metals, and inorganics a reduced analytical suite is requested for future soil sampling events to include BTEX, TPH-GRO, and TPH-DRO.

I hereby certify all statements made in this form are to the best of my knowledge true, correct, and complete.

Signed: ` Kyle Waldron \_\_\_\_\_

Title: Environmental Manager \_\_\_\_\_

Submit Date: ` \_\_\_\_\_

Email: KAWaldron@Marathonpetroleum.com \_\_\_\_\_

Based on the information provided herein, this Application for Site Investigation and Remediation Workplan complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: \_\_\_\_\_

Date: \_\_\_\_\_

Remediation Project Number: 10389 \_\_\_\_\_

**COA Type****Description**

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**Attachment Check List**

Upon approval, the approved Form 27 and all listed attachments will be indexed to the Remediation Project file. Only the approved Form 27 will also be indexed to the related Facilities.

**Att Doc Num****Name**

402308543	ANALYTICAL RESULTS
402308544	SOIL SAMPLE LOCATION MAP
402308545	LOGS
402308554	ANALYTICAL RESULTS
402308555	ANALYTICAL RESULTS
402308556	ANALYTICAL RESULTS
402327136	REMEDIATION PROGRESS REPORT
402327139	REMEDIATION PROGRESS REPORT
402327149	SITE INVESTIGATION REPORT

Total Attach: 9 Files

**General Comments****User Group****Comment****Comment Date**

		Stamp Upon Approval
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Total: 0 comment(s)