

# State of Colorado Oil and Gas Conservation Commission

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Receive Date:

01/20/2018

Report taken by:

PETER GINTAUTAS

## 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: <u>HOMESTEAD OIL INC</u>	Operator No: <u>41050</u>	<b>Phone Numbers</b>
Address: <u>16880 WILD PLUM CIRCLE</u>		Phone: <u>(303) 829-3176</u>
City: <u>MORRISON</u>	State: <u>CO</u>	Zip: <u>80465</u>
Contact Person: <u>Phil Wright</u>	Email: <u>philwrightdenver@gmail.com</u>	Mobile: <u>( )</u>

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 8307 Initial Form 27 Document #: 2148351

#### 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 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 type="checkbox"/> 909.c.(2), Rule 906: Spill/Release Remediation                            | <input checked="" 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 checked="" type="checkbox"/> Other <u>TANK BATTERY</u>  |

#### SITE INFORMATION

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

Facility Type: <u>LOCATION</u>	Facility ID: <u>319606</u>	API #: <u></u>	County Name: <u>WELD</u>
Facility Name: <u>STEPHENS-64N66W 15SWNW</u>		Latitude: <u>40.314245</u>	Longitude: <u>-104.769741</u>
		** correct Lat/Long if needed: Latitude: <u>40.313038</u>	Longitude: <u>-104.768340</u>
QtrQtr: <u>SWNW</u>	Sec: <u>15</u>	Twp: <u>4N</u>	Range: <u>66W</u>
		Meridian: <u>6</u>	Sensitive Area? <u>Yes</u>

#### SITE CONDITIONS

General soil type - USCS Classifications SP Most Sensitive Adjacent Land Use CROP LAND

Is domestic water well within 1/4 mile? Yes Is surface water within 1/4 mile? Yes

Is groundwater less than 20 feet below ground surface? Yes

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	GROUNDWATER	20 Ft x 60 Ft	Installed 8 monitoring wells
Yes	SOILS	8 ft x 8 ft	VISUAL

### INITIAL ACTION SUMMARY

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

REFER TO PREVIOUSLY FILLED FORM 19 FOR SAME API NUMBER (SPILL #2148350). Facility was abandoned after P&A of well.

### 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 ):

Refer to Site Investigation Report dated 9/1/14. Eight soil samples were collected via soil borings.

#### Proposed Groundwater Sampling

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

Refer to Site Investigation Report dated 9/1/14. Eight monitoring wells were installed and have been sampled approximately on a quarterly basis.

#### 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 8

Number of soil samples exceeding 910-1 1

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

Approximate areal extent (square feet) 64

### NA / ND

-- Highest concentration of TPH (mg/kg) 1618

NA Highest concentration of SAR

BTEX > 910-1 No

Vertical Extent > 910-1 (in feet) 16

### Groundwater

Number of groundwater samples collected 8

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet) 20'

Number of groundwater monitoring wells installed 8

Number of groundwater samples exceeding 910-1 2

-- Highest concentration of Benzene (µg/l) 2616

-- Highest concentration of Toluene (µg/l) 3751

-- Highest concentration of Ethylbenzene (µg/l) 4182

-- Highest concentration of Xylene (µg/l) 96434

NA Highest concentration of Methane (mg/l)

### Surface Water

0 Number of surface water samples collected

0 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?

## 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 soil removed via excavator and trucks. Residual ground water impacts removed via air sparging and soil vapor extraction.

### **REMEDIATION 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.

Since the soil consists of mostly sand, air sparging and soil vapor extraction (AS/SVE) was an effective remedial technology. Nine AS and four SVE wells were installed at the site to remediate residual impacts.

### **Soil Remediation Summary**

☒ **In Situ**

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

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

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

\_\_\_\_\_ Natural Attenuation

\_\_\_\_\_ Other \_\_\_\_\_

☐ **Ex Situ**

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

\_\_\_\_\_ If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 120

\_\_\_\_\_ 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

Yes \_\_\_\_\_ 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.

Refer to Site Investigation Report dated 9/1/14 and Ground Water Data and Closure Submittal dated 1/20/18. Eight monitoring wells have been used to monitor ground water remediation progress. These wells have now had four consecutive quarters of COGCC-compliant BTEX concentrations.

## REMEDATION 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? Yes

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

None

Volume of E&P Waste (solid) in cubic yards 120

E&P waste (solid) description Condensate impacted soil

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

Non-COGCC Disposal Facility: Waste Management Buffalo Ridge Landfill

Volume of E&P Waste (liquid) in barrels 0

E&P waste (liquid) description None

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

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

## REMEDATION COMPLETION REPORT

### REMEDATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? Yes

Do all soils meet Table 910-1 standards? Yes

Does the previous reply indicate consideration of background concentrations? Yes

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? Yes

Is additional groundwater monitoring to be conducted? No

## 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.

ALL EQUIPMENT REMOVED FROM TANK BATTERY SITE. SITE IS ~10 YDS X 30 YDS. SITE IS VERY LEVEL. COMPACTION AFTER WORK BY HEAVY EQUIPMENT. SEEDING WILL BE BY FARMER OR AS DIRECTED BY FARMER. LIKELY WILL BE WINTER WHEAT.

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? Yes

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

## IMPLEMENTATION SCHEDULE

### **PRIOR DATES**

Date of Surface Owner notification/consultation, if required. 03/24/2014

Actual Spill or Release date, if known. 03/24/2014

### **SITE INVESTIGATION DATES**

Date of Initial Actions described in Site Investigation Plan (start date). 03/24/2014

Date of commencement of Site Investigation. 03/24/2014

Date of completion of Site Investigation. 09/01/2014

### **REMEDIAL ACTION DATES**

Date of commencement of Remediation. 05/01/2014

Date of completion of Remediation. 01/12/2018

### **SITE RECLAMATION DATES**

Date of commencement of Reclamation. 04/01/2018

Date of completion of Reclamation. 04/01/2018

**OPERATOR COMMENT**

Homestead Oil Inc. requests Closure of this site since there have been four consecutive COGCC-compliant ground water sampling events.

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

Signed: Paul Henehan

Title: Engineer

Submit Date: 01/20/2018

Email: paulh@fremontenv.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: PETER GINTAUTAS

Date: 01/22/2018

Remediation Project Number: 8307

**COA Type****Description**

	Based on the information presented, it appears that no further action is necessary at this time and the COGCC approves the closure request. However, should future conditions at the site indicate contaminant concentrations in soils exceeding COGCC standards or if ground water is found to be impacted, then further investigation and/or further remediation activities may be required. In addition, the surface area disturbed by the remediation activity shall be reclaimed in accordance with the 1000 Series Reclamation Rules.
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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**

401520769	FORM 27-SUPPLEMENTAL-SUBMITTED
401520782	REMEDIAL ACTION PLAN
401520786	MONITORING REPORT
401520788	SITE INVESTIGATION REPORT

Total Attach: 4 Files

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

Environmental	added correct lat/long. remediation at site of tank battery which was not co-located with well it served	01/22/2018
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Total: 1 comment(s)