

# State of Colorado Oil and Gas Conservation Commission

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Document Number:

401677499

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: SRC ENERGY INC	Operator No: 10311	<b>Phone Numbers</b>
Address: 1675 BROADWAY SUITE 2600		Phone: (970) 4755220
City: DENVER State: CO Zip: 80202		Mobile: ( )
Contact Person: Dave Castro	Email: dcastro@srcenergy.com	

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 11146 Initial Form 27 Document #: 401587675

#### 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 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 type="checkbox"/> Other _____   |

#### SITE INFORMATION

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

Facility Type: TANK BATTERY	Facility ID: 305760	API #: _____	County Name: WELD
Facility Name: MCGLOTHLIN-66N66W 17NENE	Latitude: 40.494020	Longitude: -104.795390	
** correct Lat/Long if needed: Latitude: 40.494973		Longitude: -104.795655	
QtrQtr: NENE Sec: 17 Twp: 6N Range: 66W Meridian: 6	Sensitive Area? Yes		
Facility Type: TANK BATTERY	Facility ID: 305890	API #: _____	County Name: WELD
Facility Name: OPDKYE USX I 03-17TANK	Latitude: 40.521080	Longitude: -104.755780	
** correct Lat/Long if needed: Latitude: 40.521256		Longitude: -104.755951	
QtrQtr: NENE Sec: 3 Twp: 6N Range: 66W Meridian: 6	Sensitive Area? Yes		
Facility Type: TANK BATTERY	Facility ID: 310636	API #: _____	County Name: WELD
Facility Name: LINDBLAD 20-25	Latitude: 40.477130	Longitude: -104.806450	
** correct Lat/Long if needed: Latitude: 40.480442		Longitude: -104.803532	
QtrQtr: NENW Sec: 20 Twp: 6N Range: 66W Meridian: 6	Sensitive Area? Yes		

Facility Type: TANK BATTERY		Facility ID: 319091		API #:		County Name: WELD	
Facility Name: H D FEIT-66N66W 26SWNW				Latitude: 40.461180		Longitude: -104.751780	
** correct Lat/Long if needed: Latitude:				Longitude:			
QtrQtr: SWNW	Sec: 26	Twp: 6N	Range: 66W	Meridian: 6	Sensitive Area? Yes		

Facility Type: TANK BATTERY		Facility ID: 319553		API #:		County Name: WELD	
Facility Name: 146 COMPANY-66N66W 14SWNW				Latitude: 40.490183		Longitude: -104.751672	
** correct Lat/Long if needed: Latitude: 40.489752				Longitude: -104.751530			
QtrQtr: SWNW	Sec: 14	Twp: 6N	Range: 66W	Meridian: 6	Sensitive Area? Yes		

Facility Type: TANK BATTERY		Facility ID: 329322		API #:		County Name: WELD	
Facility Name: LUCERO-66N66W 34SENW				Latitude: 40.446667		Longitude: -104.766427	
** correct Lat/Long if needed: Latitude:				Longitude:			
QtrQtr: SENW	Sec: 34	Twp: 6N	Range: 66W	Meridian: 6	Sensitive Area? Yes		

Facility Type: TANK BATTERY		Facility ID: 446028		API #:		County Name: WELD	
Facility Name: Walker-Shands Tank Battery				Latitude:		Longitude:	
** correct Lat/Long if needed: Latitude: 40.494272				Longitude: -104.822178			
QtrQtr:	Sec:	Twp:	Range:	Meridian:	Sensitive Area? Yes		

## SITE CONDITIONS

General soil type - USCS Classifications SM 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

various

# 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
No	SOILS	0	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.

The partially buried produced water vaults at these tank batteries will be removed.

## 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 ):

There are two adjacent vaults at the Lindblad TB that will have 1 large pit left behind, 3 adjacent vaults at the McGlothlin 17-11 TB that will have 1 large pit left behind, and only 1 vault at each of the remaining 5 tank battery locations on this form. All 7 pits will have soil samples collected from 2.5' below the ground surface as well as from the pit bottoms. Soil samples will be sent to Origins Laboratory in Denver for Table 910-1 analyses.

### 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 8

Number of soil samples exceeding 910-1 0

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

Approximate areal extent (square feet) 0

### NA / ND

-- Highest concentration of TPH (mg/kg) 0.697

-- Highest concentration of SAR 1.11

BTEX > 910-1 No

Vertical Extent > 910-1 (in feet) 0

### Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet) 0

Number of groundwater monitoring wells installed 0

Number of groundwater samples exceeding 910-1 0

Highest concentration of Benzene (µg/l) 0

Highest concentration of Toluene (µg/l) 0

Highest concentration of Ethylbenzene (µg/l) 0

Highest concentration of Xylene (µg/l) 0

Highest concentration of Methane (mg/l) 0

### 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) 0

Volume of liquid waste (barrels) 0

☐ 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.

Partially buried produced water vaults have been removed by RamCo or Unlimited.

## 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.

Results are within Table 910-1 standards.

## Soil Remediation Summary

### ☐ In Situ

\_\_\_\_\_ Bioremediation ( or enhanced bioremediation )  
\_\_\_\_\_ Chemical oxidation  
\_\_\_\_\_ Air sparge / Soil vapor extraction  
\_\_\_\_\_ Natural Attenuation  
\_\_\_\_\_ 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.

## 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? \_\_\_\_\_

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: \_\_\_\_\_

## 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? No \_\_\_\_\_

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.

McGlothlin, 146 Company, Opdyke, and Walker-Shands pits have been backfilled.

Is the described reclamation complete? Yes \_\_\_\_\_

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). 03/27/2018

Date of commencement of Site Investigation. \_\_\_\_\_

Date of completion of Site Investigation. 05/23/2018

### **REMEDIAL ACTION DATES**

Date of commencement of Remediation. \_\_\_\_\_

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

### **SITE RECLAMATION DATES**

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

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

**OPERATOR COMMENT**

This SF27 is for the closure of the partially buried produced water vault pits at the 146 Company, McGlothlin, Opdyke, and Walker-Shands tank batteries. All soil samples collected from the pits are within Table 910-1 standards. Soil sample location maps and sample results lab reports are attached with this document. Lucero pit was submitted for closure on IF27 document 401676082, Lindblad pit was approved for closure on SF27 document 401594996, and the Feit HD will have its own IF27 submitted to continue under a separate remediation project number.

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

Signed: ` Dave Castro

Title: Sr. Env. Specialist

Submit Date: `

Email: dcastro@srcenergy.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: 11146

**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**

401677506	SOIL SAMPLE LOCATION MAP
401677508	ANALYTICAL RESULTS
401677509	SOIL SAMPLE LOCATION MAP
401677511	ANALYTICAL RESULTS
401677512	SOIL SAMPLE LOCATION MAP
401677513	ANALYTICAL RESULTS
401677514	SOIL SAMPLE LOCATION MAP
401677516	ANALYTICAL RESULTS

Total Attach: 8 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)