

**State of Colorado  
Oil and Gas Conservation Commission**

1120 Lincoln Street, Suite 801, Denver, Colorado 80203

Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:

401897317

Receive Date:

Report taken by:

**Site Investigation and Remediation Workplan (Initial 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
Contact Person: Dave Castro	Email: dcastro@srcenergy.com	Mobile: ( )

**PROJECT, PURPOSE & SITE INFORMATION****PROJECT INFORMATION**

Remediation Project #: Initial Form 27 Document #: 401897317

**PURPOSE INFORMATION**

- |  |  |
|--|--|
| <input type="checkbox"/> 901.e. Sensitive Area Determination                                       | <input checked="" 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 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: SPILL OR RELEASE	Facility ID: 323373	API #:	County Name: WELD
Facility Name: SULLIVAN-66N66W 3SEnw	Latitude: 40.519183	Longitude: -104.767809	
	** correct Lat/Long if needed: Latitude: 40.519461	Longitude: -104.767825	
QtrQtr: SENW	Sec: 3	Twp: 6N	Range: 66W
Meridian: 6	Sensitive Area? Yes		

**SITE CONDITIONS**

General soil type - USCS Classifications SM Most Sensitive Adjacent Land Use cropland

Is domestic water well within 1/4 mile? No 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**

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# 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	< 25' x 30'	sampling
Yes	SOILS	< 25' x 30'	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.

See documents for Spill ID 451307, as well as the site assessment report completed for the spill under the location's previous operator attached to this document.

## 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 ):

See the site assessment report completed for the spill under the location's previous operator attached to this document. If BH06's condition is good enough to collect a water sample, another soil sample next to BH06 will be collected using hand auger from the 4-6' bgs depth where 1/31/18 sample results show an elevated Benzene result. IF BH06 is not condition for groundwater sampling, a new MW will be installed and soil boring testing and sampling will take place. The new sample will be tested for BTEX, DRO, and GRO at Origins Laboratory. This will be done in 2019Q1.

### Proposed Groundwater Sampling

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

See the site assessment report completed for the spill under the location's previous operator attached to this document. If the 6 MWs are still in condition to be sampled, SRC will have Tasman collect a groundwater from all 6 in January 2019 and have the samples tested for BTEX at Origins Laboratory. If any of the MWs are not in condition for sampling, Tasman will install replacement MWs where needed, then do the above sampling. This will be done in 2019Q1.

### 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 ):

Pending results from 2019Q1 proposed sampling mentioned above.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 6  
Number of soil samples exceeding 910-1 1  
Was the areal and vertical extent of soil contamination delineated? Yes  
Approximate areal extent (square feet) 750

### NA / ND

-- Highest concentration of TPH (mg/kg) 301  
NA Highest concentration of SAR           
BTEX > 910-1 Yes  
Vertical Extent > 910-1 (in feet) 6

### Groundwater

Number of groundwater samples collected 6  
Was extent of groundwater contaminated delineated? Yes  
Depth to groundwater (below ground surface, in feet) 7'  
Number of groundwater monitoring wells installed 6  
Number of groundwater samples exceeding 910-1 1

-- Highest concentration of Benzene (µg/l) 62  
ND Highest concentration of Toluene (µg/l)           
-- Highest concentration of Ethylbenzene (µg/l) 5  
-- Highest concentration of Xylene (µg/l) 7.3  
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) 20 Volume of liquid waste (barrels) 0

☒ Is further site investigation required?

2019Q1 soil and groundwater sampling for site re-assessment under new operator of remediation project.

# REMEDIAL ACTION PLAN

## SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

See the site assessment report completed for the spill under the location's previous operator attached to this document.

## 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.

Pending 2019Q1 site re-assessment results.

## Soil Remediation Summary

☐ In Situ

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

☒ Ex Situ

Yes \_\_\_\_\_ Excavate and offsite disposal  
If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 20  
Name of Licensed Disposal Facility or COGCC Facility ID # \_\_\_\_\_  
No \_\_\_\_\_ 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.

Pending 2019Q1 re-assessment, the 6 MWs will be sampled quarterly until 4 consecutive quarters of Table 910-1 compliance has been achieved.

## 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: \_\_\_\_\_

## 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.

Pending remediation project completion.

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

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). 01/23/2017

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

Date of completion of Site Investigation. \_\_\_\_\_

### 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 IF27 to advise that SRC Energy is taking on the remediation project at this site for Spill 451307, which is under the location's previous operator.

Attached to this document is a site assessment report completed by Tasman Geosciences for the previous operator. SRC plans to move forward with the proposed soil and groundwater sampling mentioned above in 2019Q1 to continue progress on this remediation.

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: \_\_\_\_\_

**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**

401897377	SITE INVESTIGATION REPORT
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Total Attach: 1 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)