

# 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:

401765600

Receive Date:

09/17/2018

Report taken by:

RICK ALLISON

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

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 11432Initial Form 27 Document #: 401662660

#### 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 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: <u>LOCATION</u>	Facility ID: <u>305592</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>STATE M-66N67W 36NESE</u>		Latitude: <u>40.442710</u>	Longitude: <u>-104.833300</u>
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NESE</u>	Sec: <u>36</u>	Twp: <u>6N</u>	Range: <u>67W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

#### SITE CONDITIONS

General soil type - USCS Classifications GCMost Sensitive Adjacent Land Use crop landIs domestic water well within 1/4 mile? NoIs surface water within 1/4 mile? YesIs groundwater less than 20 feet below ground surface? Yes

Other Potential Receptors within 1/4 mile

## SITE INVESTIGATION PLAN

### TYPE OF WASTE:

- |  |  |  |
|--|--|--|
| <input checked="" type="checkbox"/> E&P Waste      | <input type="checkbox"/> Other E&P Waste             | <input type="checkbox"/> Non-E&P Waste |
| <input checked="" type="checkbox"/> Produced Water | <input type="checkbox"/> Workover Fluids             |  |
| <input checked="" type="checkbox"/> Oil            | <input type="checkbox"/> Tank Bottoms                |  |
| <input type="checkbox"/> Condensate                | <input type="checkbox"/> Pigging Waste               |  |
| <input type="checkbox"/> Drilling Fluids           | <input type="checkbox"/> Rig Wash                    |  |
| <input type="checkbox"/> Drill Cuttings            | <input type="checkbox"/> Spent Filters               |  |
|  | <input type="checkbox"/> Pit Bottoms                 |  |
|  | <input type="checkbox"/> Other (as described by EPA) |  |

### DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	GROUNDWATER	TBD	sampling
Yes	SOILS	defined on attached figure	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.

As part of SRC's vertical P&A program, this location is on the list for P&A, demo, and reclamation this year. At the request of Noble Midstream, SRC is expediting this so that Noble Midstream can bore new pipelines under the location to go under the nearby river. During communications with Noble Midstream, as well as their upstream environmental group, it was brought to our attention that there was known contamination under the location due to a historical flowline leak, which they reported to COGCC and is Spill ID 447962, per the approved Supplemental Form 19 document number 401137769, provided to SRC by Noble Energy's environmental group. Noble and Tasman Geosciences also provided existing borehole soil and groundwater data from their investigation before SRC acquired the location. With this information, SRC decided that excavation and removal of the contaminated soil would be the quickest and most effective means of moving forward with site remediation and reclamation. On 5/10/18 and 5/11/18, SRC excavated an area approximately 60' x 90' to a depth of approximately 5-6', down to the top of the water table. Soil samples were collected from the 4 corners of the excavation at depth and tested for DRO, GRO, and BTEX. Groundwater samples were also collected from 5 locations within the excavation and tested for BTEX. The excavation was then backfilled with clean dirt hauled in and is currently sitting untouched with all equipment removed while Noble Midstream completes their boring operations under the location.

### 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 ):

Soil samples will be collected at depth from the proposed 9 new boreholes and tested for DRO, GRO, and BTEX. See attached site figure.

#### Proposed Groundwater Sampling

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

Groundwater samples will be collected at depth from the proposed 9 new boreholes and tested for BTEX. See attached site figure.

#### 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 ):

Any further investigation actions will be dependent on the soil and groundwater results from the proposed 9 new boreholes on the attached site figure.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 14  
Number of soil samples exceeding 910-1 4  
Was the areal and vertical extent of soil contamination delineated? Yes  
Approximate areal extent (square feet) 20000

### NA / ND

-- Highest concentration of TPH (mg/kg) 600  
NA Highest concentration of SAR           
BTEX > 910-1 Yes  
Vertical Extent > 910-1 (in feet) 6

### Groundwater

Number of groundwater samples collected 15  
Was extent of groundwater contaminated delineated? No  
Depth to groundwater (below ground surface, in feet) 6'  
Number of groundwater monitoring wells installed 10  
Number of groundwater samples exceeding 910-1 5

-- Highest concentration of Benzene (µg/l) 4100  
-- Highest concentration of Toluene (µg/l) 120  
-- Highest concentration of Ethylbenzene (µg/l) 710  
-- Highest concentration of Xylene (µg/l) 7500  
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) 1300      Volume of liquid waste (barrels) 0

☒ Is further site investigation required?

Tasman and SRC propose the installation of 9 new monitoring wells at the site. 3 of the new monitoring wells will be to replace ones that were destroyed during excavation and removal operations of contaminated soil. The other 6 are strategically chosen to define groundwater impact extents based on existing data from the site. All of the existing monitoring wells were destroyed either during excavation of the contaminated soil, or recent final reclamation work at the location.

# 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.

Flowlines, tanks, 2 partially buried produced water vaults, separator, meterhouse have all been removed from the site.

## 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.

Contaminated soil was excavated and hauled to North Weld Landfill. During excavation, Microblaze was dumped into the groundwater that was exposed and pooled, before backfilling operations began. Tasman and SRC propose to install 9 new monitoring wells to better define the extents and concentration of groundwater impact, based on existing data. Tasman has this work scheduled for 9/27/18 and 9/28/18.

## 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) \_\_\_\_\_ 1300  
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

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

Since all of the existing monitoring wells at the site are now destroyed, Tasman and SRC propose the installation of 9 new monitoring wells at the site to test for BTEX in an attempt to better define the extents of groundwater impact. Once extents and current impact concentrations are known, a supplemental form 27 will be submitted with a remediation and/or monitoring plan moving forward. It is possible more monitoring wells may need to be installed to define impact extents after these initial 9 new ones have been sampled and results received.

## 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:

taken to landfill

Volume of E&P Waste (solid) in cubic yards \_\_\_\_\_ 1300

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

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

Non-COGCC Disposal Facility: \_\_\_\_\_ North Weld Landfill

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

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? 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.

Noble Midstream has completed their boring operations under the site and SRC's reclamation group has final reclamation of the location in progress. Tasman has scheduled the installation of 9 new monitoring wells at the project site for 9/27/18 and 9/28/18.

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. \_\_\_\_\_

Actual Spill or Release date, if known. 10/05/2016

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 10/06/2016

Date of commencement of Site Investigation. 05/10/2018

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

### REMEDIAL ACTION DATES

Date of commencement of Remediation. 05/10/2018

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

### SITE RECLAMATION DATES

Date of commencement of Reclamation. 09/13/2018

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

### OPERATOR COMMENT

This Supplemental Form 27 is to update and get approval on the change in proposed groundwater impact extent investigation plan. Between contaminated soil excavation and more recent final reclamation work, all of the existing monitoring wells at the site have been destroyed. Tasman and SRC propose the installation of the 9 new monitoring wells shown on the attached figure to begin defining the extents of the impacted groundwater. If more monitoring wells are needed, we will move forward installing more as needed to complete the extent investigation.

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: 09/17/2018

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: RICK ALLISON

Date: 09/20/2018

Remediation Project Number: 11432

### 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

401765600	FORM 27-SUPPLEMENTAL-SUBMITTED
401765638	SITE INVESTIGATION PLAN

Total Attach: 2 Files

## General Comments

### User Group

### Comment

### Comment Date

		Stamp Upon Approval
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Total: 0 comment(s)