

State of Colorado  
Oil and Gas Conservation Commission

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Document Number:  
402143603  
Receive Date:  
08/14/2019

Report taken by:  
Candice (Nikki) Graber

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 INFORMATON

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: David Castro	Email: dcastro@srcenergy.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 13978 Initial Form 27 Document #: 402143603

PURPOSE INFORMATION

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

SITE INFORMATION

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

Facility Type: SPILL OR RELEASE	Facility ID: 466613	API #: _____	County Name: WELD
Facility Name: Warren McMillan 2 Historic Spill	Latitude: 40.293236	Longitude: -104.711610	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSW	Sec: 19	Twp: 4N	Range: 65W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SM Most Sensitive Adjacent Land Use crop  
 Is domestic water well within 1/4 mile? Yes Is surface water within 1/4 mile? No  
 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	TBD	sampling
Yes	SOILS	TBD	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.

During production facility demo and equipment removal, Unlimited Service's roustabout crew observed potential contamination near the separator dump line riser. The soil of concern was sampled and analyzed for BTEX, DRO, and GRO. Results were not within Table 910-1 limits. SRC and Unlimited are in the process of impacted soil extent determination and removal. Groundwater was encountered at approximately 8.5' below ground surface. A groundwater sample was collected and analyzed for BTEX. Those results were also not Table 910-1 compliant. Approximately 240 bbls of impacted groundwater mixed with pivot irrigation water have been removed from the excavation to this point.

## 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 ):

SRC and Unlimited are in the process of impacted soil extent determination and removal. Sidewall soil samples will be collected at depth around the excavation and analyzed for BTEX, DRO, and GRO to confirm excavation points of compliance.

### Proposed Groundwater Sampling

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

An array of MWs will be proposed on an SF27 once impacted soil extents have been determined, more groundwater removed from the excavation, a yet-to-be determined amount of groundwater amendment applied to the excavation, and the excavation backfilled.

### 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 ):

Continued impacted soil extent determination, followed by impacted groundwater extent determination once the excavation is backfilled.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 2  
Number of soil samples exceeding 910-1 1  
Was the areal and vertical extent of soil contamination delineated? No  
Approximate areal extent (square feet) 1000

### NA / ND

-- Highest concentration of TPH (mg/kg) 1018  
NA Highest concentration of SAR           
BTEX > 910-1 Yes  
Vertical Extent > 910-1 (in feet) 9

### Groundwater

Number of groundwater samples collected 1  
Was extent of groundwater contaminated delineated? No  
Depth to groundwater (below ground surface, in feet) 9'  
Number of groundwater monitoring wells installed 0  
Number of groundwater samples exceeding 910-1 1

-- Highest concentration of Benzene (µg/l) 107  
-- Highest concentration of Toluene (µg/l) 11.1  
-- Highest concentration of Ethylbenzene (µg/l) 180  
-- Highest concentration of Xylene (µg/l) 667  
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) 150      Volume of liquid waste (barrels) 240

Is further site investigation required?

impacted soil and groundwater extent determination

# REMEDIAL ACTION PLAN

## SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

Well has been plugged and equipment removed.

## 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.

Once impacted soil extents have been determined, SRC plans to remove more groundwater (mixed with pivot irrigation water) from the excavation, then apply groundwater amendment to the excavation before backfilling.

## Soil Remediation Summary

In Situ

Ex Situ

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

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

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

\_\_\_\_\_ If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 150

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

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

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

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

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

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

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

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

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

## Groundwater Remediation Summary

Bioremediation ( or enhanced bioremediation )

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

Air sparge / Soil vapor extraction

Natural Attenuation

Yes \_\_\_\_\_ Other \_\_\_\_\_ removal

## 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.

A proposed MW plan will be submitted on an SF27, with a full summary of impacted soil extent determination and removal, groundwater removal, and groundwater amendment applicaiton.

# 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? 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 \_\_\_\_\_ 150

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 \_\_\_\_\_ 240

E&P waste (liquid) description impacted groundwater mixed with irrigation pivot water

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

Non-COGCC Disposal Facility: CSI Bennett

## 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.

Once impacted soil removal and backfill has been completed, the site will be reclaimed.

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). \_\_\_\_\_

Date of commencement of Site Investigation. 07/30/2019

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 is to begin the impacted soil and groundwater spill remediation project in order to submit the related SF19 for spill closure to continue under this remediation project. Impacted soil extent determination and removal is ongoing. A proposed MW plan will be submitted on an SF27, with a full summary of impacted soil extent determination and removal, groundwater removal, and groundwater amendment applicaiton.

It is also to advise that SRC is considering putting work at the site on hold until the farmer shuts down the pivot to begin corn harvest. The lease road and location are within the pivot circle and the farmer will not stop the pivot. It slowly walks the full circle and passes over the location about every 3 days. This is making the soil impact investigation very difficult and keeps raising the water level in the excavation.

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

Signed: ` David Castro \_\_\_\_\_

Title: Sr. Env. Specialist \_\_\_\_\_

Submit Date: ` 08/14/2019 \_\_\_\_\_

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: Candice (Nikki) Graber \_\_\_\_\_

Date: 08/15/2019 \_\_\_\_\_

Remediation Project Number: 13978 \_\_\_\_\_

**COA Type****Description**

	Per correspondence with the Operator the landowner will continue to irrigate the adjacent area until the end of September, 2019. Additional site investigation and remediation will be paused until that time. Operator shall notify COGCC EPS personnel no less than 72 hours prior to resuming work at the site. If access restrictions continue Operator shall contact area EPS to discuss a new timeline.
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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**

402143603	FORM 27-INITIAL-SUBMITTED
402143635	ANALYTICAL RESULTS
402143636	ANALYTICAL RESULTS

Total Attach: 3 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)