

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:

401801324

Receive Date:

10/18/2018

Report taken by:

RICK ALLISON

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: <u>SRC ENERGY INC</u>		Operator No: <u>10311</u>	Phone Numbers
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 #: 11996 Initial Form 27 Document #: 401801324

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 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: <u>TANK BATTERY</u>	Facility ID: <u>310464</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>HAYTHORN E-66N65W 7NENW</u>		Latitude: <u>40.508272</u>	Longitude: <u>-104.709106</u>
		** correct Lat/Long if needed: Latitude: _____	Longitude: _____
QtrQtr: <u>NENW</u>	Sec: <u>7</u>	Twp: <u>6N</u>	Range: <u>65W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>
Facility Type: <u>TANK BATTERY</u>	Facility ID: <u>310650</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>KOCHERT-66N66W 18SWNW</u>		Latitude: <u>40.489070</u>	Longitude: <u>-104.829740</u>
		** correct Lat/Long if needed: Latitude: _____	Longitude: _____
QtrQtr: <u>SWNW</u>	Sec: <u>18</u>	Twp: <u>6N</u>	Range: <u>66W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>
Facility Type: <u>TANK BATTERY</u>	Facility ID: <u>319063</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>HARRINGTON-66N66W 30NENW</u>		Latitude: <u>40.464087</u>	Longitude: <u>-104.823391</u>
		** correct Lat/Long if needed: Latitude: _____	Longitude: _____
QtrQtr: <u>NENW</u>	Sec: <u>30</u>	Twp: <u>6N</u>	Range: <u>66W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: TANK BATTERY		Facility ID: 322582		API #:		County Name: WELD	
Facility Name: MONFORT-66N66W 25SWSE				Latitude: 40.453784		Longitude: -104.723531	
** correct Lat/Long if needed: Latitude:				Longitude:			
QtrQtr: SWSE	Sec: 25	Twp: 6N	Range: 66W	Meridian: 6	Sensitive Area? Yes		

Facility Type: TANK BATTERY		Facility ID: 323507		API #:		County Name: WELD	
Facility Name: BITTERROOT-66N65W 18SESW				Latitude: 40.482746		Longitude: -104.708800	
** correct Lat/Long if needed: Latitude:				Longitude:			
QtrQtr: SESW	Sec: 18	Twp: 6N	Range: 65W	Meridian: 6	Sensitive Area? Yes		

Facility Type: TANK BATTERY		Facility ID: 327324		API #:		County Name: WELD	
Facility Name: CLARENCE-66N65W 18SWSW				Latitude: 40.482831		Longitude: -104.713536	
** correct Lat/Long if needed: Latitude:				Longitude:			
QtrQtr: SWSW	Sec: 18	Twp: 6N	Range: 65W	Meridian: 6	Sensitive Area? Yes		

Facility Type: TANK BATTERY		Facility ID: 436480		API #:		County Name: WELD	
Facility Name: BARNEY-66N66W 23SESW				Latitude: 40.467290		Longitude: -104.748920	
** correct Lat/Long if needed: Latitude:				Longitude:			
QtrQtr: SESW	Sec: 23	Twp: 6N	Range: 66W	Meridian: 6	Sensitive Area? Yes		

Facility Type: TANK BATTERY		Facility ID: 447187		API #:		County Name: WELD	
Facility Name: CHRISTIANSEN-66N67W 35SENE				Latitude: 40.444521		Longitude: -104.855381	
** correct Lat/Long if needed: Latitude:				Longitude:			
QtrQtr: SENE	Sec: 35	Twp: 6N	Range: 67W	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? 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
UNDETERMINED	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.

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):

Each tank battery only has 1 partially buried produced water vault, except for the Barney TB which has 3 next to each other. Each pit will have grab soil samples collected from the 4 cardinal directions 2.5' below the ground surface on the side walls, as well as from the pit bottom. The sidewall samples will be field screened in a 1-gallon clear plastic ziplock bag with a PID and the highest reading of the 4 will be sent to the lab for analysis, along with the pit bottom grab sample. Soil samples will be sent to Origins Laboratory in Denver for DRO/GRO/BTEX (sidewall and pit bottom) and EC/pH/SAR (sidewall only) analyses.

Proposed Groundwater Sampling

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

It is not anticipated that the bottom of the open pits left behind by the removal of the partially buried produced water vaults will interact with groundwater. However, if it is found that is the case at any pit, a groundwater grab sample will be collected and submitted to Origins Laboratory for BTEX analysis.

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 _____ 0

Number of soil samples exceeding 910-1 _____

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

Approximate areal extent (square feet) _____

NA / ND

_____ Highest concentration of TPH (mg/kg) _____

_____ Highest concentration of SAR _____

_____ BTEX > 910-1 _____

_____ Vertical Extent > 910-1 (in feet) _____

Groundwater

Number of groundwater samples collected _____ 0

Was extent of groundwater contaminated delineated? No _____

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

Number of groundwater monitoring wells installed _____

Number of groundwater samples exceeding 910-1 _____

_____ Highest concentration of Benzene (µg/l) _____

_____ Highest concentration of Toluene (µg/l) _____

_____ Highest concentration of Ethylbenzene (µg/l) _____

_____ Highest concentration of Xylene (µg/l) _____

_____ 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) _____

Volume of liquid waste (barrels) _____

☐ Is further site investigation required?

REMEDIAL ACTION PLAN

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

Partially buried produced water vaults will be 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.

Any remediation action, if any, is dependent on pit soil sample analysis results from the lab. If lab results show no impacts, the pits will be backfilled. If lab results show any impact, it will trigger an assessment of impact extent for the respective location(s).

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: _____

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.

If the soil results come back from the lab within Table 910-1 standards, the pit(s) will be backfilled.

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). 10/18/2018

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 Initial Form 27 is for the removal and site investigation of 10 partially buried produced water vaults at the 8 listed tank battery locations. The vaults have all not yet been removed and the 10 pits that will be left behind will have the previously mentioned soil samples collected once they are removed. We hope to have this done within the next month, as our contractor's schedules allows.

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: ` 10/18/2018 _____

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: 10/29/2018 _____

Remediation Project Number: 11996 _____

COA Type**Description**

	If groundwater is encountered during the investigation, characterization of the vadose zone is still required by submitting soil samples from the unsaturated zone for laboratory analysis.
	Operator shall provide the Latitude and Longitude of the produced water vessel location (s) when submitting the Form 27 Supplemental Site Investigation.

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**

401801324	FORM 27-INITIAL-SUBMITTED
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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)