

State of Colorado Oil and Gas Conservation Commission

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Document Number:

401662660

Receive Date:

06/05/2018

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

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 11432

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

SITE CONDITIONS

General soil type - USCS Classifications GC

Most Sensitive Adjacent Land Use crop land

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

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 7 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 7 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 7 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 7 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 4 are strategically chosen to define groundwater impact extents based on existing data from the site.

REMEDIAL ACTION PLAN

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 7 new monitoring wells to better define the extents and concentration of groundwater impact, based on existing data. Tasman will schedule this work as soon as Noble Midstream has completed boring operations underneath the site, and SRC's reclamation group has completed reclamation operations at the site.

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.

Tasman and SRC propose the installation of 7 new monitoring wells, making a total of 10 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 7 new ones have been sampled and results received.

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:

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: _____

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.

After Noble Midstream is finished with boring operations under the site, SRC's reclamation group will move forward with final reclamation of the site, and then Tasman will schedule the proposed monitoring well installation and sampling work.

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. _____

Date of completion of Reclamation. _____

OPERATOR COMMENT

This Initial Form 27 is for SRC to continue further historical spill impact extent assessment, remediation, and monitoring at the State M 36 location. SRC has retained Tasman Geosciences to continue the investigation work that was done by them under Noble's discretion prior to SRC's acquisition of the location. Site figure with destroyed, existing, and proposed MW locations, SRC excavation extents, SRC soil and groundwater sample locations, all results , and SRC sample lab reports are attached with this document.

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: ` 06/05/2018

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: 06/15/2018

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**

401662660	FORM 27-INITIAL-SUBMITTED
401662818	ANALYTICAL RESULTS
401662820	ANALYTICAL RESULTS
401662822	SITE INVESTIGATION PLAN

Total Attach: 4 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)