

State of Colorado
Energy & Carbon Management Commission1120 Lincoln Street, Suite 801, Denver, Colorado 80203
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403770794

Receive Date:

04/26/2024

Report taken by:

Krystal Heibel

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 ECMC 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.

Closure request is not available for an Initial Site Investigation and Remediation Workplan.

OPERATOR INFORMATION

| | | |
|--|------------------------------|------------------------|
| Name of Operator: SMITH ENERGY CORP | Operator No: 70385 | Phone Numbers |
| Address: 12706 SHILOH RD | | Phone: (303) 894-2100 |
| City: GREELEY | State: CO | Zip: 80631 |
| Contact Person: James Hix - East OWP EPS | Email: james.hix@state.co.us | Mobile: (303) 905-5341 |

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 27619 Initial Form 27 Document #: 403303991

PURPOSE INFORMATION

- ☒ Rule 913.c.(1): Pit or Cuttings Trench closure.
- ☐ Rule 913.c.(2): Buried or partially buried vessel closure, which will be by removal.
- ☒ Rule 913.c.(3): Remediation of Spill and Releases pursuant to Rule 912.
- ☐ Rule 913.c.(4): Land treatment of Oily Waste pursuant to Rule 905.e.
- ☐ Rule 913.c.(5): Closure of Centralized E&P Waste Management Facilities pursuant to Rule 907.h.
- ☐ Rule 913.c.(6): Remediation of impacted Groundwater pursuant to Rule 915.e.(3).D, and the contaminant concentrations in Table 915-1.
- ☐ Rule 913.c.(7): Investigation and remediation of natural gas in soil or Groundwater.
- ☐ Rule 913.c.(8): When requested by the Director due to any potential risk to soil, Groundwater, or surface water.
- ☒ Rule 913.c.(9): Decommissioning of Oil and Gas Facilities.
- ☐ Rule 913.g: Changes of Operator.
- ☐ Rule 915.b: Request to leave elevated inorganics in situ.
- ☐ Other: _____

SITE INFORMATION

Yes Multiple Facilities

| | | | |
|--|---------------------|------------------------|--|
| Facility Type: PIT | Facility ID: 263347 | API #: _____ | County Name: WELD |
| Facility Name: TILLIE 1-3 | Latitude: 40.608487 | Longitude: -103.626927 | |
| ** correct Lat/Long if needed: Latitude: _____ | | Longitude: _____ | |
| QtrQtr: NWNE | Sec: 3 | Twp: 7N | Range: 56W Meridian: 6 Sensitive Area? Yes |

| | | | |
|--|---------------------|------------------------|--|
| Facility Type: LOCATION | Facility ID: 331254 | API #: _____ | County Name: WELD |
| Facility Name: TILLIE-67N56W 3NWNE | Latitude: 40.608507 | Longitude: -103.626967 | |
| ** correct Lat/Long if needed: Latitude: _____ | | Longitude: _____ | |
| QtrQtr: NWNE | Sec: 3 | Twp: 7N | Range: 56W Meridian: 6 Sensitive Area? Yes |

SITE CONDITIONS

General soil type - USCS Classifications ML _____

Most Sensitive Adjacent Land Use Rangeland/
dryland
agriculture _____

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

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

No DWR Permitted Water Wells w/in 1/4-mile; nearest DWR Permitted Well ~1840 ft NE [DWR Permit #43010, Use: Domestic (1970), Perf Casing = 17.5 ft to 102 ft; Static Water Level = 17 ft, TD = 102 ft, at ~20 ft lower elevation]; a windmill and ponds are shown on the USGS Stoneham 7.5 minute quadrangle Map ~1840 ft NNE; No surface water within 1/4-mile; NWI Mapped Wetlands = Other (deflation basin or pond ~3020 ft E; Residential Building Unit (RBU) across State Hwy 14 ~865 ft NE,

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 | GROUNDWATER | UNKNOWN | VISUAL, FIELD SCREENING, ANALYTICAL |
| UNDETERMINED | SOILS | UNKNOWN | VISUAL, FIELD SCREENING, ANALYTICAL |

INITIAL ACTION SUMMARY

Description of initial action or emergency response measures taken to abate, investigate, and/or remediate impacts associated with E&P Waste.

No initial actions or emergency response measures were implemented at the location. The ECMC Orphan Well Program decommissioned the tank battery and flowlines associated with the Tillie 1-3 (OWP) well. Civitas/Extraction Oil & Gas will be plugging and abandoning the Tillie #1-3 oil and gas well as part of a public project. Cut and cap soil samples will be collected in accordance with ECMC Rule 915.e(2)B. Samples will be submitted for laboratory analysis of Table 915-1 constituents.

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):

Grab soil samples will be collected from areas most likely to exhibit E&P Waste impacts. Soil samples will be submitted for analysis of Table 915-1 parameters including organic compounds (TPH ranges C6-C36; BTEX; 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Naphthalene, PAH) and inorganic compounds (metals, soil suitability for reclamation).

Proposed Groundwater Sampling

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

Groundwater was not encountered in the excavations during the initial investigation. A site investigation will be performed to delineate the lateral and vertical extents of E&P Waste impacts. Installation of soil borings completed groundwater monitoring wells is warranted. If encountered in sufficient quantity to enable sample collection, a grab groundwater sample or samples will be collected and submitted for analysis of organic compounds (BTEX; Naphthalene; 1,2,4-Trimethylbenzene; 1,3,5-Trimethylbenzene) and inorganic parameters (total dissolved solids (TDS), chloride ion, sulfate ion).

Proposed Surface Water Sampling

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

Surface water samples are not expected to be collected as part of this initial investigation.

Additional Investigative Actions

☐ Additional alternative investigative actions described in attached Site Investigation Plan (summary):

Additional Alternative investigative actions are not expected to be conducted as part of this initial Site Investigation Plan.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

NA / ND

Number of soil samples collected 10

-- Highest concentration of TPH (mg/kg) 475

Number of soil samples exceeding 915-1 3

-- Highest concentration of SAR 2.6

Was the areal and vertical extent of soil contamination delineated? No

BTEX > 915-1 No

Approximate areal extent (square feet) 14000

Vertical Extent > 915-1 (in feet) 10

Groundwater

Number of groundwater samples collected 0

Highest concentration of Benzene (µg/l)

Was extent of groundwater contaminated delineated? No

Highest concentration of Toluene (µg/l)

Depth to groundwater (below ground surface, in feet)

Highest concentration of Ethylbenzene (µg/l)

Number of groundwater monitoring wells installed

Highest concentration of Xylene (µg/l)

Number of groundwater samples exceeding 915-1

Highest concentration of Methane (mg/l)

Surface Water

0 Number of surface water samples collected

Number of surface water samples exceeding 915-1

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?

A background soil sample, Sample ID#331254_BK01 @3', was collected in an undisturbed area east of the tank battery. The background sample was submitted for analysis of Table 915-1 metals and soil suitability for reclamation. The laboratory reported a pH of 8.52 s.u. which is outside the Table 915-1 upper range of 8.3 s.u. Arsenic was reported at 2.96 mg/kg. Additional background soil samples are needed to evaluate arsenic and barium concentrations in native soils.

☐ 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?

Addition site investigation is required to delineate soil impacts that indicate historic spills/releases occurred at the produced water vault (PWV), separator (SEP02), and flowline riser at the on-location separators, and flowline connection point at the AST. Analytical results for TMBs, PAHs, pH, arsenic and barium were reported above the Table 915-1 cleanup concentrations or levels in three soil samples. The maximum vertical extent sampled was 10 feet bgs.

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.

If encountered, approximately 10 cubic yards of E&P Waste impacted soils will be excavated, temporarily stockpiled on location, and hauled offsite to a commercial disposal facility.

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.

If encountered, impacted soils will be excavated and hauled offsite to a commercial disposal facility. A third-party consultant will field screen soils and collect confirmation soil samples for laboratory analysis to compare results with Table 915-1 concentrations or levels. Work will be performed at time of Facility decommissioning. If analytical results are above Table 915-1 parameter concentrations or levels, an additional assessment and remediation work will be performed under an approved Form 27 Site Investigation and Remediation Workplan.

Soil Remediation Summary

☐ In Situ

☐ Ex Situ

Bioremediation (or enhanced bioremediation)

Excavate and offsite disposal

Chemical oxidation

If Yes: Estimated Volume (Cubic Yards)

_____ Air sparge / Soil vapor extraction
_____ Natural Attenuation
_____ Other _____

_____ Name of Licensed Disposal Facility or ECMC 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.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

☒ Quarterly☐ Semi-Annually☐ Annually☐ Other

☐ Request Alternative Reporting Schedule:

☐ Semi-Annually☐ Annually☒ Other

Rule 913.e:

After initial approval of a Form 27, the Operator will provide quarterly update reports in a Supplemental Form 27 to document progress of site investigation and remediation, unless an alternative reporting schedule has been requested by the Operator and approved by the Director. The Director may request a more frequent reporting schedule based on site-specific conditions.

Report Type:

☐ Groundwater Monitoring☐ Land Treatment Progress Report☐ O&M Report☐ Other

Adequacy of Operator's General Liability Insurance and Financial Assurance

Describe the adequacy of the Operator's general liability insurance and Financial Assurance to fully address the anticipated costs of Remediation, including the estimated remaining cost for this project (below).

If this information has been provided on a Form 27 within the last 12 months, provide the Document Number of that form.

Operator anticipates the remaining cost for this project to be: \$

WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? ☐ No

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

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility:

Volume of E&P Waste (liquid) in barrels

E&P waste (liquid) description

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility:

REMEDIATION COMPLETION REPORT

REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? ☐ No

If YES:

☐ Compliant with Rule 913.h.(1).☐ Compliant with Rule 913.h.(2).☐ Compliant with Rule 913.h.(3).

Do all soils meet Table 915-1 standards?

Does the previous reply indicate consideration of background concentrations?

Does Groundwater meet Table 915-1 standards?

Is additional groundwater monitoring to be conducted? _____

Operator shall comply with the ECMC 1000-Series Reclamation Requirements for all impacted and disturbed areas.

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.

Reclamation will be in accordance with ECMC 1000 Series Rules, and will be addressed during a separate phase of the OWP 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 provide the seed mix? No

If YES, does the seed mix comply with local soil conservation district recommendations? _____

Did the local soil conservation district provide the seed mix? No

SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. _____

Proposed date of completion of Reclamation. _____

IMPLEMENTATION SCHEDULE

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

PRIOR DATES

Date of Surface Owner notification/consultation, if required. 10/27/2023

Actual Spill or Release date, or date of discovery. 08/09/2023

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 01/27/2023

Proposed site investigation commencement. 08/09/2023

Proposed completion of site investigation. _____

REMEDIAL ACTION DATES

Proposed start date of Remediation. _____

Proposed date of completion of Remediation. _____

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

☐ Change from approved implementation schedule per Rule 913.d.(2).

Basis for change in implementation schedule:

OPERATOR COMMENT

The former SMITH ENERGY CORP - 70385 TILLIE #1-3 (OWP) oil and gas well (API #05-123-20387) TILLIE-67N56W 3NWNE (Location ID #331254) and associated flowlines and tank battery are in the ECMC Orphaned Well Program (OWP). The Tillie #1-3 (OWP) well will be plugged and abandoned by Civitas/Extraction Oil & Gas LLC as part of a public project. This supplemental Form 27 presents the site investigation results for the tank battery and flowline decommissioning performed in August 2023. An active unlined pit (PIT #263347) was present at the site. Indications of historic spills/releases were encountered at the produced water vault (PWV), separator (SEP02), and flowline risers at the separator and aboveground storage tank (AST). Concentrations of organic compounds, pH, arsenic, and barium were reported above Table 915-1 cleanup concentrations or levels in soil samples collected at these points at a depth of 10 feet bgs. Groundwater was not encountered in the excavations; however, the nearest DWR permitted water well indicates the depth to water at 17 ft bgs. This water well is at lower elevation. Additional site investigation is warranted to delineate the lateral and vertical extent of E&P Waste soil impacts and to assess potential shallow groundwater impacts. Site investigation and remediation will proceed under Remediation Project # 27619.

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

Signed: James Hix

Title: East OWP EPS

Submit Date: 04/26/2024

Email: james.hix@state.co.us

Based on the information provided herein, this Application for Site Investigation and Remediation Workplan complies with ECMC Rules and applicable orders and is hereby approved.

ECMC Approved: Krystal Heibel

Date: 06/21/2024

Remediation Project Number: 27619

COA Type

Description

| | |
|--------|---|
| | OWP shall conduct an environmental investigation to confirm the presence or absence of impacts adjacent to the flowline at a minimum of every 250'. |
| | OWP will collect and submit for laboratory analysis a soil sample collected from the areas most likely to have been impacted during the operational life of the flowline. These areas include, but are not limited to: where Flowlines connect to the wellhead, surface equipment, risers, valves, or manifolds; where Flowlines bend or were repaired in the past and at joints and hammer unions; where Flowlines connect to Flowlines or equipment of different material; and where Flowlines crossed drainages or surface water or are in contact with shallow groundwater. |
| | OWP shall conduct a closure investigation in accordance with Rule 911.c. Pit Closure Guidance Document. Additional confirmation soil samples shall be collected to fully characterize the former pit footprint. |
| 3 COAs | |

ATTACHMENT 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

| | |
|-----------|--|
| 403770794 | INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL) |
| 403770893 | SITE INVESTIGATION REPORT |
| 403832373 | FORM 27-SUPPLEMENTAL-SUBMITTED |

Total Attach: 3 Files

General Comments

User Group

Comment

Comment Date

| | | |
|---------------|--|------------|
| Environmental | "Due to the shallow groundwater table at this Site, Weston recommends that one or more piezometers or monitoring wells be installed at the Site to accurately gauge the water levels at the Site in the impacted areas. If groundwater is encountered, samples should be collected to determine if groundwater at the Site is impacted." | 06/21/2024 |
| Environmental | "Laboratory analytical results exceeded the ECMC Table 915-1 allowable concentrations for TMBs, PAHs, pH, arsenic, and barium. Weston recommends additional investigation to delineate the extents of impacts present at the PWV, separator (SEP02), flowline connection point at the on-location separators, and the flowline connection point at the AST." | 06/21/2024 |

| | | |
|---------------|--|------------|
| Environmental | Due to shallow groundwater (~17' bgs) reported in a nearby well - OWP shall comply with Table 915-1 Protection of Groundwater Soil Screening Level Concentrations. | 06/21/2024 |
|---------------|--|------------|

Total: 3 comment(s)