

State of Colorado
Energy & Carbon Management Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:
403935216
Receive Date:
09/26/2024

Report taken by:
Kyle Waggoner

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		Mobile: (303) 905-5341
Contact Person: James Hix - East OWP EPS	Email: james.hix@state.co.us	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 26747 Initial Form 27 Document #: 403275652

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

No Multiple Facilities

Facility Type: LOCATION	Facility ID: 328412	API #: _____	County Name: WELD
Facility Name: UPRR-AMOCO 23-1-63-61N63W 23SWNW	Latitude: 40.038850	Longitude: -104.411857	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWNW	Sec: 23	Twp: 1N	Range: 63W Meridian: 6 Sensitive Area? No

SITE CONDITIONS

General soil type - USCS Classifications CL 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? No

Other Potential Receptors within 1/4 mile

There are six DWR Water Well Records w/in 1/4-mile. DWR Permit #271333- Receipt #3610346 (2006) [SWL = 80 ft, Top of Perf Casing = 80 ft, TD = 140 ft, ~1300 ft SW] DWR Permit #81883- Receipt #9065647 (Abandoned - 2006) [SWL = 101 ft, Top of Perf Casing = 580 ft, TD = 660 ft, ~1295 ft SW]; DWR Receipt #3660418G (Application 2013) [TD = 875 ft, Laramie Fox Hills aquifer (Klf), ~780 ft SW]; DWR Permit #276708- Receipt #3625986 (Cancelled 2008) [SWL = 160 ft, Top of Perf Casing = 580 ft, TD = 680 ft, ~995 ft N]; DWR Permit #83479-F Receipt #3692528 (2008) [SWL = 160 ft, Top of Perf Casing = 580 ft, TD = 680 ft, ~1010 ft N] DWR Receipt #3691684 (Application - Hold 2019) [No Imaged Docs, ~1320 ft N] Surface Water: Irrigation pond ~160 ft South; No NWI Mapped Wetlands w/in 1/4-mile; No CPW Mapped HPH w/in 1/4-mile; Two residential building units (RBU) w/in 1/4-mile: Single-family residential ~1,000 ft North and ~1195 ft SW. Estimated depth to groundwater: 80 ft to 100 ft bgs.

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	UNKNOWN	Visually, Field Screening, Analytical

INITIAL ACTION SUMMARY

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

Smith Energy Corp. - UPRR-AMOCO 23-1-63-61N63W 23 SWNW Tank Battery and Flowline Decommissioning associated with Civitas Resources plugging and abandoning (PA) of the UPRR-AMOCO 23-1-63 #1 (OWP) well. This location is in the Colorado ECOM Orphaned Well Program (OWP).

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 as part of this investigation including beneath the former aboveground storage tank(s), partially buried produced water tank, separator, and along the length of the flowline. 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 (As, Ba, Cd, Cu, Cr6+, Pb, Ni, Ag, Zn) and soil suitability for reclamation parameters (pH, EC, SAR, hot water soluble boron)].

Proposed Groundwater Sampling

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

Groundwater samples are not expected to be collected as part of this investigation. 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 investigation.

Additional Investigative Actions

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

No additional alternative investigation actions are expected to be conducted as part of this initial site investigation. If impacted soils are encountered additional actions will be evaluated.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 7

Number of soil samples exceeding 915-1 2

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

Approximate areal extent (square feet) 1980

NA / ND

-- Highest concentration of TPH (mg/kg) 1289

-- Highest concentration of SAR 5.3

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 5

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 915-1

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 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 site-specific background sample, Sample ID #328412_BK01 @3', collected on 04/13/2023 from an undisturbed area northeast of the tank battery and separator was submitted for analysis of Table 915-1 metals (As, Ba, Cd, Cu, Cr6+, Pb, Ni, Se, Ag, Zn) and soil suitability for reclamation parameters (pH, EC, SAR, hot water soluble boron). The results show that pH was reported at 8.54 s.u. No background soil samples were collected during the wellhead cut and cap soil sampling on 12/07/2023.

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?

Further site investigation is required to delineate the lateral and vertical extent of total petroleum hydrocarbon (TPH) and pH impacts at the produced water vault (PWV) and the soil pH beneath the aboveground storage tank (AST) to meet Table 915-1. The background arsenic concentration of 4.39 mg/kg is above the Table 915-1 Residential soil screening level (SSL). The calculated 1.25x background arsenic concentration is 5.49 mg/kg. The arsenic concentration reported in the wellhead cut and cap soil sample, WH-B01 @7', was 4.32 mg/kg and is below the calculated arsenic concentration. Concentrations of barium (132 mg/kg) and lead (14.5 mg/kg) were reported in the wellhead excavation base sample above their respective Table 915-1 protection of groundwater SSL.

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 E&P waste impacted soils are encountered during facility decommissioning, approximately 10 cubic yards of the impacted soils will be excavated, temporarily stockpiled on location, and hauled 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 E&P waste impacts are encountered during decommissioning, remediation of soil impacts will be evaluated. Approximately 10 cubic yards of the impacted soils will be excavated, temporarily stockpiled on location, and hauled to a commercial disposal facility. Clean fill will be brought to the site to fill excavations.

Soil Remediation Summary

In Situ

Ex Situ

- _____ Bioremediation (or enhanced bioremediation)
- _____ Chemical oxidation
- _____ Air sparge / Soil vapor extraction
- _____ Natural Attenuation
- _____ Other _____

- _____ Excavate and offsite disposal
- _____ If Yes: Estimated Volume (Cubic Yards) _____
- _____ 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 Supplemental Form 27 will be submitted within 90 days from the receipt of results.

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.

The former SMITH ENERGY CORP - UPRR AMOCO 23-1-63 1 (OWP) well is in the ECMC Orphaned Well Program ("OWP"). The former Operator's bond and/or other funding will be used to plug and abandon (PA) the well, and investigate, remediate, and reclaim the oil and gas location.

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

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 _____

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.

The Colorado ECMC OWP will prepare a reclamation plan to reclaim this oil and gas location in accordance with 1000 Series Rules including grading/recontouring of disturbed areas. The reclamation plan will be implemented under a separate scope of work. Final reclamation will be conducted per ECMC 1000 Series Rules and prioritized based on OWP ranking, project funding, and staff availability. The reclamation scope will include a plan to address and avoid any effect on reclamation from Table 915-1 inorganic and soil suitability for reclamation parameters.

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 provide the seed mix? _____

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

Did the local soil conservation district provide the seed mix? _____

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. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 01/11/2023

Proposed site investigation commencement. 04/13/2023

Proposed completion of site investigation. 12/07/2023

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 UPRR-AMOCO 23-1-63 1 (OWP) oil and gas well (API #05-123-15959) UPRR-AMOCO 23-1-63-61N63W 23SWNW (Location ID #328412) is in the ECMC Orphaned Well Program ("OWP"). Civitas Resources Inc./Extraction Oil & Gas Inc. plugged and abandoned (PA) the UPRR-AMOCO 23-1-63 1 (OWP) well as part of a public project. The OWP oversaw the decommissioning of the tank battery and the flowline removal. Groundwater lies at greater than 80 feet bgs based on a review of DWR records. This supplemental Form 27 presents the site investigation results for the tank battery and flowline removal and the wellhead cut and cap soil sample results. Evidence of historic spills/releases was observed including total petroleum hydrocarbons (TPH) (1289.4 mg/kg) and pH (8.57 s.u.) beneath the produced water vault (PWV) and pH (8.98 s.u.) beneath the aboveground storage tank (AST) reported above Table 915-1 concentrations or levels. The pH in site-specific background soil sample, 328412_BK01 @3', (8.54 s.u.) was also reported above the Table 915-1 pH 8.3 s.u. soil suitability for reclamation parameter. Arsenic was reported above the Table 915-1 residential arsenic concentration in all soil samples, but was below the site-specific background concentration of 5.49 mg/kg. Barium and lead were reported above the Table 915-1 protection of groundwater SSL; however, the OWP requests using the Table 915-1 Residential SSL based on background concentrations, soil types present, and expected depth to groundwater. Further site investigation and remediation are required to address the impacts beneath the PWV and AST. Future site investigation and remediation will proceed under Remediation Project #26747.

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: 09/26/2024

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:

Date:

Remediation Project Number: 26747

COA Type

Description

COA Type	Description
0 COA	

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

Att Doc Num	Name
403935216	FORM 27-SUPPLEMENTAL-SUBMITTED
403935465	ANALYTICAL RESULTS
403935517	SITE INVESTIGATION REPORT

Total Attach: 3 Files

General Comments

User Group

Comment

Comment Date

User Group	Comment	Comment Date
Environmental	ECMC has denied this Form 27 for data validation. Operator will provide laboratory analytical report(s) as a stand-alone attachment(s) on the replacement Supplemental Form 27. The Laboratory Report PDF(s) must be secured by the issuing laboratory; If there is a difference between the creation date and secured date of the PDF, Operator shall provide an explanation in the case narrative of the associated report. ECMC will not review combined PDFs with lab reports.	02/17/2025

Total: 1 comment(s)