

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:
403920732
Receive Date:
09/13/2024
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 Phone: (303) 894-2100 Mobile: (303) 905-5341
Address: 12706 SHILOH RD		
City: GREELEY	State: CO	Zip: 80631
Contact Person: James Hix - East OWP EPS	Email: james.hix@state.co.us	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 27613 Initial Form 27 Document #: 403304062

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: Smith Energy Corp - Mais #1-35 (OWP) Tank Battery Decommissioning

SITE INFORMATION

Yes Multiple Facilities

Facility Type: PIT	Facility ID: 268127	API #: _____	County Name: WELD
Facility Name: MAIS 1-35	Latitude: 40.615720	Longitude: -103.617600	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWSW	Sec: 35	Twp: 8N	Range: 56W Meridian: 6 Sensitive Area? Yes

Facility Type: LOCATION	Facility ID: 330881	API #: _____	County Name: WELD
Facility Name: MAIS-68N56W 35NWSW	Latitude: 40.615867	Longitude: -103.617337	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWSW	Sec: 35	Twp: 8N	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

There are no DWR Permitted Water Wells plotted w/in 1/4-mile of the location. Nearest Water Wells: DWR Permit #43010- Receipt #9064301 (1970) [SWL = 17', Top of Perf Casing = 17 1/2 ft, TD = 102', ~1660 ft SW], DWR Permit #582772-DW Receipt #058272 (2018) [OneOk Elk Creek Pipeline NOI, Est. Depth = 10 ft, ~3155 ft NW], DWR Permit #12056- Receipt #9061020 (1962) [DTW = 435 ft, Top of Perf Casing = 700 ft, TD = 730 ft, ~4020 ft SE] ; No Surface Waters w/in 1/4-mile. NWI Mapped Wetlands - Freshwater Emergent ~1325 ft N, CPW Mapped HPH: Location is within Pronghorn Winter Concentration area. There are no residential building units (RBU) shown within 1/4-mile of the location.

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
UNDETERMINED	SOILS	Unknown	Field screening/laboratory analysis

INITIAL ACTION SUMMARY

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

Initial actions were performed on 07/20/2023 to record the locations of oil and gas infrastructure and to collect TENORM samples from the produced water vault (PWV) for waste characterization prior to flowline removal and tank battery decommissioning. The tank battery site investigation began on 08/01/2023, on 09/13/2023, and concluded on 11/07/2023. Up to 10 cubic yards of impacted soils were removed and disposed off-site at a commercial disposal facility.

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):

The Colorado ECMC Orphaned Well Program will be decommissioning the Mais flow lines and production equipment. Soil samples will be collected in accordance with COGCC Rule 915.e(2)B. A sufficient number of representative samples will be collected from locations beneath the pit to demonstrate that no leakage of managed fluids has occurred, per Rule 911.c(2). Any soil left in place will meet the cleanup concentrations listed in Table 915-1. Samples will be submitted for laboratory analysis of Table 915-1 constituents.

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 initial investigation.

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 <u>9</u>	-- Highest concentration of TPH (mg/kg) <u>216</u>
Number of soil samples exceeding 915-1 <u>2</u>	-- Highest concentration of SAR <u>7.18</u>

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

BTEX > 915-1 No

Approximate areal extent (square feet) 400

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 site-specific background soil sample, 330881_BK01 @3', 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). Laboratory results reported EC = 5.73 mmohs/cm and SAR = 7.18. These were the only exceedances for these parameters, so it appears that the background sample did not reflect natural background conditions.

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 E&P Waste impacts at the location, specifically in the vicinity of the flowline sample, 330881_FL03_01 @10', near the former separator. Analytical results reported 1,3,5-Trimethylbenzene and 1-Methylnaphthalene at concentrations above their respective Table 915-1 protection of groundwater soil screening levels (SSL). Results for Soil sample, 330881_SEP02_B01 @2' reported a pH = 9.02 s.u. which is above the Table 915-1 soil suitability for reclamation for pH of 8.3 s.u. Further investigation is warranted to delineate the results for EC and SAR reported in the background soil sample, 330881_BK01 @3'.

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.

REMEDATION 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, approximately 10 cubic yards of E&P Waste 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)

Yes Excavate and offsite disposal

 Chemical oxidation

If Yes: Estimated Volume (Cubic Yards) 0

 Air sparge / Soil vapor extraction

Name of Licensed Disposal Facility or ECMC Facility ID # 0

_____ Natural Attenuation
_____ Other _____

_____ No 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? _____

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 COGCC 1000 Series Rules, and will be addressed during a separate phase of the OWP work.

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. 02/21/2023

Actual Spill or Release date, or date of discovery. 10/27/2023

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 07/20/2023

Proposed site investigation commencement. 08/01/2023

Proposed completion of site investigation. 11/07/2023

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 MAIS #1-35 (OWP) oil and gas well (API #05-123-19817) MAIS-68N56W 35NWSW (Location ID #330881) Tank Battery and related Pit (Pit #268127) are in the ECMC Orphaned Well Program ("OWP"). Civitas Resources Inc./Extraction Oil & Gas Inc. proposed to plug and abandon (PA) this well as part of a public project. This supplemental Form 27 presents the flowline removal and tank battery facility decommissioning site investigation results. A soil sample was collected using a hand auger from the center of the former pit. Analytical results for former Pit #268127 soil sample, 330881_FP01 @3', were reported below Table 915-1 SSL. Evidence of historic releases was observed during the decommissioning including impacts at a flowline end, sample 330881_FL03_01 @10', collected near the separator. Concentrations of 1,3,5-Trimethylbenzene and 1-Methylnaphthalene were reported above their respective Table 915-1 Protection of Groundwater Soil Screening Levels (SSL) for these compounds. Groundwater in the area is expected to be at less than 20 feet bgs based on a review of area DWR Water Well Permit records. The soil pH (9.02 s.u.) in separator sample 330881_SEP02_B01 @2', and the EC (5.73 mmhos/cm) and SAR (7.18) in the site-specific background soil sample collected southwest of the location were above the Table 915-1 soil suitability for reclamation parameters. Further site investigation is required to assess and delineate the lateral and vertical extent of E&P Waste impacts, which will proceed under Remediation Project #27613.

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: 09/13/2024

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: 11/07/2024

Remediation Project Number: 27613

COA Type**Description**

	If groundwater is encountered, OWP will analyze groundwater samples for Table 915-1 Groundwater Inorganic Parameters (total dissolved solids, sulfate, chloride) and organic compounds in groundwater.
1 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**

403920732	FORM 27-SUPPLEMENTAL-SUBMITTED
403920995	SITE INVESTIGATION REPORT

Total Attach: 2 Files

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

Environmental	Due to shallow groundwater (~17' bgs) reported - OWP shall comply with Table 915-1 Protection of Groundwater Soil Screening Level Concentrations.	11/07/2024
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Total: 1 comment(s)