

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:
404054533

Receive Date:

Report taken by:

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: NOBLE ENERGY INC	Operator No: 100322	Phone Numbers
Address: 1099 18TH STREET SUITE 1500		Phone: (970) 730-7281
City: DENVER State: CO Zip: 80202		Mobile: ()
Contact Person: Dan Peterson	Email: danpeterson@chevron.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 30722 Initial Form 27 Document #: 403464005

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: LOCATION	Facility ID: 329913	API #: _____	County Name: WELD
Facility Name: SPOMER-65N66W 32SESE	Latitude: 40.350710	Longitude: -104.796440	
** correct Lat/Long if needed: Latitude: 40.350234		Longitude: -104.795704	
QtrQtr: SESE	Sec: 32	Twp: 5N	Range: 66W Meridian: 6 Sensitive Area? Yes

Facility Type: TANK BATTERY	Facility ID: 488299	API #: _____	County Name: WELD
Facility Name: SPOMERT5N-R66W-S32 L02	Latitude: 40.350072	Longitude: -104.795908	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SESE	Sec: 32	Twp: 5N	Range: 66W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SC

Most Sensitive Adjacent Land Use Rangeland

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? No

Other Potential Receptors within 1/4 mile

Riverine 0.17mi SW, 0.19mi NE
Farm Structures 0.10/0.11/0.11/0.13/0.15mi SE
Residential Structures 0.12/0.14mi SE

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 checked="" 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	GROUNDWATER	NA	Field screening and Lab analysis if encountered
Yes	SOILS	NA	Field Screening and Lab 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.

Pursuant to ECMC Rule 911, a site investigation was conducted during decommissioning at the Spomer T5N-R66W-S32 L02 Facility and Tank Battery location on 1/9/2025. The tank battery was decommissioned in accordance with ECMC rules. Laboratory soil samples were collected from the partially-buried produced water vessel excavation base (PVW01-B@4') and N, W, S, & E sidewalls (PVW01-N@2' to PVW01-S@2') and from beneath the above ground storage tank (AST01@0-6"). Lab samples were also collected beneath the separator risers at the dumpline (SEP01-DL@3') and at the flowline (SEP01-FL@3'). Field screening samples were collected from beneath the flare location (FLARE-01@0-6") and meterhouse (MH01@0-6"). Due to field indicators observed during decommissioning (odor and PID: 138.0 ppm), sample AST01@0-6" was reported as a potential historic release.

Laboratory analytical results indicated that organic constituents 1,2,4-trimethyl-benzene (TMB) and 1,3,5-TMB, were detected at sample location AST01@0-6" in exceedance of ECMC Table 915-1 regulation.

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 were collected as described in the Initial Action Summary of this Form 27. Soil samples were analyzed by a certified laboratory, using approved ECMC laboratory analysis methods, for the full extent of Table 915-1, including but not limited to: TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons) organic compounds in soil per ECMC Table 915-1, EC, SAR, pH, metals, and boron. All samples collected were analyzed by a certified laboratory using approved ECMC laboratory analysis methods.

Sampling deviations from the initial sampling plan included: soil samples from the N,S,E,W sidewalls of the PWV excavation per COA in IF27 Doc# 403464005.

Proposed Groundwater Sampling

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

If groundwater is encountered during the site investigation, a grab groundwater sample will be collected and analyzed for all organic and inorganic compounds per ECMC Table 915-1. This sample analysis includes, but is not limited to: BTEX, naphthalene, 1,2,4-trimethylbenzene (TMB) and 1,3,5-TMB by EPA Method 8260; chloride and sulfate anions by EPA Method 300.0; and total dissolved solids (TDS) by Method SM 2540C.

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):

During abandonment activities, field personnel field screened disturbed areas using visual and olfactory senses to determine if laboratory confirmation sampling was required. A detailed summary of the tank battery decommissioning activities, including field notes, site photos, figures, and laboratory analytical results, is attached to this Form 27.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 8

Number of soil samples exceeding 915-1 8

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

Approximate areal extent (square feet) 300

NA / ND

-- Highest concentration of TPH (mg/kg) 0.69

-- Highest concentration of SAR 0.304

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 4

Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? Yes

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

0 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?

Five background soil samples were collected from one distinct location (BKG01) from depths approximately 0.5 to 4 feet below ground surface and analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. Background sample lithology was noted to be similar to that observed in site samples. The maximum background concentration for pH was measured as 8.36. The maximum background concentrations with a 1.25x multiplier applied for arsenic and selenium were calculated to be 28.3 mg/kg and 0.419 mg/kg, respectively. All arsenic concentrations observed during decommissioning were below background levels.

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?

Concurrently with the remedial excavation that is proposed in the Remedial Action Plan section of this Form 27, background soil samples (BKG02-BKG06) will be collected to determine if pH and selenium values that exceed ECMC Table 915-1 are attributed to native soil conditions at the site. Decommissioning soil samples PWV01-B@4', sidewall samples PWV01-[N,E,S]@2', and SEP01-FL@3', had pH concentrations above ECMC Table 915 limits and background levels. Soil sample PWV01-B@4' had a selenium concentration above ECMC Table 915 limits and background levels, however, all other values of metals measured in decommissioning samples were below background levels. Soil samples will be collected and analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. Proposed background soil sample locations are shown on the attached proposed boring location map. The results of the background sampling investigation will be submitted on a subsequent Form 27.

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.

The 1,2,4-trimethyl-benzene (TMB) and 1,3,5-TMB exceedances observed during decommissioning at sample location AST01@0-6" will be removed through a remedial excavation. Remedial excavation confirmation soil samples will be collected and analyzed for full ECMC Table 915-1 constituents.

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.

Remedial excavation confirmation soil samples will be collected and analyzed for full ECMC Table 915-1 constituents. The results of the remedial excavation will be submitted on a subsequent Form 27.

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 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.

Groundwater was not encountered during the initial site decommissioning activities.

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 Decommissioning Sample Summary, Supplemental Source Mass Removal and Site Investigation Proposal

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.

Noble intends to directly address the costs of remediation at the locations as part of our asset retirement obligation process and operations. Noble has general liability insurance (policy MWZZ 316714) and financial assurance in compliance with ECMC rules. Records are available on the ECMC's website. The cost for remediation is an estimate only, costs may change upwards or downward based on site-specific information. Noble makes no representation or guarantees as to the accuracy of the estimate.

Operator anticipates the remaining cost for this project to be: \$ 50000

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.

Is the described reclamation complete? Yes _____

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. 01/09/2025

Proposed date of completion of Reclamation. 04/20/2027

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. 07/06/2023

Actual Spill or Release date, or date of discovery. 01/09/2025

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 01/09/2025

Proposed site investigation commencement. 01/28/2025

Proposed completion of site investigation. 10/28/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 10/28/2025

Proposed date of completion of Remediation. 10/28/2026

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:

The implementation schedule has been changed due to the decommissioning of the Spomer T5N-R66W-S32 L02 facility, and necessity for remedial excavation activities adjacent to the facility. The proposed remedial excavation will be completed pending the approval of this form.

OPERATOR COMMENT

This Form 27 is being submitted to include the decommissioning results at the former SPOMER T5N-R66W-S32 L02 Facility and Tank Battery. This Form 27 also serves to propose a supplemental site investigation (SSI).

Pursuant to ECMC Rule 911, a site investigation was conducted during decommissioning at the Spomer T5N-R66W-S32 L02 Facility and Tank Battery location on 1/9/2025. The tank battery was decommissioned in accordance with ECMC rules. Laboratory soil samples were collected from the partially-buried produced water vessel excavation base (PVW01-B@4') and N, W, S, & E sidewalls (PVW01-N@2' to PVW01-S@2') and from beneath the above ground storage tank (AST01@0-6"). Lab samples were also collected beneath the separator risers at the dumpline (SEP01-DL@3') and at the flowline (SEP01-FL@3'). Field screening samples were collected from beneath the flare location (FLARE-01@0-6") and meterhouse (MH01@0-6"). Due to field indicators observed during decommissioning (odor and PID: 138.0 ppm), sample AST01@0-6" was reported as a potential historic release. Laboratory analytical results indicated that organic constituents 1,2,4-trimethyl-benzene (TMB), and 1,3,5-TMB, were detected at sample location AST01@0-6" in exceedance of ECMC Table 915-1 regulation.

Five background soil samples were collected from one distinct location (BKG01) from depths approximately 0.5 to 4 feet below ground surface and analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. Background sample lithology was noted to be similar to that observed in site samples. The maximum background concentration for pH was measured as 8.36. The maximum background concentrations with a 1.25x multiplier applied for arsenic and selenium were calculated to be 28.3 mg/kg and 0.419 mg/kg, respectively. All arsenic concentrations observed during decommissioning were below background levels.

The 1,2,4-trimethyl-benzene (TMB) and 1,3,5-TMB exceedances observed during decommissioning at sample location AST01@0-6" will be removed through a remedial excavation. Remedial excavation confirmation soil samples will be collected and analyzed for full ECMC Table 915-1 constituents. Concurrently with the proposed remedial excavation, background soil samples (BKG02-BKG06) will be collected to determine if pH and selenium values that exceed ECMC Table 915-1 are attributed to native soil conditions at the site. Decommissioning soil samples PVW01-B@4', sidewall samples PWV01-[N,E,S]@2', and SEP01-FL@3', had pH concentrations above ECMC Table 915 limits and background levels. Soil sample PWV01-B@4' had a selenium concentration above ECMC Table 915 limits and background levels, however, all other values of metals measured in decommissioning samples were below background levels. Soil samples will be collected and analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. Proposed background soil sample locations are shown on the attached proposed boring location map. The results of the remedial excavation and background sampling investigation will be submitted on a subsequent Form 27.

Quarterly reporting will be conducted until closure criteria are achieved for the remediation project. The results of the supplemental site investigation will be submitted on a subsequent Form 27.

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

Signed: Brock Nelson

Title: Environmental Consultant

Submit Date: _____

Email: Tas-chevron-5@tasman-geo.com

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: 30722

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

404072815	SITE INVESTIGATION REPORT
404072817	ANALYTICAL RESULTS
404072819	SITE INVESTIGATION PLAN

Total Attach: 3 Files

General Comments

User Group

Comment

Comment Date

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)