

State of Colorado
Energy & Carbon Management Commission

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Report taken by:
Taylor Robinson

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 Phone: (970) 730-7281 Mobile: ()
Address: 1099 18TH STREET SUITE 1500		
City: DENVER	State: CO	Zip: 80202
Contact Person: Dan Peterson	Email: RBUEUF27@chevron.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 34243 Initial Form 27 Document #: 403528836

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: 418880	API #: _____	County Name: WELD
Facility Name: WIEDEMAN 25-5	Latitude: 40.433991	Longitude: -104.806920	
** correct Lat/Long if needed: Latitude: 40.433398		Longitude: -104.807159	
QtrQtr: NENW	Sec: 5	Twp: 5N	Range: 66W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE	Facility ID: 487309	API #: _____	County Name: WELD
Facility Name: Wiedeman 25-5	Latitude: 40.432953	Longitude: -104.807129	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWNW	Sec: 5	Twp: 5N	Range: 66W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 487310 API #: County Name: WELD
Facility Name: Wiedeman 25-5 Latitude: 40.433317 Longitude: -104.807186
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: NWNW Sec: 5 Twp: 5N Range: 66W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 487311 API #: County Name: WELD
Facility Name: Wiedeman 25-5 Latitude: 40.433174 Longitude: -104.807176
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: NWNW Sec: 5 Twp: 5N Range: 66W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 487312 API #: County Name: WELD
Facility Name: Wiedeman 25-5 Latitude: 40.433393 Longitude: -104.807200
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: NWNW Sec: 5 Twp: 5N Range: 66W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SW Most Sensitive Adjacent Land Use Cropland

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

Palustrine 50ft/0.19/0.22mi W
Riverine 70ft W
Farming Structures 0.16/0.19/0.200.22mi S
Residential Structures 0.21mi S

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
Yes	GROUNDWATER	NA	Lab analysis and Field Screening
Yes	SOILS	10'x10'x2' bgs	Lab analysis and Field Screening

INITIAL ACTION SUMMARY

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

A site investigation was conducted pursuant to ECMC Rule 911 at the WIEDEMANT5N-R66W-S5 L01 Facility and Tank Battery 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):

Grab confirmation soil samples were collected beneath the ground oil tank(s), and at the risers for the flowline(s) and dumpline(s) of any separator(s). Soil samples were analyzed by a certified laboratory 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, and EC, SAR, pH, metals, and boron. All samples collected were analyzed by a certified laboratory using approved ECMC laboratory analysis methods.

Proposed Groundwater Sampling

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

Groundwater was encountered adjacent to the separator dump-line riser and a grab groundwater was collected and analyzed for all organic and inorganic compounds per ECMC Table 915-1.

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):

Visual inspection at the tank battery area occurred during abandonment activities. Field personnel field screened all disturbed areas using visual and olfactory senses to determine if laboratory confirmation sampling was required. The ECMC Tank Battery Closure Checklists was utilized and filled out during the abandonment process and a photolog is included on Form 27.

In accordance with the COA issued on approved IF27 document #403528836, the soil along the dump-line was field screened and a soil sample was collected and submitted for laboratory analysis of the Full ECMC Table 915-1 suite due to elevated PID readings.

Please note, no partially-buried produced water vessel was present at the time of decommissioning; therefore, no soil samples were collected. Based on a desktop review of this location, the produced water vessel was removed in 2021.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 10
Number of soil samples exceeding 915-1 8
Was the areal and vertical extent of soil contamination delineated? No
Approximate areal extent (square feet) 500

NA / ND

-- Highest concentration of TPH (mg/kg) 58.9
-- Highest concentration of SAR 0.52
BTEX > 915-1 Yes
Vertical Extent > 915-1 (in feet) 4

Groundwater

Number of groundwater samples collected 1
Was extent of groundwater contaminated delineated? No
Depth to groundwater (below ground surface, in feet) 4
Number of groundwater monitoring wells installed 0
Number of groundwater samples exceeding 915-1 1

-- Highest concentration of Benzene (µg/l) 5
-- Highest concentration of Toluene (µg/l) 1.9
ND Highest concentration of Ethylbenzene (µg/l) _____
-- Highest concentration of Xylene (µg/l) 9.8
NA 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?

Three (3) background soil samples were collected from one soil boring location (BKG01) adjacent to the tank battery at depths ranging between 0.5 feet and 4 feet bgs and were analyzed for metals in soil per ECMC Table 915-1, pH, SAR, and EC.

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?

A supplemental site investigation (SSI) will be completed to vertically and horizontally delineate the organic compound exceedances observed at AST04@0-6", DL01-01@3', SEP01-DL@4', SEP02-DL@3', & SEP02-DL@4' during decommissioning. A proposed SSI map is attached to this Form 27. Based on the contaminants of concern identified during decommissioning, Noble proposes to limit future soil sampling to BTEX, naphthalene, 1,2,4,-TMB, 1-3-5,TMB, TPH (C6-C36), benzo(a)anthracene, benzo(a)pyrene, fluorene, indeno(1,2,3-cd)pyrene, 1-methylnaphthalene (M), 2-M, pH, barium and cadmium. Concurrently with the SSI, additional background samples will be collected to determine if pH, barium, and cadmium observed at this location are indicative of native material conditions.

An additional soil sample will be collected adjacent to the former partially buried produced water vessel location, from proposed soil boring location SB09 at 2.5 feet. This soil sample will be analyzed for the ECMC director approved analyte list.

The SSI will be completed in accordance with the proposed implementation schedule, and the results of the SSI will be submitted on a subsequent Form 27.

If soil that is more heavily impacted with hydrocarbon compounds (based on PID readings, visual and/or olfactory indicators) is discovered during the SSI, a soil sample will be collected from that location and analyzed for full ECMC Table 915-1 contaminants of concern. If additional analytes are discovered from this new waste characterization sample in exceedance of ECMC Table 915-1 standards beyond those proposed in the above amended sampling plan request, those compounds will be added to the sampling plan.

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.

Refer to the Remediation Summary section below.

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.

The source identified during decommissioning will be delineated through a supplemental site investigation in accordance with the attached proposed site investigation map, and proposed sampling plan outlined in the Site Investigation Report and Operators Comments sections of this Form 27.

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.

Groundwater was encountered and sampled during decommissioning activities. One groundwater sample (GW01) was collected adjacent to the separator dump-line riser location (SEP02-DL@4') and was submitted for laboratory analysis of BTEX, naphthalene, TMBs, TDS, chloride and sulfate. Analytical results indicated benzene concentrations were in exceedance of Table 915-1 standards. If groundwater is encountered during SSI activities scheduled for this location, monitoring wells will be installed to conduct an investigation of groundwater conditions. Groundwater samples will be collected from the monitoring wells and will be sampled for BTEX, naphthalene, TMBs, TDS, chloride and sulfate.

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 Timeline Update

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. 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. 05/10/2024

Proposed date of completion of Reclamation. 09/26/2026

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. 08/24/2023

Actual Spill or Release date, or date of discovery. 06/18/2024

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 05/10/2024

Proposed site investigation commencement. 09/26/2024

Proposed completion of site investigation. 03/26/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 03/26/2025

Proposed date of completion of Remediation. 03/26/2026

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:

Proposed completion of site investigation date is being updated to reflect the schedule to complete the supplemental site investigation. The ECMC will be updated on a subsequent Form 27 with the results of the supplemental site investigation, or if the schedule is changed due to site access constraints.

OPERATOR COMMENT

This Form 27 is being submitted as a Third Quarter 2024 timeline update for the completion of the supplemental site investigation at the Wiedeman 25-5 Tank Battery. The SSI will be completed in accordance with the Site Investigation Report section of this Form 27, and the attached proposed delineation map. The ECMC will be updated with the results of the supplemental site investigation on a subsequent Form 27.

Three background soil samples (BKG01) were collected from adjacent to the tank battery location and the lithology between the site and background locations were observed to be well graded sands. The maximum background concentration of arsenic was 3.88 mg/kg, and x1.25 the maximum background concentration was calculated to be 4.85 mg/kg. All site arsenic concentrations were below this concentration. Furthermore, the mean background soil sample concentration x1.25 was calculated to be 4.71 mg/kg. Since the maximum and mean background concentration for arsenic was observed to be greater than then site concentrations, Noble requests arsenic to not be considered a contaminant of concern.

Based on the contaminants of concern identified during decommissioning, Noble proposes to limit future soil sampling to BTEX, naphthalene, 1,2,4,-TMB, 1-3-5,TMB, TPH (C6-C36), benzo(a)anthracene, benzo(a)pyrene, fluorene, indeno(1,2,3-cd)pyrene, 1-methylnaphthalene (M), 2-M, pH, barium and cadmium.

Concurrent with delineation activities, additional background samples will be collected to determine if pH, barium, and cadmium observed at this location are indicative of native material conditions.

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

Signed: Allan Engelhardt

Title: Environmental Consultant

Submit Date: 09/26/2024

Email: chevroneform@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: Taylor Robinson

Date: 11/27/2024

Remediation Project Number: 34243

COA Type

Description

	ECMC agrees to the Operator's request to limit future soil sampling to BTEX, naphthalene, 1,2,4,-TMB, 1-3-5,TMB, TPH (C6-C36), benzo(a)anthracene, benzo (a)pyrene, fluorene, indeno(1,2,3-cd)pyrene, 1-methylnaphthalene (M), 2-M, pH, barium and cadmium.
	Operator shall submit a minimum of one soil sample for the proposed laboratory analysis from each soil boring advanced during monitoring well installation.
	Operator shall field log soil borings during monitoring well installation and provide boring logs/well construction diagrams with the next monitoring report.
	ECMC approves of the proposed soil boring/monitoring well locations. If field observations indicate that the proposed delineation borings are located inside the previous excavation extent additional soil borings will be required. Additionally, depending on the results of the current site investigation plan, Operator may be required to install additional soil borings/monitoring wells to fully delineate soil impacts.
4 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

403930473	FORM 27-SUPPLEMENTAL-SUBMITTED
403930780	SITE INVESTIGATION PLAN
403935171	OTHER

Total Attach: 3 Files

General Comments

User Group

Comment

Comment Date

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
		Stamp Upon Approval

Total: 0 comment(s)