

State of Colorado
Energy & Carbon Management Commission

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Document Number:
404204748

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 ECOM 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: danpeterson@chevron.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 20432 Initial Form 27 Document #: 402837605

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: 309832	API #: _____	County Name: WELD
Facility Name: MILLAGE C-64N64W 12SEW	Latitude: 40.330553	Longitude: -104.499236	
	** correct Lat/Long if needed: Latitude: 40.333857	Longitude: -104.498861	
QtrQtr: SENW	Sec: 12	Twp: 4N	Range: 64W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

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

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

Riverine 0.17mi E, 0.1mi N
Residential 0.06mi N, 0.25mi NW
No other potential receptors are located within 1/4 mile of the Site.
Above distances are approximations.

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	NA	Lab analysis if encountered
Yes	SOILS	Ref. Attached Tables and Figures	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.

A site investigation was conducted pursuant to ECMC Rule 911 at the MILLAGE T4N-R64W-S12 L02 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 from the produced water vessel(s) excavation, beneath the ground oil tank(s), and at the separator(s). Soil samples were analyzed by a certified laboratory for TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons) organic compounds in soil per ECMC Table 915-1, and EC, SAR, pH, 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):

If groundwater is encountered during additional site assessment activities, a grab groundwater sample will be collected and analyzed for all organic compounds and inorganic parameters per Table 915-1.

Proposed Surface Water Sampling

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

[Empty box for surface water sampling details]

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 and Produced Water Vessel Closure Checklists were utilized and filled out during the abandonment process. A photolog was previously attached.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 9
Number of soil samples exceeding 915-1 1
Was the areal and vertical extent of soil contamination delineated? No
Approximate areal extent (square feet) 100

NA / ND

ND Highest concentration of TPH (mg/kg) _____
-- Highest concentration of SAR 6.25
BTEX > 915-1 No
Vertical Extent > 915-1 (in feet) 3

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?

One background (BKG) soil sample was collected on 10/20/2022 from an area not impacted by oil and gas development and analyzed for Table 915 Soil Suitability constituents (pH, EC, SAR, Boron) and metals. Results showed elevated EC, SAR, arsenic (As), barium (Ba), and cadmium (Ca), exceeding Table 915-1 soil standards.

An additional 30 background soil samples were collected on 2/18/2025 from similar, undisturbed areas with comparable depth and lithology to site confirmation samples. These were analyzed for Table 915-1 metals and soil suitability parameters. Results indicated elevated pH, SAR, As, Ba, Ca, lead (Pb), and selenium (Se).

Refer to the attached Site Investigation Report for a breakdown of background sample concentrations.

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?

Additional background samples were collected on February 18, 2025, from an area not impacted by oil and gas development. These samples were taken at similar depths and within comparable lithologies to the confirmation samples collected at the site. The background samples were analyzed for ECMC Table 915-1 metals and soil suitability for reclamation (SSR) parameters, including pH, electrical conductivity (EC), sodium adsorption ratio (SAR), and boron. Upon further review, all confirmation samples were found to be consistent with naturally occurring native soil conditions, with the exception of sample location SSEP01@3.0'.

Based on this finding, the Operator proposes to re-sample soil at SSEP01@3.0', located at the former Millage C 64N64W 12SEW Tank Battery site, to further evaluate the previously detected elevated pH level. The re-sampling will target the same depth interval where the pH exceedance was originally observed. The sample will be analyzed for the full Table 915-1 analyte suite. If the updated results meet applicable regulatory standards, a No Further Action (NFA) designation will be requested. If elevated concentrations persist, they will be evaluated against background data to determine whether they reflect naturally occurring soil conditions.

In addition, the Operator will re-sample and analyze soil from the following locations: WAST01@6.0", EAST01@6.0", NSEP01@5.0', NDL01@5.0', PWVN01@5.0', PWVN02@5.0', PWVB01@6.0', and PWVB02@6.0'. This effort is intended to confirm prior decommissioning analytical results and obtain updated metals concentration data. If the new results comply with Table 915-1 standards, a request for NFA designation will be submitted. Where any exceedances are identified, background data will be used to support the conclusion that the concentrations are representative of native soil conditions.

Refer to the attached site investigation report for proposed re-sample locations.

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.

No source was generated

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.

NA

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

_____ Name of Licensed Disposal Facility or ECMC Facility ID # _____

_____ Natural Attenuation

_____ Excavate and onsite remediation

_____ Other _____

_____ 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.

If groundwater is encountered during additional site assessment activities, a grab groundwater sample will be collected and analyzed for all organic compounds and inorganic parameters per Table 915-1.

REMEDATION 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 and Updated Supplemental 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 MWZZ316714 and MWZX316724) 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: _____

REMEDATION COMPLETION REPORT

REMEDATION 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? No

Does the previous reply indicate consideration of background concentrations? _____

Does Groundwater meet Table 915-1 standards? Yes

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. 10/31/2025

Proposed date of completion of Reclamation. 06/30/2027

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. 09/09/2021

Actual Spill or Release date, or date of discovery. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 10/20/2022

Proposed site investigation commencement. 11/11/2021

Proposed completion of site investigation. 12/31/2025

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:

The implementation schedule has been revised to account for the need to conduct additional supplemental site investigation activities in the area adjacent to the former Millage C 64N64W 12SENW Tank Battery. The proposed site investigation will be completed following approval of this request. Refer to the operator comment segment for further details.

OPERATOR COMMENT

This Form 27 is submitted as a Q2 2025 timeline update for the former Millage C 64N64W 12SEW tank battery location, including newly collected background data and a proposed supplemental site investigation.

In contrast to the approach approved under Doc. No. 403771094, the Operator elected to first collect local background samples to evaluate whether elevated inorganic concentrations identified in the original confirmation samples collected on October 20, 2022, could be attributed to naturally occurring conditions. Additional background samples were collected on February 18, 2025. Upon further review, all confirmation samples were determined to be consistent with native soil conditions, with the exception of sample location SSEP01 @3.0'. Refer to the attached Site Investigation Report and analytical data for additional detail.

Based on this finding, the Operator proposes to re-sample soil at SSEP01 @3.0' to further evaluate the previously identified elevated pH level. Sampling will target the same depth interval where the exceedance was originally observed, and the soil will be analyzed for the full ECMC Table 915-1 analyte suite. If the updated analytical results meet applicable regulatory standards, the Operator will request a No Further Action (NFA) designation. Should elevated concentrations persist, the results will be evaluated against background data to determine whether they are representative of naturally occurring soil conditions.

Alternatively, if the results exceed Table 915-1 standards and cannot be attributed to native soil conditions based on background characterization, a minimum of five additional samples will be collected to delineate the magnitude and extent of the elevated constituents.

Additionally, the Operator will re-sample and analyze soil from the following locations: WAST01 @6.0", EAST01 @6.0", NSEP01 @5.0', NDL01 @5.0', PWVN01 @5.0', PWVN02 @5.0', PWVB01 @6.0', and PWVB02 @6.0'. This effort is intended to confirm prior decommissioning results and obtain updated metals concentration data. If results comply with Table 915-1 standards, the Operator will request an NFA designation. Where exceedances are identified, background data will be used to support a determination that the concentrations reflect naturally occurring conditions.

Refer to the attached Site Investigation Report workplan and Site Investigation Plan for re-sample locations. Upon Form 27 approval, the Operator will proceed with the outlined investigation activities.

Based on currently available data, this project is not affected by data integrity irregularities and is not associated with the operator's data integrity review process and its Rule 525.e. Voluntary Disclosure. As part of its data integrity review process, the operator requested the lab protect the laboratory analytical report from subsequent unauthorized modification by anyone outside the lab, which resulted in the lab reissuing the original report with additional protections (Reissued Report). The reissued report was received directly from the lab on April 10, 2025, with the application of a Digital ID/Verified Certification (lock) to support the reissuance. The metadata associated with this Reissued Report also includes the lab representative's name, the date and time the laboratory reissued the report, and an explanation for the reports reissuance. The Reissued Report is attached to this submission.

In the event additional responsive information is received or discovered that would suggest this project should be incorporated into the ongoing data integrity review process associated with Operator's Rule 525.e. Voluntary Disclosure, Operator will update and/or amend the statements in this submission and provide any new or revised data or other information.

Quarterly reporting will continue until the closure criteria for the remediation project are met. The results of the supplemental site investigation will be submitted in 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: Jeff Griggs

Title: Consultant

Submit Date: _____

Email: jeffg@fremontenv.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: 20432

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
404204858	ANALYTICAL RESULTS
404204861	ANALYTICAL RESULTS
404204862	SITE INVESTIGATION PLAN
404205512	SITE INVESTIGATION REPORT

Total Attach: 4 Files

General Comments

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

Total: 0 comment(s)