

State of Colorado
Energy & Carbon Management Commission

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404226134
Receive Date:
06/02/2025

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

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 23764 Initial Form 27 Document #: 403065255

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: <u>LOCATION</u>	Facility ID: <u>427188</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>BALL RANCH AC15-03 TANK</u>	Latitude: <u>40.577720</u>	Longitude: <u>-104.429600</u>	
** correct Lat/Long if needed: Latitude: <u>40.577687</u>		Longitude: <u>-104.430380</u>	
QtrQtr: <u>NWNW</u>	Sec: <u>15</u>	Twp: <u>7N</u>	Range: <u>63W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>
Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>483162</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Ball Ranch AC15-65HN Tank Battery</u>	Latitude: <u>40.577753</u>	Longitude: <u>-104.430332</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NWNW</u>	Sec: <u>15</u>	Twp: <u>7N</u>	Range: <u>63W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

SITE CONDITIONS

General soil type - USCS Classifications SW _____

Most Sensitive Adjacent Land Use Grassland _____

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? No _____

Other Potential Receptors within 1/4 mile

High Priority Habitat - Pronghorn Winter Concentration
No other potential receptors are located within 1/4 mile of the Site.
Above distances are approximations.

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	Lab analysis if encountered
Yes	SOILS	See 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 BALL RANCH T7N-R63W-S15 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):

Additional Investigative Actions

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

Visual inspection of the tank battery area occurred during abandonment activities. Field personnel field screened all disturbed areas using a PID, 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 attached.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil	NA / ND
Number of soil samples collected <u>11</u>	ND Highest concentration of TPH (mg/kg) _____
Number of soil samples exceeding 915-1 <u>4</u>	-- Highest concentration of SAR <u>2.25</u>

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

BTEX > 915-1 No

Approximate areal extent (square feet) 625

Vertical Extent > 915-1 (in feet) 8

Groundwater

Number of groundwater samples collected 0

Highest concentration of Benzene (µg/l) _____

Was extent of groundwater contaminated delineated? Yes

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?

Five background soil samples were collected from an area not impacted by oil and gas development and at similar depths and lithologies as confirmation soil samples collected at the location and analyzed for Table 915-1 metals and SSR constituents. Background soil sample analytical results were reported with elevated levels of Arsenic (As), Barium (Ba), Lead (Pb) and Selenium (Se)

Background Soil Sample Analysis (mg/kg)
 As @ 8ft: Max*1.25 = 3.63
 As @ 9ft: Max *1.25 = 2.81
 Ba @ 8ft: Max*1.25 = 139
 Ba @ 9ft: Max *1.25 = 42.3
 Pb @ 8ft: Max*1.25 = 10.5
 Pb @ 9ft: Max *1.25 = 17.4
 Se @ 8ft: Max*1.25 = 1.48
 Se @ 9ft: Max *1.25 = 0.643

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?

Metals were inadvertently omitted from the initial soil sampling and analysis conducted for the Ball Ranch AC15-65HN Tank Battery site. To ensure compliance with the full suite of soil concentration standards specified in Table 915-1 of the ECMC regulations, the Operator proposes to resample soil sample locations AST01 @1.5', AST02 @1', AST03 @1.5', AST04 @1', SEP01 @3', and SEP02 @3'. These samples were originally collected during the September 21, 2022, tank battery decommissioning sampling event. Each resampled location will be analyzed for the complete suite of Table 915-1 soil constituents, including metals, to ensure that all potential impacts are adequately assessed and addressed in accordance with ECMC requirements. Background samples will be used to justify any elevated concentrations.

Elevated inorganics and metals were observed in the Ball Ranch PWV excavation sidewalls. Soil will be resampled and analyzed for the full suite of Table 915-1 constituents in the N, E, S, and W Wall sample locations at the same depth where the initial elevated concentrations were observed. Noble will request an NFA be granted if the reanalyzed samples comply with the Table 915-1 concentration standards. Background samples will be used to justify any elevated concentrations.

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

In addition, five new local background soil samples will be collected from areas not impacted by oil and gas development. These samples will be taken at similar depths and within comparable lithologies as the confirmation samples collected at the site.

Please refer to the attached Site Investigation Plan for the proposed resample and additional local background 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.

The organic compound exceedances observed at sample location PWVB01@8' were 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.

Laboratory analytical results indicated that a historical release had occurred at the location of soil sample PWVB01@8', which was reported as a historic release under Form 19, Document Number 403189572. On May 19, 2023, a site investigation was conducted to delineate the magnitude and extent of impacts at the PWVB01@8' sample location. The proposed excavation extent measured approximately 20 feet by 20 feet to a depth of 9.0 feet. Groundwater was not encountered during the site investigation activities. Refer to Document Number 403697567 for additional details.

Remedial excavation of impacted soil was conducted and completed on October 4, 2024, to address contamination identified at this location. Following excavation, confirmation soil samples were collected and analyzed for the constituents listed in ECMC Table 915-1, including both organic compounds and soil suitability for reclamation parameters. Analyses included Total Petroleum Hydrocarbons (TPH), BTEX, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Naphthalene, Polycyclic Aromatic Hydrocarbons (PAHs), pH, Sodium Adsorption Ratio (SAR), Electrical Conductivity (EC), and Boron. Samples were also analyzed for ECMC Table 915-1 metals. Groundwater was not encountered during remedial excavation activities. Additional details are provided in the attached documentation.

For further information regarding elevated inorganic and metal concentrations observed during the remedial excavation, please refer to the Site Investigation Report and associated work plan for proposed resolutions.

Soil Remediation Summary

In Situ

Ex Situ

_____ Bioremediation (or enhanced bioremediation)

Yes _____ Excavate and offsite disposal

_____ Chemical oxidation

_____ If Yes: Estimated Volume (Cubic Yards) _____ 308

_____ 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.

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 Excavation Data Update & Proposed Supplemental Site Investigation _____

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? Yes

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

No beneficial use.

Volume of E&P Waste (solid) in cubic yards _____ 308

E&P waste (solid) description Hydrocarbon Impacted Soil

ECMC Disposal Facility ID #, if applicable: _____

Non-ECMC Disposal Facility: N. Weld Landfill, Ault, CO

Volume of E&P Waste (liquid) in barrels _____ 0

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? 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. 10/06/2022

Actual Spill or Release date, or date of discovery. 10/05/2022

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 09/21/2022

Proposed site investigation commencement. 06/15/2022

Proposed completion of site investigation. 12/31/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 06/30/2023

Proposed date of completion of Remediation. 10/04/2024

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 updated with the actual date remedial excavation activities were completed. The implementation schedule has also been changed due to the need to resample excavation and decommissioning soil sample locations at the Ball Ranch AC15-65HN Tank Battery. The proposed resampling will be completed following the approval of this form.

OPERATOR COMMENT

This Form 27 is being submitted as a Q2 2025 timeline update for the former Ball Ranch AC15-65HN Tank Battery location. The update includes a summary of remedial excavation activities and proposes a supplemental site investigation to further evaluate remaining data gaps.

As part of the proposed supplemental investigation, the Operator will conduct re-sampling at the excavation sidewall confirmation sample locations: N Wall 8ft, S Wall 8ft, E Wall 8ft, and W Wall 8ft. These samples will be collected to verify the presence or absence of the elevated inorganic and metal concentrations previously observed during the PWVB01@8' remedial excavation.

If re-sampling results exceed ECMC Table 915-1 standards and cannot be attributed to naturally occurring background conditions, as determined through background soil characterization, the Operator will collect a minimum of five additional delineation samples. These samples will be used to define the magnitude and extent of the elevated constituents.

Following completion of delineation activities, Noble will submit a detailed reclamation plan to address elevated soil suitability for reclamation (SSR) constituents. This plan will include, but is not limited to, soil analysis from adjacent undisturbed lands, revegetation techniques, site stabilization measures, and seeding details (including proposed species). Noble will also request a "No Further Action" (NFA) designation pursuant to Rule 915.b: Request to leave elevated inorganics in situ.

Additional re-sampling will also be conducted at soil sample locations AST01@1.5', AST02@1', AST03@1.5', AST04@1', SEP01@3', and SEP02@3'. These samples, originally collected during the initial decommissioning activities in September 2022, will be re-analyzed to confirm prior analytical results and obtain complete metal concentration data in accordance with ECMC Table 915-1 requirements.

To support evaluation of naturally occurring conditions, additional local background samples will be collected to help characterize native soil properties and distinguish them from potential anthropogenic impacts.

Please refer to the site investigation as outlined in this proposed Site Investigation Report workplan and the attached proposed Site Investigation Plan for sample locations. The operator will complete the additional site investigation activities as outlined in the proposed Site Investigation Report workplan following the approval of this form.

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 reports from subsequent unauthorized modification by anyone outside the lab, which resulted in the lab reissuing the original reports with additional protections (Reissued Reports). The Reissued Reports were received directly from the lab on March 29, 2025, which the application of a Digital ID/Verified Certification (lock) to support reissuance. The metadata associated with this Reissued Reports also includes the lab representative's name, the date and time the laboratory reissued the reports, and an explanation for the reports reissuance. The Reissued Reports are 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 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: Jeff Griggs

Title: Consultant

Submit Date: 06/02/2025

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: Krystal Heibel

Date: 08/14/2025

Remediation Project Number: 23764

COA Type

Description

COA Type	Description
1 COA	Operator shall provide justification for use of Residential SSL including but not limited to depth to groundwater and the local lithology.

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
404226134	FORM 27-SUPPLEMENTAL-SUBMITTED
404226337	ANALYTICAL RESULTS
404226339	REMEDIATION PROGRESS REPORT
404226340	SITE INVESTIGATION PLAN

Total Attach: 4 Files

General Comments

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

Total: 0 comment(s)