

State of Colorado
Energy & Carbon Management Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203
Phone: (303) 894-2100 Fax: (303) 894-2109



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404347557

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) 786-0202
City: DENVER State: CO Zip: 80202		Mobile: ()
Contact Person: Kristofer Shepherd	Email: Kristofer.Shepherd@chevron.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 29994 Initial Form 27 Document #: 403417095

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: WELL	Facility ID: _____	API #: 123-30775	County Name: WELD
Facility Name: DERR 21-4	Latitude: 40.431342	Longitude: -104.663468	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SENE	Sec: 4	Twtp: 5N	Range: 65W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SW 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

Bald Eagle Roost High Priority Habitat (HPH) is 0.10mi S of the Location. Apparent freshwater pond and a gravel pit is 0.34mi SW. Residential structures are present 0.08mi N and 0.18mi 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	Refer to 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.

See the attachments associated with Form 27 Documents 404137149 and 404123076 (In Process) for investigation details prior to 2025.

On August 7, 2025, Confluence Compliance Companies, LLC (Confluence) and a subcontractor with an environmental drill rig traveled to the Location to recharacterize locations sampled by a previous consultant at the wellhead and along the flowline. Upon arriving at the Location, unexpected utility markings by a private locator were encountered at the wellhead sampling location. As a result, no samples around the former wellhead were collected due to safety concerns. A subsequent mobilization is planned with a hydrovac truck to clear proposed boring locations and daylight marked utilities prior to advancing the soil auger and sample collection. Three flowline recharacterization samples (SEP01-FL, SEP02-FL, and FL01-04) were collected and analyzed for all ECMC Table 915-1 soil constituents. Two background soil samples were also collected in adjacent non-disturbed areas to characterize the natural range of values for inorganic constituents in the area; background samples were submitted for analysis of all ECMC Table 915-1 inorganics (Soil Suitability for Reclamation (SSR) and metal constituents). See the attached Report of Work Completed (ROWC) for details.

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):

A hydro vacuum truck will be used to clear the remaining sample locations around the wellhead to support completion of recharacterization efforts. All investigation area soil samples will be analyzed for all Table 915-1 constituents. Additional background samples will be collected to establish the natural range of values for inorganic constituents in the area. If additional background sampling fails to clear elevated inorganic constituent levels in the investigation areas, additional delineation efforts will be completed to address lead exceedances observed within sample SEP02-FL, and arsenic, barium, and selenium exceedances observed within SEP01-FL, SEP02-FL, and FL01-04. See the attached ROWC for details.

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 will be 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 along the flowline and at the wellhead and separator areas occurred during decommissioning and supplemental site investigation (SSI) activities. Field personnel field-screened all disturbed areas using visual and olfactory senses to determine if laboratory confirmation sampling was required.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 3

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 5.89

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 5

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

_____ 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?

On September 6 and November 10, 2023, a total of three background soil samples were collected from areas in the vicinity of the wellhead. Two of the samples appear to have been collected within areas previously disturbed by oil and gas operations and have been disallowed. See the attachments associated with Form 27 Documents 404137149 and 404123076 for details.

Two background samples were collected on August 7, 2025, and analyzed for Table 915-1 inorganics. The maximum background concentration calculated using a 1.25x multiplier for arsenic was 41.5 milligrams per kilogram (mg/kg), barium was 168 mg/kg, lead was 5.90 mg/kg, and selenium was 0.816 mg/kg. The maximum pH value was 8.77. See the attached ROWC for details.

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?

As part of Chevron's Data Integrity review, all point of compliance samples will be recollected in accordance with the approved Form 27 investigation plan and analyzed for full Table 915-1. A hydro vacuum truck will be used to clear the remaining sample locations around the wellhead to support completion of recharacterization efforts. All investigation area soil samples will be analyzed for all Table 915-1 constituents. Additional background samples will be collected to establish the natural range of values for inorganic constituents in the area. If additional background sampling fails to clear elevated inorganic constituent levels in the investigation areas, additional delineation efforts will be completed to address lead exceedances observed within SEP02-FL, and arsenic, barium, and selenium exceedances observed within SEP01-FL, SEP02-FL, and FL01-04. See the attached ROWC for details.

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 impacted material caused by oil and gas operations has been removed at this time.

REMIEDIATION 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.

See the attachments associated with Form 27 Documents 404137149 and 404123076 (In Process) for site investigation details prior to 2025.

On August 7, 2025, Confluence provided sampling support to recharacterize wellhead and flowline samples collected during initial site investigations by the previous consultant. Using an environmental drill rig equipped with solid stem auger, soil borings were planned to be advanced at the locations of each previously collected sample. Prior to advancement of proposed boring locations, a private locate was conducted to identify private utilities at the Location. The locate indicated that utilities were in close proximity of the proposed sampling locations. As a result, no samples around the former wellhead location were located due to safety concerns; only flowline SEP01-FL, SEP02-FL, and FL01-04 sample locations could be collected. A subsequent mobilization is planned with a hydrovac truck to pothole proposed locations to confirm the position of the utilities prior to sample collection. Analytical results of the collected flowline recharacterization samples indicate compliance with Protection of Groundwater Soil Screening Levels (PGSSLs) except for arsenic, barium, lead and selenium. All SSR constituents were compliant with applicable standards. Two background soil samples were also collected in adjacent undisturbed areas to characterize native concentrations of inorganics at the Location; analytical results indicate SEP01-FL, SEP02-FL, and FL01-04 were below background conditions (1.25X max) for arsenic, barium, selenium, and pH. See the attached ROWC for additional details.

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.

Groundwater was not encountered during 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 Quarterly Update, SSI Report, and SSIP

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 (policies 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: _____

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 reseeded program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing.

Reclamation will be carried out 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. 10/31/2027

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. 05/16/2023

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

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 09/06/2023

Proposed site investigation commencement. 07/01/2023

Proposed completion of site investigation. 12/31/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 08/07/2025

Proposed date of completion of Remediation. 12/31/2025

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 necessity for supplemental site investigation activities adjacent to the former DERR #21-4 wellhead and flowline and necessity for SSI activities adjacent to the wellhead and flowline. Additional site investigation to complete recharacterization of potential impacts identified during initial site investigations is tentatively scheduled to be completed by the end of the fourth quarter of 2025.

OPERATOR COMMENT

This form has been submitted to satisfy the quarterly reporting requirement for the DERR #21-4 (Remediation Project 29994), to report results of August 7, 2025 site investigation, and to proposed supplemental wellhead, flowline, and background investigation.

Sampling completed by Confluence indicates that all organic constituents of concern are within PGSSLs. However, based on the proximity of recharacterization points to live utilities around the wellhead, the previous effort to advance soil borings could not safely be completed. A supplemental site visit where potholing of proposed boring sites and daylighting of adjacent utilities will be necessary to complete this work safely. Elevated values of metals and pH remain at the wellhead site investigation area. However, values of these constituents exceeding allowable limits were detected in background samples at comparable concentrations. When compared to the current dataset of background values, there is no clear evidence that these inorganic values are related to oil and gas operations at the Location. Additional background samples will be collected from nearby, undisturbed areas for a more diverse background dataset to further characterize native soil conditions present at the Location. If additional background sampling efforts prove unfounded, additional delineation will be conducted. See the attached ROWC for details.

Additional site investigation to complete recharacterization efforts is tentatively scheduled to be completed by the end of the fourth quarter of 2025. Additional background samples will also be collected to establish the natural range of values for inorganic constituents in the area. If additional background sampling fails to clear elevated inorganic constituent levels in the investigation areas, additional delineation efforts will be completed to address lead exceedances observed within sample SEP02-FL, and arsenic, barium, and selenium exceedances observed within SEP01-FL, SEP02-FL, and FL01-04. Pursuant to Rule 913.e., quarterly reporting will be conducted until closure criteria are achieved for the remediation project.

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

Signed: Miranda Beard

Title: Project Scientist

Submit Date: _____

Email: miranda.beard@confluence-cc.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: 29994

COA Type

Description

0 COA	
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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

404347898	ANALYTICAL RESULTS
404347899	ANALYTICAL RESULTS
404356589	SITE INVESTIGATION REPORT

Total Attach: 3 Files

General Comments

User Group

Comment

Comment Date

		Stamp Upon Approval
--	--	---------------------

Total: 0 comment(s)