

State of Colorado
Energy & Carbon Management Commission

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Document Number:

404273826

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) 313-5582
City: DENVER	State: CO	Zip: 80202
Contact Person: Jason Davidson	Email: jason.davidson@chevron.com	Mobile: ()

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 24172 Initial Form 27 Document #: 403109830

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: WELL	Facility ID: _____	API #: 123-23727	County Name: WELD
Facility Name: FARR C 18-25	Latitude: 40.308680	Longitude: -104.597350	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NESW	Sec: 18	Twp: 4N	Range: 64W
Meridian: 6	Sensitive Area? Yes		

Facility Type: SPILL OR RELEASE	Facility ID: 483537	API #: _____	County Name: WELD
Facility Name: Farr C18-25	Latitude: 40.308718	Longitude: -104.597412	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NESW	Sec: 18	Twp: 4N	Range: 64W
Meridian: 6	Sensitive Area? Yes		

SITE CONDITIONS

General soil type - USCS Classifications SW

Most Sensitive Adjacent Land Use Range Land

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

OG Facility 0.08mi SW
Freshwater Emergent Wetlands 0.21mi E, 0.12mi N
Riverine 0.22mi E
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	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.

Pursuant to ECMC Rule 911 a site investigation was conducted pertaining to the FARR C18-25 wellhead cut and cap and flowline removal. Approximately 799' of flowline was removed. The ECMC was updated in a supplemental Form 27 if a portion of the flowline is abandoned-in-place due to field constraints. The wellhead was cut and capped per ECMC rules. Additionally, soil samples were collected at any points of material change and/or hammer unions, directional changes, as well as at the bell holes on either side of a waterway, AS APPLICABLE to abandonment type. The Flowline Pre-Abandonment Notice Document number was included under Related Forms.

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 grab soil sample was collected at the base of the excavation or the area showing the highest degree of impact during field screening activities at the wellhead excavation. Additionally, soil samples were collected at any points of material change and/or hammer unions, directional changes, as well as at the bell holes on either side of a waterway, AS APPLICABLE to abandonment type. A grab confirmation soil sample was collected at the wellhead excavation. 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):

Groundwater was not encountered during decommissioning or remedial excavation activities. If groundwater is encountered during supplemental investigations a groundwater sample will be collected for Table 915-1 organic and inorganic constituents in groundwater (Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX), naphthalene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Chloride ion, Sulfate ion and Total Dissolved Solids (TDS).

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 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 applicable ECMC Closure Checklists were utilized and filled out during the abandonment process. A photolog is attached.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 8

Number of soil samples exceeding 915-1 3

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

Approximate areal extent (square feet) 300

NA / ND

ND Highest concentration of TPH (mg/kg) _____

-- Highest concentration of SAR 2.55

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

 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?

Seven background soil samples were collected near the former Farr T4N-R64-WS18 L01 tank battery due to field constraints. These samples were obtained at similar depths and within comparable lithologies to the confirmation soil samples collected at the site. All samples were analyzed for the full Table 915-1 analyte suite to verify the absence of any environmental impacts. Analytical results for the background soil samples indicated elevated levels of pH, arsenic (As), barium (Ba), and cadmium (Cd).

Background Soil Sample Analysis (mg/kg)

pH: Max = 8.69

As: Max*1.25 = 4.43

As: Max*1.25 = 228

As: Max*1.25 = 0.415

☐ 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 for projects associated with Eagle Environmental, all point-of-compliance samples will be re-collected in accordance with the approved Form 27 Investigation Plan and analyzed for the full Table 915-1 analyte suite.

Sample location WH-FS-01 @6', initially collected during wellhead cut-and-cap operations, will be re-sampled and analyzed. If results meet Table 915-1 concentration standards, Noble will request a No Further Action (NFA) determination. Background samples will be used to justify any elevated concentrations.

Sample SEP01 SURF, collected at the separator flowline riser tie-in during the flowline decommissioning, will also be re-sampled to confirm initial results and obtain metals data. An NFA request will be submitted if results comply with Table 915-1 standards, with background concentrations used to justify any exceedances.

Previously field-screened samples FL02 2FT, FL03 2FT, FL04 2FT, and FL05 2FT will be collected and analyzed per the original sampling plan (Document No. 403109830).

Excavation confirmation samples—Backfill, N01 @3.0', S01 @3.0', E01 @3.0', W01 @3.0', and B01 @4.0'—collected during the FL01 2FT remedial excavation were submitted outside the required preservation temperature range. These will be re-collected at original locations and depths. If compliant upon reanalysis, Noble will request an NFA determination, supported by background data as needed.

Additional local background samples will also be collected to further characterize native soil conditions.

Refer to the attached Site Investigation Plan for proposed sample, resample, and background 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 FL01 2FT were removed through a remedial excavation. Remedial excavation confirmation soil samples were 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 a historical release at soil sample location FL01 2FT, which was reported in Form 19 (Document No. 403267889).

To address the contamination, impacted soil was excavated, with remedial activities completed on June 25, 2024. Post-excavation, confirmation soil samples were collected and analyzed for the full ECMC Table 915-1 analyte suite. Results showed compliance with organic compound standards; however, elevated levels of pH, arsenic (As), barium (Ba), and lead (Pb) were detected. The elevated pH, As, and Ba concentrations are proposed to be naturally occurring, based on comparison with maximum background levels and 1.25x the maximum background concentrations for As and Ba.

Groundwater was not encountered during excavation and is estimated to be approximately 40 feet below ground surface, based on Colorado Division of Water Resources (DWR) data from a downgradient stock well (Permit #247461), located within half a mile of the site. Relevant DWR documentation and site maps are included in the attachments. Given the >25-foot separation between elevated metals in soil and groundwater, the operator proposes applying the Table 915-1 Residential Soil Screening Levels (RSSLs) as closure criteria.

The operator acknowledges that confirmation samples were submitted outside the required temperature preservation range and that existing background samples were collected near the former Farr T4N-R64-WS18 L01 tank battery pad. As a result, all confirmation samples will be re-collected to verify results, and additional background samples will be obtained to further characterize native soil conditions.

Refer to the attached Site Investigation Report workplan for details on proposed resample and additional background locations.

Soil Remediation Summary

☐ In Situ

Bioremediation (or enhanced bioremediation)

Chemical oxidation

Air sparge / Soil vapor extraction

Natural Attenuation

Other

☒ Ex Situ

Yes

Excavate and offsite disposal

If Yes: Estimated Volume (Cubic Yards)

28

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 decommissioning or remedial excavation activities. If groundwater is encountered during supplemental investigations a groundwater sample will be collected for Table 915-1 organic and inorganic constituents in groundwater (Benzene, Toluene, Ethylbenzene, Total Xylenes (BTX), naphthalene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Chloride ion, Sulfate ion and Total Dissolved Solids (TDS).

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 Decom Data Submittal, Remedial Progress Update and 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:

No beneficial use.

Volume of E&P Waste (solid) in cubic yards 28

E&P waste (solid) description hydrocarbon impacted soil

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility: Buffalo Ridge Landfill, Keenesburg, 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. 06/23/2022

Actual Spill or Release date, or date of discovery. 12/21/2022

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 09/26/2022

Proposed site investigation commencement. 08/15/2022

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. 06/25/2024

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 "Proposed Date of Completion of Remediation" section has been updated to reflect the actual date the remedial excavation was completed. Additionally, the "Proposed Completion of Site Investigation" section has been revised to account for the need for supplemental site investigation activities adjacent to the former Farr C 18-25 wellhead and flowline. The proposed investigation will be conducted following approval of this form. For additional information, please refer to the Operator Comment section.

OPERATOR COMMENT

This Form 27 is submitted for the former Farr C 18-25 wellhead and flowline and includes decommissioning results, remediation progress, and a proposed supplemental site investigation.

Remedial excavation at sample location FL01 2FT was completed on June 25, 2024. Post-excavation analytical results met Table 915-1 standards for organic compounds, though elevated levels of pH, arsenic (As), barium (Ba), and lead (Pb) were detected. Elevated pH, As, and Ba are considered consistent with native conditions, based on comparisons to background samples.

Groundwater was not encountered during excavation and is estimated at approximately 40 feet below ground surface, based on DWR data from a nearby downgradient stock well (Permit #247461). With a >25-foot separation between soil impacts and groundwater, the operator proposes applying Table 915-1 Residential Soil Screening Levels (RSSLs) as closure criteria. Relevant DWR documentation and site maps are included in the attachments.

Refer to the Remedial Action Plan Section for further details.

Excavation confirmation samples—Backfill, N01 @3.0', S01 @3.0', E01 @3.0', W01 @3.0', and B01 @4.0'—were submitted outside the required temperature range and will be re-sampled to confirm results.

As part of Chevron's Data Integrity Review, point-of-compliance samples will be re-collected per the approved Form 27 Investigation Plan and analyzed for the full Table 915-1 suite. This includes WH-FS-01 @6', collected during wellhead cut-and-cap activities.

Sample SEP01 SURF, collected during flowline decommissioning, is not part of the Data Integrity Review but will be re-sampled to confirm results and obtain metals data.

Previously field-screened samples FL02 2FT, FL03 2FT, FL04 2FT, and FL05 2FT will be sampled per the original investigation plan (Document No. 403109830). Additional background samples will be collected to support native soil characterization.

Refer to the attached Site Investigation Report Workplan for detailed sampling locations and methods. The operator will initiate supplemental investigation activities upon approval of this form.

In response to ECMC Form 27 Comment dated 4/2/2025 (Document Number 403923111), Operator is submitting a replacement Form 27. Based on currently available data, this project is not affected by data integrity irregularities and is not associated with Operator's data integrity review process and its Rule 525.e. Voluntary Disclosure. As part of its data integrity review process, Operator requested the labs protect the laboratory analytical reports from subsequent unauthorized modification by anyone outside the labs, which resulted in the labs reissuing the original report with additional protections (Reissued Report). The Reissued Reports received directly from the lab on 2/13/2025 (Origins), and 3/31/25, 4/4/2025, 4/10/2025 (Summit) include [if Origins] a watermark confirming both the laboratory representative who reissued the report and the date and time of the reissuance or [if Summit] the application of a Digital ID/Verified Certification (lock) to support reissuance. The metadata associated with the Reissued Reports also includes the lab representative's name, the date and time the laboratory reissued the report, and an explanation for the reissuance. The Reissued Reports are attached to this submission as stand alone documents.

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 responsive to ECMC's general comments responding to Operator's Form 27 submission found in Document Number 403923111.

Quarterly reporting will continue until closure criteria are met. Results of the supplemental 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: 24172

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

404273844	LABORATORY ANALYTICAL REPORT
404273845	LABORATORY ANALYTICAL REPORT
404273846	LABORATORY ANALYTICAL REPORT
404273847	OTHER

404273848	SITE INVESTIGATION REPORT
404273849	SITE INVESTIGATION PLAN
404273850	OTHER
404273852	SITE INVESTIGATION REPORT
404273853	REMEDIATION PROGRESS REPORT
404273854	LABORATORY ANALYTICAL REPORT
404273855	LABORATORY ANALYTICAL REPORT

Total Attach: 11 Files

General Comments

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

Total: 0 comment(s)