

State of Colorado
Energy & Carbon Management Commission

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Document Number:
404552851

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) 304-5000
City: DENVER State: CO Zip: 80202		Mobile: ()
Contact Person: Dan Peterson	Email: RBUEUF27@chevron.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 34794 Initial Form 27 Document #: 403711763

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 #: 123-24217	County Name: WELD
Facility Name: LONG C 20-17	Latitude: 40.301980	Longitude: -104.570130	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWNE	Sec: 20	Twp: 4N	Range: 64W Meridian: 6 Sensitive Area? Yes
Facility Type: SPILL OR RELEASE	Facility ID: 488087	API #: _____	County Name: WELD
Facility Name: Long C20-17	Latitude: 40.302259	Longitude: -104.570817	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWNE	Sec: 20	Twp: 4N	Range: 64W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 488088 API #: _____ County Name: WELD
Facility Name: Long C20-17 Latitude: 40.304577 Longitude: -104.573671
** correct Lat/Long if needed: Latitude: _____ Longitude: _____
QtrQtr: NWNE Sec: 20 Twp: 4N Range: 64W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SP Most Sensitive Adjacent Land Use Grassland

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 0.02mi E, 0.03mi NE
Freshwater Pond 0.15mi SW
Residential 0.17mi NW, 0.2 mi N, 0.22mi NE, 0.18mi SE
Farm Structure 0.15mi NW, 0.17/0.18mi N, 0.21mi NE, 0.16mi 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	N/A	Lab analysis and Field Screening, if encountered.
Yes	SOILS	Refer to Tables and Figures	Lab analysis and Field Screening

INITIAL ACTION SUMMARY

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

Pursuant to ECMC Rule 911 a site investigation was conducted pertaining to the Long C20-17 flowline removal. Approximately 1582' of flowline was removed. The wellhead was cut and capped per ECMC rules. Additionally, soil samples were field screened at the N-E-S-W sides of the wellhead. So as to not disturb the area of field constraint, soil samples were taken at the start and endpoint of the flowline where the area exists. Soil samples were also taken along the flowline any points of material change and/or hammer unions, directional changes, as well as at the bell holes on either side of a waterway. The Flowline Pre-Abandonment Notice Document number was included on a previous Form 27 (Doc. #403906039).

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 field screened at the N-E-S-W sides of the wellhead. Soil samples were taken along the flowline 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. Soil samples were/will be analyzed by a certified laboratory for the full extent of ECMC Table 915-1, including but not limited to: TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons) organic compounds in soil per ECMC Table 915-1, and EC, SAR, pH, metals, and boron. All samples collected were and will be 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 the site investigation, a grab groundwater sample 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 of the wellhead and flowline areas occurred and will occur during abandonment activities. Field personnel field screened and will field screen all disturbed areas using visual and olfactory senses to determine if laboratory confirmation sampling was and is required.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 2
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 0.81
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
_____ 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?

Four background soil samples were collected near the flowline from one borehole (BKG01) on 08/22/2024. An additional twenty background soil samples were collected near the flowline from four boreholes (BKG02-BKG05) on 06/12/2025. All background samples were analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. Background soil samples were collected from depths ranging between 0.5 to 6 feet below ground surface (ft bgs). The maximum background concentrations for pH, EC and SAR were 7.93, 13.6 mmhos/cm, and 16.6, respectively. The maximum background concentrations with a 1.25x multiplier applied for arsenic, barium and selenium were observed to be 8.38 mg/kg, 200 mg/kg, and 0.48 mg/kg, respectively. The analyzed samples were within ECMC Table 915-1 standards/maximum background concentrations, except for pH in soil sample locations FL01-03@2.5' and SS03@3', and EC and boron in SS10@2.5'.

Was investigation derived waste (IDW) generated as part of this investigation?

Volume of solid waste (cubic yards) _____ Volume of liquid waste (barrels) _____

Is further site investigation required?

A supplemental site investigation (SSI) will be completed to vertically and horizontally delineate the pH exceedances observed at soil samples FL01-03@2.5' and SS03@3', and the EC and boron exceedance at SS10@2.5'; samples collected will be submitted for full ECMC Table 915-1 analysis. Concurrently with the SSI, additional background soil samples (5+) will be collected and analyzed for metals and inorganics in soil per ECMC Table 915-1 to determine if the elevated pH, EC, and boron are attributed to native soil conditions at the site. An SSI map is attached to the supplemental Form 27 (Doc. #404360946), currently "In Process" on webforms.

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.

On December 3, 2024, a remedial excavation was completed to remove the naphthalene, TPH, and PAH exceedances observed at FL01-01@2.5' and FL01-06@3. Approximately 80 cubic yards of impacted material were removed from the flowline locations and disposed of at Buffalo Ridge Waste Management in Keenesburg, CO, under Noble manifests. Analytical results indicated that benzo(a)anthracene concentrations were in exceedance of the applicable regulatory standards in soil sample locations SS02@3' and SS05@2.5'. Based on the analytical results, remedial excavation activities were initiated on 6/12/2025 to remove remaining organic impacts. Approximately 20 cubic yards of impacted material were removed and disposed of at Buffalo Ridge Waste Management in Keenesburg, CO, under Noble manifests. Analytical results indicated that all organic impacts have been successfully removed (Doc. #404360946).

REMIATION 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.

A supplemental site investigation (SSI) will be completed to vertically and horizontally delineate the pH exceedances observed at soil samples FL01-03@2.5' and SS03@3', and the EC and boron exceedance at SS10@2.5'; samples collected will be submitted for full ECMC Table 915-1 analysis. Concurrently with the SSI, additional background soil samples (5+) will be collected and analyzed for metals and inorganics in soil per ECMC Table 915-1 to determine if the elevated pH, EC, and boron are attributed to native soil conditions at the site. An SSI map is attached to the supplemental Form 27 (Doc. #404360946), currently "In Process" on webforms.

Soil Remediation Summary

In Situ

Ex Situ

_____ Bioremediation (or enhanced bioremediation)

Yes _____ Excavate and offsite disposal

_____ Chemical oxidation

_____ If Yes: Estimated Volume (Cubic Yards) _____ 100

_____ 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 initial decommissioning or remedial excavation 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 Timeline Update

Adequacy of Operator's General Liability Insurance and Financial Assurance

Describe the adequacy of the Operator's general liability insurance and Financial Assurance to fully address the anticipated costs of Remediation, including the estimated remaining cost for this project (below).
If this information has been provided on a Form 27 within the last 12 months, provide the Document Number of that form.

Noble intends to directly address the costs of remediation at the locations as part of our asset retirement obligation process and operations. Noble has general liability insurance (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? 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 100

E&P waste (solid) description Hydrocarbon Impacted Soil

ECMC Disposal Facility ID #, if applicable: _____

Non-ECMC Disposal Facility: Waste Management 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? _____

Does the previous reply indicate consideration of background concentrations? _____

Does Groundwater meet Table 915-1 standards? _____

Is additional groundwater monitoring to be conducted? _____

Operator shall comply with the ECMC 1000-Series Reclamation Requirements for all impacted and disturbed areas.

RECLAMATION PLAN

RECLAMATION PLANNING

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing.

Reclamation will be in accordance with ECMC 1000 Series Rules.

Is the described reclamation complete? Yes _____

Does the reclamation described herein constitute interim or final reclamation of the Oil and Gas Location?

Interim Final

Did the Surface Owner provide the seed mix? _____

If YES, does the seed mix comply with local soil conservation district recommendations? _____

Did the local soil conservation district provide the seed mix? _____

SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. 08/22/2024

Proposed date of completion of Reclamation. 03/31/2028

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. 02/29/2024

Actual Spill or Release date, or date of discovery. 08/29/2024

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 08/22/2024

Proposed site investigation commencement. 09/05/2024

Proposed completion of site investigation. 03/31/2026

REMEDIAL ACTION DATES

Proposed start date of Remediation. 03/31/2026

Proposed date of completion of Remediation. 09/30/2026

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

Change from approved implementation schedule per Rule 913.d.(2).

Basis for change in implementation schedule:

The implementation schedule has been changed due to the completion of remedial excavation activities at the Long C20-17 flowline and necessity for supplemental site investigation activities adjacent to the flowline. The proposed SSI is tentatively scheduled for completion by 1Q 2026.

OPERATOR COMMENT

This form has been submitted to provide a re-submittal of the 4Q 2025 update for the Long C20-17 wellhead and flowline (REM# 34794). Two previously submitted workplans (Doc. #404360946 and Doc. #404120974) are currently "In-Process" on webforms. No work has been completed since the last submitted workplan.

A supplemental site investigation (SSI) will be completed to vertically and horizontally delineate the pH exceedances observed at soil samples FL01-03@2.5' and SS03@3', and the EC and boron exceedance at SS10@2.5'; samples collected will be submitted for full ECMC Table 915-1 analysis. Concurrently with the SSI, additional background soil samples (5+) will be collected and analyzed for metals and inorganics in soil per ECMC Table 915-1 to determine if the elevated pH, EC, and boron are attributed to native soil conditions at the site. An SSI map is attached to the supplemental Form 27 (Doc. #404360946), currently "In Process" on webforms.

In response to ECMC comment dated 12/19/2025 (Doc. #404461610), active negotiations with landowner are in progress regarding access terms and timing. Work is expected to be completed by 1Q 2026. Work will be conducted in compliance with previously approved work plans and the 900 Series Rules.

Pursuant to Rule 913.e., 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: Scott Williamson

Title: Environmental Consultant

Submit Date: _____

Email: NorthernColoradoPM@montrose-env.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: 34794

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

--	--

Total Attach: 0 Files

General Comments

User Group

Comment

Comment Date

		Stamp Upon Approval
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Total: 0 comment(s)