FORM 27 Rev 5/22

State of Colorado
Energy & Carbon Management Commission

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

Document Number: 403700918
Receive Date: 02/27/2024
Report taken by: Kilian Collins

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 INFORMATON

Name of Operator: NOBLE ENERGY INC Operator No: 100322
Address: 1099 18TH STREET SUITE 1500
City: DENVER State: CO Zip: 80202
Contact Person: Dan Peterson Email: rbueuf27@chevron.com

Phone Numbers
Phone: (970) 730-7281
Mobile: ( )

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 24990 Initial Form 27 Document #: 403160946

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.
- [X] 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.
- [X] 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 #: 123-12822 County Name: WELD
Facility Name: WATKINS 12-2 Latitude: 40.325130 Longitude: -104.505930
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: NWSW Sec: 12 Twp: 4N Range: 64W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 483889 API #: County Name: WELD
Facility Name: Watkins 12-02 Latitude: 40.325104 Longitude: -104.499449
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: NWSW Sec: 12 Twp: 4N Range: 64W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SW

Most Sensitive Adjacent Land Use Crop Land

Is domestic water well within 1/4 mile? 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

Riverine 0.20mi W
Irrigation Ditches 0.13mi / 0.25mi N
Irrigation Pond 0.24mi NW

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- [X] **E&P Waste**
  - [X] Produced Water
  - [X] Oil
  - [X] Condensate
  - [ ] Drilling Fluids
  - [ ] Drill Cuttings
- [ ] **Other E&P Waste**
  - [ ] Workover Fluids
  - [ ] Tank Bottoms
  - [ ] Pigging Waste
  - [ ] Rig Wash
  - [ ] Spent Filters
  - [ ] Pit Bottoms
  - [ ] Other (as described by EPA) _____
- [ ] **Non-E&P Waste** _____

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	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 WATKINS 12-02 wellhead cut and cap and flowline removal. The wellhead was cut and capped per ECMC rules. Approximately 2030' of flowline was removed. 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 Abandonment Form 44 Document Number is included under Related Forms. unbenounced

PROPOSED SAMPLING PLAN

Proposed Soil Sampling

[X] Will soil samples be collected as part of this investigation? (Number, type (grab/composite), analyses, and locations of samples):

A grab soil sample will be collected at the base of the cut and cap excavation area or the area showing the highest degree of impact during field screening activities at the wellhead excavation. Grab confirmation soil samples were collected at the wellhead excavation, as well as at the directional change and start/end points of the flowline. Additionally, soil samples were field screened at the N-E-S-W sides of the wellhead. 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, EC, SAR, pH, and boron. All samples collected were analyzed by a certified laboratory using ECMC-approved laboratory analysis methods.

Proposed Groundwater Sampling

[X] Will groundwater samples be collected as part of this investigation? (Number, analyses, and locations of samples):

Groundwater has not been encountered during the wellhead and flowline decommissioning activities completed to date. If groundwater is encountered during the forthcoming remedial excavation activities, groundwater samples will be collected and analyzed for all organic and inorganic compounds in groundwater 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 during abandonment activities. Field personnel field screened all disturbed areas using visual and olfactory senses to determine if laboratory confirmation sampling was required. The ECMC Wellhead and Flowline Closure Checklists were utilized and filled out during the abandonment process. Detailed summaries of the wellhead and flowline decommissioning activities, including field notes, site photos, figures, and laboratory analytical results, were attached to the subsequent Form 27 (Document No. 403484451).

Additionally, one soil boring (BH01) was advanced to vertically delineate the impacts identified at sample location FL01-J@4'. Two soil samples were collected from BH01 and analyzed for TPH (C6-C36), organic compounds in soil per ECMC Table 915-1, metals in soil per ECMC Table 915-1, and SAR. The results of the soil boring site assessment activities were provided in the subsequent Form 27 (Document No. 403484451).

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected: 16
Number of soil samples exceeeding 915-1: 4
Was the areal and vertical extent of soil contamination delineated? No
Approximate areal extent (square feet): 200

NA / ND

-- Highest concentration of TPH (mg/kg): 565
-- Highest concentration of SAR: 7.26
BTEX > 915-1: No
Vertical Extent > 915-1 (in feet): 4

Groundwater

Number of groundwater samples collected: 0
Was extent of groundwater contaminated delineated? No
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?

[X] Were background samples collected as part of this site investigation?

Ten (10) background soil sample was collected from five discrete locations near the flowline (BG01-BG05) and analyzed for metals in soil per ECMC Table 915-1, and SAR. Background soil samples were collected from depths ranging of 4 and 8 feet below ground surface (ft bgs). The maximum background result for SAR at 4 ft bgs was observed to be 7.89. The SAR result observed at sample location FL01-J@4' (7.26) during decommissioning activities was below 7.89, and therefore within site-specific background levels. As such, SAR should not be considered a contaminant of concern.

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

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

[X] Is further site investigation required?

Remedial excavations will be completed to remove organic soil impacts observed at sample locations FL01-J@4' and FL01-K@1' during decommissioning, as described in the Remedial Action Plan section of this Form 27. Concurrently with the remedial excavation, additional background soil samples may be collected to determine if metals are attributed to native soil conditions at the site.

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 naphthalene, Benz(a)anthracene, and 1-Methylnaphthalene exceedances observed at sample location FL01-J@4', and the TPH and Benz (a)anthracene exceedances observed at sample location FL01-K@1' will be removed through remedial excavation activities in accordance with the proposed excavation map attached to this Form 27.

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.

Based on the TPH, naphthalene, Benz(a)anthracene, and 1-Methylnaphthalene exceedances identified during decommissioning, Noble proposes to limit future excavation soil sampling to TPH (C6-C36), organic compounds in soil per ECMC Table 915-1, and metals in soil per ECMC Table 915-1 only. Since the waste characterization samples (FL01-J@4' and FL01-K@1') were not analyzed for ECMC Table 915-1 Metals, these analyses will be included in the forthcoming excavation soil sampling activities. The Soil Suitability for Reclamation Parameters (pH, SAR, EC, boron) were not detected above ECMC Table 915-1 standards and/or site-specific background levels for SAR, and have been omitted from the proposed sampling plan for the excavation confirmation soil samples as a result. The results of the remedial excavation will be submitted on a subsequent Form 27.

Soil Remediation Summary

☐ **In Situ**

_____ Bioremediation (or enhanced bioremediation)

_____ Chemical oxidation

_____ Air sparge / Soil vapor extraction

_____ Natural Attenuation

_____ Other _____

☐ **Ex Situ**

_____ Excavate and offsite disposal

If Yes: Estimated Volume (Cubic Yards) _____

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.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

[X] 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

[X] Other Timeline Update & Supplemental Source Mass Removal 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 MWZZ 316714) 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? 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?

[X] 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. 11/28/2022

Proposed date of completion of Reclamation. 02/14/2026

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. 07/20/2022

Actual Spill or Release date, or date of discovery. 02/14/2023

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 11/28/2022

Proposed site investigation commencement. 04/19/2022

Proposed completion of site investigation. 04/19/2022

REMEDIAL ACTION DATES

Proposed start date of Remediation. 04/19/2022

Proposed date of completion of Remediation. 08/14/2025

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.

[X] 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 decommissioning of the WATKINS 12-02 wellhead and flowline and the necessity for remedial excavation activities adjacent to the former flowline. The proposed remedial excavation will be completed following the approval of this form, landowner negotiations, and crew availability.

OPERATOR COMMENT

This Form 27 is being re-submitted as a timeline update for the completion of remedial excavation activities at the WATKINS 12-02 flowline location. A proposal to excavate the naphthalene, Benz(a)anthracene, and 1-Methylnaphthalene exceedances observed at sample location FL01-J@4', and the TPH and Benz(a)anthracene exceedances observed at sample location FL01-K@1' during decommissioning is presented in the Remedial Action Plan section of this Form 27.

Ten (10) background soil sample was collected from five discrete locations adjacent to the former flowline (BG01-BG05). The maximum background result for SAR at 4 ft bgs was observed to be 7.89. The SAR result observed at sample location FL01-J@4' (7.26) during decommissioning activities was below 7.89, and therefore within site-specific background levels. Since the maximum background result for SAR at 4 ft bgs was observed to be greater than then result for sample FL01-J@4', Noble requests that SAR not be considered a contaminant of concern.

Based on the contaminants of concern identified during decommissioning, Noble proposes to limit future excavation soil sampling to TPH (C6-C36), organic compounds in soil per ECMC Table 915-1, and metals in soil per ECMC Table 915-1 only. Since the waste characterization samples (FL01-J@4' and FL01-K@1') were not analyzed for ECMC Table 915-1 Metals, these analyses will be included in the forthcoming excavation soil sampling activities. The Soil Suitability for Reclamation Parameters (pH, SAR, EC, boron) were not detected above ECMC Table 915-1 standards and/or site-specific background levels for SAR, and have been omitted from the proposed sampling plan for the excavation confirmation soil samples as a result. Concurrent with remedial excavation activities, additional background soil samples may be collected to determine if metals at this location are indicative of native material conditions.

Quarterly reporting will be conducted until closure criteria are achieved for this 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: Allan Engelhardt Title: Environmental Consultant

Submit Date: 02/27/2024 Email: chevroneform@tasman-geo.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: Kilian Collins Date: 11/19/2024

Remediation Project Number: 24990

COA Type	Description
	ECMC approves the plan to remediate these releases through excavation but does not approve the timeline. This proposal to complete the remediation 912 days after discovery of the release does not adequately comply with 912.a.(2).
	ECMC does not approve the requested amended sampling plan. Due to the historical nature of these releases, Operator shall analyze all confirmation and delineation samples for the full suite of Table 915-1 contaminates of concern including: organic compounds in soil, TPH, soil suitability standards, and metals.
2 COAs	

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
403700918	INVESTIGATION/REMEDIATION WORKPLAN (SUPPLEMENTAL)
403890040	REMEDIAL ACTION PLAN
403998688	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 3 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)