FORM 27 Rev 5/22

State of Colorado
Energy & Carbon Management Commission

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Report taken by: RICK ALLISON

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.

FAILED

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 #: 30764 Initial Form 27 Document #: 403465222

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.
- [ ] 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: SPILL OR RELEASE Facility ID: 485371 API #: County Name: WELD
Facility Name: Shable 14-23 Latitude: 40.575050 Longitude: -104.523690
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SWNW Sec: 14 Twp: 7N Range: 64W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications CL Most Sensitive Adjacent Land Use Cropland
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

Well Within Pronghorn Winter Concentration Area HPH
Riverine 0.08mi W/ 0.11mi SW

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
No	GROUNDWATER	NA	Not encountered
Yes	SOILS	8'x6'x8'	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 SHABLE 14-23 wellhead cut and cap. 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. The flowline was previously abandoned on 11/21/2018, and the ECMC was notified on Form 44 Document number 403216829. A historical release was identified at the wellhead based on laboratory analytical results exceeding ECMC Table 915-1 protection of groundwater soil screening levels, only.

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):

Five (5) grab soil samples were collected at the wellhead excavation, and soil samples were field screened at the N-E-S-W sides of the wellhead. Soil samples were analyzed by a certified laboratory for the full extent of 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, EC, SAR, pH, metals, 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):

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):

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected: 22

Number of soil samples exceeeding 915-1: 4

Was the areal and vertical extent of soil contamination delineated? Yes

Approximate areal extent (square feet): 48

NA / ND

-- Highest concentration of TPH (mg/kg): 285.7 95

-- Highest concentration of SAR: 14.6

BTEX > 915-1: No

Vertical Extent > 915-1 (in feet): 20

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?

☒ Were background samples collected as part of this site investigation?

One (1) background sample was collected from similar lithologic material near the wellhead for EC, SAR, arsenic, barium, lead, and selenium analysis. Additional backgrounds (5+) were collected from an area off of the current pad, from material of comparable depth and lithology for further comparison of residual EC, SAR, arsenic, barium, lead, and selenium analysis.

Residual EC, SAR, arsenic, lead, and selenium values/concentrations are less than/consistent with local background comparison and do not appear to warrant additional assessment. Residual barium exceeds ECMC Table 915-1 Protection of Groundwater Soil Screening Levels (GSSLs) in soil at the site and in backgrounds. GSSLs do not appear applicable at the site, therefore, residual metals at the site do not appear to require additional assessment or remediation.

☐ 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?

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 source was delineated through a subsurface assessment, with samples collected for analysis of TPH (C6-36), ECMC Table 915-1 organics, EC, SAR, arsenic, barium, lead, and selenium in accordance with approved Form 27 Doc. # 403595539.

Results of the subsurface assessment indicate that residual petroleum hydrocarbon impacts have been vertically and laterally defined. Groundwater was not encountered during the subsurface assessment. The absence of groundwater and the local lithology suggests that a pathway to groundwater at this location is not likely. Therefore, Noble proposes to use ECMC Table915-1 Residential Soil Screening Levels at the site.

All organic concentrations are in compliance with ECMC Table 915-1 Residential Soil Screening Levels. Residual EC, SAR, arsenic, lead, and selenium values/concentrations are less than/consistent with local background comparison and do not appear to warrant additional assessment. Residual barium exceeds ECMC Table 915-1 Protection of Groundwater Soil Screening Levels (GSSLs) in soil at the site and in backgrounds. GSSLs do not appear applicable at the site, therefore, residual metals at the site do not appear to require additional assessment or remediation.

REMEDIATION SUMMARY

FAILED

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.

Results of the subsurface assessment indicate that residual petroleum hydrocarbon impacts have been vertically and laterally defined. Noble proposes to use ECMC Table 915-1 Residential Soil Screening Levels at the site. All concentrations at the site are in compliance with ECMC Table 915-1 Residential Soil Screening Levels and/or local background comparison. No further action appears warranted at this time.

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.

Groundwater was not encountered during the subsurface assessment. The absence of groundwater and the local lithology suggests that a pathway to groundwater at this location is not likely.

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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 Subsurface Assessment Summary

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.

Operator anticipates the remaining cost for this project to be: $ 0

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? Yes

If YES:

[X] 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? Yes

Does the previous reply indicate consideration of background concentrations? Yes

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. Residual EC and SAR values are less than/consistent with local background comparison and do not appear to warrant additional assessment.

Is the described reclamation complete? Yes

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

[ ] Interim [X] 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. 10/02/2023

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. 07/06/2023

Actual Spill or Release date, or date of discovery. 10/20/2023

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 10/02/2023

Proposed site investigation commencement. 08/11/2023

Proposed completion of site investigation. 02/08/2024

REMEDIAL ACTION DATES

Proposed start date of Remediation. 10/02/2023

Proposed date of completion of Remediation. 02/08/2024

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.

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

Basis for change in implementation schedule:

Implementation schedule updated to reflect the completion of the supplemental site investigation.

FAILED

OPERATOR COMMENT

Failed 11/26/2024 The source was delineated through a subsurface assessment, with samples collected for analysis of TPH (C6-36), ECMC Table 915-1 organics, EC, SAR, arsenic, barium, lead, and selenium in accordance with approved Form 27 Doc. # 403595539.

Results of the subsurface assessment indicate that residual petroleum hydrocarbon impacts have been vertically and laterally defined. Groundwater was not encountered during the subsurface assessment. The absence of groundwater and the local lithology suggests that a pathway to groundwater at this location is not likely. Therefore, Noble proposes to use ECMC Table915-1 Residential Soil Screening Levels at the site.

All concentrations at the site are in compliance with ECMC Table 915-1 Residential Soil Screening Levels and/or local background comparison. No further action appears warranted at this time.

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

Signed: Seth Bogue Title: Environmental Consultant

Submit Date: 09/11/2024 Email: cvxform27@erm.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: 30764

COA Type	Description
0 COA	

FAILED

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
403909140	FORM 27-SUPPLEMENTAL-SUBMITTED
403909199	SITE INVESTIGATION REPORT

Total Attach: 2 Files

General Comments

User Group	Comment	Comment Date
Environmental	ECMC has denied this form for data validation. A thorough review of this submittal has not been conducted. Operator shall conduct a thorough review of all analytical and resubmit the form.	11/26/2024

Total: 1 comment(s)