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: 404277492
Receive Date: 07/14/2025
Report taken by: Abdul Elnajdi

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: danpeterson@chevron.com

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

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 21986 Initial Form 27 Document #: 402944529

PURPOSE INFORMATION

- [ ] Rule 913.c.(1): Pit or Cuttings Trench closure.
- [X] 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: LOCATION Facility ID: 424373 API #: County Name: WELD
Facility Name: PATRIOT B16-69HN Latitude: 40.408030 Longitude: -104.563140
** correct Lat/Long if needed: Latitude: 40.408172 Longitude: -104.561932
QtrQtr: SWSW Sec: 9 Twp: 5N Range: 64W Meridian: 6 Sensitive Area? Yes

Facility Type: WELL Facility ID: API #: 123-34001 County Name: WELD
Facility Name: PATRIOT B16-69HN Latitude: 40.408030 Longitude: -104.563150
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SWSW Sec: 9 Twp: 5N Range: 64W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 483387 API #: County Name: WELD

Facility Name: Patriot B16-69HN Latitude: 40.408030 Longitude: -104.563150

** correct Lat/Long if needed: Latitude: Longitude:

QtrQtr: SWSW Sec: 9 Twp: 5N Range: 64W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 483933 API #: County Name: WELD

Facility Name: Patriot B16-69HN Tank Battery Latitude: 40.408214 Longitude: -104.562209

** correct Lat/Long if needed: Latitude: Longitude:

QtrQtr: SWSW Sec: 9 Twp: 5N 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? 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

Freshwater Pond 0.5mi E, 0.03mi N, 0.21mi SE
Freshwater Emergent Wetlands 0.08/0.14/0.19mi E, 0.05/0.12/0.19mi N
Riverine 0.15/0.19mi N, 0.14/0.17mi NE
Riparian Forested Shrub 0.06/0.19mi NE, 0.1mi N
Riparian Herbaceous 0.09/0.15mi E, 0.08mi N
Freshwater Forested Shrub Wetland 0.22mi E, 0.16/0.19mi NE
HWY 0.11mi W
Residential 0.14mi NW
Industrial/Farm Structures 0.11/0.16mi NW, 0.16/0.2/0.21mi S

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 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.

WELL: Pursuant to ECMC Rule 911 a site investigation was conducted pertaining to the PATRIOT B16-69HN wellhead cut and cap and flowline removal. Approximately 390' of flowline was abandoned in place. The wellhead was cut and capped per ECMC rules.

FACILITY: A site investigation was conducted pursuant to ECMC Rule 911 at the PATRIOT T5N-R64W-S9 L01 Tank Battery location.

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):

On 11/22/2022, soil samples were collected at the based of the excavation or the area showing the highest degree of impact during field screening activities at the wellhead excavation. Soil samples were field screening at the N-E-S-W sides of the wellhead.

On 2/17/2023, grab confirmation soil samples were collected at the facility beneath the ASTs, produced water vessel excavation, separator and meter house. Soil samples were analyzed by a certified laboratory for organic compounds in soil per ECMC Table 915-1, and inorganics including EC, pH, SAR, and boron. All samples were analyzed by a certified laboratory using approved ECMC laboratory analysis methods.

Proposed Groundwater Sampling

[X] 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):

On 11/07/2023, pursuant to Spill ID 483933, five soil borings (BH01-BH05) were advanced to delineate impacts identified at FS01@6' during the tank battery decommissioning. Additionally, pursuant to Spill ID 483387, five soil borings (BH06-BH10) were advanced to delineate impacts identified at WH-FS-01@5' during the tank battery decommissioning. Soil samples were collected and analyzed for TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons), organic compounds in soil, arsenic, lead, selenium, EC, SAR, pH, and boron. Groundwater was not encountered during this assessment.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected: 4

Number of soil samples exceeeding 915-1: 2

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

Approximate areal extent (square feet): 200

NA / ND

ND — Highest concentration of TPH (mg/kg)

-- — Highest concentration of SAR: 2.38

BTEX > 915-1: No

Vertical Extent > 915-1 (in feet): 6

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 05/08/025, fifteen background soil samples were collected from five discrete locations (BKG06-BKG10) adjacent to the wellhead and analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. Background soil samples were collected from depths ranging between 1 to 10 ft bgs. The maximum background concentration for pH was observed to be 8.15. The maximum background concentrations with a 1.25x multiplier applied for the following metals were calculated to be: 3.3 mg/kg for arsenic; 123 mg/kg for barium; 8.5 mg/kg for lead; and 0.26 mg/kg for selenium. All arsenic concentrations observed during investigation activities were below 1.25x the maximum background level.

☐ 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 performed to re-sample locations SS01, SS03, and SS04 for the ECMC Table 915-1 suite. Samples will also be collected to vertically (BH05R) and horizontally (BH14-BH18) delineate elevated pH to the extent of the former tank battery and well pad. Soil borings will be advanced at the wellhead (BH11-BH13) to horizontally delineate the barium exceedance observed at BH09R, and at BH07 to confirm and vertically delineate the elevated pH value observed during the May 2025 SSI. Concurrently with the SSI, additional background samples will be collected to determine if elevated pH, barium, and lead are attributed to native soil conditions at the site. The background samples will be collected from a location outside of the influence of the former well pad. The proposed SSI maps are attached to this Form 27.

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.

Pursuant to spill ID 483933, five soil borings (BH01-BH05) were advanced to total depths of 15 feet below ground surface (ft bgs) to delineate impacts identified at FS01@6' during the tank battery decommissioning. Soil samples were collected and analyzed for TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons), organic compounds in soil, arsenic, lead, selenium, EC, SAR, pH, and boron. Groundwater was not encountered during this assessment.

Pursuant to spill ID 483387, five soil borings (BH06-BH10) were advanced to 10 ft bgs to delineate impacts identified at WH-FS-01@5' during the tank battery decommissioning. Soil samples were collected and analyzed for TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons), organic compounds in soil, arsenic, barium, cadmium, selenium, and pH. Groundwater was not encountered during this assessment.

Hydrocarbon compounds identified at waste characterization sample locations FS01@6' and WH-FS-01@5' were not replicated during site assessment activities, and were successfully delineated vertically and laterally. Based on the successful delineation and lack of groundwater observed within 15 feet of the ground surface, Noble proposed to apply ECMC Table 915-1 Residential Soil Screening Levels (RSSLs). The request to use RSSLs across the site was approved on 05/13/2025 (ECMC Doc #404153473).

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.

Please refer to ECMC document number 403631364 for a detailed discussion of metals results at the site.

A Site Assessment was conducted on 05/08/2025 to re-sample soil boring locations BH06 and BH09. Two soil borings (BH06R and BH09R) were advanced to depths of 10 ft. bgs. Soil samples were collected and analyzed for full ECMC Table 915-1 constituents. No organic compound exceedances were identified and groundwater was not encountered during this assessment.

Based on the results of the May 2025 SSI and the previous site investigations, additional site investigation activities will be performed to re-sample locations SS01, SS03, and SS04 for the ECMC Table 915-1 suite. Samples will also be collected to vertically (BH05R) and horizontally (BH14-BH18) delineate elevated pH to the extent of the former tank battery and well pad. Soil borings will be advanced at the wellhead (BH11-BH13) to horizontally delineate the barium exceedance observed at BH09R, and at BH07 to confirm and vertically delineate the elevated pH value observed during the May 2025 SSI.

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 initial decommissioning or additional site investigation activities to date.

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 Supplemental Site Investigation (SSI) Sample Summary & SSI 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 (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 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. 11/11/2022

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. 08/05/2020

Actual Spill or Release date, or date of discovery. 12/05/2022

SITE INVESTIGATION DATES

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

Proposed site investigation commencement. 07/14/2025

Proposed completion of site investigation. 01/14/2026

REMEDIAL ACTION DATES

Proposed start date of Remediation. 01/14/2026

Proposed date of completion of Remediation. 07/14/2026

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.

[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 completion of the May 2025 SSI and necessity for additional SSI activities adjacent to the wellhead and tank battery. The proposed site investigation will be completed following the approval of this form.

OPERATOR COMMENT

This Form 27 is being submitted to include the supplemental site investigation (SSI) results and propose additional site investigation activities for the Patriot B16-69HN Tank Battery and Wellhead (Rem # 21986) locations.

One background sample was collected by Eagle Environmental Consulting from native soil near the wellhead during decommissioning. This sample will be excluded from background analysis. On 11/07/2023, a total of ten background soil samples were collected from five discrete locations (BG01-BG05) and analyzed for pH, arsenic, barium, cadmium, lead, and selenium. Based on the COA on ECMC Doc #403631364, BG01-BG05 have been omitted from the background analysis due to their proximity to former oil and gas operations.

On 05/08/025, fifteen background soil samples were collected from five discrete locations (BKG06-BKG10) adjacent to the wellhead and analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. Background soil samples were collected from depths ranging between 1 to 10 ft bgs. The maximum background concentration for pH was observed to be 8.15. The maximum background concentrations with a 1.25x multiplier applied for the following metals were calculated to be: 3.3 mg/kg for arsenic; 123 mg/kg for barium; 8.5 mg/kg for lead; and 0.26 mg/kg for selenium. All arsenic concentrations observed during investigation activities were below 1.25x the maximum background level.

Please refer to ECMC document number 403631364 for a detailed discussion of metals results at the site. A Site Assessment was conducted on 05/08/2025 to re-sample soil boring locations BH06 and BH09. Two soil borings (BH06R and BH09R) were advanced to depths of 10 ft. bgs. Soil samples were collected and analyzed for full ECMC Table 915-1 constituents. No organic compound exceedances were identified, and groundwater was not encountered during this assessment.

Further site investigation activities are required. Based on the results of the May 2025 SSI and previous site investigations, additional site investigation activities will be performed to re-sample locations SS01, SS03, and SS04 for the ECMC Table 915-1 suite. Samples will also be collected to vertically (BH05R) and horizontally (BH14-BH18) delineate elevated pH to the extent of the former tank battery and well pad. Soil borings will be advanced at the wellhead (BH11-BH13) to horizontally delineate the barium exceedance observed at BH09R, and at BH07 to confirm and vertically delineate the elevated pH value observed during the May 2025 SSI. Concurrently with the SSI, additional background samples will be collected to determine if elevated pH, barium, and lead are attributed to native soil conditions at the site. The background samples will be collected from a location outside of the influence of the former well pad. The proposed SSI maps are attached to this Form 27.

Pursuant to Rule 913.e, quarterly reporting will be conducted until closure criteria are achieved for the remediation project. The results of the SSI 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: 07/14/2025 Email: aengelhardt@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: Abdul Elnajdi Date: 11/20/2025

Remediation Project Number: 21986

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
404277492	FORM 27-SUPPLEMENTAL-SUBMITTED
404277559	LABORATORY ANALYTICAL REPORT
404278453	SITE INVESTIGATION PLAN
404278455	SITE INVESTIGATION PLAN
404278461	SITE INVESTIGATION PLAN
404278471	SITE INVESTIGATION REPORT

Total Attach: 6 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)