

State of Colorado  
Energy & Carbon Management Commission1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
Phone: (303) 894-2100 Fax: (303) 894-2109

Document Number:

404153473

Receive Date:

04/15/2025

Report taken by:

Kyle Waggoner

## 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 ECOM 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) 730-7281
City: DENVER	State: CO	Zip: 80202
Contact Person: Dan Peterson	Email: danpeterson@chevron.com	Mobile: ( )

## PROJECT, PURPOSE &amp; SITE INFORMATION

## PROJECT INFORMATION

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

## 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: 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: <u>SPILL OR RELEASE</u>		Facility ID: <u>483387</u>		API #: _____		County Name: <u>WELD</u>	
Facility Name: <u>Patriot B16-69HN</u>				Latitude: <u>40.408030</u>		Longitude: <u>-104.563150</u>	
** correct Lat/Long if needed: Latitude: _____ Longitude: _____							
QtrQtr: <u>SWSW</u>	Sec: <u>9</u>	Twp: <u>5N</u>	Range: <u>64W</u>	Meridian: <u>6</u>	Sensitive Area? <u>Yes</u>		

Facility Type: <u>SPILL OR RELEASE</u>		Facility ID: <u>483933</u>		API #: _____		County Name: <u>WELD</u>	
Facility Name: <u>Patriot B16-69HN Tank Battery</u>				Latitude: <u>40.408214</u>		Longitude: <u>-104.562209</u>	
** correct Lat/Long if needed: Latitude: _____ Longitude: _____							
QtrQtr: <u>SWSW</u>	Sec: <u>9</u>	Twp: <u>5N</u>	Range: <u>64W</u>	Meridian: <u>6</u>	Sensitive Area? <u>Yes</u>		

## **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:

- ☒ 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	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.

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. The Flowline Pre-Abandonment Notice Document number is included under Related Forms.

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

- ☒ 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, grad 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 COGCC 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 will be collected and analyzed for all organic 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 33  
Number of soil samples exceeding 915-1 27  
Was the areal and vertical extent of soil contamination delineated? Yes  
Approximate areal extent (square feet) 100

### NA / ND

-- Highest concentration of TPH (mg/kg) 0.54  
-- Highest concentration of SAR 2.04  
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         

ND Highest concentration of Benzene (µg/l)           
NA Highest concentration of Toluene (µg/l)           
ND Highest concentration of Ethylbenzene (µg/l)           
ND Highest concentration of Xylene (µg/l)           
ND 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 background sample was collected from native soil near the wellhead during decommissioning. During the site assessment to delineate impacts associated with spill ID 483387, a total of ten background soil samples were collected from five discrete locations and analyzed for pH, arsenic, barium, cadmium, lead, and selenium.

☐ 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?

Soil boring sample locations BH06 and BH09 will be resampled to determine if barium should be considered a contaminant of concern. Soil samples from the borings will be collected and analyzed for full ECMC Table 915-1 contaminants of concern. Concurrently with the resampling, additional background samples will be collected and analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. The background samples will be collected from a location outside of the influence of the former well pad.

## 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 proposes to apply ECMC Table 915-1 Residential Soil Screening Levels (RSSLs) to the site. If the ECMC approves this request Noble proposes to leave these impacts in place since there is no pathway for contaminant migration to the groundwater table at the site.

Justification to eliminate pH as a contaminant of concern was previously submitted under ECMC Form 27 document number 403631364. However, additional soil sampling will be conducted in accordance with the COAs issued on ECMC Form 27 document number 403631364. Next site actions are outlined in the Site Investigation Report and Operator Comments section of this Form 27.

## REMEDIAL ACTION 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. Additional sampling will be conducted to determine if barium and pH should be considered contaminants of concern Site Investigation Report and Operator Comments section of this Form 27.

Soil Remediation Summary

☐ In Situ

☐ Ex Situ

\_\_\_\_\_ Bioremediation ( or enhanced bioremediation )

\_\_\_\_\_ Chemical oxidation

\_\_\_\_\_ Air sparge / Soil vapor extraction

\_\_\_\_\_ Natural Attenuation

\_\_\_\_\_ Other \_\_\_\_\_

\_\_\_\_\_ 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:

☒ 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 (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?

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. 11/11/2022

Proposed date of completion of Reclamation. 03/22/2026

## 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. 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. 03/01/2022

Proposed completion of site investigation. 05/01/2025

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 03/31/2025

Proposed date of completion of Remediation. 10/22/2025

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.

☒ 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 necessity for supplemental site investigation (SSI) activities adjacent to the flowline, wellhead, and tank battery. The supplemental site investigation was originally scheduled for completion on 12/26/2024; however, the landowner could not respond to the request for access prior to 12/26/2024. As such, the SSI will be completed on May 1, 2025. The ECMC will be updated on a supplemental Form 27 with the results of the SSI.

**OPERATOR COMMENT**

This Supplemental Form 27 is being submitted as a Second Quarter 2025 timeline update for the Patriot B16-69HN wellhead, flowline, and tank battery. The supplemental site investigation (SSI) will be completed in accordance with the work plan proposed on the previous supplemental Form 27 (ECMC Document # 403749596) which was approved on 10/3/2024. The SSI is currently scheduled for completion on May 1, 2025. Supplemental Form 27's will be prepared and submitted on a quarterly schedule to provide updates and progress of the remediation until closure criteria has been achieved.

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: 04/15/2025

Email: tas-chevron-3@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: Kyle Waggoner

Date: 05/13/2025

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**

404153473	FORM 27-SUPPLEMENTAL-SUBMITTED
404166004	SITE INVESTIGATION PLAN

Total Attach: 2 Files

**General Comments****User Group****Comment****Comment Date**

		Stamp Upon Approval
--	--	---------------------

Total: 0 comment(s)