

State of Colorado  
Energy & Carbon Management Commission

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Document Number:

403927352

Receive Date:

09/26/2024

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) 730-7281
City: DENVER	State: CO	Zip: 80202
Contact Person: Dan Peterson	Email: RBUEUF27@chevron.com	Mobile: ( )

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 23570 Initial Form 27 Document #: 403066862

#### 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: 447668	API #: _____	County Name: WELD
Facility Name: LOUSTELET B 15-11,14	Latitude: 40.395041	Longitude: -104.536099	
** correct Lat/Long if needed: Latitude: 40.395146		Longitude: -104.536147	
QtrQtr: SESW	Sec: 15	Twp: 5N	Range: 64W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE	Facility ID: 484122	API #: _____	County Name: WELD
Facility Name: Loustelet T5N-R64W-S15 L01	Latitude: 40.395146	Longitude: -104.536147	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SESW	Sec: 15	Twp: 5N	Range: 64W Meridian: 6 Sensitive Area? Yes

## **SITE CONDITIONS**

General soil type - USCS Classifications SC

Most Sensitive Adjacent Land Use pasture

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**

HPH: Mule Deer Severe Winter Range ~0.04 mi N, pasture, no buildings, Freshwater Emergent Wetland ~0.23 mi N and ~0.17 mi SW, freshwater pond ~0.08 mi SE and ~0.15 mi NE

## 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	laboratory analysis if encountered
Yes	SOILS	TBD	laboratory 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.

A site investigation was conducted pursuant to ECMC Rule 911 at the LOUSTELET T5N-R64W-S15 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 ):

Seven (7) grab soil samples were collected from the produced water vessel excavation (5), beneath the ground oil tank (1), and at the separator (1). 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. One (1) waste characterization sample was analyzed for ECMC Table 915-1 metals. 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 11

Number of soil samples exceeding 915-1 7

#### NA / ND

-- Highest concentration of TPH (mg/kg) 6459

NA Highest concentration of SAR

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

BTEX > 915-1 Yes

Approximate areal extent (square feet) 225

Vertical Extent > 915-1 (in feet) 4

#### Groundwater

Number of groundwater samples collected 12

Highest concentration of Benzene (µg/l) \_\_\_\_\_

Was extent of groundwater contaminated delineated? Yes

Highest concentration of Toluene (µg/l) \_\_\_\_\_

Depth to groundwater (below ground surface, in feet) 3

Highest concentration of Ethylbenzene (µg/l) \_\_\_\_\_

Number of groundwater monitoring wells installed 6

Highest concentration of Xylene (µg/l) \_\_\_\_\_

Number of groundwater samples exceeding 915-1 1

NA 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?

A background sample was collected for ECMC Table 915-1 metals (sans Cr VI) and pH analysis. Additional backgrounds were collected from soil of similar lithographic material to further compare ECMC Table 915-1 metals and pH. Residual metals (sans arsenic and barium) and pH at the site appear less than and/or consistent with background comparison and do not appear to warrant additional sampling. Up-gradient monitoring well MW-05 is being used in the determination of local background levels of inorganic groundwater parameters per ECMC Table 915-1. Inorganic parameters in groundwater appear to be less than/consistent with local background levels.

☐ 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.

No source was generated. Residual petroleum hydrocarbon impacts were delineated through an environmental site assessment. Eleven (11) soil borings were advanced to delineate residual organic impacts observed at the former storage tank and produced water vessel locations (6) and pH at the former separator location (5). Six (6) borings were completed as monitoring wells. Soil samples were collected for analysis of TPH (C6-C36), ECMC Table 915-1 organics, ECMC Table 915-1 metals, and pH in accordance with approved Form 27 Doc. # 403685574. The delineation assessment identified residual petroleum hydrocarbon impacts in soil. Residual arsenic and barium concentrations exceed ECMC Table 915-1 regulatory limits and background comparisons. All other metal and pH concentrations/values are in compliance with ECMC Table 915-1 standards and background comparisons and do not appear to require additional assessment/remediation.

#### 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.

Eleven (11) soil borings were advanced to delineate residual organic impacts observed at the former storage tank and produced water vessel locations (6) and pH at the former separator location (5). The delineation assessment identified residual petroleum hydrocarbon impacts in soil. Six (6) borings were completed as monitoring wells. Groundwater samples will be collected on a quarterly basis to monitor plume degradation by natural attenuation.

NFA will be considered when soil and groundwater concentrations are in compliance with ECMC Table 915-1 standards.

#### Soil Remediation Summary

☐ In Situ

☐ Ex Situ

       Bioremediation ( or enhanced bioremediation )

       Excavate and offsite disposal

☐ Chemical oxidation  
☐ Air sparge / Soil vapor extraction  
☐ Natural Attenuation  
☐ Other \_\_\_\_\_

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  
☐ Yes 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.

Monitoring wells MW-01 through MW-06 will be sampled on a quarterly basis for BTEX, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, benzo(a)anthracene, and inorganic parameters per ECMC Table 915-1.

## 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 Monitoring Well Installation Report

### 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 ECOM rules. Records are available on the ECOM's website.

Operator anticipates the remaining cost for this project to be: \$ 10000

## 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:

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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&amp;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?

☒ 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. 03/14/2023

Proposed date of completion of Reclamation. 10/31/2029

## 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. 06/02/2022

Actual Spill or Release date, or date of discovery. 03/23/2023

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 03/14/2023

Proposed site investigation commencement. 07/01/2022

Proposed completion of site investigation. 06/30/2024

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 03/14/2023

Proposed date of completion of Remediation. 12/31/2025

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:

**OPERATOR COMMENT**

Eleven (11) soil borings were advanced to delineate residual organic impacts observed at the former storage tank and produced water vessel locations (6) and pH at the former separator location (5). Six (6) borings were completed as monitoring wells. Monitoring wells MW-01 through MW-06 will be sampled on a quarterly basis.

NFA will be considered when soil and groundwater concentrations are in compliance with ECMC Table 915-1 standards.

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

Signed: Yakuta Bhagat

Title: Environmental Consultant

Submit Date: 09/26/2024

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: 23570

**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**

403927716	SITE INVESTIGATION REPORT
403927722	MONITORING REPORT

Total Attach: 2 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)