

State of Colorado  
Energy & Carbon Management Commission

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Document Number:

403907707

Receive Date:

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 &amp; SITE INFORMATION

## PROJECT INFORMATION

Remediation Project #: 33147 Initial Form 27 Document #: 403600071

## 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: WELL	Facility ID: _____	API #: 123-11031	County Name: WELD
Facility Name: VOLKENS 31-22	Latitude: 40.303410	Longitude: -104.534350	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWNE	Sec: 22	Twp: 4N	Range: 64W
Meridian: 6	Sensitive Area? Yes		

Facility Type: SPILL OR RELEASE	Facility ID: 486785	API #: _____	County Name: WELD
Facility Name: Volkens 31-22	Latitude: 40.303407	Longitude: -104.534341	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWNE	Sec: 22	Twp: 4N	Range: 64W
Meridian: 6	Sensitive Area? Yes		

## **SITE CONDITIONS**

General soil type - USCS Classifications SM

Most Sensitive Adjacent Land Use Cropland

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? Yes

### **Other Potential Receptors within 1/4 mile**

Aquatic Native Species Conservation Waters HPH 0.18mi NE  
Apparent Pond 0.14mi N  
Residential 0.17/0.19mi NW  
Farm Structure 0.18/0.19mi NW  
Domestic water well - Permit #542-WCB - ~1313' E

## 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	TBD	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 VOLKENS 31-22 wellhead cut and cap and flowline. The wellhead was cut and capped per ECMC rules. Approximately 558' of flowline was removed. This flowline lies in a common trench with at least one other line. Soil samples were taken along the flowline at each end point, any points of material change and/or hammer unions, and/or directional changes.

### 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 ):

Six (6) total grab confirmation soils samples were collected: A (1) grab confirmation soil sample was collected from the base of the cut/cap excavation. Two (2) grab confirmation soil samples were collected from the flowline riser/wellhead (Pt. A). Two (2) grab confirmation soil samples were collected from flowline change of directions. One (1) grab confirmation soil sample was collected from a bellhole with suspected impacts. 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, and 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 ):

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 ):

## SITE INVESTIGATION REPORT

### SAMPLE SUMMARY

Soil

NA / ND

Number of soil samples collected 8

Number of soil samples exceeding 915-1 8

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

Approximate areal extent (square feet) 2500

-- Highest concentration of TPH (mg/kg) 3547

-- Highest concentration of SAR 6.64

BTEX > 915-1 Yes

Vertical Extent > 915-1 (in feet) 6

#### 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?

Two (2) background samples were collected off-pad from similar lithographic soil for EC, SAR, pH, boron, and ECMC Table 915-1 metals analysis. Residual pH and lead appear to warrant additional sampling/remedial confirmation prior to NFAR. Additional backgrounds (5+) will be collected from soil of native/similar lithographic material to further compare residual pH and lead during remediation activities.

☐ 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? Yes

#### SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

No source was generated. Residual petroleum hydrocarbon impacts will be removed through excavation. A more detailed remediation and sampling plan will be proposed in a supp. 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.

Residual petroleum hydrocarbon impacts will be removed through excavation. A more detailed remediation and sampling plan will be proposed in a supp. 27 when an implementation schedule can be confirmed. No Further Action will be considered when soil and groundwater (if encountered) concentrations are in compliance with ECMC Table 915-1 standards.

#### Soil Remediation Summary

☐ In Situ

☐ Ex Situ

Bioremediation ( or enhanced bioremediation )

Chemical oxidation

Air sparge / Soil vapor extraction

Excavate and offsite disposal

If Yes: Estimated Volume (Cubic Yards)

Name of Licensed Disposal Facility or ECMC Facility ID #

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

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

\_\_\_\_\_ 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.

If groundwater is encountered during remediation activities a grab groundwater will be collected and analyzed for all organic and inorganic compounds per ECMC Table 915-1; this sample analysis includes, but is not limited to BTEX, naphthalene, 1,2,4-trimethylbenzene (TMB), and 1,3,5-TMB by EPA Method 8260, 1-methylnaphthalene and 2-methylnaphthalene by EPA Method 8270, chloride and sulfate anions by EPA Method 300.0, and total dissolved solids (TDS) by Method SM 2540C. Additional monitoring will be proposed in a supplemental Form 27, as needed.

## 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 Historical Release documentation

### 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: \$ 100000

### 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? No

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. 04/30/2025

Proposed date of completion of Reclamation. 04/30/2028

## 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. 05/07/2024

Actual Spill or Release date, or date of discovery. 05/06/2024

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 04/19/2024

Proposed site investigation commencement. 04/19/2024

Proposed completion of site investigation. 12/31/2024

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 10/31/2024

Proposed date of completion of Remediation. 04/30/2025

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:

Based on the discovery of historic hydrocarbon impacts during the wellhead assessment, and subsequent flowline assessment, source mass removal activities will be initiated following landowner negotiations. This form is being submitted to serve as a timeline update. Implementation schedule updated to reflect the schedule to complete the supplemental site investigation.

**OPERATOR COMMENT**

The wellhead and flowline decommissioning assessment was completed at the Volkens 31-22 location in accordance with approved initial Form 27 Doc. #403600071, included under related forms. Residual petroleum hydrocarbon impacts observed will be removed through excavation. NFA will be considered when excavation is complete and all confirmation samples are in compliance with ECMC Table 915-1.

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: \_\_\_\_\_

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: 33147

**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**

403916546	SITE INVESTIGATION REPORT
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Total Attach: 1 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)