

# State of Colorado Oil and Gas Conservation Commission

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403313981

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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 COGCC 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<br>Phone: (715) 562-0251<br>Mobile: ( ) |
| Address: 2001 16TH STREET SUITE 900 |                             |                                                       |
| City: DENVER                        | State: CO Zip: 80202        |                                                       |
| Contact Person: Dan Peterson        | Email: rbueuf27@chevron.com |                                                       |

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 22488 Initial Form 27 Document #: 402982195

#### 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

No Multiple Facilities

|                                             |                     |                                                    |                                            |
|---------------------------------------------|---------------------|----------------------------------------------------|--------------------------------------------|
| Facility Type: LOCATION                     | Facility ID: 481574 | API #: _____                                       | County Name: WELD                          |
| Facility Name: SESE 29-6N-64W Miller TB Loc |                     | Latitude: 40.449932                                | Longitude: -104.566333                     |
|                                             |                     | ** correct Lat/Long if needed: Latitude: 40.450155 | Longitude: -104.566340                     |
| QtrQtr: SESE                                | Sec: 29             | Twp: 6N                                            | Range: 64W Meridian: 6 Sensitive Area? Yes |

#### SITE CONDITIONS

General soil type - USCS Classifications SW Most Sensitive Adjacent Land Use crop

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**

HPH: none, surface pond ~0.22 mi W, building ~0.22 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      |
|-----------|----------------|------------------|---------------------|
| Yes       | GROUNDWATER    | location         | Laboratory Analysis |
| Yes       | SOILS          | location         | Laboratory Analysis |

**INITIAL ACTION SUMMARY**

Description of initial action or emergency response measures take to abate, investigate, and/or remediate impacts associated with E&amp;P Waste.

A site investigation will be conducted pursuant to COGCC Rule 911 at the MILLER T6N-R64W-S29 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 ):

Grab confirmation soil samples will be collected from the produced water vessel excavation, beneath the ground oil tank, and at the separator. Soil samples will be analyzed by a certified laboratory for TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons), organic compounds in soil per COGCC Table 915-1, and EC, SAR, pH, and boron. All samples collected will be 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 COGCC 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 ):

Visual inspection at the tank battery area will occur during abandonment activities. Field personnel will field screen all disturbed areas using visual and olfactory senses to determine if laboratory confirmation sampling is required. The COGCC Tank Battery and Produced Water Vessel Closure Checklists will be utilized and filled out during the abandonment process. A photolog will be submitted on the Subsequent Form 27.

**SITE INVESTIGATION REPORT**

## **SAMPLE SUMMARY**

### **Soil**

Number of soil samples collected 25  
Number of soil samples exceeding 915-1 2  
Was the areal and vertical extent of soil contamination delineated? Yes  
Approximate areal extent (square feet) 900

### **NA / ND**

-- Highest concentration of TPH (mg/kg) 1640  
-- Highest concentration of SAR 0.349  
BTEX > 915-1 Yes  
Vertical Extent > 915-1 (in feet) 12

### **Groundwater**

Number of groundwater samples collected 8  
Was extent of groundwater contaminated delineated? Yes  
Depth to groundwater (below ground surface, in feet) 10  
Number of groundwater monitoring wells installed 8  
Number of groundwater samples exceeding 915-1 2

-- Highest concentration of Benzene (µg/l) 3200  
ND Highest concentration of Toluene (µg/l)             
-- Highest concentration of Ethylbenzene (µg/l) 460  
-- Highest concentration of Xylene (µg/l) 2800  
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?

☐ 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.

Excavation

## **REMEDATION 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.

Excavation to remove impacted soil was completed on November 2, 2022. Soil collected from the sidewalls and floor of the excavation comply with the COGCC Table 915-1 PGSSLs. Groundwater monitoring wells will be reinstalled as necessary to determine the appropriate remedial approach for groundwater. The wells will be sampled quarterly. NFA status will be requested using the residential soil screening levels (RSSLs) following four consecutive clean quarters of groundwater.

## **Soil Remediation Summary**

☐ In Situ

☒ Ex Situ

\_\_\_\_\_ Bioremediation ( or enhanced bioremediation )  
\_\_\_\_\_ Chemical oxidation  
\_\_\_\_\_ Air sparge / Soil vapor extraction  
\_\_\_\_\_ Natural Attenuation  
\_\_\_\_\_ Other \_\_\_\_\_

Yes \_\_\_\_\_ Excavate and offsite disposal  
\_\_\_\_\_ If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 1020  
\_\_\_\_\_ Name of Licensed Disposal Facility or COGCC 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.

A minimum of five monitoring wells will be reinstalled to delineate groundwater impacts. The wells will be sampled quarterly and analyzed by a certified laboratory for naphthalene, benzene, toluene, ethylbenzene, xylenes, 1,2,4 and 1,3,5 trimethylbenzene, by Method 8260B Table 915-1 standards, Table 915-1 inorganics (TDS, and anions chloride and sulfate) and dissolved metals; arsenic, barium, cadmium and lead by EPA Method 6020B for WQCC Reg. No. 41 agricultural standards.

## REMEDIATION PROGRESS UPDATE

### PERIODIC REPORTING

#### Approved Reporting Schedule:

☐ Quarterly ☐ Semi-Annually ☐ Annually ☒ Other One time within 90 days of laboratory analytical receipt

#### ☒ Request Alternative Reporting Schedule:

☐ Semi-Annually ☐ Annually ☒ Other Quarterly

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 \_\_\_\_\_

### 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 COGCC rules. Records are available on the COGCC'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:

Volume of E&P Waste (solid) in cubic yards \_\_\_\_\_

E&P waste (solid) description \_\_\_\_\_

COGCC Disposal Facility ID #, if applicable: \_\_\_\_\_

Non-COGCC Disposal Facility: \_\_\_\_\_

Volume of E&P Waste (liquid) in barrels \_\_\_\_\_

E&P waste (liquid) description \_\_\_\_\_

COGCC Disposal Facility ID #, if applicable: \_\_\_\_\_

Non-COGCC 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? No

Is additional groundwater monitoring to be conducted? Yes

Operator shall comply with the COGCC 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 COGCC 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. \_\_\_\_\_

Proposed date of completion of Reclamation. 03/29/2024

## 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. 11/19/2021

Actual Spill or Release date, or date of discovery. \_\_\_\_\_

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). \_\_\_\_\_

Proposed site investigation commencement. 04/11/2022

Proposed completion of site investigation. 07/15/2022

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 09/26/2022

Proposed date of completion of Remediation. 12/16/2023

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**

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

Signed: Ethan Black

Title: Consultant

Submit Date: 03/08/2023

Email: ethanb@fremontenv.com

Based on the information provided herein, this Application for Site Investigation and Remediation Workplan complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: RICK ALLISON

Date: 04/21/2023

Remediation Project Number: 22488

**COA Type****Description**

|       |                                                                                                                                                                                                                                                                |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|       | Groundwater is unclassified and therefore must be protected for all uses. Therefore COGCC will enforce the lowest standard published in Regulation 41, which is Table 1 Domestic Water Supply - Human Health Standards, for arsenic, barium, cadmium and lead. |
| 1 COA |                                                                                                                                                                                                                                                                |

**Attachment Check 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**

|           |                                |
|-----------|--------------------------------|
| 403313981 | FORM 27-SUPPLEMENTAL-SUBMITTED |
| 403314054 | REMEDATION PROGRESS REPORT     |

Total Attach: 2 Files

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

|               |                                                                                                                                                                                                                                                                                                                        |            |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Environmental | Returned to Draft: 1. Clarify proposed ground water monitoring program, specifically what is meant by "NBTEX, TMBs, Table 915-1 organics by Method 8260B "; 2. It appears materials with Arsenic exceeding the single background sample result presented remain in-situ (W-s Wall 11 Ft, S-W Wall 3 11 Ft, and others) | 03/08/2023 |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|

Total: 1 comment(s)