

State of Colorado  
Energy & Carbon Management Commission

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Document Number:  
403932102

Receive Date:

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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 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: <u>NOBLE ENERGY INC</u>	Operator No: <u>100322</u>	<b>Phone Numbers</b>
Address: <u>1099 18TH STREET SUITE 1500</u>		Phone: <u>(970) 730-7281</u>
City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80202</u>		Mobile: <u>( )</u>
Contact Person: <u>Dan Peterson</u>	Email: <u>RBUEUF27@chevron.com</u>	

**PROJECT, PURPOSE & SITE INFORMATION**

**PROJECT INFORMATION**

Remediation Project #: 35844 Initial Form 27 Document #: 403809843

**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: <u>WELL</u>	Facility ID: _____	API #: <u>123-13776</u>	County Name: <u>WELD</u>
Facility Name: <u>TREBOR B12-5</u>	Latitude: <u>40.416030</u>	Longitude: <u>-104.505360</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWNW</u>	Sec: <u>12</u>	Twps: <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 Grassland

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**

Within Mule Deer Severe Winter Range HPH  
Within Mule Deer Winter Concentration Area HPH  
Within Aquatic Native Species Conservation Waters HPH  
Herbaceous Riparian 0.11mi SE  
Freshwater Forested/Shrub Wetland 0.23mi SE  
Riverine 0.1mi NE, 0.05mi SW  
Freshwater Emergent Wetland 0.03mi NE, 0.22mi NW  
Forested/Shrub Riparian 0.13mi NE  
Residential 0.13mi W  
Farm Structure 0.11/0.12mi W

# SITE INVESTIGATION PLAN

## TYPE OF WASTE:

- |  |  |  |
|--|--|--|
| <input checked="" type="checkbox"/> E&P Waste      | <input type="checkbox"/> Other E&P Waste             | <input type="checkbox"/> Non-E&P Waste |
| <input checked="" type="checkbox"/> Produced Water | <input type="checkbox"/> Workover Fluids             | _____                                  |
| <input checked="" type="checkbox"/> Oil            | <input type="checkbox"/> Tank Bottoms                |  |
| <input type="checkbox"/> Condensate                | <input type="checkbox"/> Pigging Waste               |  |
| <input type="checkbox"/> Drilling Fluids           | <input type="checkbox"/> Rig Wash                    |  |
| <input type="checkbox"/> Drill Cuttings            | <input type="checkbox"/> Spent Filters               |  |
|  | <input type="checkbox"/> Pit Bottoms                 |  |
|  | <input type="checkbox"/> Other (as described by EPA) | _____                                  |

## DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
No	GROUNDWATER	Not Impacted	Not Encountered
No	SOILS	Not Impacted	Confirmation Soil Sampling

## 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 TREBOR B12-05 wellhead cut and cap. The wellhead was cut and capped per ECMC rules. Additionally, soil samples were field screened at the N-E-S-W sides of the wellhead.

## 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 ):

A grab soil sample was collected at the base of the excavation or the area showing the highest degree of impact during field screening activities at the wellhead excavation. Additionally, soil samples were field screened at the N-E-S-W sides of the wellhead. 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; 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, chloride and sulfate anions by EPA Method 300.0, and total dissolved solids (TDS) by Method SM 2540C.

### 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 of the wellhead areas occurred during abandonment activities. Field personnel field screened all disturbed areas using visual and olfactory senses to determine if laboratory confirmation sampling was required. A photolog was submitted on the Subsequent Form 27.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

Soil

NA / ND

Number of soil samples collected 1

ND Highest concentration of TPH (mg/kg) \_\_\_\_\_

Number of soil samples exceeding 915-1 1 -- Highest concentration of SAR 0.75  
 Was the areal and vertical extent of soil contamination delineated? Yes            BTEX > 915-1 No  
 Approximate areal extent (square feet) 0 Vertical Extent > 915-1 (in feet) 0

**Groundwater**

Number of groundwater samples collected 0 Highest concentration of Benzene (µg/l)             
 Was extent of groundwater contaminated delineated? No            Highest concentration of Toluene (µg/l)             
 Depth to groundwater (below ground surface, in feet)            Highest concentration of Ethylbenzene (µg/l)             
 Number of groundwater monitoring wells installed            Highest concentration of Xylene (µg/l)             
 Number of groundwater samples exceeding 915-1            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?  
Noble is currently in the process of evaluating residual pH, arsenic, and lead concentrations at the wellhead and plans to conduct background soil sampling via hand auger from at least three boring locations at similar depths and soil horizons as confirmation soil samples, in areas away from oil and gas infrastructure.

**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 impacted soils were discovered during wellhead cut and cap activities. Based on site investigation activities and laboratory analytical results of confirmation soil samples collected from the wellhead excavation floor, removal of soil is not needed. The material excavated during the cut and cap operations was used as backfill for the excavations.

**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.

Based on site investigation activities and laboratory analytical results for confirmation soil samples collected from the wellhead excavation floor, a remediation plan is not needed.

**Soil Remediation Summary**

- |   |  |
|---|--|
| <input type="checkbox"/> <b>In Situ</b>                         | <input type="checkbox"/> <b>Ex Situ</b>  |
| <u>          </u> Bioremediation ( or enhanced bioremediation ) | <u>          </u> Excavate and offsite disposal  |
| <u>          </u> Chemical oxidation                            | <u>          </u> If Yes: Estimated Volume (Cubic Yards) <u>          </u>                   |
| <u>          </u> Air sparge / Soil vapor extraction            | <u>          </u> Name of Licensed Disposal Facility or ECOM Facility ID # <u>          </u> |
| <u>          </u> Natural Attenuation                           | <u>          </u> Excavate and onsite remediation  |

Other \_\_\_\_\_

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 excavation of the wellhead for cut and cap activities.

# 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 Supplemental Form 27

## 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.

- Facility closure activities and confirmation soil sampling were conducted at the Trebor B12-05 wellhead on July 18, 2024.

- Noble is currently in the process of evaluating residual pH, arsenic, and lead concentrations at the wellhead and plans to conduct background soil sampling via hand auger from at least three boring locations at similar depths and soil horizons as confirmation soil samples, in areas away from oil and gas infrastructure.

Operator anticipates the remaining cost for this project to be: \$ 15000

## 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.

Following facility closure activities at the wellhead, the location was backfilled, compacted, and re-contoured to match pre-existing conditions. The location will be reclaimed in accordance with the ECMC 1000 series.

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. 08/01/2025

Proposed date of completion of Reclamation. 07/31/2028

## 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. 03/02/2023

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

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 07/18/2024

Proposed site investigation commencement. 07/18/2024

Proposed completion of site investigation. 01/31/2025

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 02/01/2025

Proposed date of completion of Remediation. 07/31/2025

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:

Site investigation dates have been updated based on the dates field activities were completed.

**OPERATOR COMMENT**

Facility closure activities and confirmation soil sampling were conducted at the Trebor B12-05 wellhead on July 18, 2024. Four discrete soil samples were collected from the sidewalls of the wellhead excavation in each cardinal direction from the wellhead and field screened using a photo-ionization detector (PID) calibrated with 100 parts per million (ppm) isobutylene gas. All soil samples screened with a PID at the wellhead resulted in readings equal to 0.0 ppm.

One closure confirmation soil sample was submitted for analysis. The soil sample was collected from the floor of the wellhead excavation (WH01@6). The soil sample was submitted to Origins Laboratory, Inc. in Denver, Colorado for analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, gasoline range organics (GRO) [C6-C10] by EPA Method 8260D, diesel range organics (DRO) [C10-C28] and residual range organics (ORO) [C28-C40] by EPA Method 8015D, polycyclic aromatic hydrocarbons (PAHs) (Table 915-1 list) and naphthalene by EPA Method 8270E, Total Metals by EPA Method 6020B, Hexavalent Chromium by Total Metals by 7196A Method, electrical conductivity (EC) by Mod. Method 9050A, sodium adsorption ratio (SAR) by 20B Saturated Paste Method, and pH by 9045D Method, and boron by DTPA Sorbitol Method.

All analytical results for soil samples submitted for analysis are compliant with their respective Table 915-1 Protection of Groundwater Soil Screening Levels (GWSSLs) except for pH in soil sample WH01@6 (8.34), arsenic in soil sample WH01@6 (3.84 mg/kg), and lead in soil sample WH01@6 (18.7 mg/kg). All organics were reported as below their respective Table 915-1 GWSSLs. Groundwater was not encountered during wellhead cut and cap activities.

Noble is currently in the process of evaluating residual pH, arsenic, and lead concentrations at the wellhead. Pending location landowner approval and crew availability, Noble plans to conduct background soil sampling via hand auger from at least three boring locations at similar depths and soil horizons as confirmation soil samples, in areas away from oil and gas infrastructure. The associated flowline was fully removed on April 26, 2023, and decommissioning activities are summarized under the separate remediation project number 28286 and in the approved document number 403591801.

Please refer to the attached Wellhead Checklist for a detailed description of site investigation activities. A general location map is provided as Figure 1. Sample location information is provided in Table 1. Soil sample and field screening locations are presented on Figure 2, and analytical results are summarized in Table 2, Table 3, Table 4, and Table 5. A photo log and the laboratory analytical reports are also attached.

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

Signed: Chelsea Veryser

Title: Project Geologist

Submit Date: \_\_\_\_\_

Email: chevronfr@entradainc.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: 35844

**COA Type**

**Description**

0 COA	
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**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**

403932160	SITE MAP
403932162	SOIL SAMPLE LOCATION MAP
403932163	ANALYTICAL RESULTS
403932164	PHOTO DOCUMENTATION
403932165	OTHER
403948869	ANALYTICAL RESULTS

Total Attach: 6 Files

**General Comments**

**User Group**

**Comment**

**Comment Date**

		Stamp Upon Approval
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Total: 0 comment(s)

Date Run: 10/7/2024 Doc [#403932102]