

State of Colorado  
Energy & Carbon Management Commission

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Document Number:  
404299451

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>danpeterson@chevron.com</u>	

**PROJECT, PURPOSE & SITE INFORMATION**

**PROJECT INFORMATION**

Remediation Project #: 34552 Initial Form 27 Document #: 403676582

**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>LOCATION</u>	Facility ID: <u>310270</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>REINICK C-64N64W 9SENE</u>	Latitude: <u>40.330236</u>	Longitude: <u>-104.546715</u>	
	** correct Lat/Long if needed: Latitude: <u>40.330331</u>	Longitude: <u>-104.547765</u>	
QtrQtr: <u>SENE</u>	Sec: <u>9</u>	Twps: <u>4N</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 Cropland

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**

Holding pond 0.12/0.21mi S

Farming Structures 0.12/0.13/0.14/0.15/0.16/0.17/0.20/0.23/0.24 SE, 0.22/0.24 E, 0.20/0.21/0.22/0.23/0.24 NE

Residential Structures 0.19/0.21 SE 0.23 E, 0.22 NE

# 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 checked="" 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	Refer to Tables and Figures	Lab Analysis and Field Screening
Yes	SOILS	Refer to Tables and Figures	Lab Analysis and Field Screening

## **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 at the REINICK T4N-R64W-S9 L03 Facility and Tank Battery location. On 7/23/2024, the tank battery was decommissioned in accordance with ECMC rules. The on-site dump lines located between the separator and the tank battery were removed. Laboratory soil samples were collected from beneath the above ground storage tanks (AST01 through AST04@0-6"), at the risers for the dumpline and flowline of any separator (SEP01-DL@5', SEP02-DL@5', SEP01-FL@5', SEP02-FL@5'), and produced water vaults (PWV01-B@5', PWV01-W@2.5', PWV02-B@5', PWV02-W@2.5', PWV03-B@5', PWV03-E@2.5', PWV04-B@5' and PWV04-S@2.5'). All samples were field screened prior to lab analysis. Additionally, field screening samples were collected beneath the emission control devices (FLARE01 through FLARE03@0-6"), meter houses (MH01 through MH03@0-6"), land owner infrastructure marked on the Initial Form 27 Map (GS01 through GS06@0-6") unrelated to oil and gas production activities, vapor recovery unit (VRU@0-6") and automated solar panel (AUTO@0-6"). Additionally, one groundwater sample was collected from the produced water vault excavation (GW01) at five feet below ground surface.

Analytical results indicated that organic compound concentrations were below ECMC Table 915-1 in all confirmation soil and groundwater samples collected.

## **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 ):

Soil samples were collected as described in the Initial Action Summary of this Form 27. Soil samples were analyzed by a certified laboratory using approved ECMC laboratory analysis methods 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, 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 ):

Groundwater was encountered during the initial site investigation. Groundwater sample GW01 was collected on 07/23/2024 at five feet below ground surface from the produced water vault excavation. Sample GW01 was submitted for laboratory analysis of the ECMC Table 915-1 Organic Compounds in Groundwater; 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. No monitoring wells have been installed to date.

### **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 occurred during abandonment activities. Field personnel field screened all disturbed areas using visual and olfactory senses. A detailed summary of decommissioning activities, including field notes, site photos, figures, and laboratory analytical results, was attached to a previous Form 27 (ECMC Document #404053706).

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 16  
Number of soil samples exceeding 915-1 3  
Was the areal and vertical extent of soil contamination delineated? No  
Approximate areal extent (square feet) 300

### NA / ND

ND Highest concentration of TPH (mg/kg) \_\_\_\_\_  
-- Highest concentration of SAR 1.74  
BTEX > 915-1 No  
Vertical Extent > 915-1 (in feet) 5

### Groundwater

Number of groundwater samples collected 1  
Was extent of groundwater contaminated delineated? Yes  
Depth to groundwater (below ground surface, in feet) 5  
Number of groundwater monitoring wells installed 0  
Number of groundwater samples exceeding 915-1 0

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

On 07/23/2024, four background soil samples were collected from one discrete soil boring location (BKG01) adjacent to the REINICK C-64N64W 9SENE Tank Battery at depths ranging between 0 feet and 5 feet below ground surface (ft bgs) and were analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. Background sample lithology between the site and background locations were observed to be well graded sands. The maximum background concentration of pH was observed to be 8.50. The maximum background concentrations with a 1.25x multiplier applied for arsenic and cadmium were observed to be 3.56 mg/kg and 0.256 mg/kg, respectively.

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?

A supplemental site investigation (SSI) will be completed to collect five additional background samples (BKG02 - BKG06) to determine if pH, arsenic, and cadmium are attributed to native soil conditions at the site. The proposed background soil sampling locations are shown on the proposed site investigation map attached to Form 27 # 404186398. During the background site investigation, soil samples will be collected and analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. The SSI will be completed in accordance with the proposed implementation schedule, and the results of the SSI will be submitted on a subsequent Form 27.

## 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 material caused by oil and gas operations was identified at this time.

### 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.

A supplemental site investigation (SSI) will be completed to collect additional background samples to determine if the pH exceedance observed at SEP01-FL@5', the arsenic exceedance observed at SEP01-DL@5', and the cadmium exceedances observed at SEP01-DL@5' and SEP02-DL@5' during decommissioning are attributed to native soil conditions at the site. Five background samples (BKG02 - BKG06) will be collected topographically upgradient from the facility decommissioning sample locations. Additional SSI activities will be proposed (as applicable) on a future Form 27 if further investigation is required. The proposed background soil sampling locations are shown on the proposed site investigation map attached to Form 27 # 404186398. The background site investigation will be completed in accordance with the proposed sampling plan outlined in the Site Investigation Report and Operator Comments sections 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.

Groundwater was encountered and sampled during initial site investigation activities. One groundwater sample (GW01) was collected from the produced water vault excavation at five feet below ground surface from the former tank battery location and was submitted for laboratory analysis of BTEX, naphthalene, 1,2,4-trimethylbenzene (TMB), and 1,3,5-TMB by EPA Method 8260. Analytical results indicated organic compounds were undetected, and an investigation of background inorganics in groundwater will be completed. A groundwater sample will be re-collected in the location of GW01 (BH01) in order to monitor inorganic parameters. Laboratory groundwater samples will also be collected from background locations (BKG02 though BKG06) topographically up-gradient from GW01 to establish inorganic background concentrations at this site through temporary monitoring wells installed using a hand auger, and subsequently purged and sampled. Following sample collection, temporary wells will be abandoned. The results of the temporary monitoring well groundwater sampling will be submitted on a subsequent Form 27.

# 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 (policies MWZZ 316714 and MWZX316724) 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 reseeded 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. 07/23/2024

Proposed date of completion of Reclamation. 08/19/2026

## 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. 09/18/2023

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

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 07/23/2024

Proposed site investigation commencement. 08/19/2025

Proposed completion of site investigation. 08/19/2025

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 08/19/2025

Proposed date of completion of Remediation. 02/19/2026

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 not changed from the schedule proposed in previous Form 27 # 404186398, which is still pending approval as of the submission of this report. The supplemental site investigation (SSI) is tentatively scheduled for 08/19/2025. The ECMC will be notified of any updates to the implementation schedule in a subsequent Form 27.

**OPERATOR COMMENT**

This Form 27 is being submitted as a 3Q25 timeline update for the proposed supplemental site investigation (SSI) at the former REINICK C-64N64W 9SENE Tank Battery.

The implementation schedule has not changed from the schedule proposed in previous Form 27 # 404186398. The SSI is tentatively schedule for 08/19/2025. The ECMC will be notified of any updates to the implementation schedule in a subsequent Form 27.

The results of the proposed background SSI and groundwater sampling for inorganics will be submitted on a subsequent Form 27. Per ECMC Rule 913.e., quarterly reporting will be conducted until closure criteria are achieved for the remediation project.

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

Signed: Dale Brokaw

Title: Environmental Consultant

Submit Date:

Email: tas-chevron-5@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:

Date:

Remediation Project Number: 34552

**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**

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Total Attach: 0 Files

**General Comments**

**User Group**

**Comment**

**Comment Date**

		Stamp Upon Approval
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Total: 0 comment(s)