

State of Colorado  
Energy & Carbon Management Commission

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Document Number:  
404466903

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 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: <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) 304-5000</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 #: 32969 Initial Form 27 Document #: 403552570

**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: <u>WELL</u>	Facility ID: _____	API #: <u>123-24494</u>	County Name: <u>WELD</u>
Facility Name: <u>HOWARD USX A 9-13</u>	Latitude: <u>40.495090</u>	Longitude: <u>-104.562070</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWSW</u>	Sec: <u>9</u>	Twp: <u>6N</u>	Range: <u>64W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>488093</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Howard USX A09-13</u>	Latitude: <u>40.495090</u>	Longitude: <u>-104.562070</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWSW</u>	Sec: <u>9</u>	Twp: <u>6N</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? 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**

Riverine 0.16mi N, 0.1/0.16/0.24mi NE, 0.05mi E, 0.11/0.20mi SE  
Residential 0.17m SE, 0.08mi S, 0.17mi SW  
Farm Structure 0.07/0.09/0.16/0.18/0.19/0.21/0.23mi SW  
No other potential receptors are located within 1/4 mile of the Site.  
Above distances are approximations.

# 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
UNDETERMINED	GROUNDWATER	NA	Lab analysis if encountered
Yes	SOILS	Refer to Tables and Figures	Field Screening and 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 will be conducted pertaining to the HOWARD USX A09-13 wellhead cut and cap and flowline removal. Approximately 670' of flowline was removed. The ECMC was updated in a supplemental Form 27 if a portion of the flowline is abandoned-in-place due to field constraints. The wellhead will be cut and capped per ECMC rules. Additionally, soil samples will be field screened at the N-E-S-W sides of the wellhead. Soil samples were taken along the flowline at any points of material change and/or hammer unions, directional changes, as well as at the bell holes on either side of a waterway. The Flowline Pre-Abandonment Notice Document number was included under Related Forms.

## 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 will be 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 will be field screened at the N-E-S-W sides of the wellhead. Soil samples were taken along the flowline at any points of material change and/or hammer unions, directional changes, as well as at the bell holes on either side of a waterway. 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 additional site assessment activities, a grab groundwater sample will be collected and analyzed for all organic compounds and inorganic parameters per 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 along the flowline and at the wellhead and separator areas occurred during abandonment activities. Field personnel field screened all disturbed areas using a PID, visual, and olfactory senses to determine if laboratory confirmation sampling was required. The applicable ECMC Closure Checklists were utilized and filled out during the abandonment process. A photolog was previously attached.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

**Soil**

Number of soil samples collected 9  
Number of soil samples exceeding 915-1 8  
Was the areal and vertical extent of soil contamination delineated? Yes  
Approximate areal extent (square feet) 800

**NA / ND**

ND Highest concentration of TPH (mg/kg) \_\_\_\_\_  
-- Highest concentration of SAR 6.9  
BTEX > 915-1 No  
Vertical Extent > 915-1 (in feet) 3

**Groundwater**

Number of groundwater samples collected 0  
Was extent of groundwater contaminated delineated? Yes  
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?

Five background soil samples were collected from an area not impacted by oil and gas development and at similar depths and lithologies as confirmation soil samples collected at the location and analyzed for Table 915-1 metals and SSR constituents. Background soil sample analytical results were reported with elevated levels of pH, Arsenic (As), Barium (Ba), Cadmium (Ca) and Lead (Pb).

Background Soil Sample Analysis (mg/kg)

pH @ 0.5ft: Max = 8.28  
pH @ 2ft: Max = 8.39  
pH @ 5ft: Max = 8.38  
As @ 0.5ft: Max\*1.25 = 8.10  
As @ 2ft: Max\*1.25 = 10.4  
As @ 5ft: Max\*1.25 = 2.44  
Ba @ 0.5ft: Max\*1.25 = 101  
Ba @ 2ft: Max\*1.25 = 41.3  
Ba @ 5ft: Max\*1.25 = 47.3  
Ca @ 0.5ft: Max\*1.25 = 0.411  
Ca @ 2ft: Max\*1.25 = 0.368  
Ca @ 5ft: Max\*1.25 = 0.261  
Pb @ 0.5ft: Max\*1.25 = 14.5  
Pb @ 2ft: Max\*1.25 = 14.4  
Pb @ 5ft: Max\*1.25 = 12.8

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?

Elevated inorganics and metals were identified in multiple locations along the Howard USX A09-13 flowline at the FL01 2FT, FL03 2FT, and FL05 2FT sample locations and samples collected during remedial excavation at the FL02 2FT sample location at the N Wall-2FT, S Wall-2FT, E Wall-2FT, W Wall-2FT, and Floor-3FT sample locations. Background samples will be collected to characterize native soil conditions at the same depths (2' and 3') where elevated concentrations were initially observed.

If results exceed standards and cannot be attributed to native soil conditions, at least five additional samples will be collected to delineate the magnitude and extent of elevated SSR constituents. Following delineation, the Operator will submit a detailed reclamation plan to address elevated SSR constituents. This plan will include soil analysis from undisturbed adjacent areas, revegetation techniques, site stabilization measures, and seeding details. Noble will request NFA under Rule 915.b to leave elevated inorganics in situ.

If elevated metals are not attributable to background and exceed Table 915-1 limits, remedial alternatives will be evaluated.

Refer to Figure 3 of the Site Investigation Plan attached to document number 404236735 for proposed background locations.

**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.

The organic compound exceedances observed at sample location FL02 2FT were removed through a remedial excavation. Remedial excavation confirmation soil samples were collected and analyzed for full ECMC Table 915-1 constituents.

## REMEDICATION 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.

Laboratory analytical results indicated a historical release had occurred at the location of soil sample FL02 2FT and was reported as a historic release in Form 19 document number 403915406.

Excavation of impacted soil was conducted and completed on Mach 19, 2025 to address contamination identified at two feet below ground surface (bgs) at the FL02 2FT sample location. Following the excavation, confirmation soil samples were collected and analyzed for constituents outlined in ECMC Table 915-1 for organics and soil suitability for reclamation. These included Total Petroleum Hydrocarbons (TPH), BTEX, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Naphthalene, Polycyclic Aromatic Hydrocarbons (PAHs), pH, Sodium Adsorption Ratio (SAR), Electrical Conductivity (EC), and Boron. Samples were also analyzed for ECMC Table 915-1 metals. Groundwater was not encountered during remedial excavation activities.

For further details on the necessary remedial actions, please refer to the site investigation as outlined in the proposed Site Investigation Report work plan.

## Soil Remediation Summary

In Situ

Ex Situ

\_\_\_\_\_ Bioremediation ( or enhanced bioremediation )

Yes \_\_\_\_\_ Excavate and offsite disposal

\_\_\_\_\_ Chemical oxidation

\_\_\_\_\_ If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 10

\_\_\_\_\_ Air sparge / Soil vapor extraction

\_\_\_\_\_ Name of Licensed Disposal Facility or ECMC Facility ID # \_\_\_\_\_

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

No \_\_\_\_\_ 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.

If groundwater is encountered during additional site assessment activities, a grab groundwater sample will be collected and analyzed for all organic compounds and inorganic parameters per 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 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 (policy MWZZ316714 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:

No beneficial use

Volume of E&P Waste (solid) in cubic yards 10

E&P waste (solid) description Hydrocarbon impacted soil

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

Non-ECMC Disposal Facility: North Weld Landfill, Ault, CO

Volume of E&P Waste (liquid) in barrels 0

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? Yes

Does Groundwater meet Table 915-1 standards? Yes

Is additional groundwater monitoring to be conducted? No

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. 10/31/2026

Proposed date of completion of Reclamation. 06/30/2028

## 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. 09/28/2023

Actual Spill or Release date, or date of discovery. 04/23/2024

### **SITE INVESTIGATION DATES**

Date of Initial Actions described in Site Investigation Plan (start date). 03/07/2024

Proposed site investigation commencement. 11/05/2023

Proposed completion of site investigation. 12/31/2025

### **REMEDIAL ACTION DATES**

Proposed start date of Remediation. 06/07/2024

Proposed date of completion of Remediation. 06/19/2026

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 been changed due to the need for additional native soil characterization adjacent to the former Howard USX A09-13 (Flowline). The proposed soil characterization will be completed on or before the "Proposed date of completion of Remediation".

**OPERATOR COMMENT**

This form serves as a timeline update to address the denial provided by the ECMC on 10/27/2025, document number 404346959 for the Howard USX A09-13 (Flowline), REM 32969.

Elevated inorganics and metals were identified in multiple locations along the Howard USX A09-13 flowline at the FL01 2FT, FL03 2FT, and FL05 2FT sample locations and samples collected during remedial excavation at the FL02 2FT sample location at the N Wall-2FT, S Wall-2FT, E Wall-2FT, W Wall-2FT, and Floor-3FT sample locations. Background samples will be collected to characterize native soil conditions at the same depths (2' and 3') where elevated concentrations were initially observed. Refer to Figure 3 of the Site Investigation Plan attached to document number 404236735 for proposed background locations.

The implementation schedule has been changed due to the need for additional native soil characterization adjacent to the former Howard USX A09-13 (Flowline). The proposed soil characterization will be completed on or before the "Proposed date of completion of Remediation".

Supplemental Form 27s will be prepared and submitted on a quarterly schedule to provide updates and progress of the remediation until closure criteria has been achieved.

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: \_\_\_\_\_

Email: ethanb@fremontenv.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: 32969

**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**

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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)