

State of Colorado  
Energy & Carbon Management Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203

Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:

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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: NOBLE ENERGY INC	Operator No: 100322	Phone Numbers
Address: 1099 18TH STREET SUITE 1500		Phone: (970) 313-5582
City: DENVER	State: CO	Zip: 80202
Contact Person: Jason Davidson	Email: jason.davidson@chevron.com	Mobile: ( )

## PROJECT, PURPOSE &amp; SITE INFORMATION

## PROJECT INFORMATION

Remediation Project #: 34734 Initial Form 27 Document #: 403690271

## 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: WELL	Facility ID: _____	API #: 123-29209	County Name: WELD
Facility Name: HANSCOME C 28-29D	Latitude: 40.290166	Longitude: -104.556370	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NENW	Sec: 28	Twp: 4N	Range: 64W
Meridian: 6	Sensitive Area? Yes		

## 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

Residential 0.06mi E, 0.22mi SE, 0.2mi W  
Farm Structure 0.07/0.08/0.18/0.21mi SE, 0.18/0.21/0.23mi W  
Apparent Pond 0.08mi NW

# 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	Refer to Tables 2-5 and Figures 1-3	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.

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 taken along the flowline at any points of material change and/or, 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 [C 10-C36] hydrocarbons) organic compounds in soil per ECMC Table 915-1, and EC, SAR, pH, metals, boron. All samples collected were analyzed by a certified laboratory using approved ECMC laboratory analysis methods.

On May 22, 2024, June 27, 2024, and June 28, 2024 field screening and confirmation soil sampling was conducted in accordance with the ECMC Rule 911 during decommissioning and closure of the Hanscome C28-29D Flowline and Wellhead (Figure 2). Based on initial analytical results, it was determined a historic release was discovered adjacent to the flowline and the wellhead. Mitigation activities were initiated and to date approximately 80 cubic yards of impacted material were removed and transported to the Buffalo Ridge Waste Management Facility for disposal under Noble waste manifests.

## 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 ):

On May 22, 2024, a sample was collected adjacent to the wellhead and from beneath the flowline riser at the wellhead (WH01@6 and FLR01@4) and submitted for laboratory analysis of the full Table 915-1 analytical suite. On June 28, 2024, two (2) soil samples (FL01-01@1' and FL01R-W@1') were collected from impacted source material adjacent to the flowline and wellhead at a depth of approximately 1 feet bgs and submitted for laboratory analysis of the full Table 915-1 analytical suite. The wellhead decommissioning results are attached to this Supplemental Form 27. Flowline decommissioning results were included a previously submitted Supplemental Form 27 (Document No. 403856413).

### 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 ECMC Table 915-1 and inorganic parameters (TDS, chloride, sulfate, sodium, potassium, bicarbonate, and carbonate (as CaCO<sub>3</sub>)).

### 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 and flowline 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 detailed summary of decommissioning activities, including field notes, site photos, figures, and laboratory analytical results, is attached to this Form 27.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 33

Number of soil samples exceeding 915-1 6

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

Approximate areal extent (square feet) 1100

### NA / ND

ND Highest concentration of TPH (mg/kg)

-- Highest concentration of SAR 6.86

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 6

### 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

NA Highest concentration of Benzene (µg/l)

NA Highest concentration of Toluene (µg/l)

NA Highest concentration of Ethylbenzene (µg/l)

NA Highest concentration of Xylene (µg/l)

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?

Twelve background soil samples were collected near the flowline and analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. Background soil samples were collected from depths ranging between 1 to 4 feet below ground surface (ft bgs). The maximum background concentrations for pH was observed to be 8.90. The maximum background concentrations with a 1.25x multiplier applied for arsenic and barium were calculated to be 6.74 mg/kg and 214 mg/kg, respectively. All pH, arsenic, and barium concentrations observed during decommissioning were below background levels.

☒ Was investigation derived waste (IDW) generated as part of this investigation?

Volume of solid waste (cubic yards) 80

Volume of liquid waste (barrels) 0

☒ Is further site investigation required?

Based on the analytical results received for samples collected during excavation activities, further site investigation activities are warranted to confirm and delineate the lead exceedances recorded on site. Concurrent with delineation activities, additional background soil borings will be advanced to continue to assess lead in native material on site. The proposed soil boring locations are illustrated on Figure 7.

## 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.

Between July 31 and September 16, 2024, approximately 80 cubic yards of impacted material were removed from the flowline and wellhead excavation and transported to the Buffalo Ridge Waste Management Facility for disposal under Noble waste manifests.

Between July 31, and September 16, 2024, 16 soil samples were collected from the base and sidewalls of the excavation extents at depths ranging between 1 foot and 4 feet bgs and submitted for laboratory analysis of the Full Table 915-1 Analytical Suite. Analytical results indicated that organic compound concentrations were in compliance with the applicable ECMC regulatory standards in all soil samples collected from the final excavation extent.

## 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.

Following receipt of analytical results from excavation activities, a desktop review was conducted to assess background concentrations in the surrounding area. The desktop review indicated that the Hanscome C28-29D wellhead and flowline are within a one mile radius of the Johnson RC 29-02 tank battery and classified within the same soil classification (Vona loamy sand). The Johnson RC 29-02 tank battery is located on the neighboring plot of land from the Hanscome C28-29D site and both plots of land are used for agricultural purposes. Based on this data, background samples collected from Johnson RC 29-02 tank battery were used to compare to inorganic concentrations at the Hanscome C28-29D wellhead and flowline.

Results of the inorganics assessment indicated the following:

- The one site SAR concentration in exceedance of the ECMC standard (FS02-FL01-01@4') was below the highest background soil sample (BG06@9-10') from the Johnson RC 29-02 tank battery
- The one site EC concentration in exceedance of the ECMC standard (SS09-FL01-01@3') was below the highest background soil sample (BG05@9-10') from the Johnson RC 29-02 tank battery
- The one site boron concentration in exceedance of the ECMC standard (FS01-FL01R-W@2') was below the highest background soil sample (BG04@4-5') from the Johnson RC 29-02 tank battery

Based on the findings from the inorganic assessment and the high inorganic concentrations in native material in the immediate surrounding area, elevated EC, SAR, and boron concentrations recorded on site are shown to be naturally occurring. A site map illustrating the site locations is included as Figure 5. The background soil boring locations from the Johnson RC 29-02 tank battery are illustrated on Figure 6. The background boring logs are included as Attachment A.

## Soil Remediation Summary

☐ In Situ

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

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

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

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

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

☒ Ex Situ

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

If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 80

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 not encountered during decommissioning or remedial excavation 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 Confirmation Sampling Summary and Supplemental Site Investigation Proposal

### 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. 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? Yes

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 80

E&P waste (solid) description Hydrocarbon impacted soil

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility: Buffalo Ridge Waste Management

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?

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.

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. 05/22/2024

Proposed date of completion of Reclamation. 04/22/2026

## 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. 02/15/2024

Actual Spill or Release date, or date of discovery. 05/22/2024

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 05/22/2024

Proposed site investigation commencement. 10/22/2024

Proposed completion of site investigation. 04/22/2025

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 04/22/2025

Proposed date of completion of Remediation. 10/22/2026

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 completion of the September 2024 remedial excavation at the HANSCOME C28-29D wellhead and flowline and necessity for additional supplemental site investigation activities adjacent to the wellhead. The proposed site investigation will be completed following the approval of this form, landowner negotiations, and crew availability.

## OPERATOR COMMENT

This Supplemental Form 27 was submitted to summarize excavation activities conducted at the former Hanscome C28-29D flowline and wellhead location.

On May 22, 2024, a sample was collected adjacent to the wellhead and from beneath the flowline riser at the wellhead (WH01@6 and FLR01@4) and submitted for laboratory analysis of the full Table 915-1 analytical suite. Analytical results indicated that organic compound concentrations were in compliance with the applicable regulatory standards in both sample locations. Further site investigation activities are required to confirm and delineate lead exceedances recorded in both sample locations. Noble acknowledges the tardiness of reporting the results of wellhead cut and cap activities.

Between July 31, and September 16, 2024, 16 soil samples were collected from the base and sidewalls of the excavation extents at depths ranging between 1 foot and 4 feet bgs and submitted for laboratory analysis of the Full Table 915-1 Analytical Suite. Analytical results indicated that organic compound concentrations were in compliance with the applicable ECMC regulatory standards in all soil samples collected from the final excavation extent.

Twelve background soil samples were collected near the flowline and analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. Background soil samples were collected from depths ranging between 1 to 4 feet below ground surface (ft bgs). The maximum background concentrations for pH was observed to be 8.90. The maximum background concentrations with a 1.25x multiplier applied for arsenic and barium were calculated to be 6.74 mg/kg and 214 mg/kg, respectively. All pH, arsenic, and barium concentrations observed during decommissioning were below background levels.

Following receipt of analytical results from excavation activities, a desktop review was conducted to assess background concentrations in the surrounding area. The desktop review indicated that the Hanscome C28-29D wellhead and flowline are within a one mile radius of the Johnson RC 29-02 tank battery and classified within the same soil classification (Vona loamy sand). The Johnson RC 29-02 tank battery is located on the neighboring plot of land from the Hanscome C28-29D site and both plots of land are used for agricultural purposes. Based on this data, background samples collected from Johnson RC 29-02 tank battery were used to compare to inorganic concentrations at the Hanscome C28-29D wellhead and flowline.

Results of the inorganics assessment indicated the following:

- The one site SAR concentration in exceedance of the ECMC standard (FS02-FL01-01@4') was below the highest background soil sample (BG06@9-10') from the Johnson RC 29-02 tank battery
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- The one site boron concentration in exceedance of the ECMC standard (FS01-FL01R-W@2') was below the highest background soil sample (BG04@4-5') from the Johnson RC 29-02 tank battery

Based on the findings from the inorganic assessment and the high inorganic concentrations in native material in the immediate surrounding area, elevated EC, SAR, and boron concentrations recorded on site are shown to be naturally occurring. A site map illustrating the site locations is included as Figure 5. The background soil boring locations from the Johnson RC 29-02 tank battery are illustrated on Figure 6. The background boring logs are included as Attachment A.

Based on the analytical results received for samples collected during excavation activities, further site investigation activities are warranted to confirm and delineate the lead exceedances on site. Concurrent with delineation activities, additional background soil borings will be advanced to continue to assess lead in native material on site. The proposed soil boring locations are illustrated on Figure 7.

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

Signed: Mike Medina

Title: Environmental Consultant

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

Email: tas-chevron-2@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: 34734

## 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

403969838	REMEDIATION PROGRESS REPORT
403969840	ANALYTICAL RESULTS
403969842	ANALYTICAL RESULTS



403971972	OTHER
403973888	ANALYTICAL RESULTS

Total Attach: 5 Files

**General Comments**

<b><u>User Group</u></b>	<b><u>Comment</u></b>	<b><u>Comment Date</u></b>
		Stamp Upon Approval

Total: 0 comment(s)