

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:  
404242500

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) 786-0202</u>
City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80202</u>		Mobile: <u>( )</u>
Contact Person: <u>Kristofer Shepherd</u>	Email: <u>kristofer.shepherd@chevron.com</u>	

**PROJECT, PURPOSE & SITE INFORMATION**

**PROJECT INFORMATION**

Remediation Project #: 29696 Initial Form 27 Document #: 403420472

**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>123-25938</u>	County Name: <u>WELD</u>
Facility Name: <u>LUCCI B 1-20</u>	Latitude: <u>40.428584</u>	Longitude: <u>-104.503234</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWNW</u>	Sec: <u>1</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? 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**

The Location is within the following High Priority Habitats: Aquatic Native Species Conservation Waters, Mule Deer Severe Winter Range, and Mule Deer Winter Concentration Area. Cow Creek (which is categorized as a Freshwater Emergent Wetland) is located approximately 200ft W of the Location.

# 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 and field screening, if encountered
UNDETERMINED	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 Energy & Carbon Management Commission (ECMC) Rule 911, a site investigation was conducted pertaining to the LUCI B #1-20 wellhead cut and cap and flowline removal. On February 5, 2024, initial wellhead characterization sampling was completed following cut and cap operations. Eight field screening samples were collected from the wellhead excavation sidewalls, and one analytical soil sample was collected from the base and submitted for analysis of full ECMC Table 915-1 organics and Soil Suitability for Reclamation (SSR) constituents. One background soil sample was also collected and analyzed for SSR constituents. See the Site Investigation Report associated with Document 404142867 for site investigation details.

Approximately 353 feet of flowline was abandoned in place due to field constraints. On March 4, 2024, two flowline characterization soil samples were collected: one from the flowline connection to the wellhead and one at the connection to the separator. Both samples were submitted for analysis of full Table 915-1. Additionally, 15 background soil samples were collected and submitted for analysis of Table 915-1 metals and SSR constituents. See the attached Site Investigation report for details.

## **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 ):

Additional soil samples will be collected as needed to delineate and recharacterize potential soil impacts identified during during initial investigation. Soil samples will be submitted for analysis of all Table 915-1 soil constituents of concern. Background samples may be collected to characterize native levels of inorganic constituents at the Location.

### **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 sample will be collected and analyzed for all organic and inorganic compounds 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 at the wellhead and flowline areas occurred during cut and cap and removal removal activities. Field personnel field screened all disturbed areas using visual and olfactory senses to determine if laboratory confirmation sampling was required.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 3  
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 0.387  
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 \_\_\_\_\_

\_\_\_\_\_ 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?

Sixteen background soil samples were collected on February 5 and March 4, 2024. The February sample was analyzed for SSR constituents and the March samples were analyzed for Table 915-1 metals and SSR constituents. The background soil samples were collected at depths between 2 and 5 feet below ground surface (bgs). The maximum background concentration for pH was observed to be 8.76. The maximum background concentrations with a 1.25x multiplier applied for arsenic was calculated to be 5.84 milligram per kilogram (mg/kg). All arsenic concentrations observed during the initial flowline characterization sampling were below 1.25x the maximum background level; the wellhead sample collected on February 5, 2024 was not analyzed for Table 915-1 metals.

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 delineate potential soil samples collected during the initial site assessment. Soil samples will be submitted for analysis of all Table 915-1 soil constituents of concern. Additional background samples will be collected and analyzed for all Table 915-1 inorganics.

## 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 has been identified at this time.

### 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.

On February 5, 2024, initial wellhead characterization sampling was completed following cut and cap operations. Eight field screening samples were collected from the wellhead excavation sidewalls, and one analytical soil sample was collected from the base and submitted for analysis of Table 915-1 organics and SSRs. Analytical results of the wellhead characterization sample were compliant for all analyzed constituents except for pH. One background soil sample was also collected and analyzed for Table 915-1 SSR constituents; analytical results indicated a pH value elevated above the SSR standard. See the Site Investigation Report associated with Document 404142867 for site investigation details.

Approximately 353 feet of flowline was abandoned in place due to field constraints. On March 4, 2024, two flowline characterization soil samples were collected: one from the flowline connection to the wellhead and one at the connection to the separator. Both samples were submitted for analysis of full Table 915-1. Analytical results of the flowline characterization samples indicated levels of pH and arsenic elevated above allowable limits. Additionally, 15 background soil samples were collected and submitted for analysis of Table 915-1 metals and SSR constituents; analytical results indicate levels of pH, EC, and SAR elevated above SSR standards and concentrations of arsenic, barium, and cadmium exceeding Protection of Groundwater Soil Screening Levels (PGSSL). See the attached Site Investigation Report for additional details.

**Soil Remediation Summary**

In Situ

Ex Situ

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

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

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

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

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

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

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

\_\_\_\_\_ 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 decommissioning 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 Quarterly update and SSIP \_\_\_\_\_

## 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. 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 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. 10/31/2025

Proposed date of completion of Reclamation. 10/31/2027

## 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. 05/16/2023

Actual Spill or Release date, or date of discovery. 03/26/2024

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 02/28/2024

Proposed site investigation commencement. 07/01/2023

Proposed completion of site investigation. 09/26/2025

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 09/26/2025

Proposed date of completion of Remediation. 12/31/2025

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:

The implementation schedule has been changed due to the decommissioning of the LUCCI B #1-20 wellhead and flowline and necessity for supplemental site investigation activities. Additional site investigation to recharacterize potential impacts identified during initial site investigation is tentatively scheduled to be completed by September 26, 2025.

**OPERATOR COMMENT**

This form has been submitted to provide a quarterly update for the LUCCI B #1-20 (Remediation Project 29696). No work was conducted during the second quarter of 2025. See the attached Site Investigation Report and Site Investigation Report associated with Form 27 Document 404142867 for site investigation details to date.

In response to ECMC Form 27 Comment dated March 27, 2025 (Document 404142867), Operator is submitting a subsequent Form 27. Based on currently available data, this project is not affected by data integrity irregularities and is not associated with Operator's data integrity review process and its Rule 525.e. Voluntary Disclosure. As part of its data integrity review process, Operator requested the lab protect the laboratory analytical reports from subsequent modification by anyone outside the lab, which resulted in the lab reissuing the original reports with the additional protections (Reissued Report). The Reissued Report was received directly from the lab on April 31, 2025, which includes the application of a Digital ID/Verified Certification (lock) to support reissuance. The Reissued Report is attached to this submission.

In the event additional responsive information is received or discovered that would suggest this project should be incorporated into the ongoing data integrity review process associated with Operator's Rule 525.e. Voluntary Disclosure, Operator will update and/or amend the statements in this submission and provide any new or revised data or other information responsive to ECMC's general comments responding to Operator's Form 27 submission found in Document 404142867.

Remediation and site investigation, previously directed by Fremont, is now under the direction of Confluence Compliance Companies, LLC (Confluence). Additional site investigation to delineate and recharacterize potential impacts identified during initial site investigation and to characterize the flowline is tentatively scheduled to be completed by September 26, 2025. Pursuant to Rule 913.e., quarterly reporting will be conducted until closure criteria are achieved for the remediation project.

During data validation, Confluence found that Table 2 in the Site Investigation Report attached to Document 404142867 incorrectly listed sample Background-01 @ 2' as analyzed for Table 915-1 organics instead of SSR constituents, as confirmed by the secured lab report. An updated Soil Analytical Results Table is attached.

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

Signed: Miranda Beard

Title: Project Scientist

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

Email: miranda.beard@confluence-cc.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: 29696

**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
404252327	ANALYTICAL RESULTS
404252737	SITE INVESTIGATION REPORT
404252740	SITE INVESTIGATION PLAN
404253110	ANALYTICAL DATA SUMMARY TABLE(S)

Total Attach: 4 Files

**General Comments**

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)