

State of Colorado  
Energy & Carbon Management Commission

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404043315  
Receive Date:  
03/18/2025

Report taken by:  
Collin Metz

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	<b>Phone Numbers</b>
Address: 1099 18TH STREET SUITE 1500		Phone: (970) 313-5582
City: DENVER State: CO Zip: 80202		Mobile: ( )
Contact Person: Jason Davidson	Email: jason.davidson@chevron.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 29206 Initial Form 27 Document #: 403373666

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: WELL	Facility ID: _____	API #: 123-21133	County Name: WELD
Facility Name: GOLDBERG N 14-13	Latitude: 40.395032	Longitude: -104.868171	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSW	Sec: 14	Twp: 5N	Range: 67W Meridian: 6 Sensitive Area? Yes

Facility Type: WELL	Facility ID: _____	API #: 123-30115	County Name: WELD
Facility Name: GOLDBERG N 14-20D	Latitude: 40.397941	Longitude: -104.866134	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWSW	Sec: 14	Twp: 5N	Range: 67W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 485061 API #: \_\_\_\_\_ County Name: WELD  
Facility Name: Goldberg T5N-R67W-S14 L01 Latitude: 40.396040 Longitude: -104.868868  
\*\* correct Lat/Long if needed: Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_  
QtrQtr: SWSW Sec: 14 Twp: 5N Range: 67W Meridian: 6 Sensitive Area? Yes

**SITE CONDITIONS**

General soil type - USCS Classifications SW Most Sensitive Adjacent Land Use Rangeland  
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**

Emergent Wetland 0.07mi WSW, 0.13mi SW, Riverine Wetlands 0.15mi S  
Industrial 0.15/0.20 NNE, 0.23 N, 0.21/0.24 NE, 0.23 NW  
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 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	NA	Lab analysis if encountered
Yes	SOILS	NA	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 ECMCRule 911 a site investigation will be conducted pertaining to the GOLDBERG N14-20D flowline removal. Approximately 1024' of flowline will be removed. Additionally, soil samples will be collected 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 ECMC will be updated in a supplemental Form 27 if a portion of the flowline is abandoned-in-place due to field constraints.

## 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 ):

Grab confirmation soil samples were collected 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, AS APPLICABLE to abandonment type. Soil samples were analyzed by a certified laboratory for TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons) organic compounds in soil per ECMC Table 915-1, and EC, SAR, pH, and boron. All samples collected were analyzed by a certified laboratory using approved ECMC laboratory analysis methods. A grab confirmation soil sample will be collected at the wellhead excavation in base of the excavation or the area showing the highest degree of impact during field screening activities at the wellhead excavation. The ECMC will be updated with the results of the wellhead decommissioning activities on a supplemental F27.

### Proposed Groundwater Sampling

Will groundwater samples be collected as part of this investigation? ( Number, analyses, and locations of samples ):

Groundwater was not encountered during the decommissioning, site investigation or excavation.

### 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 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.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

Soil

NA / ND

Number of soil samples collected 7

Number of soil samples exceeding 915-1 7

Was the areal and vertical extent of soil contamination delineated? Yes

Approximate areal extent (square feet) 750

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

-- Highest concentration of SAR 0.461

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 7

**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?

Ten background samples were collected from similar depths and lithologies as confirmation samples collected at the Goldberg N 14-13, 20D location and analyzed for ECMC Table 915-1 metals and soil suitability for reclamation standards. All background samples exceeded the Table 915-1 concentration standards for pH, SAR, arsenic, and barium.

Background Soil Sample Analysis (mg/kg)  
Arsenic: Max\*1.25 = 7.69  
Barium: Max\*1.25 = 208  
pH: Max = 8.43  
SAR: Max = 9.55

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?

\_\_\_\_\_

**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.

Impacted soil was removed from the release area at the GOLDBERG N 14-13, and N 14-20D location by excavation. The impacted soil was disposed of at an approved landfill as non-hazardous waste in accordance with Rules 905 and 906. Copies of the waste manifests are available upon request.

**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.

Petroleum impacted soil was removed from the release area at the Goldberg N 14-13, 20D location by excavation. This was confirmed by the analyses of soil samples collected from the excavation which were below the ECMC Table 915-1 PGSSLs for petroleum constituents. Approximately 220 cubic yards of impacted soil were removed and transported to the landfill. The soil data are illustrated and summarized in the attached tables and figures.

Elevated concentrations of pH greater than the Table 915-1 standards remain in situ in all excavation confirmation sample locations. The Operator proposes to resample SSR constituents greater than the ECMC Table 915-1 SSR standards. Further, the Operator proposes to collect additional background samples from five locations (displayed on Figure 5) in an area not impacted by oil and gas development at similar depths (3 ft and 7ft) and lithologies as confirmation samples collected at the location and analyze for ECMC Table 915-1 SSR constituents (pH, EC, SAR, and Boron). The samples will be used to characterize native soil conditions and potentially attribute elevated pH concentrations to native soil conditions.

The Operator proposes to apply the ECMC Table 915-1 RSSLs as closure criteria for remedial actions conducted at the site. A pathway for groundwater communication with elevated metals cadmium and lead observed along the Goldberg N 14-20D flowline at the "20FL01@4.0 Ft" sample location, and within the excavation between three feet and seven feet, is unlikely to occur based on 232 feet of vertical separation between groundwater, measured at 235 feet in a nearby stock well (DWR Permit No. 150855) and the seven-foot maximum depth of the excavation.

### Soil Remediation Summary

In Situ

Ex Situ

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

Yes Excavate and offsite disposal

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

If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 220

\_\_\_\_\_ 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

No \_\_\_\_\_ Bioremediation ( or enhanced bioremediation )

No \_\_\_\_\_ Chemical oxidation

No \_\_\_\_\_ Air sparge / Soil vapor extraction

No \_\_\_\_\_ Natural Attenuation

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

# 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 (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: \$ 15000

## 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:

Volume of E&P Waste (solid) in cubic yards 220

E&P waste (solid) description hyrdocarbon impacted soil

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

Non-ECMC Disposal Facility: N. 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? \_\_\_\_\_

Does Groundwater meet Table 915-1 standards? Yes

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 COGCC 1000 Series Rules.

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. 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. 03/09/2023

Actual Spill or Release date, or date of discovery. 07/31/2023

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 07/31/2023

Proposed site investigation commencement. 05/17/2023

Proposed completion of site investigation. 08/01/2023

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 08/01/2023

Proposed date of completion of Remediation. 06/30/2025

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:

Updated Remedial Action Dates based on the proposed additional remedial actions to address pH summarized in this Form 27.

## OPERATOR COMMENT

This form serves to comply with the Rule 913.e. reporting schedule. The Operator completed the excavation as outlined in this proposed Remedial Action workplan. Pending ECMC approval, the Operator will schedule and complete the additional pH resampling and background sampling as outlined in this proposed Remedial Action Plan.

The Operator proposes to apply the ECMC Table 915-1 RSSLs as closure criteria for remedial actions conducted at the site. Further, since ECMC Table 915-1 metals arsenic and barium, greater the Table 915-1 concentration standards, were less than 125% of the maximum local background sample concentrations for all excavation confirmation samples the Operator proposes to attribute elevated arsenic and barium concentrations to native soil conditions.

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. The ECMC approved the Operator's request to consolidate all further remediation for the Goldberg N 14-13 (Rem. #: 29196) and Goldberg N 14-20D (Rem. #: 29206) onto the 29206 remediation number on document number 403671175. The Operator will continue to reference this consolidation on all future Form 27-Supplementals until NFA 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: 03/18/2025

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: Collin Metz

Date: 07/31/2025

Remediation Project Number: 29206

## COA Type

## Description

	Operator shall provide boring logs in accordance with standard environmental practices. This includes at a minimum; lithology description, USCS classifications, PID readings, sample collection depths, depth to water, and well construction.
	ECMC does not approve of Operator's request to use Table 915-1 Residential Soil Screening Levels.  Per Rule 915.a Soil Concentrations - Determination of Pathway to Groundwater guidance document: "As part of reporting a Spill or Release, the Operator will present site specific information and data for Staff to consider in making a determination if a pathway to Groundwater is present.". On the subsequent Form 27 Supplemental Operator shall provide a detailed evaluation of site specific information as outlined in the aforementioned guidance document for ECMC review in determination of whether the Residential SSL or Protection of Groundwater SSLs will be applied to the spill. Operator shall abide by protection of groundwater soil screening levels until such determination can be made.
2 COAs	

## 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.

<u>Att Doc Num</u>	<u>Name</u>
404043315	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
404043417	ANALYTICAL RESULTS
404043418	ANALYTICAL RESULTS
404043432	SITE INVESTIGATION REPORT
404043434	OTHER
404300902	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 6 Files

## General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Environmental	ECMC acknowledges depth to water in the referenced well (DWR Permit 150855-); however, the well referenced was completed in the Laramie-Foxhills aquifer and constructed with top of perforated casing at 700' bgs. Operator shall provide a reasonable estimation for depth to groundwater. Type III shallow alluvial aquifers in the area have reported depth to water at <10' bgs.	07/31/2025
Environmental	ECMC may consider using RSSLs at this location if the Operator can verify that a pathway to groundwater does not exist. Parameters include, but are not limited to, dtg >20ft, a confining clay layer, local soil lithology etc.	03/06/2025

Total: 2 comment(s)