

State of Colorado  
Energy & Carbon Management Commission

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Document Number:  
403730713  
Receive Date:  
03/26/2024  
Report taken by:  
Nick Cholas

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) 730-7281  
City: DENVER State: CO Zip: 80202 Mobile: ( )  
Contact Person: Dan Peterson Email: rbueuf27@chevron.com

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 16540 Initial Form 27 Document #: 402589579

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: SPILL OR RELEASE Facility ID: 479589 API #: County Name: WELD  
Facility Name: Werning 7-2 Wellhead Latitude: 40.342491 Longitude: -104.742082  
\*\* correct Lat/Long if needed: Latitude: Longitude:  
QtrQtr: SENW Sec: 2 Twp: 4N Range: 66W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SW Most Sensitive Adjacent Land Use Crop Land  
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? Yes

**Other Potential Receptors within 1/4 mile**

Freshwater Emergent Wetland 0.06 mi South  
Riverine 0.12 mi SE, 0.1 mi S  
Residential 0.17 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
Yes	GROUNDWATER	Base of Wellhead Excavation	Laboratory Analytical
Yes	SOILS	3' X 3' X 5' bgs	Laboratory Analytical

**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 COGCC Rule 911 a site investigation will be conducted pertaining to the Werning 7-2 wellhead cut and cap and flowline removal. Approximately 2200' of flowline will be removed. The COGCC will be 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 COGCC rules. The Form 44 Document number will be supplied at closure.

**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 confirmation soil sample was collected and analyzed by a certified laboratory for TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons) organic compounds in soil per COGCC Table 915-1, and EC, SAR, pH, and boron.

**Proposed Groundwater Sampling**

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

A groundwater sample was collected for analysis of BTEX, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene.

**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 ):

A Site Assessment was conducted to delineate impacted media at the wellhead. A total of five soil borings were advanced in the area of impacts. Soil samples were collected and analyzed for TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons) and organic compounds in soil per COGCC Table 915-1. Each of the five soil borings were converted to temporary groundwater monitoring wells. Five groundwater samples were collected and analyzed for BTEX, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and inorganic parameters.

**SITE INVESTIGATION REPORT**

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 16  
Number of soil samples exceeding 915-1 2  
Was the areal and vertical extent of soil contamination delineated? Yes  
Approximate areal extent (square feet) 9

### NA / ND

-- Highest concentration of TPH (mg/kg) 16  
-- Highest concentration of SAR 1.64  
BTEX > 915-1 Yes  
Vertical Extent > 915-1 (in feet) 4

### Groundwater

Number of groundwater samples collected 6  
Was extent of groundwater contaminated delineated? Yes  
Depth to groundwater (below ground surface, in feet) 4  
Number of groundwater monitoring wells installed 5  
Number of groundwater samples exceeding 915-1 1

ND Highest concentration of Benzene (µg/l) \_\_\_\_\_  
ND Highest concentration of Toluene (µg/l) \_\_\_\_\_  
-- Highest concentration of Ethylbenzene (µg/l) 2.1  
-- Highest concentration of Xylene (µg/l) 8.2  
NA Highest concentration of Methane (mg/l) \_\_\_\_\_

### Surface Water

0 Number of surface water samples collected  
0 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?

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? No

## SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

A remedial excavation was conducted on 12/12/2022 and 12/14/2022. A total of approximately 84 cubic yards of impacted material were removed for off-Site disposal at the Waste Management Buffalo Ridge Landfill undersigned Noble waste manifests. A total of approximately 84 cubic yards of imported clean fill was used to backfill the excavation. The final remedial excavation extent measured approximately 19 ft. by 27 ft. by 7 ft. bgs.

Laboratory analytical results for the remedial excavation soil samples collected along the final lateral excavation extent were below applicable ECMC Table 915-1 soil standards. However, laboratory analytical results for the remedial excavation the base sample (FS02@7') exceeded applicable ECMC Table 915-1 soil standards for benzene, ethylbenzene, 1,2,4-trimethylbenzene, 1,3,5- trimethylbenzene, and naphthalene, and total petroleum hydrocarbons (TPH). Due to the presence of shallow groundwater destabilizing the sidewalls of the open excavation, the excavation could not be advanced deeper than 7 ft bgs to remove the impacts identified at FS02@7', and the excavation was backfilled.

On 3/8/2023, Noble returned to the site to reinstall monitoring wells BH01R and BH04R. The soil analytical results for the monitoring well reinstallation are attached to this Form 27. Soil boring BH01R was advanced at the same location as FS02@7' to confirm the presence of organic compounds identified during the remedial excavation. Slight hydrocarbon staining and odor was observed around 7-ft bgs as shown in the boring logs attached to this Form, and a soil sample was collected to confirm the presence of organics (BH01R@6-7.5'). All organic compounds were confirmed to be below ECMC Table 915-1 standards in the resample location BH01R@6-7.5', confirming that those identified at FS02@7' during the remedial excavation had attenuated. Continued in the Remediation Summary Section below...

## 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.

The third quarter 2024 represents a cumulative total of at least four consecutive quarters of compliant groundwater monitoring results following the completion of the remedial excavation. Since there are no impacts to groundwater, and since the hydrocarbon impacts identified during the remedial excavation have attenuated, Noble is requesting a No Further Action (NFA) designation from the ECMC, and is requesting to discontinue quarterly groundwater monitoring at the site. All previously submitted historical soil data has been attached to the Form 27.

**Soil Remediation Summary**

In Situ

Ex Situ

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

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

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

If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 84

\_\_\_\_\_ 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

Yes \_\_\_\_\_ 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.

On November 15, 2021, Noble initiated groundwater monitoring at the five site monitoring wells (BH01\_WH - BH05\_WH) at the Werning 7-2 Wellhead location. Groundwater samples were submitted for analysis of BTEX, naphthalene, 1,2,4-TMB, 1,3,5-TMB, TDS, chloride, and sulfate in accordance with Table 915-1.

During the third quarter 2024, six consecutive quarters of organic compounds and chloride anion concentrations and four consecutive quarters of TDS and sulfate anion concentrations in compliance with the applicable regulatory standards were achieved post excavation. Consequently, Noble is requesting a No Further Action (NFA) determination for this remediation project.

# 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 Site Assessment Report, No Further Action (NFA) Request

## 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.

Operator anticipates the remaining cost for this project to be: \$ 0

## 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:

NA

Volume of E&P Waste (solid) in cubic yards 84

E&P waste (solid) description Soil

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

Non-ECMC Disposal Facility: Waste Management Buffalo Ridge Landfill

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? Yes

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? Yes

Does the previous reply indicate consideration of background concentrations? No

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 ECMC 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. 09/25/2024

Proposed date of completion of Reclamation. 07/17/2025

## 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. 03/08/2021

Actual Spill or Release date, or date of discovery. 03/08/2021

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). \_\_\_\_\_

Proposed site investigation commencement. 02/23/2021

Proposed completion of site investigation. 02/10/2023

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 02/10/2023

Proposed date of completion of Remediation. 07/17/2024

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:

Based on analytical results, closure criteria for this location has been achieved. No further remediation is required at this time.

## OPERATOR COMMENT

Denied 09/26/2024 This Supplemental Form 27 was submitted to summarize quarterly groundwater monitoring, supplemental site investigation activities, and analytical results collected between the first quarter 2023 and the third quarter 2024 at the Werning 7-2 Wellhead location.

On 3/8/2023, Noble returned to the site to reinstall monitoring wells BH01R and BH04R. The soil analytical results for the monitoring well reinstallation are attached to this Form 27. Soil boring BH01R was advanced at the same location as FS02@7' to confirm the presence of organic compounds identified during the remedial excavation. Slight hydrocarbon staining and odor was observed around 7-ft bgs as shown in the boring logs attached to this Form, and a soil sample was collected to confirm the presence of organics (BH01R@6-7.5'). All organic compounds were confirmed to be below ECMC Table 915-1 standards in the resample location BH01R@6-7.5', confirming that those identified at FS02@7' during the remedial excavation had attenuated.

The third quarter 2024 represents a cumulative total of at least four consecutive quarters of compliant groundwater monitoring results following the completion of the remedial excavation. Since there are no impacts to groundwater, and since the hydrocarbon impacts identified during the remedial excavation have attenuated, Noble is requesting a No Further Action (NFA) designation from the ECMC, and is requesting to discontinue quarterly groundwater monitoring at the site. All previously submitted historical soil data has been attached to the Form 27.

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

Signed: Allan Engelhardt

Title: Environmental Consultant

Submit Date: 03/26/2024

Email: chevroneform@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: 16540

### COA Type

### Description

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

403730713	FORM 27-SUPPLEMENTAL-SUBMITTED
403730724	MONITORING REPORT
403730747	MONITORING REPORT
403730748	MONITORING REPORT
403730760	OTHER
403730761	SITE INVESTIGATION REPORT
403731125	REMEDIATION PROGRESS REPORT
403731131	SITE INVESTIGATION REPORT
403875498	MONITORING REPORT
403875524	MONITORING REPORT

Total Attach: 10 Files

### General Comments

#### User Group

#### Comment

#### Comment Date

Environmental	PLEASE CALL TO NICK C. AND ALEX F. TO DISCUSS.	09/26/2024
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Environmental	<p>Operator Comments state, "On 3/8/2023, Noble returned to the site to reinstall monitoring wells BH01R and BH04R. The soil analytical results for the monitoring well reinstallation are attached to this Form 27. Soil boring BH01R was advanced at the same location as FS02@7' to confirm the presence of organic compounds identified during the remedial excavation. Slight hydrocarbon staining and odor was observed around 7-ft bgs as shown in the boring logs attached to this Form, and a soil sample was collected to confirm the presence of organics (BH01R@6-7.5'). All organic compounds were confirmed to be below ECMC Table 915-1 standards in the resample location BH01R@6-7.5', confirming that those identified at FS02@7' during the remedial excavation had attenuated. Continued in the Remediation Summary Section below."</p> <p>PLEASE PROVIDE THE SPECIFIC DOC#S YOU ARE REFERRING TO IN THE NARRATIVE.</p>	09/26/2024
Environmental	<p>DENIED: Attachment Doc #403730748 First Q 2023 was previously submitted under Supplemental F27 Doc #403500776 as Attachment Doc #403500779. ECMC has not conducted a complete technical review of this form, data, or attachments but is Denying this form. It appears that Doc #403730748 has been altered.</p> <p>Attachment 403730761 is a DRAFT Site assessment report.</p>	09/26/2024

Total: 3 comment(s)

**DENIED**