

State of Colorado  
Energy & Carbon Management Commission

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Document Number:  
403608341  
Receive Date:  
11/28/2023

Report taken by:  
BOB CHESSON

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 COGCC 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>	Phone Numbers Phone: <u>(715) 562-0251</u> Mobile: <u>( )</u>
Address: <u>2001 16TH STREET SUITE 900</u>		
City: <u>DENVER</u>	State: <u>CO</u>	Zip: <u>80202</u>
Contact Person: <u>Dan Peterson</u>	Email: <u>rbueuf27@chevron.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 22156 Initial Form 27 Document #: 402966364

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>123-16941</u>	County Name: <u>WELD</u>
Facility Name: <u>CODY WHITE D 3-2</u>	Latitude: <u>40.259950</u>	Longitude: <u>-104.534780</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NWNE</u>	Sec: <u>3</u>	Twp: <u>3N</u>	Range: <u>64W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>482952</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Cody White D03-02</u>	Latitude: <u>40.257082</u>	Longitude: <u>-104.530477</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SENE</u>	Sec: <u>3</u>	Twp: <u>3N</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 Range Land \_\_\_\_\_

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**

Freshwater Emergent Wetlands 0.23mi 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	10' X 10' X 4' BGS	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 CODY WHITE D03-02 wellhead cut and cap and flowline removal. Approximately 2635' of flowline was removed, however a 55' portion of the flowline was abandoned-in-place due to field constraints. The ECMC will be updated in a supplemental Form 27. The wellhead was cut and capped per ECMC rules. 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 ):

One (1) 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, six (6) grab soil samples were collected during the flowline removal. 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. Additionally, two (2) soil samples were analyzed for metals in soil per ECMC Table 915-1. 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 the site investigation a grab groundwater will be collected and analyzed for all organic compounds per ECMC 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 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. The ECMC Flowline Closure and Wellhead Closure Checklists were utilized and filled out during the abandonment process. A photolog was submitted on the Subsequent Form 27. Additionally, two boreholes were advanced using a hand auger to vertically delineate the hydrocarbon impacts at the flowline. Four soil samples were collected from the borings and submitted to a certified laboratory for analysis of TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons) organic compounds in soil per ECMC Table 915-1, metals in soil per ECMC Table 915-1, and EC, SAR, pH, and boron.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

**Soil**

Number of soil samples collected 11  
Number of soil samples exceeding 915-1 10  
Was the areal and vertical extent of soil contamination delineated? Yes  
Approximate areal extent (square feet) 100

**NA / ND**

ND Highest concentration of TPH (mg/kg) \_\_\_\_\_  
-- Highest concentration of SAR 23.5  
BTEX > 915-1 No  
Vertical Extent > 915-1 (in feet) 4

**Groundwater**

Number of groundwater samples collected 0  
Was extent of groundwater contaminated delineated? No  
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?  
A total of thirty (30) background samples were collected and analyzed for EC, SAR, arsenic, barium, cadmium, lead, and selenium. A detailed analysis of background concentrations in soil is provided in the Remediation Summary Section.

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.

The source of hydrocarbon contamination identified at FL01-P@2.5' and FL01-S@2.5' was removed through two remedial excavations that took place on August 14, 2023, and August 30, 2023. Excavation confirmatory samples were analyzed for organic compounds in soil per ECMC Table 915-1 and TPH (C6-36), per the approved amended sampling plan documented in ECMC Form 27 document number 403276572. Based on the successful removal of soil impacted with hydrocarbon compounds, Noble is requesting a No Further Action (NFA) designation for this site.

**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.

A total of approximately 33 cubic yards of impacted material were removed for off-Site disposal at the Buffalo Ridge Waste Management Landfill in Keenesburg, Colorado under signed Noble waste manifests. A total of approximately 33 cubic yards of imported clean fill was used to backfill the excavations. The final remedial excavation extents from the FL01-P release location and the FL01-S release location measured approximately 10 ft. by 10 ft. by 4 feet below ground surface (ft bgs) and 10 ft. by 10 ft. by 5 ft bgs, respectively.

**Soil Remediation Summary**

In Situ  Ex Situ  
\_\_\_\_\_ Bioremediation ( or enhanced bioremediation ) \_\_\_\_\_ Yes \_\_\_\_\_ Excavate and offsite disposal

\_\_\_\_\_ Chemical oxidation  
\_\_\_\_\_ Air sparge / Soil vapor extraction  
\_\_\_\_\_ Natural Attenuation  
\_\_\_\_\_ Other \_\_\_\_\_

If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 33  
Name of Licensed Disposal Facility or COGCC 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.

# 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 Remedial Excavation Report

## 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:

N/A

Volume of E&P Waste (solid) in cubic yards 33

E&P waste (solid) description Soil

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

Non-COGCC Disposal Facility: Buffalo Ridge Waste Management Landfill

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

E&P waste (liquid) description \_\_\_\_\_

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

Non-COGCC 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? Yes

Does Groundwater meet Table 915-1 standards? Yes

Is additional groundwater monitoring to be conducted? \_\_\_\_\_

Operator shall comply with the COGCC 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. 05/28/2024

Proposed date of completion of Reclamation. 11/28/2024

## 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. 12/14/2021

Actual Spill or Release date, or date of discovery. 09/16/2022

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/21/2022

Proposed site investigation commencement. 03/01/2022

Proposed completion of site investigation. 11/02/2023

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 11/02/2023

Proposed date of completion of Remediation. 11/28/2023

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:

Implementation schedule change due to landowner access approval delays.

## OPERATOR COMMENT

Laboratory analytical results indicate that all the remedial excavation soil samples were compliant with ECMC Table 915-1 Protection of Groundwater Screening Levels (GSSL) for organic compounds, with the exception of one floor soil sample from FL01-S release location which had a concentration of benzo(a)anthracene greater than the ECMC Table 915-1 GSSL.

Groundwater was not encountered during decommissioning, site assessment, or remedial excavation activities at the Site. As such, a desktop review of Colorado's Division of Water Resources (DWR) Well Permit Research Mapper was performed to determine the depth to water below ground surface in permitted water wells within a 0.5-mile radius of the Site. For a visual representation of the results of this inquiry refer to Figure 4. Three permitted water wells (permit IDs 1832-, 107509-, and 500-) were identified within the 0.5-mile radius, at roughly the same ground surface elevation as the Site. According to the permit records, the static groundwater level in the region of the site is 27 ft bgs. Since groundwater is recorded to be 27 ft bgs in the region of the Site, and since soil impacts at the Site are limited to less than 6 ft bgs, there is no pathway for contaminant migration to the groundwater table. As such, Noble proposes to utilize ECMC Table 915-1 Residential Soil Screening Levels (RSSL) when evaluating soil sample analytical results. The application of ECMC Table 915-1 RSSLs eliminates the benzo(a)anthracene identified in floor sample FS02@5' as a contaminant of concern.

Based upon field and laboratory data collected during remedial excavation activities, soils impacted with hydrocarbon compounds at concentrations above ECMC Table 915-1 RSSLs in the area of the two releases have been successfully removed. Based on a lack of pathway to groundwater identified at the Site, Noble proposes to apply ECMC Table 915-1 RSSLs to the Site, which eliminates the benzo(a)anthracene concentration at FS02@5' above ECMC Table 915-1 GSSLs but below ECMC Table 915-1 RSSLs as a contaminant of concern. If the ECMC approves the application of Table 915-1 RSSLs, Noble requests a No Further Action (NFA) designation for the Site and proposes to leave soils with compounds at concentrations below ECMC Table 915-1 RSSLs in place.

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: 11/28/2023

Email: chevroneform@tasman-geo.com

Based on the information provided herein, this Application for Site Investigation and Remediation Workplan complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: BOB CHESSON

Date: 12/05/2023

Remediation Project Number: 22156

### COA Type

### Description

COA Type	Description
0 COA	

## Attachment Check 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

403608341	FORM 27-SUPPLEMENTAL-SUBMITTED
403608394	SITE INVESTIGATION REPORT

Total Attach: 2 Files

## General Comments

### User Group

### Comment

### Comment Date

Environmental	Based on the information presented, it appears that no further action is necessary at this time and the ECMC approves the closure request. However, if future conditions at the site indicate contaminant concentrations in soils exceeding ECMC standards or if groundwater is found to be impacted, then further investigation and/or remediation activities may be required. The surface area disturbed by the remediation activity shall be reclaimed in accordance with the 1000 Series Reclamation Rules. For locations with active ongoing oil and gas operations, comply with Rule 1003 interim reclamation requirements and for locations that will no longer have active oil and gas operations, comply with Rule 1004 Final Reclamation requirements.	12/05/2023
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Total: 1 comment(s)