

State of Colorado  
Energy & Carbon Management Commission1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
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403687152

Receive Date:

02/14/2024

Report taken by:

Chris Sanchez

## 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: (715) 562-0251
City: DENVER	State: CO	Zip: 80202
Contact Person: Dan Peterson	Email: rbueuf27@chevron.com	Mobile: ( )

## PROJECT, PURPOSE &amp; SITE INFORMATION

## PROJECT INFORMATION

Remediation Project #: 13865 Initial Form 27 Document #: 402117385

## 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: LOCATION	Facility ID: 328616	API #: _____	County Name: WELD
Facility Name: KUIS-64N64W 5NWNE	Latitude: 40.347280	Longitude: -104.572250	
** correct Lat/Long if needed: Latitude: 40.348181		Longitude: -104.572422	
QtrQtr: NWNE	Sec: 5	Twp: 4N	Range: 64W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE	Facility ID: 466266	API #: _____	County Name: WELD
Facility Name: Kuis C 05-1,2,7	Latitude: 40.348181	Longitude: -104.572422	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWNE	Sec: 5	Twp: 4N	Range: 64W Meridian: 6 Sensitive Area? Yes

## **SITE CONDITIONS**

General soil type - USCS Classifications SC

Most Sensitive Adjacent Land Use Agricultural

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**

Wetlands 765', Occupied Building 500'

## 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	40' X 40'	Laboratory Analytical
Yes	SOILS	40' X 40' 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.

During tank battery dismantlement historical impacts were discovered in the vicinity of the produced water vessel. Remediation of impacted media will be scheduled.

### 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 ):

Seven grab soil samples were collected by Tasman Geosciences above the phreatic zone of the excavation. These samples were submitted to Summit Scientific for analysis of TPH-DRO by EPA Method 8015, TPH-GRO, BTEX, and Naphthalene by EPA Method 8260b. Additionally, SS04@3' was analyzed for SAR by Soluble Nutrients by EPA 6020/USDA60(2,3A)-Dry Weight Basis, EC by EPA Method 120.1, and pH by APHA/ASTM/EPA Methods.

#### Proposed Groundwater Sampling

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

One grab groundwater sample was collected by Tasman Geosciences and submitted to Summit Scientific for analysis of BTEX by EPA Method 8260b.

#### 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 ):

## SITE INVESTIGATION REPORT

### SAMPLE SUMMARY

#### Soil

Number of soil samples collected 7

Number of soil samples exceeding 915-1 5

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

#### NA / ND

-- Highest concentration of TPH (mg/kg) 380

-- Highest concentration of SAR 1.3

BTEX > 915-1 Yes

Approximate areal extent (square feet) 1600

Vertical Extent &gt; 915-1 (in feet) 5

**Groundwater**

Number of groundwater samples collected 1

-- Highest concentration of Benzene (µg/l) 3000

Was extent of groundwater contaminated delineated? Yes

-- Highest concentration of Toluene (µg/l) 2200

Depth to groundwater (below ground surface, in feet) 6

-- Highest concentration of Ethylbenzene (µg/l) 150

Number of groundwater monitoring wells installed 0

-- Highest concentration of Xylene (µg/l) 2500

Number of groundwater samples exceeding 915-1 1

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?☐ 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.

Source material was removed through excavation of impacted soil above ECMC Table 910-1 standards on August 12, 2019. Tasman Geosciences collected grab confirmation soil samples above the phreatic zone for analysis of TPH-DRO, TPH-GRO, BTEX, and Naphthalene.

**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.

Nine groundwater monitoring wells were installed and were sampled on a quarterly basis. On October 31, 2022, Tasman installed and began operation of a solar-powered AS remediation system at the Site. The system was shut down during the second quarter 2023 to assess groundwater quality under static conditions. Monitored natural attenuation (MNA) was the selected remediation strategy between the second quarter 2023 and the first quarter 2024.

**Soil Remediation Summary**☐ In Situ☒ Ex Situ

Bioremediation ( or enhanced bioremediation )

Yes Excavate and offsite disposal

Chemical oxidation

If Yes: Estimated Volume (Cubic Yards) 190

Air sparge / Soil vapor extraction

Name of Licensed Disposal Facility or COGCC Facility ID #

Natural Attenuation

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

       Yes     Natural Attenuation

       Yes     Other      275 lbs. of activated carbon was  
applied to the base of the  
excavation.

## **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.

Nine groundwater monitoring wells were installed to delineate groundwater dissolved phase impacts. These wells were sampled on a quarterly basis by Tasman Geosciences. The groundwater samples will be transported to a certified laboratory for analysis of BTEX, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene by EPA Method 8260.

First quarter 2024 analytical results indicated that organic compound concentrations were in compliance with the applicable ECMC regulatory standards in all nine monitoring well locations for the fourth consecutive quarter under static conditions. 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 No Further Action (NFA) Request

#### ☐ Request Alternative Reporting Schedule:

☐ Semi-Annually ☐ Annually ☒ Other No Further Action (NFA) Request

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 \_\_\_\_\_

### 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.

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:

No beneficial use

Volume of E&P Waste (solid) in cubic yards \_\_\_\_\_ 190

E&P waste (solid) description E&P solid waste derived from excavation activities

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

Non-ECMC Disposal Facility: Buffalo Ridge Landfill/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? 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 1004 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. 07/22/2019

Proposed date of completion of Reclamation. 02/01/2025

## 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. 11/04/2019

Actual Spill or Release date, or date of discovery. \_\_\_\_\_

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 07/22/2019

Proposed site investigation commencement. \_\_\_\_\_

Proposed completion of site investigation. 08/09/2019

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 08/12/2019

Proposed date of completion of Remediation. 02/01/2024

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:

During the first quarter 2024, four consecutive quarters of organic compound concentrations in compliance with the applicable regulatory standards were achieved. Consequently, Noble is requesting a No Further Action (NFA) determination for this remediation project.

## OPERATOR COMMENT

This Supplemental Form 27 was submitted to summarize quarterly groundwater monitoring activities and analytical results collected during the first quarter 2024 at the former Connell C04-31D, KUIS C05-1 location.

On October 31, 2022, Tasman installed and began operation of a solar-powered AS remediation system at the Site. The system was shut down during the second quarter 2023 to assess groundwater quality under static conditions. Monitored natural attenuation (MNA) was the selected remediation strategy between the second quarter 2023 and the first quarter 2024.

First quarter 2024 analytical results indicated that organic compound concentrations were in compliance with the applicable ECMC regulatory standards in all nine monitoring well locations for the fourth consecutive quarter under static conditions. Consequently, Noble is requesting a No Further Action (NFA) determination for this remediation project.

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

Signed: Jake Whritenour

Title: Environmental Consultant

Submit Date: 02/14/2024

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: Chris Sanchez

Date: 04/04/2024

Remediation Project Number: 13865

## COA Type

## Description

	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.
1 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

403687152	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
403687270	MONITORING REPORT
403742931	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 3 Files

## General Comments

## User Group

## Comment

## Comment Date

Environmental	ECMC noted a duplicate date of 8/15/2023 for BH02R in the attached table for the monitoring report. ECMC confirmed correct sample information in Form 27 Document 403664340 was present in the January 23, 2024 submittal.	04/04/2024
Environmental	Based on the information presented, it appears that no further remedial action is necessary at this time and the ECMC approves the closure request. However, should 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.	04/04/2024

Total: 2 comment(s)