

State of Colorado  
Energy & Carbon Management Commission

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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: NOBLE ENERGY INC	Operator No: 100322	Phone Numbers
Address: 1099 18TH STREET SUITE 1500		Phone: (970) 313-5582
City: DENVER	State: CO	Zip: 80202
Contact Person: Jason Davidson	Email: jason.davidson@chevron.com	Mobile: ( )

## PROJECT, PURPOSE &amp; SITE INFORMATION

## PROJECT INFORMATION

Remediation Project #: 25474 Initial Form 27 Document #: 403184327

## 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 #: 123-27010	County Name: WELD
Facility Name: KISSLER K 21-32D	Latitude: 40.295443	Longitude: -104.789484	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWSW	Sec: 21	Twp: 4N	Range: 66W
Meridian: 6	Sensitive Area? Yes		

Facility Type: SPILL OR RELEASE	Facility ID: 484535	API #: _____	County Name: WELD
Facility Name: Kissler K21-32D	Latitude: 40.295411	Longitude: -104.789457	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWSW	Sec: 21	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? No \_\_\_\_\_

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

Freshwater Pond 0.12mi N, 0.18/0.23mi NW  
Riverine 0.09mi NW, 0.22mi SE  
Residential 0.13/0.18mi SW, 0.12/0.13/0.17/0.19mi NW  
Farm Structures 0.11/0.13mi SW, 0.12/0.13/0.22/0.24mi NW  
Commercial Structure 0.12mi 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	Refer to Document No. 403908015	Confirmation Soil Sampling

### 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 was conducted pertaining to the Kissler K21-32D wellhead cut and cap and flowline abandonment. The flowline was abandoned in place per a signed landowner agreement as per Form 44 Document #403540450. The wellhead was cut and capped per ECMC rules.

### 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 soil sample was collected at the base of the excavation or the area showing the highest degree of impact during field screening activities at the wellhead excavation. A grab confirmation soil sample was collected at the wellhead excavation. 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.

Soil sampling will be conducted along the full length of the flowline. Confirmation soil samples will be collected at the directional changes and mid-point, and screening samples will be collected every 250 feet. Visual and olfactory senses will be used during field screening to determine if laboratory confirmation sampling is required. Samples will be submitted for the full Table 915-1 analytical suite.

#### 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 and inorganic parameters 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 ):

A detailed summary of initial decommissioning activities, including field notes, site photos, figures, and laboratory analytical results for the wellhead and flowline were attached to ECMC Document #403500488.

## SITE INVESTIGATION REPORT

### SAMPLE SUMMARY

**Soil**

Number of soil samples collected 9

Number of soil samples exceeding 915-1 1

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

Approximate areal extent (square feet) 100

**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

**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.

**NA / ND**

ND Highest concentration of TPH (mg/kg)

-- Highest concentration of SAR 2.77

BTEX &gt; 915-1 No

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

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)

**OTHER INVESTIGATION INFORMATION**☐ Were impacts to adjacent property or offsite impacts identified?☒ Were background samples collected as part of this site investigation?

Five background soil samples were collected near the wellhead and analyzed for arsenic and pH. Background soil samples were collected from 5 feet below ground surface (ft bgs). The maximum background concentrations for pH was observed to be 8.97. The pH exceedance observed at soil sample SS-4@5' was above background levels. The maximum background concentrations with a 1.25x multiplier applied for arsenic was calculated to be 5.73 mg/kg. All arsenic concentrations observed during site investigation activities were below background levels.

☐ 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?

Based on the analytical results received for samples collected during remedial excavation activities, a supplemental site investigation (SSI) will be completed to confirm and delineate the pH exceedance identified at SS04@5'. Additionally, soil sampling will be conducted along the full length of the flowline. All samples will be submitted for the full Table 915-1 analytical suite. Concurrently with the SSI, additional background samples will be collected to determine if pH is indicative of native soil conditions at the site. The SSI is tentatively scheduled to take place on January 6, 2025, and the results of the SSI will be submitted on a subsequent Form 27.

**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.

Refer to Remediation Summary section below.

**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.

The source identified during decommissioning at sample location FL01-A@5' was successfully removed through a remedial excavation. A detailed remedial excavation report was attached to ECMC Document No. 403908015. A total of 98 cubic yards of impacted soil was excavated and transported off-site for disposal at the Waste Management Buffalo Ridge Landfill.

Based on the analytical results received for samples collected during remedial excavation activities, a supplemental site investigation (SSI) will be completed to confirm and delineate the pH exceedance identified at SS04@5'. Additionally, soil sampling will be conducted along the full length of the flowline. All samples will be submitted for the full Table 915-1 analytical suite. Concurrently with the SSI, additional background samples will be collected to determine if pH is indicative of native soil conditions at the site. The SSI is tentatively scheduled to take place on January 6, 2025, and the results of the SSI will be submitted on a subsequent 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) \_\_\_\_\_ 98

\_\_\_\_\_ 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 site investigation 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 Fourth Quarter 2024 - Timeline Update

### 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 COGCC rules. Records are available on the COGCC'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? 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 98

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? 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. 02/01/2023

Proposed date of completion of Reclamation. 06/02/2026

## 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. 07/20/2022

Actual Spill or Release date, or date of discovery. 05/26/2023

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 02/01/2023

Proposed site investigation commencement. 01/06/2025

Proposed completion of site investigation. 01/13/2025

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 01/13/2025

Proposed date of completion of Remediation. 04/13/2025

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 the necessity for supplemental site investigation activities adjacent to the wellhead and flowline. The SSI is tentatively scheduled to take place on January 6, 2025 and the results of the SSI will be submitted on a subsequent Form 27.

**OPERATOR COMMENT**

This Supplemental Form 27 is being submitted as a fourth quarter 2024 timeline update for the completion of a supplemental site investigation at the Kissler K 21-32D wellhead and flowline locations.

Remedial excavation analytical results (Refer to ECMC Document No. 403908015) indicated that organic compound concentrations were in compliance with the applicable ECMC regulatory standards in all soil sample locations.

Based on the remaining analytes, a supplemental site investigation (SSI) will be completed to confirm and delineate the pH exceedance identified at SS04@5'. Additionally, soil sampling will be conducted along the full length of the flowline. All samples will be submitted for the full Table 915-1 analytical suite. Concurrently with the SSI, additional background samples will be collected to determine if pH is indicative of native soil conditions at the site. The SSI is tentatively scheduled to take place on January 6, 2025, and the results of the SSI will be submitted on a subsequent Form 27.

As per the COA on ECMC Document No. 403908015, the Form 44 Flowline Report Document No. is 403540450. The most recent integrity test for the flowline was conducted on 6/21/2019. The results were as follows: Starting Pressure: 300 PSI, Ending Pressure: 300 PSI, No Change During the Last 5 Minutes of the Test, Status: PASS. Placed into OOSLAT 06/12/2020. Per internal safety protocols, additional integrity tests are not performed during abandonment activities.

Quarterly reporting will be conducted until closure criteria are achieved for the remediation project.

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

Signed: Mike Medina

Title: Environmental Consultant

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

Email: Tas-chevron-2@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: 25474

**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**

404007954	SITE INVESTIGATION PLAN
404007955	SITE INVESTIGATION PLAN

Total Attach: 2 Files

**General Comments****User Group****Comment****Comment Date**

		Stamp Upon Approval
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Total: 0 comment(s)