

State of Colorado  
Energy & Carbon Management Commission

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Document Number:  
404295123

Receive Date:  
\_\_\_\_\_

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	<b>Phone Numbers</b>
Address: 1099 18TH STREET SUITE 1500		Phone: (970) 278-6934
City: DENVER State: CO Zip: 80202		Mobile: ( )
Contact Person: Erica Zuniga	Email: ericazuniga@chevron.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 34037 Initial Form 27 Document #: 403678137

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 #: 123-30261	County Name: WELD
Facility Name: ZABKA K 20-18	Latitude: 40.300683	Longitude: -104.800545	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWNE	Sec: 20	Twp: 4N	Range: 66W Meridian: 6 Sensitive Area? Yes
Facility Type: SPILL OR RELEASE	Facility ID: 486319	API #: _____	County Name: WELD
Facility Name: Zabka K20-18	Latitude: 40.300920	Longitude: -104.800554	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWNE	Sec: 20	Twp: 4N	Range: 66W Meridian: 6 Sensitive Area? Yes

## **SITE CONDITIONS**

General soil type - USCS Classifications SW \_\_\_\_\_

Most Sensitive Adjacent Land Use Cropland \_\_\_\_\_

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**

Holding pond 0.20mi S, 0.23/0.24mi NW, 0.25mi NE, Ag ditch 10ft N, 0.04mi W  
N/A

# 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 checked="" 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
UNDETERMINED	GROUNDWATER	NA	Lab Analysis or Field Screening, if encountered.
Yes	SOILS	Refer to ECMC Document #404179255	Lab Analysis and Field Screening

## **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 ZABKA K20-18 flowline removal. On February 7, 2024, the entire flowline (approximately 926') was removed. Soil samples were taken 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 screened along the flowline in accordance with the IF27 map.

## **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 ):

Soil samples were 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, as applicable to abandonment type. Soil samples were analyzed by a certified laboratory for the full extent of Table 915-1, including but not limited to: 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, EC, SAR, pH, and boron. All samples collected were analyzed by a certified laboratory using ECMC-approved 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, groundwater samples will be collected and analyzed for all organic and inorganic compounds in groundwater 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 flowline areas occurred during decommissioning activities. Field personnel field screened all disturbed areas using visual and olfactory senses to determine if laboratory confirmation sampling was required. A detailed summary of the flowline decommissioning activities, including field notes, site photos, figures, and laboratory analytical results, was attached to a previous Supplemental Form 27 (ECMC Document #403725012).

# SITE INVESTIGATION REPORT

## **SAMPLE SUMMARY**

Soil

NA / ND

Number of soil samples collected 15

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

Number of soil samples exceeding 915-1 7

-- Highest concentration of SAR 0.962

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

BTEX > 915-1 No

Approximate areal extent (square feet) 700

Vertical Extent > 915-1 (in feet) 5

**Groundwater**

Number of groundwater samples collected 0

Highest concentration of Benzene (µg/l) \_\_\_\_\_

Was extent of groundwater contaminated delineated? Yes

Highest concentration of Toluene (µg/l) \_\_\_\_\_

Depth to groundwater (below ground surface, in feet) \_\_\_\_\_

Highest concentration of Ethylbenzene (µg/l) \_\_\_\_\_

Number of groundwater monitoring wells installed \_\_\_\_\_

Highest concentration of Xylene (µg/l) \_\_\_\_\_

Number of groundwater samples exceeding 915-1 \_\_\_\_\_

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?

On February 27, 2024, one background soil sample was collected near the flowline and analyzed for metals in soil per ECMC Table 915-1. The background soil sample was collected from a depth of approximately 3 feet below ground surface (ft bgs). BKG01@3' was collected in a location that was not sufficiently away from areas disturbed by oil and gas operations, and will be excluded from the background analysis.

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?

Concurrently with the remedial excavation that is proposed in the Remedial Action Plan section of this Form 27, additional background soil samples will be collected to determine if elevated arsenic, cadmium, and lead are attributed to native soil conditions at the site. Proposed background soil sample locations are shown on the attached Proposed Soil Boring Locations Map.

**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.

On 11/20/2024, source removal activities were conducted to remove the organic exceedances identified during decommissioning at sample locations FL01-A@3.5', FL01-C@3' and FL01-G@3'. The FL01-A@3.5' remedial excavation measured 11 feet (ft) long by 10 ft wide and reached a terminal depth of 5 ft below ground surface (bgs). The FL01-C@3' remedial excavation measured 13 ft long by 13 ft wide and reached a terminal depth of 5 ft bgs. The FL01-G@3' remedial excavation measured 14 ft long by 13 ft wide and reached a terminal depth of 5 ft bgs. A total of 40 cubic yards (CY) of impacted soil was excavated and transported off-site for disposal at the Waste Management North Weld Landfill.

The source area was successfully removed at the FL01-G excavation. At the FL01-A excavation, the floor sample (FS01@5') exhibited a benzo(a)anthracene concentration of 0.0263 mg/kg, in exceedance of the Protection of Groundwater Soil Screening Level (PGSSL) of 0.011 mg/kg. At the FL01-C excavation, the northern sidewall sample (SS05@3') exhibited a benzo(a)anthracene concentration of 0.0678 mg/kg in exceedance of the PGSSL.

The organic compound exceedances observed at sample locations FS01@5' and SS05@3' will be removed through additional remedial excavations.

**REMIATION 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.

Excavation confirmation soil samples will be collected and analyzed for full ECMC Table 915-1 contaminants of concern.

## Soil Remediation Summary

In Situ

Ex Situ

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

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

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

\_\_\_\_\_ If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 40

\_\_\_\_\_ 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 the decommissioning or remedial excavation activities at the site.

# REMEDATION 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 Source Mass Removal Report, Supplemental Source Mass Removal and Site Investigation Proposal

## 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 (policies MWZZ316714 and MWZX316724) 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: \$ 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:

No beneficial use.

Volume of E&P Waste (solid) in cubic yards  40

E&P waste (solid) description Soil

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility: Waste Management - North Weld 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:

# REMEDATION COMPLETION REPORT

## REMEDATION 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. 02/27/2024

Proposed date of completion of Reclamation. 06/30/2027

## 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. 07/27/2023

Actual Spill or Release date, or date of discovery. 03/19/2024

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 02/27/2024

Proposed site investigation commencement. 12/22/2025

Proposed completion of site investigation. 12/22/2025

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 07/27/2025

Proposed date of completion of Remediation. 10/25/2026

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 to the completion of the November 2024 remedial excavation at the Zabka K20-18 flowline and necessity for additional source removal and SSI activities adjacent to the flowline. The SSI is currently scheduled for 12/22/2025. The ECMC will be updated on a subsequent Form 27 with the results of the remedial excavation.

**OPERATOR COMMENT**

This Form 27 is being submitted to maintain quarterly reporting compliance during the second quarter of 2025 for completion of the remedial excavations and background investigation at the Zabka K20-18 Flowline location.

The remedial excavation and background investigation will be completed in accordance with the work plan proposed in a previous Supplemental Form 27 (ECMC Document # 404048080), with the exception of the location of BKG05, which was moved in accordance with the COA on the previous Form 27 (ECMC Document # 404179255). The background locations are shown on the attached site investigation plan.

In response to the COA on the previous Form 27 (ECMC Document # 404179255), the flowline was completely removed, and therefore the flowline abandonment verification requirements would not apply.

Pursuant to Rule 913.e, quarterly reporting will be conducted until closure criteria are achieved for the remediation project. The background investigation is scheduled for completion on 12/22/2025. The results of the remedial excavations and background investigation will be submitted on a subsequent Form 27.

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

Signed: Michael Liston \_\_\_\_\_

Title: Environmental Consultant \_\_\_\_\_

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

Email: mliston@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: 34037

**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**

404295124	SITE INVESTIGATION PLAN
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Total Attach: 1 Files

**General Comments**

**User Group**

**Comment**

**Comment Date**

		Stamp Upon Approval
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Total: 0 comment(s)