

State of Colorado  
Energy & Carbon Management Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:  
404028699  
Receive Date:  
12/13/2024  
Report taken by:  
Krystal Heibel

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 #: 26659 Initial Form 27 Document #: 402988596

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: PIT	Facility ID: 110642	API #: _____	County Name: LOGAN
Facility Name: SMART A	Latitude: 40.477780	Longitude: -103.300896	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWNE	Sec: 21	Twp: 6N	Range: 53W Meridian: 6 Sensitive Area? Yes

Facility Type: PIT	Facility ID: 110643	API #: _____	County Name: LOGAN
Facility Name: SMART A	Latitude: 40.477780	Longitude: -103.300896	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWNE	Sec: 21	Twp: 6N	Range: 53W Meridian: 6 Sensitive Area? Yes

Facility Type: PIT	Facility ID: 110644	API #:	County Name: LOGAN
Facility Name: SMART A	Latitude: 40.477780	Longitude: -103.300896	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: NWNE	Sec: 21	Twp: 6N	Range: 53W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE	Facility ID: 484268	API #:	County Name: LOGAN
Facility Name: Smart A	Latitude: 40.477667	Longitude: -103.301672	
** correct Lat/Long if needed: Latitude:		Longitude: -103.301567	
QtrQtr: NWNE	Sec: 21	Twp: 6N	Range: 53W Meridian: 6 Sensitive Area? Yes

**SITE CONDITIONS**

General soil type - USCS Classifications SC 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**

Platte Ditch - currently located approximately 680' NW of proposed assessment area - rerouted between 1998 and 2004.  
 Riverine "wetlands" - plots as of 1975 adjacent to the assessment area. Wetlands have since been removed and are no longer present at the location - see 2021 aerial.  
 HPH - Yes - Mule Deer Severe Winter Range - Consult will be Colorado Parks and Wildlife will be completed as needed.  
 Municipality - No  
 Livestock - ~1,100' NW  
 Occupied Building - Home/Farm - ~995' NW  
 10 water wells identified within 1/2 mile. Permit #38707 (stock) - located ~950' NW; Permit #196214 (domestic) - located ~3360' NW

# 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
No	GROUNDWATER	N/A	not encountered
Yes	SOILS	~70'x~40'x~7.5'	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.

A desktop review was conducted in regards to historical pits located in close proximity to the Smart A plugged and abandoned wellheads. Based on information available on ECMC and historical aerial review, three (3) unlined pits were previously at the location. A site assessment per consultation with ECMC, Rule 911.c., and historical aerial review was completed. Historical impacts were identified and warrant active remediation.

## 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 ):

Five (5) soil bores were advanced to approximately 20' bgs within the footprint of the former pits (3). Samples were collected for lab analysis from 2.5-5', 5-7.5', and the bottom of the bore/or the interval with the highest degree of possible "impact". Two additional bores were advanced to approximately 5 feet bgs within the footprint of the former berm(s). Sample were collected from 0-2.5' and 2.5-5'. Sixteen (16) background samples were collected for inorganic and metals comparisons, as needed.

Nineteen (19) soil samples were analyzed for ECMC Full Table 915 suite (TPH (C6-C36), organics, boron, EC, SAR, pH, and metals) by a certified laboratory using ECMC approved methods.

### Proposed Groundwater Sampling

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

### 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

NA / ND

Number of soil samples collected 35 -- Highest concentration of TPH (mg/kg) 10800  
 Number of soil samples exceeding 915-1 19 -- Highest concentration of SAR 98.1  
 Was the areal and vertical extent of soil contamination delineated? Yes BTEX > 915-1 Yes  
 Approximate areal extent (square feet) 2800 Vertical Extent > 915-1 (in feet) 20

**Groundwater**

Number of groundwater samples collected 0 Highest concentration of Benzene (µg/l) \_\_\_\_\_  
 Was extent of groundwater contaminated delineated? No 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?  
 Sixteen background soil samples were collected for pH, SAR, boron, and table 915-1 metals (sans Cr VI) analysis. Residual boron, pH, and metals observed at the site are consistent and/or less than background comparison and do not appear to warrant additional assessment or remediation.

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?  
 Vertical delineation of SAR observed in SB-01 @ 17.5-20' will require vertical delineation to prep/submit a detailed reclamation plan

**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 subsurface assessment was completed to identify any potential impacts associated with historical pit activities at the site. Samples were collected for Full ECMC Table 915-1 analysis. Historical TPH, Protection of Groundwater Soil Screening Levels (GSSL), and SAR impacts were identified exceeding ECMC regulatory limits and background comparisons. During the assessment, groundwater was not observed. Source excavation activities will be completed to remove accessible impacts adjacent to SB-01, SB-02, and SB-06. Noble proposes confirmation soil samples be collected for TPH, organic, and SAR analysis.

**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.  
 Source excavation activities will be completed to remove accessible historical TPH, GSSL, and SAR impacts identified at the site. Confirmation soil samples will be collected from the sidewalls and floor of the excavation for compliance with ECMC Table 915-1 regulatory limits and/or background cleanup levels, where applicable. Source excavation activities are tentatively scheduled to commence February-March 2025, but may be delayed to Fall 2025 pending land owner consultant/approval given the remediation location is situated in crop. No further action will be considered when soil is in compliance with ECMC Table 915-1 regulatory limits and/or background clean-up levels.

**Soil Remediation Summary**

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

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

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

N/A

# 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 \_\_\_\_\_ 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 ECMC rules. Records are available on the ECMC's website.

Operator anticipates the remaining cost for this project to be: \$ 100000 \_\_\_\_\_

## WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation?   No \_\_\_\_\_

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

\_\_\_\_\_

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

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

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

Non-ECMC Disposal Facility: \_\_\_\_\_

Volume of E&P Waste (liquid) in barrels \_\_\_\_\_

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?   No \_\_\_\_\_

Does the previous reply indicate consideration of background concentrations? \_\_\_\_\_

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.

Post-remediation, reclamation will be in accordance with ECMC 1000 series rules and LO consultation. Residual SAR will be vertically defined, and a detailed reclamation plan will be presented to ensure no adverse effects on human health or the environment.

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. 03/21/2025

Proposed date of completion of Reclamation. 04/21/2028

## 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. 04/13/2023

Actual Spill or Release date, or date of discovery. 04/12/2023

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 03/22/2023

Proposed site investigation commencement. 12/22/2022

Proposed completion of site investigation. 03/31/2024

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 03/31/2024

Proposed date of completion of Remediation. 03/31/2025

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:

This form is being submitted to serve as a timeline update. Implementation schedule updated to reflect the schedule to complete the supplemental site investigation. The ECMC will be updated on a subsequent Form 27 with the results of the supplemental site investigation, or if the schedule is changed due to site access constraints.

## OPERATOR COMMENT

Previous form (403917916) was denied by ECMC with no comments regarding the denial. Operator will follow up with ECMC to determine reason for previous form's denial.

This form is being submitted as a quarterly update.

All analytical data were thoroughly reviewed against the attached Site Investigation Report which includes the laboratory analytical report (appended). Previous form (403917916) incorrectly identified 32 soil samples exceeding 915-1 on account of including background samples. The number of soil samples exceeding 915-1 has been corrected on this form to 19. All other data is accurate.

Previous (denied) form included the following comments which are still applicable -  
A desktop review was conducted in regards to historical pits located in close proximity to the Smart A plugged and abandoned wellheads. Based on information available on ECMC and historical aerial review, three (3) unlined pits were previously at the location. A site assessment per consultation with ECMC, Rule 911.c., and historical aerial review was completed. Historical impacts were identified and warrant active remediation (Form 27 doc #403666348).

Source excavation activities will be completed to remove accessible historical TPH, GSSL, and SAR impacts identified at the site. Confirmation soil samples will be collected from the sidewalls and floor of the excavation for compliance with ECMC Table 915-1 regulatory limits and/or background clean-up levels, where applicable and will be submitted on a supplemental Form 27

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

Signed: Abigail Sheehan

Title: Environmental Consultant

Submit Date: 12/13/2024

Email: cvxform27@erm.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: 26659

### 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

404028699	FORM 27 DENIED
404028767	SITE INVESTIGATION REPORT
404087501	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 3 Files

### General Comments

#### User Group

#### Comment

#### Comment Date

Environmental	ECMC provided a comprehensive list of denial comments via email to the operator on 12/9/2024.	02/10/2025
Environmental	ECMC has denied this Form 27 for data validation. Operator will provide laboratory analytical report(s) as a stand-alone attachment(s) on the replacement Supplemental Form 27. The Laboratory Report PDF(s) must be secured by the issuing laboratory; If there is a difference between the creation date and secured date of the PDF, Operator shall provide an explanation in the case narrative of the associated report. ECMC will not review combined PDFs with lab reports.	02/10/2025

Total: 2 comment(s)