

State of Colorado
Energy & Carbon Management Commission

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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	Phone Numbers
Address: 1099 18TH STREET SUITE 1500		Phone: (970) 939-1929
City: DENVER State: CO Zip: 80202		Mobile: (970) 939-1929
Contact Person: Jason Davidson	Email: jason.davidson@chevron.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 31822 Initial Form 27 Document #: 403508502

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 #: 123-34613	County Name: WELD
Facility Name: SATER CC 18-17D	Latitude: 40.314070	Longitude: -104.478290	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWNE	Sec: 18	Twp: 4N	Range: 63W Meridian: 6 Sensitive Area? No
Facility Type: SPILL OR RELEASE	Facility ID: 486077	API #: _____	County Name: WELD
Facility Name: Sater CC 18-17D	Latitude: 40.315927	Longitude: -104.475804	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NENE	Sec: 18	Twp: 4N	Range: 63W Meridian: 6 Sensitive Area? No

SITE CONDITIONS

General soil type - USCS Classifications SM

Most Sensitive Adjacent Land Use Grassland

Is domestic water well within 1/4 mile? No

Is surface water within 1/4 mile? No

Is groundwater less than 20 feet below ground surface? No

Other Potential Receptors within 1/4 mile

NA

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 or field screening, if encountered
Yes	SOILS	To be determined	Soil sampling and 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 Energy & Carbon Management Commission (ECMC) Rule 911, a site investigation was conducted pertaining to the SATER CC 18-17D wellhead cut and cap and flowline removal. On February 14, 2024, initial wellhead characterization sampling was completed following cut and cap operations. Eight field screening samples were collected from the wellhead excavation, and one analytical soil sample was collected from the excavation and submitted for analysis of all Table 915-1 constituents of concern. One background sample was also collected and analyzed for pH, arsenic, and barium.

On January 18, 19, and 22, 2024, initial flowline characterization sampling was conducted and six field screening samples were collected from the approximately 1,290 feet of removed flowline corridor. Four soil samples were collected and analyzed for all Table 915-1 constituents of concern. One background sample was also collected and analyzed for Soil Suitability for Reclamation (SSR) constituents and Table 915-1 metals.

On July 24 and 30, 2024, 15 soil borings were advanced to assess soil impacts at the location. Five soil borings (SB01 - SB05) were advanced to delineate the extent of previously identified soil impacts associated with the flowline abandonment. Ten soil samples were submitted for analysis of total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene, and xylenes (BTEX), 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, naphthalene, and pH. Five soil borings (SB06 - SB10) were advanced to delineate the extent elevated arsenic at the flowline connection to the separator. Ten soil samples were submitted for analysis of arsenic only. Five soil borings (SB11 - SB15) were advanced to delineate the extent of previously identified soil impacts at the wellhead. Ten soil samples were submitted for analysis of pH and boron. See the attached Site Investigation Reports for site investigation details to date.

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):

Additional soil samples will be collected as needed to delineate the extent of soil impacts identified by initial investigation activities. Soil samples will be submitted for analysis of all Table 915-1 soil constituents of concern. Background samples may be collected to characterize native levels of inorganic constituents at the Location.

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 sample will be collected and analyzed for all organic and inorganic 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 at the wellhead area occurred during cut and cap and removal activities. Field personnel field screened all disturbed areas using visual and olfactory senses to determine if laboratory confirmation sampling was required.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 20

Number of soil samples exceeding 915-1 20

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

Approximate areal extent (square feet) 100

NA / ND

ND Highest concentration of TPH (mg/kg) _____

NA Highest concentration of SAR _____

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 10

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 _____

_____ 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?

17 background soil sample have been collected to characterize native levels of inorganics. See the attached Site Investigation Reports for details.

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?

In accordance with the COA issued via Document 403883217, supplemental site investigation (SSI) activities will be conducted to delineate the extent of soil impacts identified by initial investigation activities. Delineation soil samples will be collected and analyzed for all ECMC Table 915-1 constituents. Additional background samples will be collected and analyzed for the full list of Table 915-1 inorganics. The SSI schedule 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.

Noble is in the process of determining the extent of impacts associated with the project. Once impacts are delineated, Noble will prepare a remediation plan to remove the source material within the investigation area.

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.

On February 14, 2024, initial wellhead characterization sampling was completed following cut and cap operations. One soil sample was collected from the excavation and submitted for analysis of all Table 915-1 constituents of concern; analytical results indicated a pH value elevated above the SSR standard and values of arsenic and barium in exceedance of Table 915-1 Protection of Groundwater Soil Screening Levels (PGSSLs). One background sample was collected and analyzed for pH and barium; analytical results were above the PGSSL for both constituents.

On January 18, 19, and 22, 2024, initial flowline characterization sampling was conducted and six field screening samples were collected from the flowline corridor. Four soil samples were collected and analyzed for all Table 915-1 constituents of concern; analytical results indicated levels of organic and inorganic constituents in exceedance of PGSSLs. One background sample was collected and analyzed for SSR constituents and Table 915-1 metals; analytical results indicated an arsenic value above the PGSSL.

On July 24 and 30, 2024, 15 soil borings were advanced to assess soil impacts at the Location. Five soil borings (SB01 - SB05) were advanced to delineate the extent of previously identified soil impacts associated with the flowline abandonment. Ten soil samples were submitted for analysis of TPH, BTEX, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, naphthalene, and pH. Five soil borings (SB06 - SB10) were advanced to delineate arsenic impacts at the flowline connection to the separator. Ten soil samples were submitted for analysis of arsenic only. Analytical results for both flowline investigation areas were compliant with all analyzed constituents except for arsenic. Five soil borings (SB11 - SB15) were advanced to delineate the extent of previously identified soil impacts at the wellhead. Ten soil samples were submitted for analysis of pH and boron. Analytical results exceeded PGSSLs for both constituents.

Soil Remediation Summary

In Situ

Ex Situ

_____ Bioremediation (or enhanced bioremediation)

_____ Excavate and offsite disposal

_____ Chemical oxidation

_____ If Yes: Estimated Volume (Cubic Yards) _____

_____ 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 decommissioning 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 Quarterly 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. 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? 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? _____

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. 11/14/2023

Proposed date of completion of Reclamation. 10/31/2026

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. 07/27/2023

Actual Spill or Release date, or date of discovery. 02/05/2024

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 11/14/2023

Proposed site investigation commencement. 09/20/2023

Proposed completion of site investigation. 07/30/2024

REMEDIAL ACTION DATES

Proposed start date of Remediation. 01/22/2024

Proposed date of completion of Remediation. 03/31/2026

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 decommissioning of the Sater CC 18-17D wellhead and flowline and necessity for supplemental site investigation activities adjacent to the wellhead and flowline. The schedule for the proposed site investigation will be provided in the subsequent Form 27.

OPERATOR COMMENT

This form has been submitted to provide results of initial investigation and to satisfy the quarterly reporting requirement for Remediation Project 31822. See the the attached Site Investigation Report for details to date.

Based on currently available data, this project is not affected by data integrity irregularities and is not associated with Operator's data integrity review process and its Rule 525.e. Voluntary Disclosure. As part of its data integrity review process, Operator requested the lab protect the laboratory analytical reports from subsequent unauthorized modification by anyone outside the lab, which resulted in the lab reissuing the original reports with additional protections (Reissued Reports). The Reissued Reports were received directly from the lab on January 31 and February 13, 2025, which includes a watermark confirming both the laboratory representative who reissued the report and the date and time of the reissuance. The metadata associated with the Reissued Reports also includes the lab representative's name, the date and time the laboratory reissued the report, and an explanation for the report reissuance. The Reissued Reports are attached to this submission.

In the event additional responsive information is received or discovered that would suggest this project should be incorporated into the ongoing data integrity review process associated with Operator's Rule 525.e. Voluntary Disclosure, Operator will update and/or amend the statements in this submission and provide any new or revised data or other information.

See the the attached Site Investigation Report for details to date. Remediation and site investigation, previously directed by Eagle Environmental, is now under the direction of Confluence Compliance Companies (Confluence). No work has been conducted since the July 2024 supplemental site investigation described in the remediation summary above. Confluence is working with Noble to establish a site investigation schedule which will be proposed in a subsequent Form 27 by May 28, 2025. Quarterly reporting will be conducted until closure criteria are achieved for the remediation project. In accordance with the COA issued via Document 403883217, the previously submitted laboratory reports have been attached to this document as individual documents.

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

Signed: Chris McKisson

Title: Rem. Program Manager

Submit Date: _____

Email: chris.mckisson@confluence-cc.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: 31822

COA Type

Description

0 COA	
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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

404079334	SITE INVESTIGATION REPORT
404079335	SITE INVESTIGATION REPORT
404080543	ANALYTICAL RESULTS
404080546	ANALYTICAL RESULTS
404080548	ANALYTICAL RESULTS
404080550	ANALYTICAL RESULTS
404099955	ANALYTICAL RESULTS
404099956	ANALYTICAL RESULTS
404099958	ANALYTICAL RESULTS
404099959	ANALYTICAL RESULTS
404099960	ANALYTICAL RESULTS
404099961	ANALYTICAL RESULTS

Total Attach: 12 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
		Stamp Upon Approval

Total: 0 comment(s)