

State of Colorado
Energy & Carbon Management Commission1120 Lincoln Street, Suite 801, Denver, Colorado 80203
Phone: (303) 894-2100 Fax: (303) 894-2109

Document Number:

403697816

Receive Date:

08/06/2024

Report taken by:

Alexander Ahmadian

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
Contact Person: Dan Peterson	Email: RBUEUF27@chevron.com	Mobile: ()

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 25598 Initial Form 27 Document #: 403202484

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: 327303	API #: _____	County Name: WELD
Facility Name: UPRR 39 PAN AM G-63N65W 1SWSW	Latitude: 40.250650	Longitude: -104.616910	
** correct Lat/Long if needed: Latitude: 40.253063		Longitude: -104.620438	
QtrQtr: SWSW	Sec: 1	Twp: 3N	Range: 65W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE	Facility ID: 484091	API #: _____	County Name: WELD
Facility Name: UPRR 39 Pan AM G-63N65W 1SWSW	Latitude: 40.253393	Longitude: -104.620421	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSW	Sec: 1	Twp: 3N	Range: 65W 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

Irrigation Pond: 0.43mi E

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	SOILS	10'x10'x6' deep	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.

A site investigation was conducted pursuant to COGCC Rule 911 at the UPRR PAN AM T3N-R65W-S1 L01 Tank Battery location.

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):

Grab confirmation soil samples were collected from the produced water vessel(s) excavation, beneath the ground oil tank(s), and at the separator(s). 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.

Proposed Groundwater Sampling

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

Groundwater was not encountered during the site investigation.

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 tank battery area occurred during abandonment activities. Field personnel field screened all disturbed areas using visual and olfactory senses to determine if laboratory confirmation sampling was required. The ECMC Tank Battery and Produced Water Vessel Closure Checklists were utilized and filled out during the abandonment process. A photolog is attached.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 11

Number of soil samples exceeding 915-1 9

Was the areal and vertical extent of soil contamination delineated? Yes

NA / ND

-- Highest concentration of TPH (mg/kg) 131

-- Highest concentration of SAR 5.12

BTEX > 915-1 No

Approximate areal extent (square feet) 100

Vertical Extent > 915-1 (in feet) 0

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?

Fifteen background soil samples were collected from an area not impacted by oil and gas development and at similar depths and lithologies in the same agricultural field as confirmation soil samples collected at the location and analyzed for ECMC Table 915-1 metals and soil suitability for reclamation standards (pH, EC, SAR, and Boron). Background soil sample analytical results were reported with elevated levels of arsenic and barium.

Background Soil Sample Analysis (mg/kg)
Arsenic @ 6.5': Average*1.25 = 2.15, Max = 4.16
Barium @ 6.5': Average*1.25 = 145, Max = 127

☐ 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.

Impacted soil was removed from the release area at the UPRR 39 Pan Am location by excavation. The impacted soil was disposed of at an approved landfill as non-hazardous waste in accordance with Rules 905 and 906. Copies of the waste manifests will be available upon request.

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.

As demonstrated by the soil sampling, petroleum impacted soil was removed from the UPRR 39 PAM AM location by excavation. This was confirmed by analysis of soil samples collected from the exterior sidewalls and the floors, which were in compliance with the ECMC Table 915-1 PGSSLs for organic petroleum constituents upon completion of the excavation. Approximately 20 cubic yards of impacted soil were removed and transported to the landfill. During remedial excavation, the south wall was excavated to the PWVB01 @ 6.5' sample location and the analytical results are being used as a confirmation soil sample for the south wall. The soil data are illustrated and summarized in the attached tables and figures.

Since groundwater was not observed in the excavation or to be in contact with impacted soil, Noble Energy Inc. (Noble) requests that no further action designation be granted using the ECMC Table 915-1 RSSLs based on the separation between groundwater and the deepest exceeding soil sample. Monitoring wells at the nearby State RG 36-12 Pedro State H 1-30D (Remediation # 10190) location indicate that groundwater is approximately 32 feet bgs, which is a separation of approximately 24 feet between the deepest exceeding soil sample and groundwater. Additionally, exceeding concentrations of selenium reported in the confirmation soil samples collected from the sidewalls and the base of the remedial excavation appear to be de minimus.

Soil Remediation Summary

☐ In Situ

☒ Ex Situ

_____ Bioremediation (or enhanced bioremediation)
_____ Chemical oxidation
_____ Air sparge / Soil vapor extraction
_____ Natural Attenuation
_____ Other _____

Yes _____ Excavate and offsite disposal
_____ If Yes: Estimated Volume (Cubic Yards) _____ 20
_____ 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.

NA

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

☐ Quarterly☐ Semi-Annually☐ Annually☒ Other

Final Report

☐ 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 NFA Request

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: \$ 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 20

E&P waste (solid) description Impacted Soil

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility: WM - 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? 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? Yes

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 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. _____

Proposed date of completion of Reclamation. _____

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. 09/28/2021

Actual Spill or Release date, or date of discovery. 01/03/2023

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 12/12/2022

Proposed site investigation commencement. 10/31/2022

Proposed completion of site investigation. 04/03/2023

REMEDIAL ACTION DATES

Proposed start date of Remediation. 12/12/2022

Proposed date of completion of Remediation. 04/03/2023

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:

OPERATOR COMMENT

The purpose of this form is to present data collected during the remedial excavation of impacts identified at the UPRR Pam AM G-6365W 1SWSW facility. Remedial excavation was completed as documented in the Remedial Action Plan section and the attached excavation report. Additionally, background soil samples collected at the nearby Shelton H 12-29 location are requested to be considered for this location based on their proximity. The background soil sample locations are shown in attached Figure 4. The elevated levels of arsenic and barium reported for the confirmation soil samples collected from the remedial excavation were within the natural variability of arsenic and barium seen in the background soil samples. It is proposed that elevated arsenic and barium concentrations be attributed to native soil conditions. Selenium cannot be attributed to native soil conditions based on the background soil data, however, the concentrations of selenium appear to be de minimus. The estimated depth to groundwater is approximately 32 feet bgs based on a nearby groundwater monitoring location State RG 36-12 Pedro State H 1-30D (Remediation # 10190), which is a separation of approximately 24 feet between the deepest exceeding soil sample and groundwater. Based on the separation between impacted soil and groundwater Residential Soil Screening Levels are suggested for the location. The operator requests no further action for remediation project number 25598.

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

Signed: Chris Lattes

Title: Environmental Consultant

Submit Date: 08/06/2024

Email: chrisl@fremontenv.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: Alexander Ahmadian

Date: 10/08/2024

Remediation Project Number: 25598

COA Type

Description

	Based on the information presented, it appears that no further action is necessary at this time and the ECMC approves the closure request. However, if 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. 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.
	ECMC approves Operator's request for use of Residential SSLs based on the depth to groundwater and the local lithology suggesting a pathway to groundwater at this location is not likely.
2 COAs	

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

403697816	FORM 27-SUPPLEMENTAL-SUBMITTED
403820319	REMEDIATION PROGRESS REPORT

Total Attach: 2 Files

General Comments

User Group

Comment

Comment Date

		Stamp Upon Approval
--	--	---------------------

Total: 0 comment(s)