

State of Colorado
Energy & Carbon Management Commission

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Report taken by:
Abdul Elnajdi

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 Phone: (970) 730-7281 Mobile: ()
Address: 1099 18TH STREET SUITE 1500		
City: DENVER	State: CO	Zip: 80202
Contact Person: Dan Peterson	Email: Danpeterson@chevron.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 33767 Initial Form 27 Document #: 403646209

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

No Multiple Facilities

Facility Type: LOCATION	Facility ID: 306342	API #: _____	County Name: WELD
Facility Name: LARSON USX AA-66N63W 19NENW	Latitude: 40.477160	Longitude: -104.481610	
** correct Lat/Long if needed: Latitude: 40.472051		Longitude: -104.483999	
QtrQtr: NENW	Sec: 19	Twp: 6N	Range: 63W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SM 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

Mule Deer Severe Winter Range (1202.d)
Emergent Wetland 0.22mi W
Residential Structure 0.20mi ESE
Farming Structure 0.20/0.21/0.24mi SE

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	Refer to ECMC Document No 403866196	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.

A site investigation was conducted pursuant to ECMC Rule 911 at the Larson USX AA-66N63W 19NENW Facility and 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 excavation, beneath the Above Ground Storage Tank (AST), at the risers for the flowline and dumpline of the separator. On-site dump lines located between the separator and tank battery were removed by pulling from either end. 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, and EC, SAR, pH, metals, 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):

If groundwater is encountered during the site investigation, grab groundwater samples 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):

[Empty box for surface water sampling details]

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. Additionally, discrete soil samples were collected from the base of the excavation and excavation sidewall in areas most likely to be impacted and exhibiting the highest field screened VOC concentration. A detailed summary of decommissioning activities, including field notes, site photos, figures, and laboratory analytical results were reported on the previously submitted Supplemental Form 27 (ECMC Document No. 403866196).

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 5
Number of soil samples exceeding 915-1 3
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet) 300

NA / ND

-- Highest concentration of TPH (mg/kg) 100
-- Highest concentration of SAR 1.01
BTEX > 915-1 No
Vertical Extent > 915-1 (in feet) 4

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 _____

NA Highest concentration of Benzene (µg/l) _____
NA Highest concentration of Toluene (µg/l) _____
NA Highest concentration of Ethylbenzene (µg/l) _____
NA Highest concentration of Xylene (µg/l) _____
NA 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?

Six background soil samples were collected near the facility and analyzed for metals in soil per ECMC Table 915-1, pH, SAR, and EC. Background soil samples were collected from depths ranging between 2 feet and 5 feet below ground surface (ft bgs). The maximum background concentrations with a 1.25x multiplier applied for arsenic, barium, and cadmium were calculated to be 5.89 mg/kg, 386 mg/kg, and 0.593 mg/kg, respectively. All arsenic, barium, and cadmium concentrations observed during decommissioning 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 decommissioning analytical results, a supplemental site investigation (SSI) will be completed to collect additional background samples to determine if pH exceedances observed at the location are attributed to native soil conditions at the site. The proposed soil boring locations are illustrated on Figure 1. The SSI is tentatively scheduled to take place on April 7, 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.

No impacted material caused by oil and gas operations was identified at this time.

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.

Initial tank battery decommissioning analytical results indicated that organic 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 collect additional background samples to determine if pH exceedances observed at PWV01-B@4', PWV01-N@3', and SEP01-FL@4' are attributed to native soil conditions at the site. The proposed soil boring locations are illustrated on Figure 1. The SSI is tentatively scheduled to take place on April 7, 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)

_____ 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.

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. 06/18/2024

Proposed date of completion of Reclamation. 07/14/2026

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. 01/04/2024

Actual Spill or Release date, or date of discovery. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/18/2024

Proposed site investigation commencement. 04/07/2025

Proposed completion of site investigation. 04/14/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 04/14/2025

Proposed date of completion of Remediation. 07/14/2025

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 to the necessity for a supplemental site investigation (SSI) adjacent to the tank battery. Based on decommissioning analytical results, a SSI will be completed to collect additional background samples to determine if pH exceedances observed at the location are attributed to native soil conditions at the site. The proposed soil boring locations are illustrated on Figure 1. The SSI is tentatively scheduled to take place on April 7, 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 first quarter 2025 timeline update for the completion of a supplemental site investigation (SSI) at the former Larson USX AA-66N63W 19NENW Tank Battery location.

Based on decommissioning analytical results, a supplemental site investigation (SSI) will be completed to collect additional background samples to determine if pH exceedances observed at the location are attributed to native soil conditions at the site. The proposed soil boring locations are illustrated on Figure 1. The SSI is tentatively scheduled to take place on April 7, 2025 and the results of the SSI will be submitted on a subsequent Form 27.

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: Project Manger

Submit Date: 02/19/2025

Email: mmedina@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: Abdul Elnajdi

Date: 02/28/2025

Remediation Project Number: 33767

COA Type

Description

<u>COA Type</u>	<u>Description</u>
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

404093338	FORM 27-SUPPLEMENTAL-SUBMITTED
404093477	SITE INVESTIGATION PLAN

Total Attach: 2 Files

General Comments

User Group

Comment

Comment Date

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

Total: 0 comment(s)