

State of Colorado
Energy & Carbon Management Commission

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Document Number:
404144545
Receive Date:
03/28/2025

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: (303) 597-6847 Mobile: (303) 597-6847
Address: 1099 18TH STREET SUITE 1500		
City: DENVER	State: CO	Zip: 80202
Contact Person: Phillip Porter	Email: RBUEUF27@chevron.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 23570 Initial Form 27 Document #: 403066862

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: 447668	API #: _____	County Name: WELD
Facility Name: LOUSTELET B 15-11,14	Latitude: 40.395041	Longitude: -104.536099	
** correct Lat/Long if needed: Latitude: 40.395146		Longitude: -104.536147	
QtrQtr: SESW	Sec: 15	Twp: 5N	Range: 64W Meridian: 6 Sensitive Area? Yes
Facility Type: SPILL OR RELEASE	Facility ID: 484122	API #: _____	County Name: WELD
Facility Name: Loustelet T5N-R64W-S15 L01	Latitude: 40.395146	Longitude: -104.536147	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SESW	Sec: 15	Twp: 5N	Range: 64W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SC

Most Sensitive Adjacent Land Use pasture

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

HPH: Mule Deer Severe Winter Range ~0.04 mi N, pasture, no buildings, Freshwater Emergent Wetland ~0.23 mi N and ~0.17 mi SW, freshwater pond ~0.08 mi SE and ~0.15 mi NE

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	laboratory analysis if encountered
Yes	SOILS	TBD	laboratory 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.

An initial site investigation was conducted pursuant to ECMC Rule 911 at the LOUSTELET T5N-R64W-S15 L01 Tank Battery location. In March 2023, Seven (7) grab soil samples were collected from the produced water vessel excavation (5), beneath the ground oil tank (1), and at the separator (1). Soil samples were analyzed by a certified laboratory for ECMC Table 915-1 VOCs, SVOCs and SSR. One (1) waste characterization sample was analyzed for ECMC Table 915-1 metals. All samples collected were analyzed by a certified laboratory using approved ECMC laboratory analysis methods.

The results of this investigation were submitted and approved in Doc.#403685574. Based on the results of this investigation, a site assessment was conducted to delineate ECMC Table 915-1 organics, arsenic, pH and metals. Sixteen (16) grab soil samples were collected from the Site, and six (6) monitoring wells were installed in May 2024. Soil samples were analyzed by a certified laboratory using approved ECMC laboratory analysis methods for ECMC Table 915-1 COCs. Monitoring wells MW-01 through MW-06 will be sampled on a quarterly basis for BTEX, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, benzo(a)anthracene, and inorganic parameters per ECMC Table 915-1. The results of the May and August 2024 groundwater sampling are provided in this supplemental form 27.

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):

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

Number of soil samples collected 25
Number of soil samples exceeding 915-1 12
Was the areal and vertical extent of soil contamination delineated? No
Approximate areal extent (square feet) 225

NA / ND

-- Highest concentration of TPH (mg/kg) 6459
-- Highest concentration of SAR 1.85
BTEX > 915-1 No
Vertical Extent > 915-1 (in feet) 2

Groundwater

Number of groundwater samples collected 12
Was extent of groundwater contaminated delineated? No
Depth to groundwater (below ground surface, in feet) 3
Number of groundwater monitoring wells installed 6
Number of groundwater samples exceeding 915-1 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?

A background sample was collected for ECMC Table 915-1 metals (sans Cr VI) and pH analysis. Additional backgrounds were collected from soil of similar lithographic material to further compare ECMC Table 915-1 metals and pH. Residual metals (sans arsenic and barium) and pH at the site appear less than and/or consistent with background comparison and do not appear to warrant additional sampling. Upgradient monitoring well MW-05 is being used in the determination of local background levels of inorganic groundwater parameters per ECMC Table 915-1. Inorganic parameters in groundwater appear to be less than/consistent with local 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?

Monitoring wells MW-01 through MW-06 will be sampled on a quarterly basis. NFA will be considered when soil concentrations are compliant with ECMC Table 915-1 standards and dissolved concentrations are compliant with ECMC Table 915-1 for four (4) consecutive quarters. Additional investigation may be required pending future remedial excavation activities.

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 source was generated. The Operator will propose remedial actions to remove impacted soil once groundwater concentrations are compliant with ECMC Table 915-1 for four (4) consecutive quarters.

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.

A site assessment will be completed to delineate residual petroleum hydrocarbon impacts at the site. Remediation will be proposed in a supplemental 27, as needed. NFA will be considered when soil and groundwater (if encountered) concentrations are in compliance with ECMC Table 915-1 standards.

Soil Remediation Summary

In Situ Ex Situ

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

_____ Excavate and offsite disposal
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.

Monitoring wells MW-01 through MW-06 will be sampled on a quarterly basis. NFA will be considered when soil concentrations are compliant with ECMC Table 915-1 standards and dissolved concentrations are compliant with ECMC Table 915-1 for four (4) consecutive quarters.

Is additional groundwater monitoring to be conducted? Yes

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 ECMC1000 Series Rules.

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. 03/14/2023

Proposed date of completion of Reclamation. 10/31/2028

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. 06/02/2022

Actual Spill or Release date, or date of discovery. 03/23/2023

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 03/14/2023

Proposed site investigation commencement. 07/01/2022

Proposed completion of site investigation. 06/30/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 03/14/2023

Proposed date of completion of Remediation. 12/31/2025

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:

OPERATOR COMMENT

This Supplemental Form 27 represents a 1Q25 timeline update of the confirmation soil sampling results of the excavation activities and delineation sampling conducted in association with the reportable release associated with the Loustelet T5N-R64W-S15 L01 tank battery. Confirmation soil sampling was conducted in March 2023, as documented in Supplemental Form 27 Doc.#403685574.

Based on the results of this investigation, a site assessment was conducted to delineate ECMC Table 915-1 organics, arsenic, pH and metals. Delineation soil sampling was conducted, and six (6) groundwater monitoring wells were installed in May 2024. A secured analytical data report is attached and data summarized in the attached Eagle Environmental Consulting data package.

Based on the results of the delineation sampling and monitoring well installation, quarterly groundwater monitoring has been conducted to monitor natural attenuation of COCs at the Site. The results of the May and August 2024 groundwater sampling are provided in this supplemental form 27. Secured analytical data reports are attached, and data is summarized in the attached Eagle Environmental Consulting data package.

Supplemental form 27s will continue to be submitted on a quarterly basis. NFA will be considered when soil concentrations are compliant with ECMC Table 915-1 standards and dissolved concentrations are compliant with ECMC Table 915-1 for four (4) consecutive quarters.

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

Signed: justin onwiler

Title: Environmental Consultant

Submit Date: 03/28/2025

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: Abdul Elnajdi

Date: 04/04/2025

Remediation Project Number: 23570

COA Type

Description

	Operator shall continue quarterly groundwater monitoring for the duration of the remediation project. All groundwater samples shall be analyzed for Table 915-1 Organic Compounds in Groundwater and Groundwater Inorganic Parameters. Additionally, Operator shall provide all analytical reports, groundwater analytical summary tables and a potentiometric map depicting groundwater flow direction and gradient on each subsequent Quarterly Monitoring Report.
	Operator will continue quarterly reporting until the site investigation is complete and Table 915-1 standards are met within the remediation area.
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

404144545	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
404144873	ANALYTICAL RESULTS
404144885	ANALYTICAL RESULTS
404144888	ANALYTICAL RESULTS
404144890	ANALYTICAL RESULTS
404144893	ANALYTICAL RESULTS
404144895	ANALYTICAL RESULTS
404144907	SITE INVESTIGATION REPORT
404144911	MONITORING REPORT
404152999	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 10 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)