

State of Colorado
Energy & Carbon Management Commission

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Report taken by:
Taylor Robinson

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: RBUEUF27@chevron.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 22738 Initial Form 27 Document #: 403006052

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: 329775	API #: _____	County Name: WELD
Facility Name: UPRC-64N67W 23NENW	Latitude: 40.302666	Longitude: -104.859923	
** correct Lat/Long if needed: Latitude: 40.304722		Longitude: -104.867188	
QtrQtr: NENW	Sec: 23	Twp: 4N	Range: 67W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE	Facility ID: 482464	API #: _____	County Name: WELD
Facility Name: UPRC T4N-R67W-S23 Tank Battery	Latitude: 40.304673	Longitude: -104.867302	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NENW	Sec: 23	Twp: 4N	Range: 67W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SC

Most Sensitive Adjacent Land Use Crop Land

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

Farm Structures 0.24mi W

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	NA	Not encountered
Yes	SOILS	20'x20'x10'	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 ECMC Rule 911 at the UPRC T4N-R67W-S23 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):

Four (4) grab confirmation soil samples were collected from the produced water vessel excavation (2), beneath the ground oil tank (1), and at the separator (1). 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, EC, SAR, pH, and boron. One (1) waste characterization sample for ECMC Table 915-1 metals was collected. 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):

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 <u>25</u>	-- Highest concentration of TPH (mg/kg) <u>504.7</u> <u>25</u>
Number of soil samples exceeding 915-1 <u>10</u>	-- Highest concentration of SAR <u>0.448</u>

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

BTEX > 915-1 No _____

Approximate areal extent (square feet) 400 _____

Vertical Extent > 915-1 (in feet) 10 _____

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?

One (1) background sample for pH and ECMC Table 915-1 metals was collected. Five (5) additional backgrounds were collected to further compare pH and ECMC Table 915-1 metals. Residual pH, arsenic, and barium are consistent with background comparison. Residual selenium exceeds Protection of Groundwater Soil Screening Levels (GSSLs) in soil at the site and in backgrounds. GSSLs do not appear applicable at the site, therefore, residual metals at the site do not appear to require 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?

REMEDIAL ACTION PLAN

Does this Supplemental Form 27A include changes to a previously approved Remedial Action Plan? Yes _____

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

The source was delineated through a subsurface assessment, in accordance with approved Form 27 Doc. # 403202600. Results of the subsurface assessment were provided on supplemental Form 27 Doc. # 403445684. Groundwater was not encountered during the assessment and drilling activities hit refusal at 12.5'. In the absence of nearby recorded static water level in water wells, a nearby subsurface assessment site, in which groundwater was not encountered, is being used as a reference, see Form 27 Doc. # 403922410 (Rem # 29552). The absence of groundwater suggests that a pathway to groundwater at this location is not likely. Therefore, Noble proposes to use ECMC Table 915-1 Residential Soil Screening Levels at the site.

Residual petroleum hydrocarbon impacts identified at the site were removed through excavation. Soil samples were collected for analysis of TPH C6-36, Table 915-1 organics in soil, pH, and ECMC Table 915-1 metals, per supplemental Form 27 Doc. # 403445684. Soil samples were collected to confirm the vertical and lateral extents of the impacts following source removal.

Results of the excavation/confirmation sampling indicate that all current organic concentrations are in compliance with ECMC Table 915-1 regulatory limits. Residual pH, arsenic, and barium are consistent with background comparison. Residual selenium exceeds Protection of Groundwater Soil Screening Levels (GSSLs) in soil at the site and in backgrounds. GSSLs do not appear applicable at the site, therefore, residual metals at the site do not appear to require additional assessment or remediation.

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.

Results of the excavation/confirmation sampling indicate that residual petroleum hydrocarbon impacts have been vertically and laterally defined. Noble proposes to use ECMC Table 915-1 Residential Soil Screening Levels at the site. All concentrations at the site are in compliance with ECMC Table 915-1 Residential Soil Screening Levels and/or local background comparison. No further action appears warranted at this time.

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) _____ 150
- _____ 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.

Groundwater was not encountered during the assessment. The absence of groundwater suggests that a pathway to groundwater at this location is not likely.

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 Source Excavation Summary

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: \$ 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 150

E&P waste (solid) description E&P solid waste derived from excavation activities.

ECMC Disposal Facility ID #, if applicable: _____

Non-ECMC Disposal Facility: Waste Management (Ault)

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? 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.

Reclamation will be in accordance with ECMC 1000 Series Rules. Residual pH is consistent with background comparison and does not appear to require additional assessment or remediation.

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. 06/09/2022

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. 03/01/2022

Actual Spill or Release date, or date of discovery. 06/27/2022

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/09/2022

Proposed site investigation commencement. 06/09/2022

Proposed completion of site investigation. 05/26/2023

REMEDIAL ACTION DATES

Proposed start date of Remediation. 06/09/2022

Proposed date of completion of Remediation. 03/19/2024

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:

Implementation schedule updated to reflect the schedule to complete the supplemental site investigation.

OPERATOR COMMENT

The source was delineated through a subsurface assessment, in accordance with approved Form 27 Doc. # 403202600. Results of the subsurface assessment were provided on supplemental Form 27 Doc. # 403445684. Groundwater was not encountered during the assessment and drilling activities hit refusal at 12.5'. In the absence of nearby recorded static water level in water wells, a nearby subsurface assessment site, in which groundwater was not encountered, is being used as a reference, see Form 27 Doc. # 403922410 (Rem # 29552). The absence of groundwater suggests that a pathway to groundwater at this location is not likely. Therefore, Noble proposes to use ECMC Table 915-1 Residential Soil Screening Levels at the site.

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

Signed: ERM Secondary Reviewer

Title: Environmental Consultant

Submit Date: 09/26/2024

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: Taylor Robinson

Date: 11/27/2024

Remediation Project Number: 22738

COA Type

Description

	Background-01 @ 4' does not appear on any figures, This BG sample to be depicted on an updated map in the next Form 27-Supplemental.
	Background samples Background-02 @ 9-10', Background-03 @ 9-10', Background-04 @ 9-10' were collected from areas on-location and are therefore not representative of background conditions. These samples shall be omitted from future background determination calculations.
	It does not appear that any figures depict samples labelled "WV", "TB" or "SB". Updates maps depicting these samples to be include din the next Form 27-S for verification purposes.
	ECMC will consider the use of RSSLs at this site, but the absence of groundwater, and refusal at 12.5ft does does suffice to suggest that a pathway to groundwater at this location is not likely. In addition, local lithology suggests predominantly clayey sand and silty sand which is also not sufficient. More information is needed including an accurate depth to groundwater analysis.

4 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

403928346	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
403928492	SITE INVESTIGATION REPORT
404009382	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 3 Files

General Comments

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

Total: 0 comment(s)