FORM 27 Rev 5/22

State of Colorado
Energy & Carbon Management Commission

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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 INFORMATON

Name of Operator: NOBLE ENERGY INC Operator No: 100322
Address: 1099 18TH STREET SUITE 1500
City: DENVER State: CO Zip: 80202
Contact Person: Dan Peterson Email: RBUEUF27@chevron.com

Phone Numbers
Phone: (970) 304-5000
Mobile: ( )

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 27765 Initial Form 27 Document #: 403326802

PURPOSE INFORMATION

- [ ] Rule 913.c.(1): Pit or Cuttings Trench closure.
- [X] Rule 913.c.(2): Buried or partially buried vessel closure, which will be by removal.
- [X] 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.
- [X] 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: 420815 API #: County Name: WELD
Facility Name: RICHTER USX AB 27-13 TANK Latitude: 40.541460 Longitude: -104.545370
** correct Lat/Long if needed: Latitude: 40.541485 Longitude: -104.545299
QtrQtr: NWSW Sec: 27 Twp: 7N Range: 64W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 484813 API #: County Name: WELD
Facility Name: Richter USX AB 27-13 Tank Battery Latitude: 40.541651 Longitude: -104.545255
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: NWSW Sec: 27 Twp: 7N Range: 64W 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

HPH -Pronghorn Winter Concentration Area
Palustrine Wetland 508ft NW, 931ft WSW
Farm Structures 345/537ft WNW, 0.22/0.24/0.25/0.25/0.26 NNW
No other potential receptors are located within ¼ mile of the Site.
Above distances are approximations.

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- [X] **E&P Waste**
  - [X] Produced Water
  - [X] Oil
  - [X] Condensate
  - [ ] Drilling Fluids
  - [ ] Drill Cuttings
- [ ] **Other E&P Waste**
  - [ ] Workover Fluids
  - [ ] Tank Bottoms
  - [ ] Pigging Waste
  - [ ] Rig Wash
  - [ ] Spent Filters
  - [ ] Pit Bottoms
  - [ ] Other (as described by EPA) _____
- [ ] **Non-E&P Waste** _____

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
UNDETERMINED	GROUNDWATER	NA	Field Screening and Lab analysis if encountered
No	SOILS	Refer to Tables and Figures	Field Screening 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.

A site investigation was conducted pursuant to ECMC Rule 911 at the RICHTER USX T7N-R64W-S27 L02 Facility and Tank Battery location.

PROPOSED SAMPLING PLAN

Proposed Soil Sampling

[X] 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 risers for the flowline(s) and dumpline(s) of any 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

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

If groundwater is encountered during additional site assessment activities, a grab groundwater sample will be collected and analyzed for all organic compounds and inorganic parameters per 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 of the tank battery area occurred during abandonment activities. Field personnel field screened all disturbed areas using a PID, 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 was attached.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

		NA / ND			
Number of soil samples collected	9	--	Highest concentration of TPH (mg/kg)	6.2631	

Number of soil samples exceeeding 915-1: 0 | -- | Highest concentration of SAR: 2.57

Was the areal and vertical extent of soil contamination delineated? Yes | BTEX > 915-1: No

Approximate areal extent (square feet): 0 | 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? Yes | 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?

Nine background soil samples—BKG01 (0.5ft, 2ft, 4ft), BKG02 (0.5ft, 2ft, 4ft), and BG C (3ft, 4ft, 5ft)—were collected from an area influenced by oil and gas development and, as such, were excluded from background analysis.

A total of twenty-one background soil samples were collected from an area not impacted by oil and gas development. These samples were obtained at depths and within lithologies comparable to those of the confirmation soil samples collected at the site. The samples were analyzed for Table 915-1 metals and SSR constituents. Analytical results indicated elevated concentrations of pH, electrical conductivity (EC), sodium adsorption ratio (SAR), arsenic (As), barium (Ba), lead (Pb), selenium (Se), and silver (Ag).

Background Soil Sample Analysis (mg/kg)
Total pH: Max = 8.61
Total EC: Max = 4.23
Total SAR: Max = 7.47
Total As: Max*1.25 = 11.4
Total Ba: Max*1.25 = 134
Total Pb: Max*1.25 = 21.6
Total Se: Max*1.25 = 0.816
Total Ag: Max*1.25 = 1.29

☐ 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?

The operator will resample the following locations previously sampled during the June 28, 2023, decommissioning event to confirm initial analytical results and obtain full Table 915-1 metal concentration data: AST01 (0.5 ft), AST02 (0.5 ft), PWV02 W (3 ft), FL06 (4 ft), and SEP DL (8 ft). Soil will be resampled at the same depths as the original confirmation samples and analyzed for the complete Table 915-1 analyte suite.

If the reanalyzed samples meet the Table 915-1 concentration standards, Noble will request a No Further Action (NFA) determination. Background sample data will be used to support justification for any elevated constituent concentrations.

In addition, the operator will collect additional local background samples to further characterize native soil conditions at the site.

Refer to the attached Site Investigation Plan under document number 404315210 for the proposed resample locations and additional background sampling points.

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.

The organic compound exceedance observed at sample location PWV01 W 3feet were removed through a remedial excavation. Remedial excavation confirmation soil samples were collected and analyzed for full ECMC Table 915-1 constituents. The impacted soil were disposed of at an approved landfill as non-hazardous waste in accordance with Rules 905 and 906. Copies of the waste manifests are 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.

Laboratory analytical results indicated a historical release had occurred at the PWV01 W 3feet sample location and was reported as a historic release in Form 19 document number 403463196.

Excavation of impacted soil was conducted and completed on 9/3/24 to address contamination identified at 3 feet below ground surface at the PWV01 W 3feet sample location. Following completion of excavation activities, confirmation soil samples were collected and analyzed for constituents outlined in ECMC Table 915-1 related to organics and soil suitability for reclamation. Samples were also analyzed for metals as specified in ECMC Table 915-1. Groundwater was not encountered during the remedial excavation activities.

Analytical results from the 9/3/24 excavation were found to meet Groundwater Protection Soil Screening Levels (GPSSLs) for all organic constituents. However, elevated levels of pH, arsenic, lead, and selenium not initially attributable to native soil conditions still remained.

On 4/14/25, a supplemental site investigation was conducted in which additional background samples were collected, and the previously exceeding constituents were resampled to confirm their validity. Analytical results from this event showed that previously elevated pH concentrations were all below Table 915-1 soil suitability for reclamation standards (SSRs). All prior metal exceedances not consistent with native conditions were found to be either below their respective GPSSLs or within 1.25 times the maximum background concentrations for their respective constituents.

These findings support the conclusion that all remaining metal concentrations are naturally occurring and representative of native conditions.

Based on these results, Noble considers the PWV01 W 3feet sample location fully remediated. Any residual metal concentrations exceeding GPSSLs are considered naturally occurring and suitable to remain in place.

Refer to the attached Remedial Progress Reports for further details.

Soil Remediation Summary

☐ **In Situ**

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

☒ **Ex Situ**

- Yes — Excavate and offsite disposal
  - If Yes: Estimated Volume (Cubic Yards) 60
  - Name of Licensed Disposal Facility or ECMC Facility ID # ____
- No — 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.

If groundwater is encountered during additional site assessment activities, a grab groundwater sample will be collected and analyzed for all organic compounds and inorganic parameters per Table 915-1.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

[X] 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

[X] Other Timeline 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 MWZZ316714 and MWZX316724) 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? 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 60

E&P waste (solid) description Hydrocarbon Impacted Soil

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility: Buffalo Ridge Landfill in Keenesburg, Colorado

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? 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?

[X] 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. 05/31/2024

Proposed date of completion of Reclamation. 06/30/2027

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. 01/17/2023

Actual Spill or Release date, or date of discovery. 07/13/2023

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/28/2023

Proposed site investigation commencement. 03/02/2023

Proposed completion of site investigation. 03/31/2026

REMEDIAL ACTION DATES

Proposed start date of Remediation. 08/28/2024

Proposed date of completion of Remediation. 09/03/2024

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.

[X] Change from approved implementation schedule per Rule 913.d.(2).

Basis for change in implementation schedule:

The implementation schedule has been updated to reflect the actual date of remedial excavation completion. Additionally, the schedule has been revised due to the need for supplemental site investigation activities in the area adjacent to the former RICHTER USX AB 27-13 tank battery. The proposed site investigation will be conducted following the approval of document number 404315210.

OPERATOR COMMENT

This form serves to comply with the Rule 913.e. reporting schedule. The review status of the previously proposed workplan (Doc. # 404315210) is "In Process" on Web Forms. Pending ECMC EPS form review/approval, the Operator will complete the additional site investigation and remediation as outlined on Doc. # 404315210 and this F27. Supplemental Form 27s will be prepared and submitted on a quarterly schedule to provide updates and progress of the remediation until closure criteria has been achieved.

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

Signed: Jeff Griggs Title: Consultant

Submit Date: Email: jeffg@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: Date:

Remediation Project Number: 27765

COA Type	Description
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
404436214	SITE INVESTIGATION PLAN

Total Attach: 1 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)