

State of Colorado
Energy & Carbon Management Commission

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Report taken by:
Kilian Collins

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 ECOM 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: <u>NOBLE ENERGY INC</u>	Operator No: <u>100322</u>	Phone Numbers
Address: <u>1099 18TH STREET SUITE 1500</u>		Phone: <u>(970) 304-5000</u>
City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80202</u>		Mobile: <u>()</u>
Contact Person: <u>Erica Zuniga</u>	Email: <u>RBUEUF27@chevron.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 24052 Initial Form 27 Document #: 403104005

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: <u>LOCATION</u>	Facility ID: <u>332337</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>HIGHLAND-64N64W 20NWSW</u>	Latitude: <u>40.295853</u>	Longitude: <u>-104.582261</u>	
	** correct Lat/Long if needed: Latitude: <u>40.296514</u>	Longitude: <u>-104.577168</u>	
QtrQtr: <u>NWSW</u> Sec: <u>20</u> Twp: <u>4N</u> Range: <u>64W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>			

Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>483859</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Highland 12-20 Tank Battery</u>	Latitude: <u>40.296323</u>	Longitude: <u>-104.577165</u>	
	** correct Lat/Long if needed: Latitude: _____	Longitude: _____	
QtrQtr: <u>NWSW</u> Sec: <u>20</u> Twp: <u>4N</u> Range: <u>64W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>			

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? Yes _____

Other Potential Receptors within 1/4 mile

Riverine 0.02mi S, 0.11/0.19mi W, 0.02mi E, 0.08mi NE
Freshwater Pond 0.03mi E
Structures 0.18/0.2mi NE

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
Yes	GROUNDWATER	Refer to Tables and Figures	Laboratory Analysis and Field Screening
Yes	SOILS	Refer to ECMC Doc #403681608	Laboratory 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.

Pursuant to ECMC Rule 911, a site investigation was conducted on 02/02/2023 at the HIGHLAND T4N-R64W-S20 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 excavation (SS01-SS04@2.5', FS01@5.5'), beneath the above-ground oil tank (AST01@0.5'), and beneath the flowline and dumpline risers at the separator (SEP01-FL@3.5', SEP01-DL@3.5'). 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. Additionally, one soil sample was analyzed for ECMC Table 915-1 metals (AST01@0.5'). 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):

As part of the site investigation on 05/24/2023, groundwater samples were collected and analyzed for organic and inorganic compounds in groundwater per ECMC Table 915-1. Groundwater monitoring will be continued on a quarterly basis. Groundwater samples will be submitted for laboratory analysis of benzene, toluene, ethylbenzene, total xylenes, naphthalene (BTEXN), 1,2,4-trimethylbenzene (TMB), and 1,3,5-TMB using USEPA Method 8260D; benzo (a)anthracene (benzo(a)), 1-methylnaphthalene (1-M), and 2-M using Method SW846 8270E; total dissolved solids (TDS) using Method SM2540C; chloride and sulfate ion using USEPA Method 300.0.

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. A detailed summary of decommissioning activities, including field notes, site photos, figures, and laboratory analytical results was submitted on Form 27 Document #403450559.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

NA / ND

Number of soil samples collected 46 -- Highest concentration of TPH (mg/kg) 35
 Number of soil samples exceeding 915-1 36 -- Highest concentration of SAR 7.48
 Was the areal and vertical extent of soil contamination delineated? Yes BTEX > 915-1 No
 Approximate areal extent (square feet) 600 Vertical Extent > 915-1 (in feet) 9

Groundwater

Number of groundwater samples collected 6 ND Highest concentration of Benzene (µg/l) _____
 Was extent of groundwater contaminated delineated? Yes ND Highest concentration of Toluene (µg/l) _____
 Depth to groundwater (below ground surface, in feet) 8 ND Highest concentration of Ethylbenzene (µg/l) _____
 Number of groundwater monitoring wells installed 0 ND Highest concentration of Xylene (µg/l) _____
 Number of groundwater samples exceeding 915-1 0 NA Highest concentration of Methane (mg/l) _____

Surface Water

0 Number of surface water samples collected
0 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?
 On 02/02/2023, two (2) background soil samples were collected from one (1) discrete location (BG01) adjacent to the tank battery and analyzed for pH, SAR, EC, and boron. Background soil samples were collected from depths ranging between 2.5 to 5 feet below ground surface (ft bgs). The maximum background level for pH was detected to be 8.33.
 On 05/01/2023, ten background soil samples were collected from five (5) discrete locations (BG01-BG05) adjacent to the tank battery and analyzed for arsenic, barium, pH, and EC. Background soil samples were collected from depths ranging between 5.5 to 9 ft bgs. The maximum background levels for pH and EC were detected to be 8.39 and 8.64 mmhos/cm, respectively. The maximum background levels with a 1.25x multiplier applied for arsenic and barium were calculated to be 8.26 mg/kg and 166 mg/kg, respectively. All EC and arsenic levels detected during decommissioning were below background levels and/or below 1.25x the maximum background level.

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?
 A supplemental site investigation will be completed to assess Table 915-1 compliance on Site. A proposed SSI map is attached to previous Form 27 Document #404341046. During the SSI, soil samples will be collected and analyzed for full ECMC Table 915-1 constituents. Concurrently with the SSI, additional background samples will be collected to determine if pH and SAR are attributed to native soil conditions at the site. Background samples will be collected for analysis of metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. The SSI will be completed in accordance with the proposed implementation schedule, 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.
 Refer to the Remediation Summary section below.

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.

A Site Assessment was conducted on 5/1/2023 and 11/13/2023 to delineate impacted media. Seven soil borings were advanced in the area of impacts. BH01 was advanced between waste characterization samples AST01@0.5' and FS01@5.5' to vertically delineate impacts at those locations. BH02 - BH07 were advanced surrounding BH01 to vertically and laterally delineate impacts identified at AST01@0.5' and FS01@5.5'. Soil samples were collected and analyzed for TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons), organic compounds in soil, arsenic, barium, EC, SAR, pH, and boron. Each of the seven soil borings were converted to temporary groundwater monitoring wells. Seven groundwater samples were collected and analyzed for BTEX, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, benz(a)anthracene, 1-methylnaphthalene, 2-methylnaphthalene and inorganic parameters in groundwater per Table 915-1. The results of the 5/1/2023 and 11/13/2023 site assessment were attached to Form 27 Document #403681608.

A supplemental site investigation will be completed to assess Table 915-1 compliance on Site. A proposed SSI map is attached to previous Form 27 Document #404341046. During the SSI, soil samples will be collected and analyzed for full ECMC Table 915-1 constituents. The SSI will be completed in accordance with the proposed implementation schedule, and the results of the SSI will be submitted on a subsequent Form 27.

Following the additional SSI soil sampling activities outlined in the Site Investigation Report section, the generation of a detailed reclamation plan, and the completion of quarterly groundwater monitoring, Noble will request a No Further Action (NFA) designation for the site. Monitoring wells will be abandoned following final site NFA determination.

Monitored natural attenuation is the remediation strategy for this Site.

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.

Noble conducts groundwater monitoring at the seven site monitoring wells (BH01, BH02R, BH03 - BH07) on a quarterly basis. Samples are submitted for analysis of BTEXN, 1,2,4-TMB, 1,3,5-TMB, benz(a), 1-M, 2-M, and inorganic parameters per ECMC Table 915-1. In addition, dissolved barium (Ba) was added to the quarterly groundwater sampling plan beginning in 1Q24 in order to demonstrate that the elevated barium concentrations above the ECMC Table 915-1 Protection of Groundwater Soil Screening Levels (GSSL) are not affecting the barium concentrations in groundwater at the site, and to therefore use the ECMC Table 915-1 Residential Soil Screening Levels (RSSLs) when evaluating barium concentrations in soil, which would eliminate barium as a contaminant of concern.

During the fourth quarter 2025, BH05 was unable to be located and presumed to be destroyed. Fourth quarter 2025 analytical results indicated that organic compound concentrations were in compliance with the applicable regulatory standards at each of the six monitoring well locations. Additionally, inorganic parameters were in compliance with the applicable regulatory standards or within 1.25x the background concentrations of the up/cross-gradient monitoring well (BH07) at five of the monitoring well locations (BH01, BH02R, BH03, BH04, and BH06). Inorganic parameter trends were examined over time and compared to historic background data and groundwater flow direction. Based on the data, inorganic concentrations were within the 125% threshold of the historic maximum background concentration during the fourth quarter 2025.

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 4Q25 Groundwater Monitoring Report & Supplemental Site Investigation Proposal

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 (policies 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? No

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

Volume of E&P Waste (solid) in cubic yards

E&P waste (solid) description

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility:

Volume of E&P Waste (liquid) in barrels

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? No

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 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. 02/02/2023

Proposed date of completion of Reclamation. 06/14/2027

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. 06/16/2022

Actual Spill or Release date, or date of discovery. 02/10/2023

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 02/02/2023

Proposed site investigation commencement. 03/02/2026

Proposed completion of site investigation. 06/14/2026

REMEDIAL ACTION DATES

Proposed start date of Remediation. 06/14/2026

Proposed date of completion of Remediation. 12/14/2026

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 was updated for the proposed supplemental site investigation at the Highland 12-20 Facility (Site) to reflect a change in the start work dates, as well as the need for continued groundwater monitoring activities at the Site. The tentative start date for the proposed site investigation has been updated from 09/15/2025 to the next available drill rig date: 03/02/2026. The ECMC will be notified of any updates to the implementation schedule in a subsequent Form 27.

OPERATOR COMMENT

This Form 27 is being submitted to summarize quarterly groundwater monitoring activities and analytical results collected during the fourth quarter 2025 at the Highland 12-20 Facility.

The fourth quarter 2025 groundwater monitoring event was conducted on November 3, 2025. One monitoring well, BH05, was unable to be located and presumed to be destroyed, consequently, no sample was collected.

Groundwater monitoring analytical results indicated that organic compound concentrations were in compliance with the applicable ECMC regulatory standards in each of the six (6) monitoring well locations. Additionally, inorganic parameters were in compliance with the applicable regulatory standards or within 1.25x the background concentrations of the up/cross-gradient monitoring well (BH07) at five of the monitoring well locations (BH01, BH02R, BH03, BH04, and BH06). Inorganic parameter trends were examined over time and compared to historic background data and groundwater flow direction. Based on the data, inorganic concentrations were within the 125% threshold of the historic maximum background concentration during the fourth quarter 2025.

A supplemental site investigation will be completed to assess Table 915-1 compliance on Site. A proposed SSI map is attached to previous Form 27 Document #404341046. During the SSI, soil samples will be collected and analyzed for full ECMC Table 915-1 constituents. Concurrently with the SSI, additional background samples will be collected to determine if pH and SAR are attributed to native soil conditions at the site. Background samples will be collected for analysis of metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. The SSI will be completed in accordance with the proposed implementation schedule, 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. The results of the supplemental site investigation will be submitted on a subsequent Form 27.

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

Signed: Collin Barker

Title: Environmental Consultant

Submit Date: 12/11/2025

Email: tas-chevron-1@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: Kilian Collins

Date: 02/03/2026

Remediation Project Number: 24052

COA Type

Description

<u>COA Type</u>	<u>Description</u>
1 COA	Operator shall provide a timeline for the completion of the proposed supplemental site investigation.

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

<u>Att Doc Num</u>	<u>Name</u>
404461876	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
404464881	ANALYTICAL RESULTS
404467691	MONITORING REPORT
404530640	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 4 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)