

State of Colorado
Energy & Carbon Management Commission

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Document Number:

404199519

Receive Date:

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 INFORMATION

Name of Operator: NOBLE ENERGY INC	Operator No: 100322	Phone Numbers
Address: 1099 18TH STREET SUITE 1500		Phone: (832) 349-0757
City: DENVER State: CO Zip: 80202		Mobile: ()
Contact Person: Lauren Hoff	Email: lauren.hoff@chevron.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 32829 Initial Form 27 Document #: 403561624

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: WELL	Facility ID: _____	API #: 123-12908	County Name: WELD
Facility Name: BORN-SITZMAN 5	Latitude: 40.281630	Longitude: -104.534630	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWSE	Sec: 27	Twp: 4N	Range: 64W Meridian: 6 Sensitive Area? Yes
Facility Type: SPILL OR RELEASE	Facility ID: 490264	API #: _____	County Name: WELD
Facility Name: FOOS C 27-22	Latitude: 40.285865	Longitude: -104.531158	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SENE	Sec: 27	Twp: 4N	Range: 64W Meridian: 6 Sensitive Area? No

Facility Type: SPILL OR RELEASE	Facility ID: 490265	API #:	County Name: WELD
Facility Name: FOOS C 27-22	Latitude: 40.285794	Longitude: -104.529602	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: SENE	Sec: 27	Twp: 4N	Range: 64W Meridian: 6 Sensitive Area? Yes
Facility Type: SPILL OR RELEASE	Facility ID: 490378	API #:	County Name: WELD
Facility Name: BORN-SITZMAN 5	Latitude: 40.285866	Longitude: -104.533871	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: SWNE	Sec: 27	Twp: 4N	Range: 64W Meridian: 6 Sensitive Area? No
Facility Type: SPILL OR RELEASE	Facility ID: 490379	API #:	County Name: WELD
Facility Name: BORN-SITZMAN 5	Latitude: 40.285877	Longitude: -104.534287	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: SWNE	Sec: 27	Twp: 4N	Range: 64W Meridian: 6 Sensitive Area? No
Facility Type: SPILL OR RELEASE	Facility ID: 490380	API #:	County Name: WELD
Facility Name: BORN-SITZMAN 5	Latitude: 40.285523	Longitude: -104.534525	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: SWNE	Sec: 27	Twp: 4N	Range: 64W Meridian: 6 Sensitive Area? No
Facility Type: SPILL OR RELEASE	Facility ID: 490381	API #:	County Name: WELD
Facility Name: BORN-SITZMAN 5	Latitude: 40.285781	Longitude: -104.534448	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: SWNE	Sec: 27	Twp: 4N	Range: 64W Meridian: 6 Sensitive Area? No

SITE CONDITIONS

General soil type - USCS Classifications SW
 Most Sensitive Adjacent Land Use Cropland

Is domestic water well within 1/4 mile? No
 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

Aquatic Native Species Conservation Waters HPH 0.08mi E
 Pond 0.10mi SE

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
UNDETERMINED	GROUNDWATER	NA	Lab Analysis or Field Screening, if encountered.
Yes	SOILS	Refer to Tables and Figures	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.

Pursuant to ECMC Rule 911 a site investigation was conducted pertaining to the BORN-SITZMAN 5 wellhead cut and cap and flowline removal. Approximately 3045 feet of flowline was removed on April 18, 2025. The wellhead was cut and capped per ECMC rules on June 7, 2024. Additionally, soil samples were field screened at the N-E-S-W sides of the wellhead. Soil samples were taken at the start and endpoint of the flowline where the area exists. Soil samples were also taken along the flowline any points of material change and/or hammer unions, directional changes, as well as at the bell holes on either side of a waterway.

The Field Qualitative Criteria Checklist was utilized during decommissioning activities and no visual and olfactory impacts were observed. Based on laboratory analytical data for the FOOS C 27-22 flowline (REM 26851), historical releases were reported on May 1, 2025, under F19 Document Numbers 404186008 and 404186017, where duplicate BORN SITZMAN 5 flowline samples were collected from common trench potholes with elevated naphthalene and benzo(a)anthracene at sample locations FL02-03 and FL02-04, respectively. An additional historical releases were reported on May 9, 2025 under F19 Document Numbers 404197275, 404197278, 404197284, and 404197289 for sample locations FL03-01, FL03-02, FL03-05, and FL03-06, respectively, with various elevated Table 915-1 organics.

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):

A grab soil sample were collected at the base of the excavation at the wellhead excavation. Additionally, soil samples were field screened at the N-E-S-W sides of the wellhead. Soil samples were taken along the flowline at any points of material change and/or hammer unions, directional changes, as well as at the bell holes on either side of a waterway. 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 a grab groundwater will be collected and analyzed for all organic compounds per ECMC Table 915-1 and inorganic parameters (TDS, chloride, sulfate, sodium, potassium, bicarbonate, and carbonate (as CaCO3)).

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 wellhead and flowline areas occurred during abandonment activities. Field personnel field screened all disturbed areas using visual and olfactory senses to determine if laboratory confirmation sampling was required. The ECMC Flowline Closure and Wellhead Closure Checklists were utilized and filled out during the abandonment process. A detailed summary of decommissioning activities, including field notes, site photos, figures, and laboratory analytical results, is attached to this Form 27.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 18

Number of soil samples exceeding 915-1 13

Was the areal and vertical extent of soil contamination delineated? No

Approximate areal extent (square feet) 1300

NA / ND

-- Highest concentration of TPH (mg/kg) 646

-- Highest concentration of SAR 5.58

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

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?

Three background soil samples were collected from three locations near the flowline on May 14, 2025 and analyzed for Table 915-1 metals in soil and Soil Suitability for Reclamation parameters per ECMC Table 915-1. The background soil samples were collected from a depth of 3.5 feet below ground surface (ft bgs). The lithology between the site and background locations was observed to be clayey sands. The maximum background concentrations with a 1.25x multiplier applied for arsenic was calculated to be 4.90 mg/kg at 3.5 ft bgs. All arsenic concentrations observed during decommissioning were below background levels. As such, arsenic should be considered resolved. Additional background samples will be collected to determine site specific background concentrations of barium and selenium.

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?

Concurrently with the remedial excavation that is proposed in the Remedial Action Plan section of this Form 27, background soil samples will be collected to determine if elevated levels of barium and selenium are attributed to native soil conditions at the site. Background soil samples will be analyzed by a certified laboratory for analysis of metals per ECMC Table 915-1 and soil suitability parameters including pH, EC, SAR, and boron. Proposed background soil sample locations are shown on the attached proposed excavation map.

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 naphthalene, total petroleum hydrocarbons (TPH), acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, fluorene, indo(1,2,3,cd)pyrene, pyrene, 1-methylnaphthalene, and 2-methylnaphthalene exceedances observed at sample locations (FL03-01, FL07-01, FL03-02, FL02-03, FL03-03, FL05-03, FL02-04, FL03-04, FL03-05, and FL03-06) on April 18, 2025 will be removed through a remedial excavation in accordance with the proposed excavation map attached to this Form 27. Soil samples will be collected from the base and sidewalls of the respective final excavation extents and will be submitted for analysis of the full ECMC Table 915-1 suite.

REMIATION 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.

Concurrently with the remedial excavation that is proposed in the Remedial Action Plan section of this Form 27, background soil samples will be collected to determine if elevated levels of barium and selenium are attributed to native soil conditions at the site. Background soil samples will be analyzed by a certified laboratory for analysis of metals per ECMC Table 915-1 and soil suitability parameters including pH, EC, SAR, and boron. Proposed background soil sample locations are shown on the attached proposed excavation map.

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 site investigation activities.

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 Decommissioning Sample Summary, Supplemental Source Mass Removal and Site Investigation Proposals

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?

Does the previous reply indicate consideration of background concentrations?

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. 06/07/2024

Proposed date of completion of Reclamation. 10/31/2026

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. 11/21/2023

Actual Spill or Release date, or date of discovery. 04/29/2025

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/07/2024

Proposed site investigation commencement. 10/18/2025

Proposed completion of site investigation. 04/18/2026

REMEDIAL ACTION DATES

Proposed start date of Remediation. 10/18/2025

Proposed date of completion of Remediation. 04/18/2026

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 has been changed due to the decommissioning of the BORN-SITZMAN 5 flowline and necessity for remedial excavation activities adjacent to the flowline. The proposed remedial excavation will be completed following the approval of this form.

OPERATOR COMMENT

This Form 27 is being submitted to include a 3Q 2025 update for the BORN-SITZMAN 5 flowline (REM #32829) and the decommissioning results and historic reportable release discovered at the former BORN-SITZMAN 5 flowline. A proposal to excavate the naphthalene, total petroleum hydrocarbons (TPH), acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo (a,h)anthracene, fluoranthene, fluorene, indo(1,2,3,cd)pyrene, pyrene, 1-methylnaphthalene, and 2-methylnaphthalene exceedances identified during decommissioning (soil samples FL03-01, FL07-01, FL03-02, FL02-03, FL03-03, FL05-03, FL02-04, FL03-04, FL03-05, and FL03-06) is presented in the Remedial Action Plan section of this Form 27. Based on laboratory analytical data received on 4/29/2025 historic releases were reported for sample locations FL02-03@3' and FL02-04@3' under Form 19 Document Numbers 404186008 and 404186017, respectively. Additional historical releases were reported on May 9, 2025 for sample locations FL03-01, FL03-02, FL03-05, and FL03-06 under F19 Document Numbers 404197275, 404197278, 404197284, and 404197289, respectively.

The soil samples starting with FL03, FL05, FL06, and FL07 are included in this Form 27 since they were not able to be assigned to specific flowlines in the area and thus will be reported under BORN-SITZMAN 5 (REM #32829). To try and determine specific flowlines, research was conducted with Chevron's internal data, discussions with Chevron Asset Retirement staff, COGIS records for related and nearby flowlines and tank batteries, and information on if flowlines had been replaced and potentially abandoned in place in the past.

Three background soil samples were collected from three locations near the flowline on May 14, 2025 and analyzed for Table 915-1 metals in soil and Soil Suitability for Reclamation parameters per ECMC Table 915-1. The background soil samples were collected from a depth of 3.5 feet below ground surface (ft bgs). The lithology between the site and background locations was observed to be clayey sands. The maximum background concentrations with a 1.25x multiplier applied for arsenic was calculated to be 4.90 mg/kg at 3.5 ft bgs. All arsenic concentrations observed during decommissioning were below background levels. As such, arsenic should be considered resolved. Additional background samples will be collected to determine site specific background concentrations of barium and selenium.

Facility closure activities and confirmation soil sampling were conducted at the wellhead on June 7, 2024, and were summarized in Supplemental Form 27 Document #403882656. The confirmation soil samples collected during wellhead cut and cap activities were determined to be outside of the required temperature preservation range when delivered to the laboratory. Re-sampling will be conducted, which will additionally address COAs on Form 27 Document Numbers 403997851 and 403882656.

Pursuant to Rule 913.e, 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: Kayla White, P.E. _____

Title: Environmental Consultant _____

Submit Date: _____

Email: kwhite@cdhconsult.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: 32829

COA Type

Description

0 COA	
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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

404308694	LABORATORY ANALYTICAL REPORT
404308695	LABORATORY ANALYTICAL REPORT
404319997	SITE INVESTIGATION REPORT

Total Attach: 3 Files

General Comments

User Group

Comment

Comment Date

		Stamp Upon Approval
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Total: 0 comment(s)