FORM 27 Rev 5/22

State of Colorado
Energy & Carbon Management Commission

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Document Number: 404062065
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 INFORMATON

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

Phone Numbers
Phone: (970) 313-5582
Mobile: ( )

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 22140 Initial Form 27 Document #: 402957386

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.
- [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: WELL Facility ID: API #: 123-13801 County Name: WELD
Facility Name: BAKER B2-5 Latitude: 40.429878 Longitude: -104.524077
** correct Lat/Long if needed: Latitude: 40.429936 Longitude: -104.524038
QtrQtr: SWNW Sec: 2 Twp: 5N Range: 64W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 481822 API #: County Name: WELD
Facility Name: Baker B 02-05 Latitude: 40.433711 Longitude: -104.522169
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: NWNW Sec: 2 Twp: 5N Range: 64W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SW

Most Sensitive Adjacent Land Use crop

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

HPH: no, no waters, dwelling ~0.06 mi S, buildings ~0.11 mi NW, ~0.11 mi SE, and ~0.05 mi S

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	Laboratory Analysis if encountered
Yes	SOILS	Refer to ECMC Document #403923617	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 pertaining to the Baker B02-05 wellhead and flowline removal. The wellhead was cut and capped on August 17, 2021, as per Form 6 Document No. 402807345, which is included in the Related Forms section of this Form 27. Approximately 2,050' of flowline was removed, and approximately 310' of flowline was abandoned in place due to field constraints. The associated Form 44 (Document No. 402819596) is included in the Related Forms section of this Form 27.

Soil samples were taken along the flowline at any points of material change and/or, directional changes, and at the risers at the separator and wellhead. 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 [C 10-C36] hydrocarbons) organic compounds in soil per ECMC Table 915-1, EC, SAR, pH, and boron. All samples collected were analyzed by a certified laboratory using approved ECMC laboratory analysis methods.

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):

On 03/22/2022 and 03/23/2022, two (2) soil samples (FL01-G@3' and FL01-G@6') were collected from impacted source material adjacent to the flowline at a depth of approximately 3 and 6 feet bgs. FL01-G@3' was submitted for laboratory analysis of the full Table 915-1 analytical suite. FL01-G@6' was submitted for analysis organic compounds per ECMC Table 915-1, pH, SAR, EC, and boron.

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 the site investigation a grab groundwater sample will be collected and analyzed for all organic and inorganic compounds per ECMC 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 wellhead and flowline areas occurred during abandonment activities. Field personnel field screened all disturbed areas using visual and olfactory sense to determine if laboratory confirmation sampling was required. A detailed summary of decommissioning activities, including field notes, site photos, figures, and laboratory analytical results, is attached to Supplemental Form 27 Document No. 403076903.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected: 9
Number of soil samples exceeeding 915-1: 13
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet): 1300

NA / ND

-- Highest concentration of TPH (mg/kg): 14400
-- Highest concentration of SAR: 14.1
BTEX > 915-1: Yes
Vertical Extent > 915-1 (in feet): 15

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:

NA Highest concentration of Benzene (µg/l):
NA Highest concentration of Toluene (µg/l):
NA Highest concentration of Ethylbenzene (µg/l):
NA Highest concentration of Xylene (µg/l):
NA 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?

Five background samples (BG01 through BG05) were collected on 06/14/2022 and analyzed for pH, arsenic, barium, lead, and selenium. Additionally, ten background samples (BG06-BG10) were collected on 11/17/2023 and analyzed for SAR. Five additional background samples (BKG06-BKG10) were collected on 04/22/2024 and analyzed for pH, SAR, EC, boron, arsenic, barium, and selenium.

Background analytical results indicated that pH, SAR, arsenic, barium, and selenium concentrations were in exceedance of the applicable ECMC regulatory standards in native material on site.

☐ 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?

Based on the soil analytical results received for samples collected during April 2024 excavation activities, organic exceedances recorded in soil samples FL01-G @ 3', FL01-G @ 6', and BH01 @ 6-7' have been successfully removed.

Based on the remaining analytes, an additional supplemental site investigation (SSI) will be conducted to:
- Vertically delineate the selenium exceedance observed at soil sample location BH01@13-15'
- Horizontally delineate the pH exceedances observed at soil samples BH03@3-4' and BH04@3-4'
- Vertically delineate the SAR exceedances at BH07@3' and BH07@6'
- Horizontally delineate the the SAR exceedances observed at BH11@3'

In addition, initial decommissioning samples will be re-collected along along the flowline and at the wellhead for analysis of the full Table 915-1 suite.

All soil samples will be submitted for analysis of the full Table 915-1 suite. Proposed SSI maps are attached to this Form 27. The SSI will be scheduled following the approval of this 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.

The source identified at FL01-G was delineated through an environmental site assessment and was removed through a remedial excavation. The source removal was completed on 04/23/2024. Per the COAs associated with ECMC document numbers 403354026 and 403485236, excavation confirmatory soil samples were analyzed for TPH (C6-C36), Table 915-1 Organic Compounds in Soils, arsenic, barium, selenium and soil suitability parameters. The results of the remedial excavation were attached to ECMC Document No. 403923617.

Between April 22, and April 23, 2024, a total of approximately 288 cubic yards of impacted material were removed for off-Site disposal at the Waste Management Buffalo Ridge Landfill under signed Noble waste manifests. The final remedial excavation extent measured approximately 16 ft. by 15 ft. by 12 ft. bgs. on the northern portion and 14 ft. by 7 ft by 8 ft bgs on the southern portion.

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.

Attached to ECMC document number 403652761 was a data summary packet for the delineation sampling event conducted on 11/17/2023 to define the extent of SAR impacts identified during flowline decommissioning at sample location FL01-W@3', and to collect background samples to determine if SAR is naturally occurring. BH07 was advanced at the same location as FL01-W to vertically delineate impacts at that location. FL01-W was located using a Trimble GPS with sub-meter accuracy. BH08-BH11 were advanced surrounding BH07 to vertically and laterally delineate impacts identified at FL01-W@3'. Soil samples were collected at 3-ft and 6-ft bgs, and were analyzed for SAR. Concurrently with the site assessment, a total of ten background samples were collected from five discrete locations (BG06-BG10) and were analyzed for SAR.

On April 22, and April 23, 2024, nine confirmation soil samples were collected from the base and sidewalls of the excavation at depths ranging from 7 feet to 12 feet bgs and were submitted for laboratory analysis of the Table 915-1 Organic Compounds in Soil, TPH, pH, EC, SAR, boron, arsenic, barium, and selenium. Soil analytical results indicated that organic compound concentrations were in compliance with the applicable ECMC regulatory standards in all soil samples collected from the final excavation extent.

Based on the results, organic exceedances recorded in soil samples FL01-G @ 3', FL01-G @ 6', and BH01 @ 6-7' have been successfully removed.

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) 288
  - 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 decommissioning or remedial excavation activities.

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 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 (policy MWZZ 316714) 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 288

E&P waste (solid) description Hydrocarbon impacted soil

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility: Buffalo Ridge Waste Management

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?

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?

[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. 08/17/2021

Proposed date of completion of Reclamation. 04/22/2027

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. 04/09/2021

Actual Spill or Release date, or date of discovery. 03/23/2022

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 08/17/2021

Proposed site investigation commencement. 01/22/2025

Proposed completion of site investigation. 10/22/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 10/22/2025

Proposed date of completion of Remediation. 10/22/2026

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.

[X] 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 completion of the April 2024 remedial excavation at the Baker B02-05 flowline and necessity for additional supplemental site investigation (SSI) activities adjacent to the flowline. The SSI will be scheduled following the approval of this Form 27.

OPERATOR COMMENT

This Form 27 is being submitted to proposed additional supplemental site investigation (SSI) activities at the former Baker B02-05 flowline location.

A comprehensive remedial excavation report was was attached to ECMC Document No. 403923617.

The results of the remedial excavation indicate that the organic exceedances recorded in soil samples FL01-G @ 3', FL01-G @ 6', and BH01 @ 6-7' have been successfully removed.

Based on the remaining analytes, an additional supplemental site investigation (SSI) will be conducted to:
- Vertically delineate the selenium exceedance observed at soil sample location BH01@13-15'
- Horizontally delineate the pH exceedances observed at soil samples BH03@3-4' and BH04@3-4'
- Vertically delineate the SAR exceedances at BH07@3' and BH07@6'
- Horizontally delineate the the SAR exceedances observed at BH11@3'

In addition, initial decommissioning samples will be re-collected along along the flowline and at the wellhead for analysis of the full Table 915-1 suite.

All soil samples will be submitted for analysis of the full Table 915-1 suite. Proposed SSI maps are attached to this Form 27. The SSI will be scheduled following the approval of this Form 27.

Quarterly reporting will be conducted until closure criteria are met for this remediation project.

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

Signed: Mike Medina

Title: Environmental Consultant

Submit Date:

Email: tas-chevron-2@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:

Date:

Remediation Project Number: 22140

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
404063248	SITE INVESTIGATION PLAN
404063249	SITE INVESTIGATION PLAN
404065674	SITE INVESTIGATION PLAN

Total Attach: 3 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)