

State of Colorado
Energy & Carbon Management Commission

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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) 730-7281
City: DENVER State: CO Zip: 80202		Mobile: ()
Contact Person: Dan Peterson	Email: danpeterson@chevron.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 20770 Initial Form 27 Document #: 402864848

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 #: 123-17430	County Name: WELD
Facility Name: BAKER STATE B 36-12	Latitude: 40.354080	Longitude: -104.504900	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWSW	Sec: 36	Twp: 5N	Range: 64W Meridian: 6 Sensitive Area? Yes
Facility Type: SPILL OR RELEASE	Facility ID: 482960	API #: _____	County Name: WELD
Facility Name: Baker St B 36-12	Latitude: 40.354080	Longitude: -104.504900	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWSW	Sec: 36	Twp: 5N	Range: 64W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications CL

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

Residential 0.1 mi W, 0.19/0.25mi SE
Farm Structures 0.15/0.17/0.18mi SW, 0.14 SE, 0.1mi W
Riverine 645ft SW, 0.21mi W, 0.23mi N

SITE INVESTIGATION PLAN

TYPE OF WASTE:

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

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
UNDETERMINED	GROUNDWATER	NA	Lab analysis and 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 BAKER STATE B36-12 wellhead cut and cap and partial flowline removal. Approximately 425' of flowline was removed; however, a portion of the flowline was abandoned-in-place due to field constraints and the ECMC was notified on Form 44 Document Number 403346651.

Seven (7) grab soil samples were collected at the wellhead excavation (5), and flowline terminuses at the wellhead (1) and separator (1). Soil samples were analyzed by a certified laboratory using approved ECMC laboratory analysis methods for Table 915-1 compounds, EC, SAR, pH, and boron. One (1) waste characterization sample was analyzed for ECMC Table 915-1 metals.

Additional delineation sampling was completed to delineate exceedances at the wellhead. Five (5) soil borings were completed around the former wellhead and five (5) additional background borings were completed. Soil samples were analyzed by a certified laboratory using approved ECMC laboratory analysis methods for the complete list of Table 915-1 compounds. Results of the subsurface assessment indicate that residual petroleum hydrocarbon impacts have been vertically and laterally defined. Groundwater was not encountered during the subsurface assessment, which was completed to 20 feet bgs. The absence of groundwater and the local lithology suggests that a pathway to groundwater at this location is not likely. Therefore, Operator proposes to use ECMC Table 915-1 Residential Soil Screening Levels (RSSLs) at the site. However, further evaluation of residual arsenic appears warranted at this time.

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 site assessment will be scheduled to collect confirmation samples, delineation samples for SB-03, and additional background samples. A total of sixteen additional soil borings will be completed. Confirmation sampling will be completed at prior (pre-January 2025 site investigation) sample locations, including sampling for ECMC Table 915-1 metals analysis at locations which were not previously analyzed for metals. Horizontal and vertical delineation samples will be collected to delineate the arsenic ECMC Table 915-1 RSSL exceedance at SB-03@5-7.5'. Three additional background samples are proposed to be collected (at 5 and 7 ft bgs) from soil not impacted by oil and gas activity and analyzed for SSR compounds and metals. Sample locations are provided on the attached figures.

Proposed Groundwater Sampling

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

If encountered, groundwater will be sampled for the full Table 915-1 list of constituents.

Proposed Surface Water Sampling

Will surface water samples be collected as part of this investigation? (Number, analyses, and locations of samples):

[Empty text box for surface water sampling details]

Additional Investigative Actions

Additional alternative investigative actions described in attached Site Investigation Plan (summary):

[Empty text box for additional investigative actions]

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 8

Number of soil samples exceeding 915-1 8

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

Approximate areal extent (square feet) 800

NA / ND

ND Highest concentration of TPH (mg/kg) _____

-- Highest concentration of SAR 10

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 7

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?

Five background samples have been collected from similar lithologic soil near the wellhead for SSR and metals ECMC Table 915-1 analysis. Sixteen soil samples (all background samples collected prior to the January 2025 investigation) were collected within an area subject to historical oil and gas activities (Form #27s 403712825 and 404077042). That background sample data is not being relied upon to establish site specific background values.

Maximum background concentrations for compounds that exceed ECMC Table 915-1 in soil samples include: pH (8.4, 5 ft bgs), SAR (11.6, 5 ft bgs), EC (4.03, 5 ft bgs), arsenic max X 1.25 (3.01 mg/kg, 5 ft bgs), barium max X 1.25 (168 mg/kg, 5 ft bgs).

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 site assessment will be scheduled to collect confirmation samples, delineation samples for SB-03, and additional background samples.

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.

No source has been identified at this time.

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.

Soil Remediation Summary

In Situ

Ex Situ

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

- _____ Excavate and offsite disposal
- _____ If Yes: Estimated Volume (Cubic Yards) _____
- _____ 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 initial decommissioning event or subsequent supplemental site investigation activity. Boring logs showing lithology of the investigation were completed and submitted as an attachment to Form 27 Document # 404077042. Soil borings SB-01, BACKGROUND-01, BACKGROUND-04 were all completed to 20' bgs, while BACKGROUND-02 and BACKGROUND-06 were completed to 17.5' bgs. The boring logs are in general concurrence that the shallow soil primarily consists of sand, and at approximately 7 – 10 ft bgs, the soil grades finer to a sandy clay. The clay dominated soil for greater than 10 ft above the water table would act to preclude downward migration of groundwater. The absence of groundwater and the local lithology 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 Quarterly 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 (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? 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?

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. 08/30/2022

Proposed date of completion of Reclamation. 12/31/2028

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. 09/08/2021

Actual Spill or Release date, or date of discovery. 09/20/2023

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 08/30/2022

Proposed site investigation commencement. 11/25/2021

Proposed completion of site investigation. 06/30/2026

REMEDIAL ACTION DATES

Proposed start date of Remediation. 06/30/2026

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

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 an additional site investigation. The ECMC will be updated on a subsequent Form 27 with the results of the supplemental site investigation, or if the schedule is changed.

OPERATOR COMMENT

This 3Q25 SF27 for Baker St B 36-12 (REM #20770) summarizes the January 2025 SSI and proposes an additional site assessment.

A site investigation was conducted during the wellhead cut and cap on 8/30/2022 and partial flowline removal on 12/05/2022. Approximately 425' of flowline was removed; however, a portion of the flowline was abandoned-in-place due to field constraints, with ECMC notification on Form 44 Document #403346651. In August and November 2022, 8 grab soil samples were collected at the Baker St B 36-12 wellhead and flowline, with 5 at the wellhead, 2 at the flowline terminuses, and 1 background sample. Soil samples for all Table 915-1 analytes, though only some samples were analyzed for metals. All samples were below Table 915-1 regulatory limits, except for one wellhead sample (WH-SS-02@ 5') with a GWSSL 1-Methylnaphthalene exceedance, as reported in Form 27 Document #403712825.

Additional delineation sampling was completed in October 2024 to delineate exceedances at the wellhead. Five soil borings were completed around the former wellhead and five additional background borings were completed. Soil samples for all Table 915-1 analytes. Results indicated that residual petroleum hydrocarbon impacts at WH-SS-02@ 5' have been vertically and laterally defined. Delineation sample SB-03 at 5 - 7.5 ft bgs exceeded ECMC Table 915-1 and maximum background values for arsenic, barium, and nickel. Groundwater was not encountered during the subsurface assessment, which was completed to 20 feet bgs. Boring logs showing lithology of the investigation were completed and submitted as an attachment to Form 27 Document # 404077042. Three borings were all completed to 20' bgs, while two borings were completed to 17.5' bgs. The boring logs are in general concurrence that the shallow soil primarily consists of sand, and at approximately 7 – 10 ft bgs, the soil grades finer to a sandy clay. The clay dominated soil for greater than 10 ft above a greater than 20 ft bgs water table would act to preclude downward migration of groundwater.

ERM completed an additional investigation in January 2025 with four wellhead soil borings and five background soil borings, for a total of thirteen soil samples. Only an arsenic exceedance from a prior investigation at SB-03 @ 5-7.5' is above the RSSL and local maximum background sample values. As originally stated in approved F27 Document # 404077042, remaining GWSSL exceedances do not appear applicable at the site, due to local lithology and because groundwater was not encountered during a prior subsurface assessment, which was completed to 20 feet bgs. The absence of groundwater within 20' of ground surface and the local lithology suggests that a pathway to groundwater at this location is not likely. Therefore, Operator proposes to use ECMC Table 915-1 RSSLs at the site. However, further evaluation of residual arsenic appears warranted at this time. Further details are included in the site investigation report and laboratory analytical report attached to this form.

A site assessment will be scheduled to collect confirmation samples at 10 locations, including sampling for ECMC Table 915-1 metal analysis at locations which were not previously analyzed for metals (proposed samples 20770-WH-FS-01, 20770-WH-SS-01, 20770-WH-SS-02, 20770-WH-SS-03, 20770-WH-SS-04, 20770-B36-12 FL01, 20770-SB-02, 20770-SB-04, 20770-SB-05, 20770-SEP FL). Additional horizontal and vertical delineation samples for residual arsenic at SB-03 @ 5-7.5' will be completed (20770-SB-3, 20770-WH-03-N, 20770-WH-03-E). Three additional background samples are proposed to be collected at 5 and 7 ft bgs). Proposed soil sample locations are included in attached proposed soil sample location maps.

Pursuant to Rule 913.e, quarterly reporting will continue for the location until data indicates no further action is warranted.

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

Signed: Michael LeFrancois

Title: Environmental Consultant

Submit Date:

Email: michael.lefrancois@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:

Date:

Remediation Project Number: 20770

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
404308192	LABORATORY ANALYTICAL REPORT
404308229	SOIL SAMPLE LOCATION MAP
404321492	SOIL SAMPLE LOCATION MAP
404324578	SITE INVESTIGATION REPORT

Total Attach: 4 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)