

State of Colorado
Energy & Carbon Management Commission

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Document Number:
404077042

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: (303) 597-6847
City: DENVER State: CO Zip: 80202		Mobile: ()
Contact Person: Philip Porter	Email: RBUEUF27@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:

- | | | |
|--|--|--|
| <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
No	GROUNDWATER	NA	Not encountered
Yes	SOILS	NA	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.

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 for Table 915-1 compounds, EC, SAR, pH, and boron. One (1) waste characterization sample was analyzed for ECMC Table 915-1 metals. All samples collected were analyzed by a certified laboratory using approved ECMC laboratory analysis methods.

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):

Operator is in the process of scheduling a site assessment will be completed for verification sampling confirm arsenic in SB-03 @ 5-7.5'.

Proposed Groundwater Sampling

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

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):

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 14
Number of soil samples exceeding 915-1 8
Was the areal and vertical extent of soil contamination delineated? No
Approximate areal extent (square feet) 64

NA / ND

ND Highest concentration of TPH (mg/kg) _____
-- Highest concentration of SAR 9.73
BTEX > 915-1 No
Vertical Extent > 915-1 (in feet) 6

Groundwater

Number of groundwater samples collected 0
Was extent of groundwater contaminated delineated? No
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?

Previously, a background sample was collected from similar lithographic soil near the wellhead for ECOM Table 915-1 metals (without Cr VI) analysis. Additional background samples (15) were collected from soil of native/similar lithographic material not impacted by oil and gas activity to further compare EC, SAR, pH, boron, and ECOM Table 915-1 metals. Residual barium, lead, and nickel exceeds ECOM Table 915-1 Protection of Groundwater Soil Screening Levels (GSSLs) in soil at the site and in backgrounds. GSSLs do not appear applicable at the site, therefore, residual barium, lead, and nickel at the site does not appear to require additional assessment or remediation. All of the background samples exceed arsenic concentrations. EC, pH and SAR were exceeded in background samples also.

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?

Operator is evaluating the concentrations of arsenic, EC, pH and SAR from the delineation samples compared to background. Operator is in the process of scheduling an additional site assessment will be completed for verification sampling confirm arsenic in SB-03 @ 5-7.5'.

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 current source was generated. The source was delineated through a subsurface assessment, with soil samples collected for Table 915-1 compounds, and EC, SAR, pH, metals, and boron in accordance with approved Form 27 Doc # 403954766, included under related forms. 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. 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 ECOM Table 915-1 Residential Soil Screening Levels at the site. All organic concentrations are in compliance with ECOM Table 915-1 Residential Soil Screening Levels. EC and SAR values are less than/consistent with local background comparison and do not appear to warrant additional assessment. Residual barium, lead, and nickel exceed the ECOM Table 915-1 Protection of Groundwater Soil Screening Levels (GSSLs) in soil at the site and in backgrounds. GSSLs do not appear applicable at the site, therefore, residual barium, lead, and nickel at the site does not appear to require additional assessment or remediation. However, further evaluation of residual arsenic appears warranted at this time. A verification sample will be collected to confirm the arsenic value in SB-03 @ 5-7.5'.

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.

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. The absence of groundwater within 20' of ground surface 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 at the site. All organic concentrations are in compliance with ECMC Table 915-1 Residential Soil Screening Levels. A verification sample will be collected to confirm the arsenic value in SB-03 @ 5-7.5'. NFA will be considered when soil concentrations are in compliance with local background comparison and/or ECMC Table 915-1 standards.

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 or supplemental site investigation. 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.

The operator intends to directly address the costs of remediation at the locations as part of our asset retirement obligation process and operations. The operator has general liability insurance (policy MWZZ 316714) and financial assurance in compliance with ECMC rules. Records are available on the ECMC's website.

Operator anticipates the remaining cost for this project to be: \$ 2000

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? No

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. 08/31/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 12/31/2025

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

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 the supplemental site investigation. The ECMC will be updated on a subsequent Form 27 with supplemental site investigation results, or if the schedule is changed due to site access constraints.

OPERATOR COMMENT

This is a quarterly update. The Operator's Environmental Consultant on this Site has changed and is conducting a thorough review of the project. Any required information, proposed additional investigation activities, reports, and addressing of COAs will be provided in Supplemental Form 27 submittal.

Operator has requested a verified laboratory data package for these investigation activities from the lab, and will submit on a subsequent form submittal.

Operator is in the process of scheduling a site assessment for verification sampling of arsenic in SB-03 @ 5-7.5'.

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

Signed: William Schoff

Title: Environmental Consultant

Submit Date: _____

Email: cvxform27@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

<u>COA Type</u>	<u>Description</u>
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

<u>Att Doc Num</u>	<u>Name</u>
404084010	SITE INVESTIGATION REPORT

Total Attach: 1 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)