

State of Colorado
Energy & Carbon Management Commission

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Document Number:
403923617

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: <u>NOBLE ENERGY INC</u>	Operator No: <u>100322</u>	Phone Numbers
Address: <u>1099 18TH STREET SUITE 1500</u>		Phone: <u>(970) 939-1929</u>
City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80202</u>		Mobile: <u>()</u>
Contact Person: <u>Jason Davidson</u>	Email: <u>jason.davidson@chevron.com</u>	

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.
- 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>WELL</u>	Facility ID: _____	API #: <u>123-13801</u>	County Name: <u>WELD</u>
Facility Name: <u>BAKER B2-5</u>	Latitude: <u>40.429878</u>	Longitude: <u>-104.524077</u>	
	** correct Lat/Long if needed: Latitude: <u>40.429936</u>	Longitude: <u>-104.524038</u>	
QtrQtr: <u>SWNW</u> Sec: <u>2</u> Twp: <u>5N</u> Range: <u>64W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>			
Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>481822</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Baker B 02-05</u>	Latitude: <u>40.433711</u>	Longitude: <u>-104.522169</u>	
	** correct Lat/Long if needed: Latitude: _____	Longitude: _____	
QtrQtr: <u>NWNW</u> Sec: <u>2</u> Twp: <u>5N</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 _____

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:

- | | | |
|--|--|--|
| <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	Laboratory Analysis if encountered
Yes	SOILS	Refer to Table 1 and Figure 2	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.

A grab soil sample was collected at the base of the excavation or the area showing the highest degree of impact during field screening activities 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, 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 [C 10-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.

Approximately 2,050' of flowline was removed, and approximately 310' of flowline was abandoned in place due to field constraints. A Form 44 number for the partial flowline abandonment will be included on a subsequent form 27.

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):

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 and submitted for laboratory analysis of the full Table 915-1 analytical suite.

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.

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 41
Number of soil samples exceeding 915-1 30
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet) 2800

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. An in-depth assessment of inorganic parameters and metals concentrations compared to background concentrations will be included in the subsequent Supplemental Form 27.

Was investigation derived waste (IDW) generated as part of this investigation?

Volume of solid waste (cubic yards) 288 Volume of liquid waste (barrels) 0

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. Further site investigation activities will be determined following an in-depth assessment of inorganic parameters and metals concentrations compared to background concentrations, which will be included in the subsequent Supplemental 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 are attached to this Form 27.

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.

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.

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. Based on the findings of the SAR assessment discussed under ECMC Document #403652761, a detailed reclamation plan is attached to this Form 27.

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. Further site investigation activities will be determined following an in-depth assessment of inorganic parameters and metals concentrations compared to background concentrations, which will be included in the subsequent Supplemental Form 27.

Soil Remediation Summary

In Situ

Ex Situ

_____ Bioremediation (or enhanced bioremediation)

Yes _____ Excavate and offsite disposal

_____ Chemical oxidation

If Yes: Estimated Volume (Cubic Yards) _____ 288

_____ 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 decommissioning or remedial excavation 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 Remedial Excavation Report

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?

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. 05/20/2025

Proposed date of completion of Reclamation. 05/20/2028

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. 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. 10/25/2024

Proposed completion of site investigation. 07/25/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 07/25/2025

Proposed date of completion of Remediation. 10/25/2026

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 completion of the April 2024 remedial excavation at the Baker B02-05 flowline and necessity for the potential of additional supplemental site investigation activities adjacent to the flowline. Additional site investigation activities will be proposed following an in-depth assessment of inorganic parameters and metals concentrations compared to background concentrations, which will be included in the subsequent Supplemental Form 27.

OPERATOR COMMENT

This Form 27 is being submitted to include the remedial excavation results for the former Baker B02-05 Flowline location. A comprehensive data packet summarizing the remedial excavation activities is attached to this Form 27, and a detailed summary of the remedial excavation activities is presented in the Remedial Action Plan sections and below.

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.

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. Further site investigation activities will be determined following an in-depth assessment of inorganic parameters and metals concentrations compared to background concentrations, which will be included in the subsequent Supplemental Form 27.

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

Signed: Jake Whritenour

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	
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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

403971010	OTHER
403971013	OTHER
403971415	REMEDATION PROGRESS REPORT

Total Attach: 3 Files

General Comments

User Group

Comment

Comment Date

		Stamp Upon Approval
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Total: 0 comment(s)