

State of Colorado
Energy & Carbon Management Commission1120 Lincoln Street, Suite 801, Denver, Colorado 80203
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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: (970) 730-7281
City: DENVER	State: CO	Zip: 80202
Contact Person: Dan Peterson	Email: RBUEUF27@chevron.com	Mobile: ()

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 27419 Initial Form 27 Document #: 403293514

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 #: 123-12032	County Name: WELD
Facility Name: MCBAIN (BAINBRIDGE) 1	Latitude: 40.361790	Longitude: -104.680280	
** correct Lat/Long if needed: Latitude: 40.361784		Longitude: -104.680276	
QtrQtr: NENE	Sec: 32	Twp: 5N	Range: 65W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE	Facility ID: 484539	API #: _____	County Name: _____
Facility Name: _____	Latitude: 0.000000	Longitude: 0.000000	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: _____	Sec: _____	Twp: _____	Range: _____ Meridian: _____ Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications CL

Most Sensitive Adjacent Land Use Rangeland

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? Yes

Other Potential Receptors within 1/4 mile

Freshwater Emergent Wetland 0.09mi N, 0.22mi NE, 0.14mi E, 0.02mi S, 0.19mi NW
Riverine 0.12mi NW, 0.12mi E, 0.22mi SW, 0.19mi S
Residential 0.19/0.23/0.24mi NW, 0.08mi NE, 0.09mi E, 0.18/0.20/0.22/0.24/0.25mi SE, 0.24mi S
Farm Structures 0.17/0.19/0.20/0.21/0.22/0.23mi NW, 0.07/0.09mi NE, 0.21mi S, 0.23mi SE

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
Yes	GROUNDWATER	TBD	Lab analysis
Yes	SOILS	TBD	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 1 MCBAIN (BAINBRIDGE) wellhead cut and cap. The wellhead was cut and capped per ECMC rules. The flowline was previously abandoned on 6/20/2018, and the ECMC was notified on Form 44 Document number 403216829.

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):

Four (4) grab confirmation soil samples were collected at the wellhead excavation. Soil samples were analyzed by a certified laboratory for TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons), organic compounds in soil per ECMC Table 915-1, EC, SAR, pH, and boron. Two (2) samples were collected for waste characterization of ECMC Table 915-1 Metals. 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):

A grab groundwater was collected and analyzed for BTEX, naphthalene, 1,2,4-TMB, 1,3,5-TMB in compliance with ECMC Table 915-1 regulatory limits.

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

NA / ND

Number of soil samples collected 15

-- Highest concentration of TPH (mg/kg) 339

Number of soil samples exceeding 915-1 2

-- Highest concentration of SAR 7.55

Was the areal and vertical extent of soil contamination delineated? Yes

BTEX > 915-1 Yes

Approximate areal extent (square feet) 100

Vertical Extent > 915-1 (in feet) 4

Groundwater

Number of groundwater samples collected 21

-- Highest concentration of Benzene (µg/l) 31.4

Was extent of groundwater contaminated delineated? Yes

-- Highest concentration of Toluene (µg/l) 166

Depth to groundwater (below ground surface, in feet) 2

-- Highest concentration of Ethylbenzene (µg/l) 27.1

Number of groundwater monitoring wells installed 5

-- Highest concentration of Xylene (µg/l) 429

Number of groundwater samples exceeding 915-1 1

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?

A background sample for pH, SAR, and Table 915-1 Metals analysis was collected. Additional backgrounds were collected during delineation activities for analysis of pH, SAR, arsenic, barium, lead, and selenium per ECMC Table 915-1.

☐ 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 source excavation will be scheduled to address residual lead identified in soil during delineation of residual impacts. In the absence of petroleum hydrocarbon impacts identified during the delineation assessment, Noble proposes an amended sampling plan to include analysis for lead in soil per ECMC 915-1. Excavation results will be provided in a supplemental Form 27.

REMEDIAL ACTION PLAN

Does this Supplemental Form 27A include changes to a previously approved Remedial Action Plan? Yes

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

No current source was generated. A site assessment was conducted to delineate impacted media identified at the wellhead. Confirmation soil samples were collected from each soil boring collected for analysis of TPH (C6-C36), Table 915-1 organics in soil, SAR, pH, arsenic, barium, lead, and selenium in accordance with approved Form 27 Doc. # 403418237. Each soil boring was completed as a monitoring well. Five (5) background samples were collected for SAR, pH, and applicable metals comparison. Elevated SAR and arsenic were identified at the site, but are less than/consistent with background comparisons and do not warrant additional sampling or remediation. Residual pH and lead values exceed ECMC standards and local background comparison. Additional backgrounds will be collected and analyzed for pH and lead. A source excavation will be scheduled to address residual lead identified in soil during delineation of residual impacts. In the absence of petroleum hydrocarbon impacts identified during the delineation assessment, Noble proposes an amended sampling plan to include analysis for lead in soil per ECMC 915-1. Excavation results will be provided in a supplemental Form 27.

REMEDIAL 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.

A site assessment was conducted to delineate impacted media identified at the wellhead. Confirmation soil samples were collected from each soil boring collected for analysis of TPH (C6-C36), Table 915-1 organics in soil, SAR, pH, arsenic, barium, lead, and selenium in accordance with approved Form 27 Doc. # 403418237. Upon encountering groundwater, each soil boring was completed as a monitoring well. Monitoring wells will be sampled on a quarterly basis. A source excavation will be scheduled to address residual lead identified in soil during delineation of residual impacts. In the absence of petroleum hydrocarbon impacts identified during the delineation assessment, Noble proposes an amended sampling plan to include analysis lead in soil per ECMC 915-1. Excavation results will be provided in a supplemental Form 27. NFA will be considered when soil is in compliance with ECMC Table 915-1 regulatory limits and groundwater concentrations are in compliance with ECMC Table 915-1 regulatory limits for a minimum of four (4) consecutive post-remediation quarters.

Soil Remediation Summary

☐ In Situ

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

☐ Ex Situ

_____ Excavate and offsite disposal
_____ If Yes: Estimated Volume (Cubic Yards) _____
_____ Name of Licensed Disposal Facility or ECMC Facility ID # _____
_____ Excavate and onsite remediation
_____ No Land Treatment
_____ No Bioremediation (or enhanced bioremediation)
_____ No Chemical oxidation
_____ Yes Other Source Excavation _____

Groundwater Remediation Summary

_____ Bioremediation (or enhanced bioremediation)
_____ Chemical oxidation
_____ Air sparge / Soil vapor extraction
Yes _____ 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.

Monitoring wells MW-01 through MW-05 will be sampled on a quarterly basis. Groundwater samples will be submitted to a certified laboratory for analysis of BTEX, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1-methylnaphthalene, 2-methylnaphthalene, and inorganic parameters. Any monitoring wells destroyed during source excavation activities will be replaced. Replacement wells will be added to the approved sampling plan.

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 Monitoring Well Installation 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.

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 ☐ 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. 04/25/2023

Proposed date of completion of Reclamation. 10/31/2029

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. 12/08/2022

Actual Spill or Release date, or date of discovery. 05/03/2023

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 04/25/2023

Proposed site investigation commencement. 02/01/2023

Proposed completion of site investigation. 08/31/2023

REMEDIAL ACTION DATES

Proposed start date of Remediation. 09/01/2023

Proposed date of completion of Remediation. 09/01/2026

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:

Implementation schedule updated to reflect the schedule to complete the supplemental 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 due to site access constraints.

OPERATOR COMMENT

Monitoring wells MW-01 through MW-05 will be sampled on a quarterly basis. A source excavation will be scheduled to address residual lead identified in soil during delineation of residual impacts.

Noble seeks the ECMC's approval of this form as they are aware of the gap in reporting from the the April 2023 initial sampling event until now. Subsurface assessment and groundwater monitoring reports for 2023 and 2024 are attached to current submittal. Following the review by the ECMC, Noble will complete 90-day reporting to comply with current ECMC regulations.

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

Signed: Alfred Garraffa

Title: Environmental Consultant

Submit Date: _____

Email: cvxeform@eagle-enviro.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: 27419

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**

403925407	SITE INVESTIGATION REPORT
403925408	MONITORING REPORT
403925409	MONITORING REPORT
403925410	MONITORING REPORT

Total Attach: 4 Files

General Comments**User Group****Comment****Comment Date**

		Stamp Upon Approval
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Total: 0 comment(s)