

State of Colorado
Energy & Carbon Management Commission1120 Lincoln Street, Suite 801, Denver, Colorado 80203
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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 #: 23204 Initial Form 27 Document #: 403054751

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 #: 123-14879	County Name: WELD
Facility Name: PTF C 32-8	Latitude: 40.270210	Longitude: -104.567750	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SENE	Sec: 32	Twp: 4N	Range: 64W
Meridian: 6	Sensitive Area? No		

Facility Type: SPILL OR RELEASE	Facility ID: 482445	API #: _____	County Name: WELD
Facility Name: PTF C 32-8	Latitude: 40.270210	Longitude: -104.567750	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SENE	Sec: 32	Twp: 4N	Range: 64W
Meridian: 6	Sensitive Area? No		

SITE CONDITIONS

General soil type - USCS Classifications SC

Most Sensitive Adjacent Land Use Range 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? Yes

Other Potential Receptors within 1/4 mile

HPH N
Farm Structures 0.08/0.12/0.15/0.18/0.22mi S, 0.15/0.18/0.21mi SW, 0.21mi NW
Residential 0.23/0.25mi NE, 0.24mi N
Freshwater Emergent Wetlands 0.22mi W

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	Not encountered
No	SOILS	~10'x~12'x7'	laboratory analysis

INITIAL ACTION SUMMARY

Description of initial action or emergency response measures taken 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 PTF C32-08 wellhead cut and cap and flowline removal. Approximately 930' of flowline was removed. The wellhead was cut and capped per ECMC rules.

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 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. 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. One sample was analyzed for waste characterization of ECMC Table 915-1 metals.

A grab soil sample was collected at the flowline terminus at the separator and was included with the facility decommissioning assessment and Supplemental Form 27 (Doc. # 403316851).

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):

If groundwater is encountered during assessment activities, monitoring wells will be completed and samples will be collected for BTEX, naphthalene, TMBs, dissolved arsenic, 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):

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 12

Number of soil samples exceeding 915-1 1

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

Approximate areal extent (square feet) 120

Groundwater

Number of groundwater samples collected 15

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet) 6

Number of groundwater monitoring wells installed 5

Number of groundwater samples exceeding 915-1 0

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.

NA / ND

-- Highest concentration of TPH (mg/kg) 3182

-- Highest concentration of SAR 0.438

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 7

ND Highest concentration of Benzene (µg/l)

ND Highest concentration of Toluene (µg/l)

Highest concentration of Ethylbenzene (µg/l)

Highest concentration of Xylene (µg/l)

NA Highest concentration of Methane (mg/l)

OTHER INVESTIGATION INFORMATION☐ Were impacts to adjacent property or offsite impacts identified?☒ Were background samples collected as part of this site investigation?

One background sample was collected for pH and ECMC Table 915-1 metals (sans Cr VI) during decommissioning activities. Five (5) additional background samples for arsenic analysis were collected during the delineation assessment.

☐ 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?

The source will be delineated through an environmental site assessment. Noble proposes an amended Table 915-1 analytical plan to include TPH C6-36, ECMC Table 915-1 organics, and arsenic. Additional background samples for arsenic analysis will also be collected. If groundwater is observed during assessment activities, monitoring wells will be completed and samples will be collected for BTEX, naphthalene, TMBs, dissolved arsenic, and inorganic compounds per ECMC Table 915-1.

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. Residual petroleum hydrocarbon impacts were delineated through an environmental site assessment. Five (5) soil borings were advanced and completed as monitoring wells upon encountering groundwater. Confirmation soil samples were collected from each boring and analyzed for TPH C6-36, ECMC Table 915-1 organics, and arsenic in accordance with approved Form 27 Doc. # 403567139. Elevated arsenic was not identified in confirmation samples collected during delineation. Therefore, arsenic in soil does not appear to warrant additional assessment or remediation at this time.

REMEDATION 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.

Residual petroleum hydrocarbon impacts were delineated through an environmental site assessment. Five soil borings were completed as monitoring wells. Laboratory analysis did not identify petroleum hydrocarbon impacts or elevated arsenic in soil, indicating that soil concentrations are in compliance with ECMC Table 915-1 standards and/or less than/consistent with local backgrounds. Dissolved arsenic, however, exceeds CDPHE WQCC Regulation 41 Standards. With consideration to the natural abundance of arsenic in soil, Noble proposes the installation of up-gradient background monitoring wells to establish a local comparison for arsenic in groundwater.

NFA will be considered when groundwater concentrations are in compliance with ECMC Table 915-1 standards for a minimum of four (4) consecutive 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
_____ Land Treatment
_____ Bioremediation (or enhanced bioremediation)
_____ Chemical oxidation
_____ Other _____

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 for analysis of BTEX, naphthalene, TMBs, dissolved arsenic, and inorganic compounds per ECMC Table 915-1.

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 WZZ 316714) and financial assurance in compliance with ECOM rules. Records are available on the ECOM's website.

Operator anticipates the remaining cost for this project to be: \$ 25000

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:

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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? Yes

Does the previous reply indicate consideration of background concentrations? Yes

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. 06/16/2022

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. 04/05/2022

Actual Spill or Release date, or date of discovery. 06/28/2022

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/16/2022

Proposed site investigation commencement. 06/18/2022

Proposed completion of site investigation. 12/31/2023

REMEDIAL ACTION DATES

Proposed start date of Remediation. 06/16/2022

Proposed date of completion of Remediation. 12/31/2025

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

Dissolved arsenic exceeds CDPHE WQCC Regulation 41 Standards. With consideration to the natural abundance of arsenic in soil, Noble proposes the installation of up-gradient background monitoring wells to establish a local comparison for arsenic in groundwater.

Monitoring wells MW-01 through MW-05 will be sampled on a quarterly basis.

Noble seeks the ECMC's approval of this form as they are aware of the gap in reporting from the the initial 2022 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: Secondary Reviewer

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: 23204

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**

403926929	SITE INVESTIGATION REPORT
403926930	MONITORING REPORT
403926933	MONITORING REPORT

Total Attach: 3 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)