

State of Colorado
Energy & Carbon Management Commission

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404159977
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Report taken by:
Nick Cholas

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 ECOM 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 Phone: (303) 597-6847 Mobile: (303) 597-6847
Address: 1099 18TH STREET SUITE 1500		
City: DENVER	State: CO	Zip: 80202
Contact Person: Phillip Porter	Email: RBUEUF27@chevron.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 19598 Initial Form 27 Document #: 402771632

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

No Multiple Facilities

Facility Type: SPILL OR RELEASE	Facility ID: 480186	API #: _____	County Name: WELD
Facility Name: Hayes Federal 31-8H5	Latitude: 40.357388	Longitude: -104.699701	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SENE	Sec: 31	Twp: 5N	Range: 65W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications CL Most Sensitive Adjacent Land Use Non-Cropland
Is domestic water well within 1/4 mile? Yes Is surface water within 1/4 mile? No
Is groundwater less than 20 feet below ground surface? Yes

Other Potential Receptors within 1/4 mile

Wetlands - 915' east
Occupied building - 251' SE
Household water well - Permit #224201 - 225' east
Domestic water well - Permit # 34204 - 960' SE
Livestock - 1500' ESE
Platte River - 1870' NNW

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
No	GROUNDWATER	NA	Laboratory Analytical
Yes	SOILS	60' X 30' X 2' bgs	Laboratory Analytical

INITIAL ACTION SUMMARY

Description of initial action or emergency response measures take to abate, investigate, and/or remediate impacts associated with E&P Waste.

During reclamation of the Hayes Federal 31-8H5 location, historical impacts were discovered. The extent of the impacts was determined through an environmental assessment. Five initial grab soil samples were collected for Table 915-1 TPH and organics analysis during the initial assessment. These results were provided in Doc.#403780957. Ten additional soil samples were collected for Table 915-1 TPH, organics, and inorganics analysis during delineation activities. SB-05@0-2' was also analyzed for Table 915-1 metals for waste characterization. A background sample was collected for analysis of SAR, Arsenic, and Chromium (VI). In addition, two grab groundwater samples were collected from temporary monitoring wells for analysis of BTEX, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene. These results were provided in Doc.#403997666.

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):

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 16
Number of soil samples exceeding 915-1 7
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet) 1800

NA / ND

ND Highest concentration of TPH (mg/kg) _____
-- Highest concentration of SAR 10.6
BTEX > 915-1 No
Vertical Extent > 915-1 (in feet) 2

Groundwater

Number of groundwater samples collected 2
Was extent of groundwater contaminated delineated? No
Depth to groundwater (below ground surface, in feet) 2
Number of groundwater monitoring wells installed 2
Number of groundwater samples exceeding 915-1 0

ND Highest concentration of Benzene (µg/l) _____
ND Highest concentration of Toluene (µg/l) _____
ND Highest concentration of Ethylbenzene (µg/l) _____
ND 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?

A background sample was collected from native soils off the oil and gas location for analysis of SAR, arsenic, and chromium (VI). Residual metals at the site are in compliance with ECMC Table 915-1 regulatory limits and/or background comparisons.

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 completed to collect confirmation soil samples from previous soil boring locations to confirm the presence of elevated SAR (SB-02, SB-04, SB-07, SB-10) and petroleum hydrocarbon impacts (SB-06, SB-09, SB-10). Previous soil boring samples (SB-09, SB-10) that identified petroleum hydrocarbon impacts will be delineated to investigate the extent of impacts.

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.

Operator will conduct supplemental source mass removal (SSMR) via mechanical excavation to address the residual petroleum hydrocarbon and SAR soil impacts identified at the Site.

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.

Excavation activities have continued to be delayed due to limited site accessibility due to wildlife, site saturation, and landowner consultation. Excavation activities are tentatively scheduled to be completed by the end of 3Q25. An updated implementation schedule will be provided in a supplemental Form 27, as needed.

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
- _____ 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.

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.

Operator intends to directly address the costs of remediation at the locations as part of our asset retirement obligation process and operations. 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: \$ 85000

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.

Post-remediation, 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. 06/14/2021

Proposed date of completion of Reclamation. 10/31/2028

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. 06/19/2021

Actual Spill or Release date, or date of discovery. 06/18/2021

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/14/2021

Proposed site investigation commencement. 06/14/2021

Proposed completion of site investigation. 09/30/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 06/03/2024

Proposed date of completion of Remediation. 12/30/2026

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:

Source excavation activities delayed due to ongoing wildlife, saturated site conditions, and landowner consultation. Site accessibility limited. Implementation schedule updated to reflect the projected timeline to complete source removal and subsequent groundwater monitoring.

OPERATOR COMMENT

This supplemental form 27 represents a 2Q25 quarterly update for the confirmation soil sample results of the investigation activities associated with the Hayes Federal 31-8H5 release location. Confirmation soil samples were collected in areas where potential contamination was identified during site reclamation activities.

As described in Doc.#403780957, five initial grab soil samples were collected for Table 915-1 TPH and organics analysis during the initial assessment conducted on June 14, 2021. The initial investigation identified PAHs that exceeded the soil regulatory limits in sample SS-03 @ 0.5', and PAHs that exceeded the protection of groundwater regulatory limits at samples SS-02 @ 0.5' and SS-03 @ 0.5'. A secured analytical data report is attached and data summarized in the attached Eagle data package.

On June 30, 2021, ten additional soil samples were collected for delineation of Table 915-1 TPH, organics, and inorganics. This additional sampling revealed exceedances of SAR at soil borings SB-02 @ 0-2', SB-04 @ 0-2', SB-07 @ 0-2' and SB-10 @ 0-2' and and PAHs that exceeded the protection of groundwater regulatory limits at samples SB-06 @ 0-2', SB-09 @ 0-2' and SB-10 @ 0-2'. In addition, two grab groundwater samples were collected from temporary monitoring wells for analysis of BTEX, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene. The sampling results indicated that there were no exceedances of these analytes.

Based upon these results, supplemental source mass removal (SSMR) via mechanical excavation to address the residual petroleum hydrocarbon and SAR soil and potential groundwater impacts identified at the Site. The Operator is in the process of scheduling SSMR activities.

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: 04/11/2025

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: Nick Cholas

Date: 07/30/2025

Remediation Project Number: 19598

COA Type**Description**

	See comments/COA's on SF27 Doc #404274026. SF27 Doc #404274026 was submitted more recently at the time of review of this Doc (Doc #404159977).
1 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**

404159977	FORM 27-SUPPLEMENTAL-SUBMITTED
404160792	LABORATORY ANALYTICAL REPORT
404160793	LABORATORY ANALYTICAL REPORT
404160794	LABORATORY ANALYTICAL REPORT
404160795	LABORATORY ANALYTICAL REPORT
404161173	OTHER

Total Attach: 6 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)