

State of Colorado
Energy & Carbon Management Commission

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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 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 Phone: <u>(970) 730-7281</u> Mobile: <u>()</u>
Address: <u>1099 18TH STREET SUITE 1500</u>		
City: <u>DENVER</u>	State: <u>CO</u>	Zip: <u>80202</u>
Contact Person: <u>Dan Peterson</u>	Email: <u>rbueuf27@chevron.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 19600 Initial Form 27 Document #: 402776026

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>123-15387</u>	County Name: <u>WELD</u>
Facility Name: <u>HSR-CHARLTON 8-20</u>	Latitude: <u>40.300060</u>	Longitude: <u>-104.680470</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SENE</u>	Sec: <u>20</u>	Twp: <u>4N</u>	Range: <u>65W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>480746</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>HSR Charlton 08-20</u>	Latitude: <u>40.300076</u>	Longitude: <u>-104.680435</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SENE</u>	Sec: <u>20</u>	Twp: <u>4N</u>	Range: <u>65W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

SITE CONDITIONS

General soil type - USCS Classifications SW _____

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

Riverine 0.01mi/ 0.03mi/0.16mi E, 0.06mi S
Freshwater Emergent Wetland 0.04mi NW, 0.03mi W, 0.04mi SW, 0.07mi S, 0.05mi E
Freshwater Forested Shrub Wetland 0.17mi SE
Freshwater Pond 0.1mi NE
Forested Shrub 0.25mi SE

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	Laboratory Anaysis
Yes	SOILS	15' X 15' X 4' bgs	Laboratory 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 will be conducted pertaining to the HSR-CHARLTON 08-20 wellhead cut and cap and flowline removal. Approximately 80' of flowline will be removed. The ECMC will be updated in a supplemental Form 27 if a portion of the flowline is abandoned-in-place due to field constraints. The wellhead will be cut and capped per ECMC rules. The Flowline Pre-Abandonment Notice Document number is included under Related Forms.

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):

Seven grab soil samples were collected for analysis by a certified laboratory for TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons) organic compounds in soil per ECMC Table 915-1, and EC, SAR, pH, and boron.

Proposed Groundwater Sampling

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

One groundwater sample was collected for analysis of BTEX, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene.

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):

A Site Assessment was conducted on 5/23/2022 to delineate impacted media. Five soil borings were advanced in the area of impacts. BH01 was advanced at the same location as the waste characterization sample FS01@6' to vertically delineate impacts at that location. BH02-BH05 were advanced surrounding BH01 to vertically and laterally delineate impacts identified at FS01@6'. Soil samples were collected and analyzed for TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons), organic compounds in soil, metals in soil per ECMC Table 915-1, and EC, SAR, pH, and boron. Each soil boring was completed with a temporary groundwater monitoring well. Groundwater samples were collected and analyzed for BTEX, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and inorganic parameters. The results of the site assessment, including analytical results tables, figures, boring logs, and laboratory analytical reports were submitted underECMC Document Number 402950642.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

NA / ND

Number of soil samples collected 7 -- Highest concentration of TPH (mg/kg) 180
 Number of soil samples exceeding 915-1 2 -- Highest concentration of SAR 0.264
 Was the areal and vertical extent of soil contamination delineated? No BTEX > 915-1 No
 Approximate areal extent (square feet) 225 Vertical Extent > 915-1 (in feet) 4

Groundwater

Number of groundwater samples collected 1 ND Highest concentration of Benzene (µg/l) _____
 Was extent of groundwater contaminated delineated? Yes ND Highest concentration of Toluene (µg/l) _____
 Depth to groundwater (below ground surface, in feet) 4 ND Highest concentration of Ethylbenzene (µg/l) _____
 Number of groundwater monitoring wells installed 0 ND Highest concentration of Xylene (µg/l) _____
 Number of groundwater samples exceeding 915-1 0 NA Highest concentration of Methane (mg/l) _____

Surface Water

0 Number of surface water samples collected
0 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?
 On 9/13/2021, a background sample was collected for pH and Table 915-1 metals. On 8/26/2022, ten background samples were collected for barium.

Was investigation derived waste (IDW) generated as part of this investigation?
 Volume of solid waste (cubic yards) 160 Volume of liquid waste (barrels) 0

Is further site investigation required?
 Based on analytical results, a supplemental site assessment is required to confirm and delineate the pH exceedance recorded in soil sample FL01-B@3'. Background soil borings will also be advanced in native material to assess background pH concentrations on site. The proposed soil boring locations are included on Figure 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.
 The source was delineated through an environmental site assessment, and successfully removed through a remedial excavation on April 24, 2023. The results of the remedial excavation are attached to this Form 27. Based on the remedial excavation results, all hydrocarbon compounds in soil above ECMC Table 915-1 standards have been successfully removed. Barium remains in two sidewall soil samples above ECMC Table 915-1 protection of groundwater soil screening levels and background levels. As such, Noble is requesting to continue quarterly monitoring until four consecutive quarters of dissolved barium results are achieved. If dissolved barium remains in compliance with applicable Regulation 41 standards, Noble will submit a No Further Action (NFA) request to the ECMC.

REMEDIATION 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.
 Based on the ten consecutive quarters of compliant groundwater monitoring results for organic compounds and inorganic compounds, including the four consecutive quarters following the remedial excavation, BTEX, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1-methylnaphthalene (1-M), 2-methylnaphthalene (2-M) and inorganic parameters were removed from the groundwater sampling plan per the approved Supplemental Form 27 (Document No. 403752923). This reduced monitoring plan will be implemented beginning in the third quarter 2024.
 Monitoring natural attenuation will be the selected remediation strategy for groundwater at this location.

Soil Remediation Summary

In Situ Ex Situ

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

Yes Excavate and offsite disposal
 If Yes: Estimated Volume (Cubic Yards) 160
 Name of Licensed Disposal Facility or ECMC Facility ID # _____
 No Excavate and onsite remediation
 Land Treatment
 Bioremediation (or enhanced bioremediation)
 Chemical oxidation
 Other _____

Groundwater Remediation Summary

No Bioremediation (or enhanced bioremediation)
 No Chemical oxidation
 No Air sparge / Soil vapor extraction
 Yes Natural Attenuation
 Yes Other Groundwater was not impacted

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.

Per the approved Supplemental Form 27 (Document No. 403752923), BTEX, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1-methylnaphthalene (1-M), 2-methylnaphthalene (2-M) and inorganic parameters were removed from the groundwater sampling plan. This reduced groundwater monitoring plan will be implemented beginning in the third quarter 2024.

During the second quarter 2024, BH01R was unable to be located and consequently, was not sampled. Second quarter 2024 analytical results indicated that organic compound concentrations, inorganic parameters, and dissolved barium were in compliance with the applicable regulatory standards in all four sampled monitoring well locations.

Quarterly groundwater monitoring will continue and samples will be collected for analysis of dissolved barium until four consecutive quarters of compliant groundwater monitoring results has been achieved.

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 _____

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? No _____

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

Volume of E&P Waste (solid) in cubic yards _____ 160

E&P waste (solid) description Hydrocarbon impacted soil _____

ECMC Disposal Facility ID #, if applicable: _____

Non-ECMC Disposal Facility: Buffalo Ridge Waste Management Landfill _____

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

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. 09/13/2021

Proposed date of completion of Reclamation. _____

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. 10/08/2020

Actual Spill or Release date, or date of discovery. 09/14/2021

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 09/13/2021

Proposed site investigation commencement. 09/30/2024

Proposed completion of site investigation. 12/31/2024

REMEDIAL ACTION DATES

Proposed start date of Remediation. 06/06/2023

Proposed date of completion of Remediation. 12/31/2024

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 proposed date of completion of remediation has been updated to allow for four consecutive quarters of dissolved barium groundwater monitoring. Based on analytical results, a supplemental site assessment is required to confirm and delineate the pH exceedance recorded in soil sample FL01-B@3'. Background soil borings will also be advanced in native material to assess background pH concentrations on site. The proposed soil boring locations are included on Figure 5.

OPERATOR COMMENT

This Supplemental Form 27 was submitted to summarize quarterly groundwater monitoring and analytical results collected during the second quarter 2024 at the HSR Charlton 08-20 location.

Per the approved Supplemental Form 27 (Document No. 403752923), BTEX, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1-methylnaphthalene (1-M), 2-methylnaphthalene (2-M) and inorganic parameters were removed from the groundwater sampling plan. This reduced groundwater monitoring plan will be implemented beginning in the third quarter 2024.

During the second quarter 2024, BH01R was unable to be located and consequently, was not sampled. Second quarter 2024 analytical results indicated that organic compound concentrations, inorganic parameters, and dissolved barium were in compliance with the applicable regulatory standards in all four sampled monitoring well locations.

Per the condition of approval issued in the approved Supplemental Form 27 (Document No. 403752923), Noble acknowledges the delay in reporting of the analytical results received during April 2023 excavation activities.

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: 09/04/2024

Email: chevroneform@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: Nick Cholas

Date: 12/06/2024

Remediation Project Number: 19600

COA Type	Description
	Operator shall provide status update for BH01R on supplemental F27.
	Operator shall update the implementation schedule in accordance with Rule 913.d on the subsequent Supplemental Form 27.
	Operator will continue quarterly reporting until the site investigation is complete and Table 915-1 standards are met within the remediation area.
3 COAs	

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
403909093	FORM 27-SUPPLEMENTAL-SUBMITTED
403909503	MONITORING REPORT

Total Attach: 2 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)