

State of Colorado  
Energy & Carbon Management Commission

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Report taken by:  
Abdul Elnajdi

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: <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 #: 15651 Initial Form 27 Document #: 402426909

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>LOCATION</u>	Facility ID: <u>323210</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>CPC-HOSHIKO-65N64W 35NESW</u>	Latitude: <u>40.354206</u>	Longitude: <u>-104.519163</u>	
** correct Lat/Long if needed: Latitude: <u>40.348852</u>		Longitude: <u>-104.521793</u>	
QtrQtr: <u>NESW</u>	Sec: <u>35</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>477092</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>CPC Hoshiko 35-1, Hoshiko B 35-14</u>	Latitude: <u>40.348855</u>	Longitude: <u>-104.521793</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SESW</u>	Sec: <u>35</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 SM

Most Sensitive Adjacent Land Use Agricultural

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**

Wetlands; Occupied Building

# 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
Yes	GROUNDWATER	See attached figure	Laboratory Analytical
Yes	SOILS	12' X 18' X 5' 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 decommissioning operations at the CPC Hoshiko 35-1, Hoshiko B 35-14 facility crews discovered soil impacts in the vicinity of the produced water vault that serviced the AST due to a historical release.

## 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 ):

Thirteen grab soil samples were collected for analysis of TPH-DRO by EPA Method 8015, TPH-GRO, BTEX, and Naphthalene by EPA Method 8260b. Additionally N Wall 3FT was analyzed for SAR by Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis , EC by EPA Method 120.1, and pH by APHA/ASTM/EPA Methods.

### Proposed Groundwater Sampling

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

One grab groundwater sample was collected from the base of the excavation and seven monitoring wells were installed and sampled. Groundwater was analyzed for BTEX by EPA Method 8260b.

### 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 36

-- Highest concentration of TPH (mg/kg) 2740

Number of soil samples exceeding 915-1 13

-- Highest concentration of SAR 9.5

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

BTEX > 915-1 Yes

Approximate areal extent (square feet) 1656

Vertical Extent > 915-1 (in feet) 7

**Groundwater**

Number of groundwater samples collected 60

-- Highest concentration of Benzene (µg/l) 13

Was extent of groundwater contaminated delineated? Yes

ND Highest concentration of Toluene (µg/l)         

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

-- Highest concentration of Ethylbenzene (µg/l) 400

Number of groundwater monitoring wells installed 5

-- Highest concentration of Xylene (µg/l) 1800

Number of groundwater samples exceeding 915-1 4

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?

Three background soil samples were collected from areas with native soil not impacted by oil and gas development (Background 1 Ft, BKG 3 Ft, and BKG 5.5 Ft). They were used to calculate site-specific background concentrations/values for the location and were reported with elevated Arsenic, Selenium, EC, and SAR concentrations/values. Additionally, a waste characterization sample was collected to identify analytes that may have been elevated in the source. Note that the source soil sample was reported with concentration/values of Arsenic, Barium, Selenium, EC, and SAR that were less than the values/concentrations reported in the background samples and, therefore these constituents should not be considered contaminants of concern (COC).

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?

**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.

Excavation of impacted soil was conducted in February 2022 and impacted soil and groundwater were removed and transported to a disposal facility. Approximately 600 cubic yards of soil and 300 BBL of groundwater were disposed of at North Ault Landfill and Republic Waste Services, respectively in Keenesburg/Ault and Commerce City, Colorado

**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.

Site monitoring wells have been reported with concentrations of COGCC Table 915 organic analytes below regulatory limits for five consecutive quarters. The remaining pH soil exceedances will be addressed with the preparation of a detailed reclamation plan. It is anticipated that the reclamation plan will be prepared by approximately 4/26/2024 and NFA will be requested.

**Soil Remediation Summary**

In Situ

Ex Situ

         Bioremediation ( or enhanced bioremediation )

         Yes Excavate and offsite disposal

         Chemical oxidation

If Yes: Estimated Volume (Cubic Yards) 600

         Air sparge / Soil vapor extraction

Name of Licensed Disposal Facility or ECOM Facility ID #         

         Natural Attenuation

         No Excavate and onsite remediation

Other \_\_\_\_\_

Land Treatment \_\_\_\_\_

Bioremediation (or enhanced bioremediation) \_\_\_\_\_

Chemical oxidation \_\_\_\_\_

No \_\_\_\_\_

Other \_\_\_\_\_

### **Groundwater Remediation Summary**

No \_\_\_\_\_ Bioremediation ( or enhanced bioremediation )

No \_\_\_\_\_ Chemical oxidation

No \_\_\_\_\_ Air sparge / Soil vapor extraction

Yes \_\_\_\_\_ Natural Attenuation

Yes \_\_\_\_\_ Other \_\_\_\_\_ 300 BBL groundwater removal

### **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 approved Supplemental Form 27 (403209447), quarterly groundwater monitoring will be discontinued.

# 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.

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 COGCC rules. Records are available on the COGCC'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: \$ 5000

## 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 600

E&P waste (solid) description E&P solid waste derived from excavation activities

ECMC Disposal Facility ID #, if applicable: \_\_\_\_\_

Non-ECMC Disposal Facility: Buffalo Ridge Landfill

Volume of E&P Waste (liquid) in barrels 300

E&P waste (liquid) description Groundwater

ECMC Disposal Facility ID #, if applicable: \_\_\_\_\_

Non-ECMC Disposal Facility: Republic Services - Tower Road

## 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 COGCC 1004 Rule

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. 06/24/2020

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. 04/19/2021

Actual Spill or Release date, or date of discovery. 06/25/2020

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/24/2020

Proposed site investigation commencement. 06/24/2022

Proposed completion of site investigation. 08/24/2022

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 06/24/2020

Proposed date of completion of Remediation. 08/26/2024

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:

Quandry Consulting failed to complete a reclamation plan for the site. The Operator is in the process of hiring another consultant to complete a reclamation plan.

**OPERATOR COMMENT**

Quandry Consulting failed to complete a reclamation plan for the site. The Operator is in the process of hiring another consultant to complete a reclamation plan. In the interim a photolog has been attached to show current site conditions at the former CPC-Hoshiko AST vault location. The area had been planted with alfalfa. The alfalfa growth documented in the attached photos suggest that pH concentrations do not pose a threat its growth or proliferation.

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

Signed: Ethan Black

Title: Consultant

Submit Date: 06/18/2024

Email: ethanb@fremontenv.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: Abdul Elnajdi

Date: 10/31/2024

Remediation Project Number: 15651

**COA Type****Description**

	Operator shall submit Reclamation Plan by Dec 30, 2024.
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**

403828785	FORM 27-SUPPLEMENTAL-SUBMITTED
403828824	PHOTO DOCUMENTATION

Total Attach: 2 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)