

State of Colorado
Oil and Gas Conservation Commission

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Report taken by:
RICK ALLISON

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 COGCC 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: 2001 16TH STREET SUITE 900		Phone: (715) 562-0251
City: DENVER State: CO Zip: 80202		Mobile: ()
Contact Person: Dan Peterson	Email: RBUEUF27@chevron.com	

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: LOCATION	Facility ID: 323210	API #: _____	County Name: WELD
Facility Name: CPC-HOSHIKO-65N64W 35NESW	Latitude: 40.354206	Longitude: -104.519163	
** correct Lat/Long if needed: Latitude: 40.348852		Longitude: -104.521793	
QtrQtr: NESW	Sec: 35	Twp: 5N	Range: 64W Meridian: 6 Sensitive Area? Yes
Facility Type: SPILL OR RELEASE	Facility ID: 477092	API #: _____	County Name: WELD
Facility Name: CPC Hoshiko 35-1, Hoshiko B 35-14	Latitude: 40.348855	Longitude: -104.521793	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SESW	Sec: 35	Twp: 5N	Range: 64W Meridian: 6 Sensitive Area? Yes

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 55

-- 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

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.

Site monitoring wells have been reported with concentrations of COGCC Table 915 organic analytes below regulatory limits for four consecutive quarters. The remaining pH soil exceedances will be addressed with the preparation of a detailed reclamation plan.

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 COGCC 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.

Seven groundwater monitoring wells were initially installed in August 2020 and were sampled on a quarterly basis to monitor for natural attenuation. The original wells were destroyed during the remedial excavation of the remaining impacted soil in February 2022. Replacement monitoring wells were installed in May 2022. Groundwater samples were analyzed for BTEX, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylenzene by EPA Method 8260. Per the COA on document # (403065368) on 6/21/2022, groundwater was also analyzed for inorganic constituents (TDS, Chloride, and Sulfate), dissolved Arsenic, dissolved Barium, and dissolved Selenium. Up-gradient monitoring well MW-1R was used to compare inorganic constituents. Site monitoring wells have been reported with concentrations of COGCC Table 915 organic analytes below regulatory limits for four consecutive quarters.

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 NFA Request

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: \$ 0

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:

Volume of E&P Waste (solid) in cubic yards 600

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

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: Buffalo Ridge Landfill

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

E&P waste (liquid) description Groundwater

COGCC Disposal Facility ID #, if applicable:

Non-COGCC 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 COGCC 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. 08/24/2022

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:

OPERATOR COMMENT

This form serves as a quarterly update for remediation activities performed at the site under Remediation project # 15651. Q3 2022 groundwater sample analysis of dissolved Arsenic, dissolved Barium, and dissolved Selenium was reported with concentrations magnitude(s) less than Colorado Regulation 41 Standards. Additionally, background soil samples indicate that Arsenic, Selenium, EC, and SAR are present in naturally elevated concentrations/values at the location. A waste characterization sample was collected to identify analytes that may have been elevated in the source. The waste characterization sample was reported with concentration/values of Arsenic, Barium, Selenium, EC, and SAR that were less than the values/concentrations reported in the background sample(s) and, therefore these constituents should not be considered contaminants of concern (COC). Site monitoring wells have been reported with concentrations of COGCC Table 915 organic analytes below regulatory limits for four consecutive quarters. The remaining pH soil exceedances will be addressed with the preparation of a detailed reclamation plan. Noble Energy Inc requests no further action (NFA) for this location.

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

Signed: Chris Lattes

Title: Environmental Consultant

Submit Date: 11/17/2022

Email: chrisl@fremontenv.com

Based on the information provided herein, this Application for Site Investigation and Remediation Workplan complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: RICK ALLISON

Date: 02/16/2023

Remediation Project Number: 15651

COA Type

Description

	Closure request removed. Project closure will not be granted without a Reclamation Plan submitted and approved pursuant to Rule 915.b. to address high pH documented in excavation sidewalls. Groundwater monitoring may be discontinued. COGCC changed closure request to no.
1 COA	

Attachment Check 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

403209447	FORM 27-SUPPLEMENTAL-SUBMITTED
403232821	REMEDATION PROGRESS REPORT

Total Attach: 2 Files

General Comments

User Group

Comment

Comment Date

		Stamp Upon Approval
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Total: 0 comment(s)