

# State of Colorado Oil and Gas Conservation Commission

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Document Number:

403004811

Receive Date:

04/05/2022

Report taken by:

BOB CHESSON

## 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 Phone: (970) 3045329 Mobile: ( )
Address: 2001 16TH STREET SUITE 900		
City: DENVER	State: CO Zip: 80202	
Contact Person: Jacob Evans	Email: jacob.evans@chevron.com	

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 10113 Initial Form 27 Document #: 401247370

#### 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: 447515	API #: _____	County Name: WELD
Facility Name: SPILL/RELEASE POINT		Latitude: 40.331331	Longitude: -104.483190
		** correct Lat/Long if needed: Latitude: _____	Longitude: _____
QtrQtr: NENW	Sec: 7	Twp: 4N	Range: 63W Meridian: 6 Sensitive Area? Yes

#### SITE CONDITIONS

General soil type - USCS Classifications SP Most Sensitive Adjacent Land Use Agricultural 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**

Surface water 636 feet southeast of the release

**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
Yes	GROUNDWATER	60' X 50'	Lab Analytical
Yes	SOILS	60' X 50' X 13' bgs	Lab 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.

The facility was shut in see document 401100982 (Frank CC 7-19)

**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 total of twenty six (26) grab soil samples were collected as part of site investigation and excavation activities. All soil samples were delivered to a certified lab under proper chain of custody procedures and analyzed for TPH-DRO, TPH-GRO, BTEX and Naphthalene by EPA Methods 8260B and 8015

**Proposed Groundwater Sampling**

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

A total of fifteen (15) groundwater monitoring wells were installed during the initial site investigation. Groundwater samples were collected from twelve (12) monitoring wells and transported to a certified lab under proper chain of custody and analyzed for BTEX by EPA Method 8260B. Three (3) monitoring wells had detectable LNAPL and were not sampled as part of the initial site investigation.

**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 26  
Number of soil samples exceeding 915-1 0  
Was the areal and vertical extent of soil contamination delineated? Yes  
Approximate areal extent (square feet) 39000

**Groundwater**

Number of groundwater samples collected 14  
Was extent of groundwater contaminated delineated? Yes  
Depth to groundwater (below ground surface, in feet) 13  
Number of groundwater monitoring wells installed 15  
Number of groundwater samples exceeding 915-1 6

**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.

**NA / ND**

-- Highest concentration of TPH (mg/kg) 54  
NA Highest concentration of SAR  
BTEX > 915-1 No  
Vertical Extent > 915-1 (in feet) 13  
-- Highest concentration of Benzene (µg/l) 260  
-- Highest concentration of Toluene (µg/l) 720  
-- Highest concentration of Ethylbenzene (µg/l) 65  
-- Highest concentration of Xylene (µg/l) 640  
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?

☐ 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.

The source impacts were removed via excavation activities. Lab confirmation soil samples indicated all source area soil was removed.

**REMEDIAL ACTION 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.

Fifteen groundwater monitoring wells have been installed and will be sampled on a quarterly basis. A solar powered air sparge system will be installed and operational prior to August 15, 2022 to aid in remediation of BH10.

**Soil Remediation Summary**

☐ In Situ

☒ Ex Situ

Bioremediation ( or enhanced bioremediation )      Yes      Excavate and offsite disposal  
Chemical oxidation      If Yes: Estimated Volume (Cubic Yards) 410

\_\_\_\_\_ Air sparge / Soil vapor extraction  
\_\_\_\_\_ Natural Attenuation  
\_\_\_\_\_ Other \_\_\_\_\_

\_\_\_\_\_ Name of Licensed Disposal Facility or COGCC 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  
Yes \_\_\_\_\_ Air sparge / Soil vapor extraction  
Yes \_\_\_\_\_ Natural Attenuation  
Yes \_\_\_\_\_ Other 275 pounds of Carbon was  
applied to the groundwater at  
the base of the excavation \_\_\_\_\_

### **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.

Fifteen monitoring wells were installed post excavation to determine the extent of impacts at the location. The monitoring wells will be sampled on a quarterly basis and analyzed for BTEX, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and inorganic parameters.

## 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

### 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 reuse

Volume of E&P Waste (solid) in cubic yards 410

E&P waste (solid) description Impacted soil above COGCC Table 910-1 standards

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: Buffalo Ridge/Waste Management

Volume of E&P Waste (liquid) in barrels 190

E&P waste (liquid) description Impacted groundwater above COGCC Table 910-1 standards

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: NGL

## 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? No

Does Groundwater meet Table 915-1 standards? No

Is additional groundwater monitoring to be conducted? Yes

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.

The location will be assessed post remediation and will be seeded as needed

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. \_\_\_\_\_

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. 02/01/2017

Actual Spill or Release date, or date of discovery. 08/29/2016

## SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 08/31/2016

Proposed site investigation commencement. 09/09/2016

Proposed completion of site investigation. 09/09/2016

## REMEDIAL ACTION DATES

Proposed start date of Remediation. 10/27/2016

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:

**OPERATOR COMMENT**

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

Signed: ` Jacob Evans \_\_\_\_\_

Title: Environmental Specialist \_\_\_\_\_

Submit Date: ` 04/05/2022 \_\_\_\_\_

Email: jacob.evans@chevron.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: BOB CHESSON \_\_\_\_\_

Date: 04/05/2022 \_\_\_\_\_

Remediation Project Number: 10113 \_\_\_\_\_

**Condition of Approval****COA Type****Description**

0 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**

403004811	FORM 27-SUPPLEMENTAL-SUBMITTED
403004825	MONITORING REPORT

Total Attach: 2 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)