

# State of Colorado Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:

402773663

Receive Date:

08/09/2021

Report taken by:

Candice (Nikki) Graber

## 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: 1001 NOBLE ENERGY WAY		
City: HOUSTON State: TX Zip: 77070		
Contact Person: Jacob Evans	Email: jacob.evans@chevron.com	

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 11603 Initial Form 27 Document #: 401710258

#### 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: 455230	API #: _____	County Name: WELD
Facility Name: Bierig 1-26	Latitude: 40.373436	Longitude: -104.742267	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NENE	Sec: 26	Twp: 5N	Range: 66W Meridian: 6 Sensitive Area? Yes

#### SITE CONDITIONS

General soil type - USCS Classifications SC Most Sensitive Adjacent Land Use Non-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? Yes

## 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	TBD	Laboratory Analysis
Yes	SOILS	TBD	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.

Impacted soil above COGCC Table 910-1 standards was discovered during plugging and abandonment procedures. Excavation of impacted soil will be scheduled.

### 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 ):

Thirty two soil samples were collected during site investigation activities and analyzed for TPH-DRO, TPH-GRO, BTEX, and Naphthalene by EPA Methods 8015 and 8260b.

#### Proposed Groundwater Sampling

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

Eight groundwater samples were collected and 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**

Number of soil samples collected 32  
Number of soil samples exceeding 915-1 5  
Was the areal and vertical extent of soil contamination delineated? No  
Approximate areal extent (square feet) 1200

**Groundwater**

Number of groundwater samples collected 8  
Was extent of groundwater contaminated delineated? No  
Depth to groundwater (below ground surface, in feet) 10'  
Number of groundwater monitoring wells installed 0  
Number of groundwater samples exceeding 915-1 6

**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.

**NA / ND**

-- Highest concentration of TPH (mg/kg) 11600  
NA Highest concentration of SAR  
BTEX > 915-1 Yes  
Vertical Extent > 915-1 (in feet) 10  
-- Highest concentration of Benzene (µg/l) 5200  
-- Highest concentration of Toluene (µg/l) 4700  
-- Highest concentration of Ethylbenzene (µg/l) 1100  
-- Highest concentration of Xylene (µg/l) 13000  
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?

Additional monitoring wells will be installed.

**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.

Approximately 10,250 cu/yds of impacted soil was treated by mixing hydrogen peroxide into the soil and 7,400 cu/yds of impacted soil was removed from the location and disposed of at a certified landfill. Confirmation soil samples were collected above the phreatic zone from the excavation base and sidewalls to determine the lateral and vertical extents of impacts.

**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.

Monitoring wells were installed to delineate dissolved phase impacts. These wells will be sampled on a quarterly basis to monitor natural attenuation. MW23, MW24, MW26, MW38, and MW49 had measurable amounts of LNAPL and were not sampled, these monitoring wells have a solar powered vapor extraction system installed to eliminate LNAPL. Bi-weekly gauging of these wells will take place to determine the effectiveness of the remedial system. Total fluid extraction events will be scheduled, and data will be submitted. Air samples were collected from the blower on the LNAPL extraction system to ensure compliance with CDPHE air emission standards. Confirmation soil samples will be collected prior to a no further action request.

**Soil Remediation Summary**

☐ In Situ

☒ Ex Situ

Bioremediation ( or enhanced bioremediation )

Yes      Excavate and offsite disposal

☐ Chemical oxidation  
☐ Air sparge / Soil vapor extraction  
☐ Natural Attenuation  
☐ Other \_\_\_\_\_

If Yes: Estimated Volume (Cubic Yards) 7400

Name of Licensed Disposal Facility or COGCC Facility ID # \_\_\_\_\_

☐ Yes Excavate and onsite remediation

☐ No Land Treatment

☐ No Bioremediation (or enhanced bioremediation)

☐ Yes Chemical oxidation

☐ No Other \_\_\_\_\_

### **Groundwater Remediation Summary**

☐ No Bioremediation ( or enhanced bioremediation )

☐ Yes Chemical oxidation

☐ No Air sparge / Soil vapor extraction

☐ Yes Natural Attenuation

☐ Yes Other LNAPL Removal via a solar  
powered vapor extraction  
system \_\_\_\_\_

### **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.

The monitoring program will include MW01, MW03, MW06 through MW17, MW20, MW22 through MW28, MW31 through MW36, MW38 through MW40, and MW42 through MW81. APEX will gauge and sample these on a quarterly basis and submit the groundwater samples for analysis of BTEX, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene by EPA Method 8260b. Additional monitoring wells will be installed to achieve point of compliance. Monitoring wells with measurable LNAPL will not be sampled. Inorganic parameters will be sampled from MW05, MW02, MW81, MW70, MW28, MW26, MW51, MW60, MW55, and MW80 during the next quarterly monitoring event.

## 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:

Impacted soil was treated via chemical oxidation and utilized to backfill the excavation once laboratory analytical confirmed it was below COGCC Table 910-1 standards. A total of 10,250 cu/yds were treated.

Volume of E&P Waste (solid) in cubic yards 17650

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/Ault Landfills

Volume of E&P Waste (liquid) in barrels 20

E&P waste (liquid) description E&P liquid waste derived from TFR Events

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? No

Does the previous reply indicate consideration of background concentrations?

Does Groundwater meet Table 915-1 standards? No

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 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. 04/05/2019

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. 03/22/2021

Actual Spill or Release date, or date of discovery. \_\_\_\_\_

## **SITE INVESTIGATION DATES**

Date of Initial Actions described in Site Investigation Plan (start date). 05/18/2018

Proposed site investigation commencement. \_\_\_\_\_

Proposed completion of site investigation. 05/18/2018

## **REMEDIAL ACTION DATES**

Proposed start date of Remediation. 10/22/2018

Proposed date of completion of Remediation. \_\_\_\_\_

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**

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: ` 08/09/2021

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: Candice (Nikki) Graber

Date: 08/26/2021

Remediation Project Number: 11603

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

	Operator shall provide volumes and waste manifests for all TFR events.
	Operator shall install additional monitoring wells to define the lateral extent of impacts by end of fourth quarter 2021.
2 COAs	

**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**

402773663	FORM 27-SUPPLEMENTAL-SUBMITTED
402773718	MONITORING REPORT

Total Attach: 2 Files

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

Agency	COGCC agrees with the amended sampling plan.	08/26/2021
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Total: 1 comment(s)