

# State of Colorado Oil and Gas Conservation Commission

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Report taken by:

## 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	<b>Phone Numbers</b>
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 #: 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: WELL	Facility ID: _____	API #: 123-15387	County Name: WELD
Facility Name: HSR-CHARLTON 8-20	Latitude: 40.300060	Longitude: -104.680470	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SENE	Sec: 20	Twp: 4N	Range: 65W Meridian: 6 Sensitive Area? Yes
Facility Type: SPILL OR RELEASE	Facility ID: 480746	API #: _____	County Name: WELD
Facility Name: HSR Charlton 08-20	Latitude: 40.300076	Longitude: -104.680435	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SENE	Sec: 20	Twp: 4N	Range: 65W Meridian: 6 Sensitive Area? Yes

## **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:

- ☒ 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
No	GROUNDWATER	NA	Laboratory Analysis
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 COGCC 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 COGCC 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 COGCC 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 COGCC 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 COGCC 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 under COGCC Document Number 402950642.

## SITE INVESTIGATION REPORT

### SAMPLE SUMMARY

**Soil**Number of soil samples collected 7Number of soil samples exceeding 915-1 2Was the areal and vertical extent of soil contamination delineated? NoApproximate areal extent (square feet) 225**Groundwater**Number of groundwater samples collected 1Was extent of groundwater contaminated delineated? YesDepth to groundwater (below ground surface, in feet) 4Number of groundwater monitoring wells installed 0Number of groundwater samples exceeding 915-1 0**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) 180-- Highest concentration of SAR 0.264BTEX > 915-1 NoVertical Extent > 915-1 (in feet) 4ND Highest concentration of Benzene (µg/l)       ND Highest concentration of Toluene (µg/l)       ND Highest concentration of Ethylbenzene (µg/l)       ND Highest concentration of Xylene (µg/l)       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?

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)       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 was delineated through an environmental site assessment. An excavation to remove impacted soil will be scheduled prior to June 6, 2023. The analysis of remedial excavation confirmatory samples will be limited to TPH (C6-36), organic compounds above COGCC Table 915-1, and barium per the COGCC approved sampling plan (document number 403207761).

**REMEDICATION 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.

Noble will continue to monitor groundwater on a quarterly basis, until the remedial excavation is conducted. Following the remedial excavation, receipt of compliant confirmatory soil analytical results, and successful removal of soils impacted with Organic compounds above COGCC Table 915-1, Noble proposes to discontinue quarterly groundwater monitoring, and will submit a No Further Action (NFA) request to the COGCC for the site.

**Soil Remediation Summary**☐ In Situ☒ Ex Situ       Bioremediation ( or enhanced bioremediation )Yes Excavate and offsite disposal       Chemical oxidationIf Yes: Estimated Volume (Cubic Yards) 50

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

Five groundwater monitoring wells were installed and will be sampled on a quarterly basis until the completion of the remedial excavation. Groundwater samples will be submitted to a certified laboratory for analysis of BTEX, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1-methylnaphthalene (1-M), 2-methylnaphthalene (2-M) and inorganic parameters. Please note that monitoring well BH01 was obstructed during the Third and Fourth Quarter 2022 groundwater monitoring event, and will be sampled during future quarterly groundwater monitoring events.

## 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 Site assessment report

### 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.

Operator anticipates the remaining cost for this project to be: \$ \_\_\_\_\_

### 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 \_\_\_\_\_

E&P waste (solid) description \_\_\_\_\_

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

Non-COGCC Disposal Facility: \_\_\_\_\_

Volume of E&P Waste (liquid) in barrels \_\_\_\_\_

E&P waste (liquid) description \_\_\_\_\_

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

Non-COGCC 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 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? 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. 09/01/2021

Proposed completion of site investigation. 09/01/2022

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 06/06/2023

Proposed date of completion of Remediation. 09/06/2023

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: Allan Engelhardt

Title: Environmental Consultant

Submit Date: \_\_\_\_\_

Email: [chevroneform@tasman-geo.com](mailto:chevroneform@tasman-geo.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: \_\_\_\_\_

Date: \_\_\_\_\_

Remediation Project Number: 19600

**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**

403334002	MONITORING REPORT
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Total Attach: 1 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)