

State of Colorado  
Oil and Gas Conservation Commission

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



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Report taken by:  
Kari Brown

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 #: 9150 Initial Form 27 Document #: 2143666

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: 441780	API #: _____	County Name: WELD
Facility Name: SPILL/RELEASE POINT	Latitude: 40.304656	Longitude: -104.654142	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NENW	Sec: 22	Twp: 4N	Range: 65W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SC Most Sensitive Adjacent Land Use Agricultural Land  
Is domestic water well within 1/4 mile? No 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 1069'W

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- X 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

Table with 4 columns: Impacted?, Impacted Media, Extent of Impact, How Determined. Rows include GROUNDWATER and SOILS impacts.

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 and a site assessment was scheduled. Refer to Spill/Release Report Document #400840208. Chesnut G22-3,4 location.

PROPOSED SAMPLING PLAN

Proposed Soil Sampling

X Will soil samples be collected as part of this investigation? ( Number, type (grab/composite), analyses, and locations of samples ):

Twenty seven (27) soil samples were collected and analyzed for TPH-DRO, TPH-GRO, BTEX, and Naphthalene to confirm source impacts were remediated.

Proposed Groundwater Sampling

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

Nineteen (19) groundwater samples were collected during site investigation activities to determine the extent of dissolved phase BTEX.

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 27  
Number of soil samples exceeding 915-1 1  
Was the areal and vertical extent of soil contamination delineated? Yes  
Approximate areal extent (square feet) 2430

### NA / ND

-- Highest concentration of TPH (mg/kg) 240  
-- Highest concentration of SAR 0.771  
BTEX > 915-1 Yes  
Vertical Extent > 915-1 (in feet) 7

### Groundwater

Number of groundwater samples collected 19  
Was extent of groundwater contaminated delineated? Yes  
Depth to groundwater (below ground surface, in feet) 7  
Number of groundwater monitoring wells installed 19  
Number of groundwater samples exceeding 915-1 15

-- Highest concentration of Benzene (µg/l) 31000  
-- Highest concentration of Toluene (µg/l) 18000  
-- Highest concentration of Ethylbenzene (µg/l) 3800  
-- Highest concentration of Xylene (µg/l) 54000  
NA Highest concentration of Methane (mg/l)

### 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.

## 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.

Impacted soil will be excavated and treated onsite by chemical oxidation using hydrogen peroxide. The stockpiled soil will be processed through a soil shredder, and sprayed with hydrogen peroxide as it passes through the shredder. After confirmation analytical testing is complete, treated soil will be used as backfill material. Additional source material will be excavated during plugging and abandonment procedures.

### 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.

An air sparge and soil vapor extraction remediation system was installed to treat residual soil and dissolved phase groundwater. Twenty-two (22) monitoring wells will be sampled on a quarterly basis to monitor the dissolved plume and ensure it is stable and decreasing.

### Soil Remediation Summary

**In Situ**

       No Bioremediation ( or enhanced bioremediation )  
       No Chemical oxidation  
       Yes Air sparge / Soil vapor extraction  
       Yes Natural Attenuation  
       No Other \_\_\_\_\_

**Ex Situ**

       No Excavate and offsite disposal  
 If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_  
 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 )  
       No Chemical oxidation  
       Yes Air sparge / Soil vapor extraction  
       Yes Natural Attenuation  
       No Other \_\_\_\_\_

**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.

Twenty-two (22) monitoring wells will be sampled and analyzed for BTEX, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene on a quarterly basis. Inorganic parameters in groundwater will be sampled in monitoring wells BH01R, BH03R, BH08R, BH17, BH21, BH22, BH24, BH27, BH28, BH29, BH33R2, BH34, and BH35.

# 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:

During source remediation soil shredding with hydrogen peroxide was utilized to remediate hydrocarbon impacted soil above COGCC Table 910-1 standards.

Volume of E&P Waste (solid) in cubic yards \_\_\_\_\_ 772

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

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

Non-COGCC Disposal Facility: Beneficial reuse

Volume of E&P Waste (liquid) in barrels \_\_\_\_\_ 0

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? 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.

Reclamation will be in compliance with the COGCC 1000 series rule. In addition, subsequent to receipt of a No Further Action (NFA) designation, monitoring wells and remediation wells will be properly plugged and abandoned per Colorado Division of Water Resources standards.

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. 06/01/2020

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

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). \_\_\_\_\_

Proposed site investigation commencement. 06/05/2015

Proposed completion of site investigation. \_\_\_\_\_

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 06/19/2015

Proposed date of completion of Remediation. 12/31/2026

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: ` 11/23/2021 \_\_\_\_\_

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: Kari Brown \_\_\_\_\_

Date: 12/03/2021 \_\_\_\_\_

Remediation Project Number: 9150 \_\_\_\_\_

**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**

402878553	FORM 27-SUPPLEMENTAL-SUBMITTED
402878563	MONITORING REPORT

Total Attach: 2 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)