

State of Colorado Oil and Gas Conservation Commission

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11/17/2021

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 #: 15399 Initial Form 27 Document #: 402364413

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: 322891	API #:	County Name: WELD
Facility Name: MCDERMED-64N64W 1NWNE	Latitude: 40.346730	Longitude: -104.496652	
** correct Lat/Long if needed: Latitude: 40.346950		Longitude: -104.494187	
QtrQtr: NWNE	Sec: 1	Twp: 4N	Range: 64W Meridian: 6 Sensitive Area? Yes
Facility Type: SPILL OR RELEASE	Facility ID: 475049	API #:	County Name: WELD
Facility Name: McDermid 2-1	Latitude: 40.346950	Longitude: -104.494187	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: NWNE	Sec: 1	Twp: 4N	Range: 64W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SC

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 50' Occupied Building 250'

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	12' X 12'	Laboratory Analytical
Yes	SOILS	12' X12' X 6' 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 McDermid 2-1 facility crews discovered soil impacts in the vicinity of the produced water vault 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):

Eleven grab soil samples were collected by Fremont Environmental and submitted to a certified laboratory for analysis of TPH-DRO by EPA Method 8015, TPH-GRO, BTEX, and Naphthalene by EPA Method 8260b. Additionally, N. Wall 2FT was analyzed for SAR by Soluble Nutrients by EPA 6020/USDA60 6(2,3A)- Dry Weight Basis, pH by Physical Parameters by APHA/ASTM/EPA Methods, and EC by EPA Method 120.1.

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 by Fremont Environmental and submitted to a certified laboratory for analysis of 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 22

Number of soil samples exceeding 915-1 6

Was the areal and vertical extent of soil contamination delineated? Yes

NA / ND

-- Highest concentration of TPH (mg/kg) 3100

-- Highest concentration of SAR 0.767

BTEX > 915-1 Yes

Approximate areal extent (square feet) 144Vertical Extent > 915-1 (in feet) 6**Groundwater**Number of groundwater samples collected 9-- Highest concentration of Benzene (µg/l) 298Was extent of groundwater contaminated delineated? YesND Highest concentration of Toluene (µg/l) Depth to groundwater (below ground surface, in feet) 8'-- Highest concentration of Ethylbenzene (µg/l) 3Number of groundwater monitoring wells installed 8-- Highest concentration of Xylene (µg/l) 35Number of groundwater samples exceeding 915-1 2NA 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?☐ 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 extent of the impacts have been delineated and remediation of the source area will be scheduled once the adjacent facility, owned by another operator, is 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.

A site assessment to delineate impacted media was completed on May 27, 2020. Eight monitoring wells were installed and will be sampled to monitor natural attenuation.

Soil Remediation Summary☐ **In Situ**☐ **Ex Situ** Bioremediation (or enhanced bioremediation) Excavate and offsite disposal Chemical oxidation If Yes: Estimated Volume (Cubic Yards) Air sparge / Soil vapor extraction Name of Licensed Disposal Facility or COGCC Facility ID # Natural Attenuation Excavate and onsite remediation Other 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

_____ 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.

Eight groundwater monitoring wells were installed to delineate dissolved phase impacts, point of compliance has been achieved. Fremont Environmental will collect groundwater samples on a quarterly basis for analysis of BTEX, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene by EPA Method 8260b.

REMEDATION 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? 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: _____

REMEDATION COMPLETION REPORT

REMEDATION 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 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. 04/06/2020

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. 04/08/2020

Actual Spill or Release date, or date of discovery. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 04/08/2020

Proposed site investigation commencement. _____

Proposed completion of site investigation. 04/08/2020

REMEDIAL ACTION DATES

Proposed start date of Remediation. 05/27/2020

Proposed date of completion of Remediation. 12/29/2023

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

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: ` 11/17/2021

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: 11/22/2021

Remediation Project Number: 15399

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

402873345	FORM 27-SUPPLEMENTAL-SUBMITTED
402873362	MONITORING REPORT

Total Attach: 2 Files

General Comments

User Group

Comment

Comment Date

		Stamp Upon Approval
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Total: 0 comment(s)