

State of Colorado Oil and Gas Conservation Commission

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Document Number:

402731418

Receive Date:

06/28/2021

Report taken by:

RICK ALLISON

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 #: 10185 Initial Form 27 Document #: 401284817

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: NFAR

SITE INFORMATION

No Multiple Facilities

Facility Type: SPILL OR RELEASE	Facility ID: 449192	API #:	County Name: WELD
Facility Name: Wardlaw 20-28		Latitude: 40.452377	Longitude: -104.550395
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: SESE	Sec: 28	Twp: 6N	Range: 64W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications CL
 Most Sensitive Adjacent Land Use Surface Water-Owl Creek
 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

Owl Creek 6' east

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	42' X 35'	Laboratory Analytical Results
Yes	SOILS	135' X 51' X 5' bgs	Laboratory Analytical Results
Yes	SURFACE WATER	10' X 660'	Laboratory Analytical Results

INITIAL ACTION SUMMARY

Description of initial action or emergency response measures take to abate, investigate, and/or remediate impacts associated with E&P Waste.

On Thursday February 9th, 2017, Noble Energy was notified of an unintentional release attributed to the Wardlaw 20-28 flowline. Visual observations confirmed an unintentional release occurred along a section of the flowline. Initial response activities indicated 10 bbls of condensate was released to the ground surface from the flowline. During the unintentional release, condensate flowed over the bank and into Owl Creek, which was partially frozen at the time. Noble immediately deployed absorbent booms and pads, and a hydro-excavator to gather and recover fluid from the adjacent creek. See COGCC Document Number 401208075.

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 forty (40) grab soil samples were collected at the Site as part of the site investigation and excavation activities. The soil samples were submitted to a certified laboratory and analyzed for BTEX, Naphthalene, TPH-DRO, and TPH-GRO following EPA Methods 8260c and 8015.

Proposed Groundwater Sampling

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

One (1) grab groundwater sampled was collected from the base of the excavation and seventeen (17) monitoring wells were installed and sampled. All groundwater samples were analyzed for BTEX using EPA Method 8260c.

Proposed Surface Water Sampling

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

A total of thirty seven (37) surface water samples were collected from nine (9) locations within Owl Creek to monitor the extent and attenuation of dissolved BTEX impacts within the creek. All samples collected were analyzed for BTEX by a certified laboratory using EPA Method 8260c.

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 40

Number of soil samples exceeding 915-1 7

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

Approximate areal extent (square feet) 6885

NA / ND

-- Highest concentration of TPH (mg/kg) 12810

NA Highest concentration of SAR

BTEX > 915-1 Yes

Vertical Extent > 915-1 (in feet) 4

Groundwater

Number of groundwater samples collected 18

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet) 4'

Number of groundwater monitoring wells installed 17

Number of groundwater samples exceeding 915-1 3

-- Highest concentration of Benzene (µg/l) 434

-- Highest concentration of Toluene (µg/l) 1560

-- Highest concentration of Ethylbenzene (µg/l) 138

-- Highest concentration of Xylene (µg/l) 1530

NA Highest concentration of Methane (mg/l)

Surface Water

37 Number of surface water samples collected

6 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?

Impacts were identified within Owl Creek and in the agricultural land where the flowline release occurred.

☐ 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 area was removed via excavation activities from February 10, 2017 through February 13, 2017. Hydrophobic booms were deployed along Owl Creek and impacted surface water was recovered via hydro-vacuum activities.

REMEDIATION 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.

Four consecutive quarters of COGCC compliant groundwater has been achieved.

Soil Remediation Summary

☒ In Situ

☒ Ex Situ

<input type="checkbox"/> No	Bioremediation (or enhanced bioremediation)	<input type="checkbox"/> Yes	Excavate and offsite disposal
<input type="checkbox"/> No	Chemical oxidation		If Yes: Estimated Volume (Cubic Yards) <u>1004</u>
<input type="checkbox"/> Yes	Air sparge / Soil vapor extraction		Name of Licensed Disposal Facility or COGCC Facility ID # _____
<input type="checkbox"/> Yes	Natural Attenuation	<input type="checkbox"/> No	Excavate and onsite remediation
<input type="checkbox"/> No	Other _____		Land Treatment
			Bioremediation (or enhanced bioremediation)
			Chemical oxidation
			Other _____

Groundwater Remediation Summary

<input type="checkbox"/> No	Bioremediation (or enhanced bioremediation)
<input type="checkbox"/> No	Chemical oxidation
<input type="checkbox"/> No	Air sparge / Soil vapor extraction
<input type="checkbox"/> Yes	Natural Attenuation
<input type="checkbox"/> 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.

MW-01R4, MW-03R, MW-07R2, MW-08R, MW-09R2, MW-11R, MW-12, MW-13R2, MW14R3, MW-16R, and MW-18 will be sampled on a quarterly basis. Noble proposes discontinuing sampling surface water samples SW01, SW02, and SW04. Groundwater and will be submitted to a certified laboratory and analyzed for BTEX, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene by EPA Method 8260D.

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 NFAR

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 1004

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

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: North Weld Landfill-Ault

Volume of E&P Waste (liquid) in barrels 112

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

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: Republic

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?

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.

The location has been contoured and graded to match surrounding conditions.

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. 02/13/2017

Proposed date of completion of Reclamation. 06/10/2021

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. 12/09/2019

Actual Spill or Release date, or date of discovery. 02/09/2017

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 02/09/2017

Proposed site investigation commencement. 02/09/2017

Proposed completion of site investigation. 03/28/2017

REMEDIAL ACTION DATES

Proposed start date of Remediation. 02/09/2017

Proposed date of completion of Remediation. 06/10/2021

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

NFAR Wardlaw

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: ` 06/28/2021

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: RICK ALLISON

Date: 07/28/2021

Remediation Project Number: 10185

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

	Closure request removed. Operator will conduct additional characterization of inorganics in groundwater including: 1. installation of a monitoring well in an area obviously upgradient of and not impacted by oil and gas operations; 2. analyze groundwater samples for major cations (Ca, Fe, Mg, Mn, K, Na) and anions (Br, Cl, F, So4 NO3/NO2, P) to aid in determining whether elevated TDS and chloride are related to produced water.
1 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**

402731418	FORM 27-SUPPLEMENTAL-SUBMITTED
402731423	MONITORING REPORT

Total Attach: 2 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)