

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
Address: 1001 NOBLE ENERGY WAY		Phone: (970) 3045329
City: HOUSTON State: TX Zip: 77070		Mobile: ()
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

No Bioremediation (or enhanced bioremediation)

 No Chemical oxidation

 Yes Air sparge / Soil vapor extraction

 Yes Natural Attenuation

 No Other _____

 Yes Excavate and offsite disposal

If Yes: Estimated Volume (Cubic Yards) 1004

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

 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.

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.

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)