

State of Colorado
Energy & Carbon Management Commission

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



Document Number:
404178102

Receive Date:

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 ECMC 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: 1099 18TH STREET SUITE 1500		Phone: (970) 313-5582
City: DENVER State: CO Zip: 80202		Mobile: ()
Contact Person: Jason Davidson	Email: jason.davidson@chevron.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 34834 Initial Form 27 Document #: 403722267

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 #: 123-14912	County Name: WELD
Facility Name: MCMILLEN TRUST 19-14G	Latitude: 40.293010	Longitude: -104.708400	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SESW	Sec: 19	Twp: 4N	Range: 65W Meridian: 6 Sensitive Area? Yes
Facility Type: SPILL OR RELEASE	Facility ID: 488975	API #: _____	County Name: WELD
Facility Name: McMillen Trust 19-14G	Latitude: 40.293020	Longitude: -104.708444	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SESW	Sec: 19	Twp: 4N	Range: 65W Meridian: 6 Sensitive Area? Yes

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	Refer to tables and figures	Lab analysis
Yes	SOILS	Refer to tables and figures	Lab analysis and field screening

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 ECMC Rule 911 a site investigation was conducted pertaining to the MCMILLEN TRUST 19-14G wellhead cut and cap and flowline removal. Approximately 823' of flowline was removed, however approximately 437' of the flowline was abandoned-in-place due to common trenching with another flowline, and the crossing of a waterway. The associated Form 44 (Document Number 404236142) is included in the Related Forms section of this Form 27. So as to not disturb the area of field constraint, soil samples will be taken at the start and endpoint of the flowline where the area exists. Soil samples were also taken along the flowline any points of material change and/or hammer unions, directional changes, as well as at the bell holes on either side of a waterway. The wellhead was cut and capped per ECMC rules. Additionally, soil samples were field screened at the N-E-S-W sides of the wellhead.

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 grab soil sample was collected at the base of the excavation or the area showing the highest degree of impact during field screening activities at the wellhead excavation. Additionally, soil samples were field screened at the N-E-S-W sides of the wellhead. Soil samples were taken along the flowline at any points of material change and/or hammer unions, directional changes, as well as at the bell holes on either side of a waterway. Soil samples were analyzed by a certified laboratory for the full extent of Table 915-1, including but not limited to: TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons) organic compounds in soil per ECMC Table 915-1, and EC, SAR, pH, metals, and boron. All samples collected were analyzed by a certified laboratory using approved ECMC laboratory analysis methods.

Proposed Groundwater Sampling

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

Groundwater was encountered during flowline decommissioning at three soil sample locations FL01-08@4', FL01-09@4', and FL01-10@4'/FL02-01@4', and three groundwater samples (GW01, GW02, and GW03, respectively) were collected. All groundwater samples were submitted for analysis of BTEX, naphthalene, 1,2,4-trimethylbenzene (TMB), 1,3,5-TMB, chloride and sulfate anions. Due to a laboratory error, the

If groundwater is encountered during future site investigation activities, a grab groundwater sample will be collected and analyzed for all organic and inorganic parameters (TDS, chloride, sulfate) compounds per ECMC Table 915-1.

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):

Visual inspection of the wellhead and flowline areas occurred during decommissioning activities. Field personnel field screened all disturbed areas using visual and olfactory senses to determine if laboratory confirmation sampling was required. A detailed summary of wellhead decommissioning activities, including field notes, site photos, figures, and laboratory analytical results was included on ECMC Document Number 404055491. A detailed summary of flowline decommissioning activities, including field notes, site photos, figures, and laboratory analytical results is attached to this Form 27.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 14

Number of soil samples exceeding 915-1 4

Was the areal and vertical extent of soil contamination delineated? No

Approximate areal extent (square feet) 400

NA / ND

ND Highest concentration of TPH (mg/kg) _____

-- Highest concentration of SAR 5.88

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 4

Groundwater

Number of groundwater samples collected 3

Was extent of groundwater contaminated delineated? No

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

Number of groundwater monitoring wells installed 0

Number of groundwater samples exceeding 915-1 3

ND 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) _____

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?

On January 16, 2025, four background soil samples were collected from two discrete locations (BKG01-BKG02) at depths of 2 feet and 4 feet below ground surface (ft bgs) by Tasman, Inc. On April 1, 2025, six background soil samples were collected from three discrete locations (BKG01-BKG03) at depths of approximately 4 ft and 6 ft bgs by CDH Consulting, LLC. All background soil samples were submitted for analysis of pH, EC, SAR, boron, and metals in soil per ECOM Table 915-1. The maximum background concentration for pH was observed to be 8.57. The maximum background concentrations with a 1.25x multiplier applied for arsenic, barium, cadmium, lead, and silver were calculated to be 5.08 mg/kg, 219 mg/kg, 0.409 mg/kg, 18.0 mg/kg, and 0.114 mg/kg, respectively. All barium concentrations observed in decommissioning and excavation soil samples were below background levels.

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?

Based on the results of flowline decommissioning activities, a remedial excavation will be conducted to remove the benzo(a)anthracene exceedance observed FL01-08. Soil samples will be collected from the base and sidewalls of the final excavation extent submitted for analysis of the full ECOM Table 915-1 suite. Additionally, a supplemental site investigation will be conducted to collect additional soil background samples to further investigate native soil conditions on site. A proposed soil boring location map is attached to this Form 27.

A monitoring well network will be installed in the vicinity of FL01-08@4' following the completion of remedial excavation activities, and quarterly groundwater monitoring will be conducted until closure criteria are met.

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.

On April 1, 2025, remedial excavation activities were conducted to remove the 1-methylnaphthalene exceedance observed a wellhead decommissioning soil sample WH01-W@4. Approximately 30 cubic yards of impacted material were removed from the excavation and transported to the North Weld Landfill for disposal under Noble waste manifests.

Analytical results for samples collected during the January 2025 flowline decommissioning activities indicated an additional historic release along the flowline at soil sample FL01-08@4'. Remedial excavation activities will be conducted to remove the hydrocarbon impacted material in the vicinity of the aforementioned soil sample location.

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.

Remedial excavation activities were conducted on April 1, 2025, to remove the hydrocarbon impacted material in the vicinity of wellhead decommissioning soil sample WH01-W@4'. Five soil samples were collected from the final excavation extent and submitted for analysis of the full ECMC Table 915-1 suite. Analytical results indicated that all organic compound concentrations were in compliance with the applicable ECMC regulatory standards in all soil sample locations. Additionally, all inorganic and metals concentrations were in compliance with the applicable ECMC regulatory standards or within background levels in all soil sample locations.

Analytical results collected during the January 2025 flowline decommissioning activities indicated an additional reportable release along the flowline at soil sample FL01-08@4'. Based on the results, a remedial excavation will be conducted to remove the benzo(a)anthracene exceedance observed in the vicinity of the aforementioned soil sample location. Soil samples will be collected from the base and sidewalls of the final excavation extent and submitted for analysis of the full ECMC Table 915-1 suite. Additionally, a supplemental site investigation will be conducted to collect additional soil background samples to further investigate native soil conditions on site. A proposed soil boring location map is attached to this Form 27.

Groundwater was encountered at the reportable FL01-08@4' location, and at soil sample locations FL01-09@4', and FL01-10@4'/FL02-01@4'. Following the completion of remedial excavation activities, a groundwater monitoring well network will be installed in the vicinity of soil sample FL01-08@4'. Groundwater monitoring will be conducted until closure criteria are met.

Following monitoring well installation activities and the return of analytical results from the first quarterly groundwater monitoring event, a remediation strategy will be selected for this location.

Soil Remediation Summary

In Situ

Ex Situ

_____ Bioremediation (or enhanced bioremediation)

_____ Yes Excavate and offsite disposal

_____ Chemical oxidation

_____ If Yes: Estimated Volume (Cubic Yards) _____ 30

_____ Air sparge / Soil vapor extraction

_____ Name of Licensed Disposal Facility or ECMC Facility ID # _____

_____ Natural Attenuation

_____ Excavate and onsite remediation

_____ Other _____

_____ Land Treatment

_____ Bioremediation (or enhanced bioremediation)

_____ Chemical oxidation

_____ Other _____

Groundwater Remediation Summary

_____ Bioremediation (or enhanced bioremediation)

_____ Chemical oxidation

_____ Air sparge / Soil vapor extraction

_____ Natural Attenuation

_____ 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.

Groundwater was encountered at three locations during flowline decommissioning activities. Three groundwater samples were collected at soil sample locations FL01-08@4' (GW01), FL01-09@4' (GW02), and FL01-10@4'/FL02-01@4' (GW03) and submitted for analysis of BTEX, naphthalene, 1,2,4-trimethylbenzene (TMB), 1,3,5-TMB, chloride and sulfate anions, and total dissolved solids (TDS).

Analytical results indicated that organic compound concentrations were in compliance with the applicable ECMC regulatory standards in all groundwater samples.

Operator was informed by the laboratory that the sample holding times were exceeded for chloride and sulfate (anions by EPA Method 300.0) for groundwater samples GW01-GW03. Re-sampling of GW02 and GW03 will occur at a later date.

Due to GW01 being collected from the same location as reportable soil sample FL01-08@4', Operator will conduct quarterly groundwater monitoring until closure criteria are met. Groundwater samples will be submitted for analysis of BTEX, naphthalene, 1,2,4-TMB, 1,3,5-TMB, 1-methylnaphthalene, chloride and sulfate anions, and TDS. A monitoring well network will be installed in the vicinity of FL01-08@4' following the completion of remedial excavation activities. TDS concentrations recorded in groundwater samples GW02 and GW03 will be compared to background concentrations following the installation of the above referenced groundwater monitoring network and the establishment of up-/cross-gradient monitoring wells.

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 CSS and SSMRS; SSMRP and SSIP

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.

Noble intends to directly address the costs of remediation at the locations as part of our asset retirement obligation process and operations. Noble has general liability insurance (policies MWZZ316714 and MWZX316724) and financial assurance in compliance with ECMC rules. Records are available on the ECMC's website. The cost for remediation is an estimate only, costs may change upwards or downward based on site-specific information. Noble makes no representation or guarantees as to the accuracy of the estimate.

Operator anticipates the remaining cost for this project to be: \$ 50000

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 use

Volume of E&P Waste (solid) in cubic yards 30

E&P waste (solid) description Hydrocarbon impacted soil

ECMC Disposal Facility ID #, if applicable: _____

Non-ECMC Disposal Facility: North Weld Landfill

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

E&P waste (liquid) description _____

ECMC Disposal Facility ID #, if applicable: _____

Non-ECMC 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? _____

Does the previous reply indicate consideration of background concentrations? _____

Does Groundwater meet Table 915-1 standards? _____

Is additional groundwater monitoring to be conducted? _____

Operator shall comply with the ECMC 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 ECMC 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. 12/10/2024

Proposed date of completion of Reclamation. 04/14/2027

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. 01/13/2025

Actual Spill or Release date, or date of discovery. 01/13/2025

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 12/10/2024

Proposed site investigation commencement. 07/14/2025

Proposed completion of site investigation. 04/14/2026

REMEDIAL ACTION DATES

Proposed start date of Remediation. 04/14/2026

Proposed date of completion of Remediation. 01/14/2027

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:

The implementation schedule is being updated to reflect the necessity for remedial excavation and supplemental site investigation (SSI) activities at the site. The remedial excavation and SSI activities will be completed following the approval of this Form 27.

OPERATOR COMMENT

This Form 27 is being submitted to include summaries of the January 2025 flowline decommissioning activities and the April 2025 wellhead remedial excavation activities.

Wellhead decommissioning activities occurred on December 10, 2024, and laboratory analytical results indicated an exceedance of 1-methylnaphthalene at soil sample WH01-W@4 (ECMC Document Number 404055491). Based on the results, remedial excavation activities commenced on April 1, 2025, to remove the hydrocarbon impacted material. Approximately 30 cubic yards of impacted soil was removed and transported to the North Weld Landfill under Noble waste manifests. Five soil samples were collected from the base and sidewalls of the final excavation extent and submitted for analysis of the full ECMC Table 915-1 suite. Analytical results indicated that all organic compound concentrations were in compliance with the applicable ECMC regulatory standards in all soil sample locations. Additionally, all inorganic and metals concentrations were in compliance with the applicable ECMC regulatory standards or within background levels in all soil sample locations.

Flowline decommissioning activities were conducted on January 15-16, 2025. Analytical results indicated an additional reportable release along the flowline at soil sample FL01-08@4'.

Groundwater was encountered at three locations during flowline decommissioning activities. Three groundwater samples were collected at soil sample locations FL01-08@4' (GW01), FL01-09@4' (GW02), and FL01-10@4'/FL02-01@4' (GW03) and submitted for analysis of BTEX, naphthalene, 1,2,4-trimethylbenzene (TMB), 1,3,5-TMB, chloride and sulfate anions, and total dissolved solids (TDS). Analytical results indicated that organic compound concentrations were in compliance with the applicable ECMC regulatory standards in all groundwater samples.

Based on the results, a remedial excavation will be conducted to remove the benzo(a)anthracene exceedance observed in the vicinity of the aforementioned soil sample location. Soil samples will be collected from the base and sidewalls of the final excavation extent submitted for analysis of the full ECMC Table 915-1 suite.

Operator was informed by the laboratory that the sample holding times were exceeded for chloride and sulfate (anions by EPA Method 300.0) for groundwater samples GW01-GW03.

Because not all analytes would be outside of holding times, the lab ran the samples for the full Table 915-1 suite. The full laboratory report (Report) is being transmitted to ECMC for transparency.

The Report's case narrative identifies which constituents were run outside of the required holding times. The Report's note column also identifies the impacted constituents. Operator will not be relying on any results associated with a constituent that was outside of the required holding time. Operator will be collecting replacement samples (GW02 and GW03) and will be submitting them for analysis. Operator will submit the replacement sample laboratory report in a future supplemental Form 27.

Due to GW01 being collected from the same location as reportable soil sample FL01-08@4', Operator will conduct quarterly groundwater monitoring until closure criteria are met. Groundwater samples will be submitted for analysis of BTEX, naphthalene, 1,2,4-TMB, 1,3,5-TMB, chloride and sulfate anions, and TDS. A monitoring well network will be installed in the vicinity of FL01-08@4' following the completion of remedial excavation activities. TDS concentrations recorded in groundwater samples GW02 and GW03 will be compared to background concentrations following the installation of the above referenced groundwater monitoring network and the establishment of up-/cross-gradient monitoring wells.

Pursuant to Rule 913.e, Supplemental Form 27s will be submitted on a quarterly schedule to provide updates and progress of the remediation until closure criteria is met.

I hereby certify all statements made in this form are to the best of my knowledge true, correct, and complete.

Signed: Jimmy Webster

Title: Environmental Consultant

Submit Date: _____

Email: jwebster@tasman-geo.com

Based on the information provided herein, this Application for Site Investigation and Remediation Workplan complies with ECMC Rules and applicable orders and is hereby approved.

ECMC Approved: _____

Date: _____

Remediation Project Number: 34834

COA Type

Description

0 COA	
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ATTACHMENT 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

404275306	LABORATORY ANALYTICAL REPORT
404275307	REMEDATION PROGRESS REPORT
404275308	LABORATORY ANALYTICAL REPORT
404275309	LABORATORY ANALYTICAL REPORT
404275349	SITE INVESTIGATION PLAN

Total Attach: 6 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
		Stamp Upon Approval

Total: 0 comment(s)