

State of Colorado
Energy & Carbon Management Commission

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Document Number:
404176685

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: <u>NOBLE ENERGY INC</u>	Operator No: <u>100322</u>	Phone Numbers
Address: <u>1099 18TH STREET SUITE 1500</u>		Phone: <u>(970) 313-5582</u>
City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80202</u>		Mobile: <u>()</u>
Contact Person: <u>Jason Davidson</u>	Email: <u>jason.davidson@chevron.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 32903 Initial Form 27 Document #: 403600160

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: <u>WELL</u>	Facility ID: _____	API #: <u>123-17434</u>	County Name: <u>WELD</u>
Facility Name: <u>KY BLUE H 25-10</u>	Latitude: <u>40.194710</u>	Longitude: <u>-104.610580</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NWSE</u>	Sec: <u>25</u>	Twp: <u>3N</u>	Range: <u>65W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: <u>WELL</u>	Facility ID: _____	API #: <u>123-17435</u>	County Name: <u>WELD</u>
Facility Name: <u>KY BLUE H 25-15</u>	Latitude: <u>40.190720</u>	Longitude: <u>-104.610550</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWSE</u>	Sec: <u>25</u>	Twp: <u>3N</u>	Range: <u>65W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: WELL	Facility ID: _____	API #: 123-24447	County Name: WELD
Facility Name: KY H 25-24	Latitude: 40.192470	Longitude: -104.612000	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSE	Sec: 25	Twp: 3N	Range: 65W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE	Facility ID: 489958	API #: _____	County Name: WELD
Facility Name: KY Blue H 25-10 Flowline	Latitude: 40.190758	Longitude: -104.610548	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSE	Sec: 25	Twp: 3N	Range: 65W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE	Facility ID: 489959	API #: _____	County Name: WELD
Facility Name: KY Blue H 25-15 Flowline	Latitude: 40.190383	Longitude: -104.610571	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSE	Sec: 25	Twp: 3N	Range: 65W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE	Facility ID: 490198	API #: _____	County Name: WELD
Facility Name: KY Blue H 25-15 Flowline	Latitude: 40.188977	Longitude: -104.609405	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSE	Sec: 25	Twp: 3N	Range: 65W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SW Most Sensitive Adjacent Land Use Cropland

Is domestic water well within 1/4 mile? No Is surface water within 1/4 mile? No

Is groundwater less than 20 feet below ground surface? No

Other Potential Receptors within 1/4 mile

Within 100-year Effective Floodplain

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
UNDETERMINED	GROUNDWATER	NA	Laboratory analysis and field screening, if encountered
Yes	SOILS	Refer to tables and figures	Laboratory 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 KY BLUE H25-15 wellhead cut and cap and flowline decommissioning. On 05/02/2024, the wellhead was cut and capped per ECMC rules. A 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 (WH01@6). Additionally, soil samples were field screened at the N-S-W sides of the wellhead and a flowline riser sample was collected to the east of the wellhead (FLR01@4). Approximately 2,045 feet of both the KY Blue H25-15 (FL01) and KY Blue H25-10 (FL02) flowlines and 1,250 feet of the KY H25-24 (FL03) flowline were common trenched with the KY Blue H25-15 Flowline and were removed between 03/18/2025 and 03/25/2025. However, portions of each flowline were abandoned-in-place (ABIP) due to field constraints. So as to not disturb the area of field constraint, soil samples were taken at the start and endpoint of the flowline where the ABIP areas exist. Soil samples were also collected 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. Abandonment verification containing pressure test results will be included on a subsequent Form 27 in accordance with COA on ECMC Document #403921144.

The final directional change prior to the separator, proposed to be sampled in the Initial Form 27 was not observed by field personnel during flowline removal activities and therefore will be exempt from the sampling plan. Additionally, field screening samples were not collected along the ABIP portion of the flowline directly south of the KY Blue H25-15 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 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 (WH01@6). Additionally, soil samples were field screened at the N-S-W sides of the wellhead (WH01-N@4, WH01-S@4, & WH01-W@4) and a Flowline riser sample was collected to the east of the wellhead (FLR01@4). 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 will be 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):

If groundwater is encountered during the site investigation, grab groundwater samples will be collected and analyzed for all organic and inorganic 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 abandonment 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 flowline decommissioning activities, including field notes, site photos, figures, and laboratory analytical results, is attached to this Form 27. A detailed summary of wellhead decommissioning activities, including field notes, site photos, figures, and laboratory analytical results, was attached to a previous Supplemental Form 27 (ECMC Document #403743039).

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected	24	--	Highest concentration of TPH (mg/kg)	39
Number of soil samples exceeding 915-1	12	--	Highest concentration of SAR	9.64
Was the areal and vertical extent of soil contamination delineated?	No		BTEX > 915-1	No
Approximate areal extent (square feet)	1200		Vertical Extent > 915-1 (in feet)	3

Groundwater

Number of groundwater samples collected	0		Highest concentration of Benzene (µg/l)	
Was extent of groundwater contaminated delineated?	Yes		Highest concentration of Toluene (µg/l)	
Depth to groundwater (below ground surface, in feet)			Highest concentration of Ethylbenzene (µg/l)	
Number of groundwater monitoring wells installed			Highest concentration of Xylene (µg/l)	
Number of groundwater samples exceeding 915-1			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?

[Empty text box for impacts to adjacent property]

Were background samples collected as part of this site investigation?

On 03/26/2025, three background soil samples were collected from three locations (BKG01-BKG03) adjacent to the flowline and analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. Background soil samples were collected from a depth of 3 feet below ground surface (ft bgs). The maximum background concentrations for pH, EC, and SAR were observed to be 8.16, 4.20 mmhos/cm, and 3.65, respectively. The maximum background concentrations with a 1.25x multiplier applied for arsenic, barium, cadmium, lead, selenium, and silver were calculated to be 2.11 mg/kg, 117 mg/kg, 0.250 mg/kg, 8.50 mg/kg, 0.325 mg/kg, and 0.0404 mg/kg, respectively. All barium concentrations observed during decommissioning were below 1.25x the maximum background level.

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?

Concurrently with the remedial excavation that is proposed in the Remedial Action Plan section of this Form 27, additional background soil samples will be collected to determine if elevated pH, EC, SAR, arsenic, cadmium, lead, selenium, and silver concentrations are attributed to native soil conditions at the site, and to determine a baseline for concentrations of inorganic compounds and metals in native soil. Proposed background soil sample locations are shown on the attached proposed site investigation plan.

The confirmation soil samples collected during wellhead cut and cap activities were determined to be outside of the required temperature preservation range when delivered to the laboratory. Re-sampling was conducted at WH01 on May 2, 2025 and analytical results pending. The analytical results will be provided in a subsequent Supplemental Form 27.

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 organic compound exceedances observed at sample locations FL01-01@3' (KY Blue H25-15 flowline), FL02-01@3' (KY Blue H25-10 flowline), and FL03-01@3' (KY H25-24 flowline) will be removed through remedial excavations.

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.

Remedial excavation confirmation soil samples will be collected and analyzed for full ECMC Table 915-1 constituents. The results of the remedial excavations will be submitted on a subsequent Form 27.

The confirmation soil samples collected during wellhead cut and cap activities were determined to be outside of the required temperature preservation range when delivered to the laboratory. Re-sampling was conducted at WH01 on May 2, 2025 and analytical results pending. The analytical results will be provided in a subsequent Supplemental Form 27.

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 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 not encountered during initial decommissioning activities.

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 Decommissioning Sample Summary and Supplemental Source Mass Removal and Site Investigation Proposals

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? 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

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility:

Volume of E&P Waste (liquid) in barrels

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.

The location will be reclaimed in accordance with the ECMC 1000 series.

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. 05/02/2024

Proposed date of completion of Reclamation. 06/30/2027

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. 11/15/2023

Actual Spill or Release date, or date of discovery. 04/23/2025

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 05/02/2024

Proposed site investigation commencement. 06/02/2025

Proposed completion of site investigation. 12/02/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 06/02/2025

Proposed date of completion of Remediation. 06/02/2026

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:

The implementation schedule has been changed due to the decommissioning of the KY Blue H25-15, KY Blue 25-10, and KY H25-24 flowlines and necessity for remedial excavation and SSI activities adjacent to the flowlines. The proposed remedial excavations and SSI will be completed following the approval of this form.

OPERATOR COMMENT

This Form 27 is being submitted to include the decommissioning results and historic reportable release discovered, and to propose remedial excavation and supplemental site investigation (SSI) activities at the KY Blue H25-15, KY Blue 25-10, and KY H25-24 flowline locations (Remediation #32903).

Flowline decommissioning activities occurred at the above referenced location between March 18 and March 25, 2025. Discrete soil samples were collected from directional changes, end points of ABIP portions of the line, the risers at the separator for all lines, and the flowline riser at the KY Blue H25-15 wellhead as described in the approved Form 27-Initial (ECMC Document #403600160), with the exception of the final directional change prior to the separator, proposed to be sampled in the Initial Form 27, which was not observed by field personnel during flowline removal activities, and therefore will be exempt from the sampling plan. Additionally, field screening samples were not collected along the ABIP portion of the flowline directly south of the KY Blue H25-15 wellhead. Additional field screening activities will be proposed following removal of the organic compound exceedances. Analytical results indicated that soil samples FL01-01@3' (KY Blue H25-15 flowline), FL02-01@3' (KY Blue H25-10 flowline), and FL03-01@3' (KY H25-24 flowline) exhibited a combination of benzo(a)anthracene and 1-methylnaphthalene concentrations in exceedance of the Protection of Groundwater Soil Screening Levels (PGSSLs) for organic compounds in soil. Groundwater was not encountered during initial decommissioning activities.

On 03/26/2025, three background soil samples were collected from three locations (BKG01-BKG03) adjacent to the flowline and analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. Background soil samples were collected from a depth of 3 feet below ground surface (ft bgs). The maximum background concentrations for pH, EC, and SAR were observed to be 8.16, 4.20 mmhos/cm, and 3.65, respectively. The maximum background concentrations with a 1.25x multiplier applied for arsenic, barium, cadmium, lead, selenium, and silver were calculated to be 2.11 mg/kg, 117 mg/kg, 0.250 mg/kg, 8.50 mg/kg, 0.325 mg/kg, and 0.0404 mg/kg, respectively. All barium concentrations observed during decommissioning were below 1.25x the maximum background level.

Based on decommissioning analytical results, remedial excavations will be conducted to remove the sources identified at soil sample locations FL01-01@3' (KY Blue H25-15 flowline), FL02-01@3' (KY Blue H25-10 flowline), and FL03-01@3' (KY H25-24 flowline). Soil samples will be collected from the base and sidewalls of the final excavation extent and submitted for laboratory analysis of the full ECMC Table 915-1 suite. Concurrently with the remedial excavations, additional background soil samples will be collected to determine if elevated pH, EC, SAR, arsenic, cadmium, lead, selenium, and silver concentrations are attributed to native soil conditions at the site, and to determine a baseline for concentrations of inorganic compounds and metals in native soil.

The confirmation soil samples collected during wellhead cut and cap activities were determined to be outside of the required temperature preservation range when delivered to the laboratory. Re-sampling was conducted at WH01 on May 2, 2025 and analytical results pending. The analytical results will be provided in a subsequent Supplemental Form 27.

Pursuant to Rule 913.e, quarterly reporting will be conducted until closure criteria are achieved for the remediation project. The results of remedial excavation, SSI, and wellhead resampling will be submitted on a subsequent Form 27.

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

Signed: Michael Liston _____

Title: Environmental Consultant _____

Submit Date: _____

Email: mliston@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: 32903

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

404226106	LABORATORY ANALYTICAL REPORT
404226109	LABORATORY ANALYTICAL REPORT
404226110	LABORATORY ANALYTICAL REPORT
404236405	LABORATORY ANALYTICAL REPORT
404236409	LABORATORY ANALYTICAL REPORT
404236898	SITE INVESTIGATION PLAN
404236899	SITE INVESTIGATION REPORT

Total Attach: 7 Files

General Comments

User Group

Comment

Comment Date

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

Total: 0 comment(s)