

State of Colorado
Energy & Carbon Management Commission

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403991601
Receive Date:
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Report taken by:
Kyle Waggoner

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 Phone: <u>(970) 730-7281</u> Mobile: <u>()</u>
Address: <u>1099 18TH STREET SUITE 1500</u>		
City: <u>DENVER</u>	State: <u>CO</u>	Zip: <u>80202</u>
Contact Person: <u>Dan Peterson</u>	Email: <u>danpeterson@chevron.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 33473 Initial Form 27 Document #: 403641788

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

No Multiple Facilities

Facility Type: <u>LOCATION</u>	Facility ID: <u>447571</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>ECKAS 2,15-1614, C 15-23, MILLAGE C 14-33</u>		Latitude: <u>40.312315</u>	Longitude: <u>-104.527619</u>
		** correct Lat/Long if needed: Latitude: <u>40.312375</u>	Longitude: <u>-104.527869</u>
QtrQtr: <u>NESE</u>	Sec: <u>15</u>	Twp: <u>4N</u>	Range: <u>64W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

SITE CONDITIONS

General soil type - USCS Classifications SW Most Sensitive Adjacent Land Use Cropland
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? No

Other Potential Receptors within 1/4 mile

Aquatic Native Species Conservation Waters (1202.c)
Riverine 85ft W, Box Elder Creek 160ft W
N/A

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
UNDETERMINED	GROUNDWATER	NA	Lab analysis and Field Screening if encountered
Yes	SOILS	Refer to Tables and Figures	Lab analysis or 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.

A site investigation was conducted pursuant to ECOM Rule 911 at the Eckas 2,15-1614, C 15-23, Millage C 14-33 tank battery location. Laboratory soil samples were collected from beneath both above ground storage tanks (AST01@0-6" & AST02@0-6"), beneath the flowline riser (SEP01-FL@3') and dumpline (SEP01-DL@3') at the separator, and at the base of the produced water vault excavation (PWV01-B@4'). Field screening samples were collected at the excavation sidewalls in each cardinal direction and the sample with the highest screening level was sent for laboratory analysis (PWN01-N@2'). Field screening samples were also collected beneath the flare (FLARE01@0-6') and the meter house (MH01@0-6').

Sampling deviated from the approved sampling plan in the Initial Form 27 (# 403641788). The eastern separator and southern meter house were not on-site when the decommissioning commenced and were not sampled by field personnel. A flare that was not in the original sampling plan located to the SW of the western separator was on site, and was sampled as FLARE01@0-6".

Additionally, two soil sampling locations had irregular GPS data recorded during decommissioning. It was determined that the transformation from the WGS to NAD83 coordinate system explains the western displacement at sample location MH01@0-6". The southeastern displacement observed at sample location SEP01-DL@3' cannot be explained by any issues with GPS precision or coordinate system transformations. These sample locations are included in the attached Figure 1.

The deviations from the approved sampling plan will be addressed in the supplemental site investigation proposed in the Site Investigation Report section of this Form 27.

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):

Soil samples were collected as described in the Initial Action Summary of this Form 27. Sampling deviated from the approved sampling plan in the Initial Form 27 as described in the Initial Action Summary. 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 where required when applicable [C10-C36] hydrocarbons) organic compounds in soil per ECOM Table 915-1, EC, SAR, pH, metals, and boron. All samples collected were analyzed by a certified laboratory using approved ECOM 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 a grab groundwater will be collected and analyzed for all organic and inorganic compounds per ECOM Table 915-1; this sample analysis includes, but is not limited to BTEX, naphthalene, 1,2,4-trimethylbenzene (TMB), and 1,3,5-TMB by EPA Method 8260, chloride and sulfate anions by EPA Method 300.0, and total dissolved solids (TDS) by Method SM 2540C.

Proposed Surface Water Sampling

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

[Empty box for surface water sample collection details]

Additional Investigative Actions

Additional alternative investigative actions described in attached Site Investigation Plan (summary):

Visual inspection at the tank battery occurred during decommissioning activities. Field personnel screened all disturbed areas using visual and olfactory senses to determine if laboratory confirmation sampling was required. A detailed summary of decommissioning activities, including field notes, site photos, figures, and laboratory analytical results, is attached to ECMC Form 27 Document # 403878624.

Visual inspection will occur during the decommissioning activities at the western separator's dumpline, eastern separator's dumpline and flowline riser, as well as the southern meter house. Personnel will field screen all disturbed areas using visual and olfactory senses to determine if laboratory confirmation sampling is required. The additional decommissioning sampling results will be included on a subsequent Form 27.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

NA / ND

Number of soil samples collected 6

ND Highest concentration of TPH (mg/kg) _____

Number of soil samples exceeding 915-1 6

-- Highest concentration of SAR 1.15

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

BTEX > 915-1 No

Approximate areal extent (square feet) 100

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? No

_____ 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 box for impacts to adjacent property or offsite impacts]

Were background samples collected as part of this site investigation?

Three background samples were collected from a single discrete location (BKG01) near the tank battery and analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. Background soil samples were collected from depths ranging between 2' and 4' below ground surface and the lithology was observed to be similar to that found in site samples. The maximum background concentration for pH was observed to be 9.49. The maximum background concentrations with a 1.25x multiplier for arsenic and barium were observed to be 4.48 mg/kg and 109 mg/kg, respectively. All concentrations of pH and arsenic observed in decommissioning 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?

A supplemental site investigation (SSI) will be completed to collect additional background samples (BKG02-BKG06) and determine if the barium exceedance observed at sample location (SEP01-DL@3') can be attributed to native soil conditions at the site. Concurrent with the SSI, additional samples will be collected at the sample locations that were not collected during the initial decommissioning. Confirmation samples will be collected from beneath the flowline riser (SEP02-FL) and dumpline (SEP02-DL) at the eastern separator. Because of the irregular GPS data collected at soil sample location SEP01-DL@3', a confirmation sample will also be collected at the dumpline of the western separator (SEP01-DLR). Field screening samples will be collected at the northern flare (FLARE02) and southern meter house (MH02). All proposed sampling locations are based on the approved sampling map attached to the Initial Form 27 (ECMC Document # 403641788). A proposed SSI map is attached to this Form 27 (Figure 2). The SSI will be completed in accordance with the proposed implementation schedule, and the results of the SSI will be submitted on a subsequent Form 27.

REMEDIAL ACTION PLAN

Does this Supplemental Form 27A include changes to a previously approved Remedial Action Plan? Yes _____

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

No impacted material caused by oil and gas operations was identified at this time.

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.

A supplemental site investigation (SSI) will be completed to collect additional background samples (BKG02-BKG06) and determine if the barium exceedance observed at sample location (SEP01-DL@3') can be attributed to native soil conditions at the site. Concurrent with the SSI, additional samples will be collected at the sample locations that were not collected during the initial decommissioning. Confirmation samples will be collected from beneath the flowline riser (SEP02-FL) and dumpline (SEP02-DL) at the eastern separator. Because of the irregular GPS data collected at soil sample location SEP01-DL@3', a confirmation sample will also be collected at the dumpline of the western separator (SEP01-DLR). Field screening samples will be collected at the northern flare (FLARE02) and southern meter house (MH02). All proposed sampling locations are based on the approved sampling map attached to the Initial Form 27 (ECMC Document # 403641788). A proposed SSI map is attached to this Form 27 (Figure 2). The SSI will be completed, in accordance with the attached proposed site investigation map, and proposed sampling plan outlined in the Site Investigation Report section of this Form 27.

Soil Remediation Summary

In Situ

_____ Bioremediation (or enhanced bioremediation)
_____ Chemical oxidation
_____ Air sparge / Soil vapor extraction
_____ Natural Attenuation
_____ Other _____

Ex Situ

_____ Excavate and offsite disposal
_____ If Yes: Estimated Volume (Cubic Yards) _____
_____ Name of Licensed Disposal Facility or ECMC Facility ID # _____
_____ Excavate and onsite remediation
_____ 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.

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 _____
Timeline Update & Updated SSI Proposal

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 (policy MWZZ 316714) 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.

Reclamation will be in accordance with ECMC 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. 05/22/2024

Proposed date of completion of Reclamation. 08/20/2026

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. 08/15/2014

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

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 05/22/2024

Proposed site investigation commencement. 11/20/2024

Proposed completion of site investigation. 08/20/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 08/20/2025

Proposed date of completion of Remediation. 02/20/2026

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:

'Proposed completion of site investigation' date is being updated to reflect the schedule to complete the supplemental site investigation. The ECMC will be updated on a subsequent Form 27 with the results of the supplemental site investigation, or if the schedule is changed due to site access constraints.

OPERATOR COMMENT

This Form 27 is being submitted as a Fourth Quarter 2024 timeline update for the completion of the supplemental site investigation (SSI) at the former Eckas 2,15-1614, C 15-23, Millage C 14-33 tank battery. This Form 27 also serves to update the previously proposed SSI to include samples missed during decommissioning activities in addition to background sampling. The SSI will be completed in accordance with the Site Investigation Report section of this Form 27, and the attached proposed delineation map. The ECMC will be updated with the results of the supplemental site investigation on a subsequent Form 27.

Three background samples were collected from a single discrete location (BKG01) near the tank battery and analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. Background soil samples were collected from depths ranging between 2' and 4' below ground surface and the lithology was observed to be similar to that found in site samples. The maximum background concentration for pH was observed to be 9.49. The maximum background concentrations with a 1.25x multiplier for arsenic and barium were observed to be 4.48 mg/kg and 109 mg/kg, respectively. All concentrations of pH and arsenic observed in decommissioning samples were below background levels.

A supplemental site investigation (SSI) will be completed to collect additional background samples (BKG02-BKG06) and determine if the barium exceedance observed at sample location (SEP01-DL@3') can be attributed to native soil conditions at the site. Concurrent with the SSI, additional samples will be collected at the sample locations that were not collected during the initial decommissioning. Confirmation samples will be collected from beneath the flowline riser (SEP02-FL) and dumpline (SEP02-DL) at the eastern separator. Because of the irregular GPS data collected at soil sample location SEP01-DL@3', a confirmation sample will also be collected at the dumpline of the western separator (SEP01-DLR). Field screening samples will be collected at the northern flare (FLARE02) and southern meter house (MH02). All proposed sampling locations are based on the approved sampling map attached to the Initial Form 27 (ECMC Document # 403641788). A proposed SSI map is attached to this Form 27 (Figure 2). The SSI will be completed in accordance with the proposed implementation schedule, and the results of the SSI will be submitted on a subsequent Form 27.

Quarterly reporting will be conducted until closure criteria are achieved for the remediation project. The results of the supplemental site investigation 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: Allan Engelhardt

Title: Environmental Consultant

Submit Date: 11/20/2024

Email: tas-chevron-5@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: Kyle Waggoner

Date: 12/06/2024

Remediation Project Number: 33473

COA Type

Description

	ECMC does not approve the timeline proposed to complete the initial site investigation. Operator proposes to complete Site Investigation on 8/20/25, 455 days after the decommissioning of this facility. Operator shall resubmit with a more aggressive timeline.
	Samples collected to match the initial site investigation map shall be analyzed for full suite Table 915-1 to include: organic compounds in soil, TPH, soil suitability, and metals.
2 COAs	

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

403991601	FORM 27-SUPPLEMENTAL-SUBMITTED
404001171	SITE INVESTIGATION PLAN
404001180	SITE MAP

Total Attach: 3 Files

General Comments

User Group

Comment

Comment Date

		Stamp Upon Approval
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Total: 0 comment(s)