

State of Colorado
Energy & Carbon Management Commission

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Document Number:
404352249

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: MYSTIQUE RESOURCES COMPANY	Operator No: 10348	Phone Numbers
Address: 27242 E EUCLID DR		Phone: (308) 430.0337
City: AURORA State: CO Zip: 80016		Mobile: ()
Contact Person: Dennis Staal	Email: dstaal@msn.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 39671 Initial Form 27 Document #: 404125645

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 #: 017-07666	County Name: CHEYENNE
Facility Name: SHIRLEY ROTHER 1	Latitude: 38.785900	Longitude: -102.122480	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SESW	Sec: 33	Twp: 14S	Range: 42W Meridian: 6 Sensitive Area? Yes

Facility Type: LOCATION	Facility ID: 321974	API #:	County Name: CHEYENNE
Facility Name: SHIRLEY ROTHER-614S42W 33SESW	Latitude: 38.785900	Longitude: -102.122480	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: SESW	Sec: 33	Twp: 14S	Range: 42W Meridian: 6 Sensitive Area? Yes

Facility Type: LOCATION	Facility ID: 470674	API #:	County Name: CHEYENNE
Facility Name: SHIRLEY ROTHER-614S42W 33SESW	Latitude: 38.784145	Longitude: -102.122090	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: SESW	Sec: 33	Twp: 14S	Range: 42W Meridian: 6 Sensitive Area? Yes

Facility Type: OFF-LOCATION FLOWLINE	Facility ID: 470736	API #:	County Name: CHEYENNE
Facility Name: SHIRLEY ROTHER-614S42W 33SESW	Latitude: 38.784145	Longitude: -102.122090	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: SESW	Sec: 33	Twp: 14S	Range: 42W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SW
 Most Sensitive Adjacent Land Use Agriculture: center pivot

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? Yes

Other Potential Receptors within 1/4 mile

Domestic water well: approximately 632' W
 Surface water: located approximately 1279' SE
 Wetlands: an area with wetland characteristics is located approximately 1242' SE
 Springs: none
 Livestock: none
 Occupied building: approximately 1227' W
 High Priority Habitat: none

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	TBD	Groundwater samples/analytical results
UNDETERMINED	SOILS	TBD	Inspection/soil samples/analytical results
UNDETERMINED	SURFACE WATER	TBD	Lab analytical (if necessary)

INITIAL ACTION SUMMARY

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

Wellhead cut and cap operations and flowline riser removal activities were completed at the Shirley Rother 1 wellhead on August 27, 2022. Groundwater was not encountered during sampling activities. On August 20, 2025, visual inspection and field screening of soils around the former wellhead and associated flowline were conducted, and soil samples (WH-B01@6, FL-B01@4') were submitted for laboratory analysis of Table 915-1 Contaminants of Concern to determine if a release occurred. The associated flowline has been abandoned in place at the surface owner's request, in accordance with Rule 1105.d.(2)a., as approved in Form 44 Document #403240248.

Sampling activities were completed at the Shirley Rother-614S42W33SESW production facility on August 20, 2025. Groundwater was not encountered during sampling activities. Visual inspection and field-screening of soils at the former separator, former meter house, and two former aboveground storage tanks (AST) was conducted, and soil samples (SEP-B01@1', SEP-B02@1', AST-B01@3" AST-B03@3") were submitted for laboratory analysis of Table 915-1 Contaminants of Concern to determine if a release occurred. Initial analytical results indicated that the selenium concentration in soil sample SEP-B02@1' exceeded the applicable ECMC Table 915-1 standards and background limits. Selenium analytical rerun results for soil sample SEP-B02@1' are pending and will be summarized in a forthcoming Form 27-Supplemental Update. Soil sample location and field screening data are presented in Table 1. The soil sample and field screening locations are illustrated on Figures 2 - 4. The secured laboratory analytical reports are attached. The field notes and a photographic log are attached.

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):

On August 20, 2025, soil samples were collected from the base of the former cut and cap excavation area (WH-B01@6'), the directional change of the flowline (FL-B01@4'), beneath the former ASTs (AST-B01@3", AST-B03@3"), and beneath the former separator (SEP-B01@1', SEP-B02@1'). The soil samples were submitted for laboratory analysis of the full Table 915-1 analytical suite using ECMC approved methods. Initial analytical results indicated that the selenium concentration in soil sample SEP-B02@1' exceeded the applicable ECMC Table 915-1 standards and background limits. Selenium analytical rerun results for soil sample SEP-B02@1' are pending. The soil analytical results are summarized in Tables 2 through 5.

Proposed Groundwater Sampling

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

Groundwater was not encountered during decommissioning activities. If groundwater is encountered during the remaining assessment activities, a minimum of one grab sample will be collected as soon as practical. Groundwater samples will be submitted to an accredited laboratory for all analytes listed in ECMC Table 915-1 Organic Compounds in Groundwater (benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, 1,2,4-trimethylbenzene (1,2,4 - TMB), and 1,3,5-trimethylbenzene (1,3,5 - TMB)) and Groundwater Inorganic Parameters (total dissolved solids (TDS), chloride, and sulfate) using standard methods appropriate for detecting the target analytes in 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):

On August 20, 2025, visual inspection and field screening of soils was conducted at four sidewall locations within the former cut and cap excavation areas, two flowline locations, two former AST locations, and one former meter house location. Based on the inspection and screening results, hydrocarbon-impacted soil were not observed at the screening locations. As a result, no soil samples were submitted for laboratory analysis from these areas in accordance with the ECMC Operator Guidance.

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 _____ 3.71
Was the areal and vertical extent of soil contamination delineated?	No		BTEX > 915-1 No _____
Approximate areal extent (square feet)	0		Vertical Extent > 915-1 (in feet) _____ 0
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 text box]

Were background samples collected as part of this site investigation?

Background soil samples BG-01 and BG-02 were collected from non-impacted native material adjacent to the former wellhead and facility at depths of approximately 0.25' to 6' bgs. The background soil samples were submitted for laboratory analysis of the Soil Suitability for Reclamation Parameters and Table 915-1 Metals using standard methods appropriate for detecting the target analytes in Table 915-1. Analytical results for the background soil samples are presented in Tables 3 and 5. The background locations are illustrated on Figure 5.

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?

Selenium analytical rerun results for soil sample SEP-B02@1' are pending and will be summarized in a forthcoming Form 27-Supplemental Update.

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.

If a suspected release is identified and confirmed through soil screening and/or laboratory analysis, soils will be removed and transported to a licensed disposal facility. Disposal records will be kept on file and available upon request.

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.

Selenium analytical rerun results for soil sample SEP-B02@1' are pending and will be summarized in a forthcoming Form 27-Supplemental Update. The remaining soil samples collected were in compliance with Table 915-1 standards and/or within background limits.

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.

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 _____

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.

Mystique Resources Company is adequately bonded per Rule 702 and has complied with the insurance requirements of Rule 705.

Operator anticipates the remaining cost for this project to be: \$ 9000 _____

WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? _____

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 Shirley Rother 1 well was plugged and abandoned per the details and procedures described in the Form 6 (doc #403060191). The Shirley Rother 1 well is located on an inactive well pad with no other producing wells. Upon successfully completing the plugging and abandonment of this well, the well cellar will be reclaimed and backfilled with clean fill as described in the abandonment procedures. Landowner has agreed to leaving all flowlines abandoned in place (Reference Doc# 403240248). Landowner has also requested recontouring and seeding by landowner so that the surface may be utilized for agricultural activities as soon as possible.

Is the described reclamation complete? _____

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. _____

Proposed date of completion of Reclamation. _____

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. 01/10/2023

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

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 08/20/2025

Proposed site investigation commencement. 08/20/2025

Proposed completion of site investigation. 12/31/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. _____

Proposed date of completion of Remediation. _____

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

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

Signed: Dennis Staal

Title: President

Submit Date: _____

Email: dstaal@msn.com

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

ECMC Approved: _____

Date: _____

Remediation Project Number: 39671

COA Type

Description

0 COA	

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

404355892	SITE MAP
404355897	PHOTO DOCUMENTATION
404355900	LABORATORY ANALYTICAL REPORT
404355901	LABORATORY ANALYTICAL REPORT
404355902	LABORATORY ANALYTICAL REPORT
404355906	ANALYTICAL DATA SUMMARY TABLE(S)
404357589	SOIL SAMPLE LOCATION MAP
404357590	SOIL SAMPLE LOCATION MAP
404357593	SOIL SAMPLE LOCATION MAP
404357615	SOIL SAMPLE LOCATION MAP

Total Attach: 10 Files

General Comments

User Group

Comment

Comment Date

		Stamp Upon Approval
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Total: 0 comment(s)