

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:

403879334

Receive Date:

09/30/2024

Report taken by:

Jason Kosola

## 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: GUNNISON ENERGY LLC	Operator No: 10515	Phone Numbers
Address: 999 18TH STREET SUITE 1755N		Phone: (303) 296-8807
City: DENVER	State: CO	Zip: 80202
Contact Person: Tyson Johnston	Email: tyson.johnston@oxbow.com	Mobile: ( )

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 24644 Initial Form 27 Document #: 403124166

#### 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: Q3 2024 - Status Update - Administratively Close Open Pit Facility IDs (100431 and 115194).

#### SITE INFORMATION

Yes Multiple Facilities

Facility Type: PIT	Facility ID: 100431	API #:	County Name: GUNNISON
Facility Name: RIVIERA FED 11-90-7	Latitude: 39.119847	Longitude: -107.482224	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: NENE	Sec: 7	Twp: 11S	Range: 90W
Meridian: 6	Sensitive Area?		Yes

Facility Type: PIT	Facility ID: 115194	API #:	County Name: GUNNISON
Facility Name: FEDERAL 7-11-90	Latitude: 39.119847	Longitude: -107.482224	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: NENE	Sec: 7	Twp: 11S	Range: 90W
Meridian: 6	Sensitive Area?		Yes

## SITE CONDITIONS

General soil type - USCS Classifications SM

Most Sensitive Adjacent Land Use Rangeland-National Forest

Is domestic water well within 1/4 mile? No

Is surface water within 1/4 mile? Yes

Is groundwater less than 20 feet below ground surface? Yes

### Other Potential Receptors within 1/4 mile

Little Henderson Creek of the North Fork draw is approximately 220 feet from location.

## 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) Historic Blowdown Open Pit Facility IDs (100431 and 115194)

### DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	GROUNDWATER	~80x80	Site Investigation/Laboratory Analytical
Yes	SOILS	65x65x20	Site Investigation/Laboratory Analytical

### INITIAL ACTION SUMMARY

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

Please refer to the State of Colorado Energy and Carbon Management Commission (ECMC) Document Numbers (DNs) 403193909 and 403527386 for initial and subsequent investigative activities completed prior to July 1, 2024. All investigative activities that occurred prior to July 1, 2024 can be referenced under Remediation Project Number (RPN) 24644.

Between July 1 and July 2, 2024, a total of three soil borings were advanced by using hollow stem drilling technology to a depth of 20 feet below ground surface (bgs). The three borings were advanced at locations as follows; MW-01 to the north (up-gradient), MW-02 to the east (cross-gradient), and MW-03 to the south (down-gradient) of the historic pit location. The monitoring well locations were logged and field screened in intervals immediately above and at the vadose zone. One discrete confirmation soil sample was collected from each boring for laboratory analysis under a previously approved reduced suite (DN 403193909).

On July 5, 2024, MW-01 and MW-03 were developed using high density polyethylene (HDPE) bailers and one groundwater sample was collected from each of the two locations and submitted for laboratory analysis of ECMC Table 915-1 for water. Monitoring well MW-02 was dry and therefore not developed or sampled. In addition, one site-specific background soil boring was advanced in native undisturbed ground to a total depth of 3.5 feet bgs. A total of two site-specific background soil samples were submitted for analysis for ECMC Table 915-1 metal, EC, SAR, pH, and hot water-soluble boron. On August 8, 2024, MW-02 was developed using a HDPE bailer and sampled as groundwater was confirmed. One sample was collected and submitted for laboratory analysis of ECMC Table 915-1 for water.

Please see the attached report of work completed (ROWC) for additional investigative activities summarized above.

### 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 ):

Gunnison Energy LLC (GE) is in the process of determining a remediation approach to address the soil impacts. Once a remediation plan has been confirmed with the United States Forest Service (USFS), Bureau of Land Management (BLM), and GE, the plan will then be presented to the ECMC. Vertical and lateral delineation of the soil impacts associated with the historic blowdown pit has been confirmed. Based on the latest subsurface investigation completed in 2023, there are approximately 2,143 cubic yards of impacted soil to be remediated at the Site (DN 403527386). The approximate area of impacted soils is illustrated on Figures 2 and 3 of the document attached to ECMC DN 4033879334.

In accordance with ECMC Rule 915.e.(2).C., GE requests the Director for a further reduced suite for soil to include only arsenic, barium, BTEX, TPH, 1,2,4-TMB, 1,3,5-TMB, 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene.

## Proposed Groundwater Sampling

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

GE will continue to gauge and sample all groundwater monitoring wells on a quarterly basis as Site access allows.

In accordance with ECMC Rule 915.e.(2).C., GE requests the director for a reduced suite for all future groundwater samples to include only BTEX, 1,2,4-TMB, 1,3,5-TMB, and naphthalene.

## 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 ):

See "Proposed Soil Sampling" and "Remediation Summary" sections for more details on investigative activities.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 3

Number of soil samples exceeding 915-1 3

Was the areal and vertical extent of soil contamination delineated? Yes

Approximate areal extent (square feet) 3000

### NA / ND

-- Highest concentration of TPH (mg/kg) 3.277  
6

NA Highest concentration of SAR

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 25

### Groundwater

Number of groundwater samples collected 3

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet) 16

Number of groundwater monitoring wells installed 3

Number of groundwater samples exceeding 915-1 0

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

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?

One site-specific background soil boring was advanced in native undisturbed ground west of the former location for the purpose of collecting representative and comparable site-specific background soil samples per ECMC Rule 915.e.(2).D. The site-specific background soil samples were collected using a hand auger that advanced to a total depth of 3.5 feet bgs where auger refusal was encountered. A total of two discrete site-specific background soil samples were collected and submitted for analysis at depths of 2 feet bgs and 3.5 feet bgs. Site-specific background samples were submitted to Pace analytical for analysis of Table 915-1 metals, hot water-soluble boron, pH, electrical conductivity (EC), and sodium adsorption ratio (SAR).

Please see ECMC DNs 403193909 and 403527386 for previously collected site-specific background soil sample details and results per ECMC Rule 915.e.(2).D.

Please see the attached ROWC for additional details.

☐ 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?

See "Proposed Soil Sampling" and "Remediation Summary" sections which detail additional investigative actions.

## 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.

Impacts are fully delineated, GE is currently evaluating remedial options to remove the source (former blowdown pit) which will be presented at a later date.

### 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.

GE is in the process of determining a remediation approach to address the soil impacts associated with the historic blowdown pit. Once a remediation plan has been confirmed with the United States Forest Service (USFS), Bureau of Land Management (BLM), and GE, the plan will then be presented to the ECMC. Vertical and lateral delineation of the soil impacts associated with the historic blowdown pit has been completed as verified by analytical data (DN 403527386). There are approximately 2,1423 cubic yards of impacted soil to be remediated at the Site. The approximate area of impacted soils is illustrated on Figures 2 and 3 in the attached ROWC.

### 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.

GE plans to install a minimum of one additional groundwater monitoring well within the footprint of the historic pit location once the impacted soils have been removed and remediated. This will confirm the removal of the source impacts. GE will continue to gauge and sample the three existing groundwater monitoring wells outside the pit footprint on a quarterly basis as Site access allows.

In accordance with ECMC Rule 915.e.(2).C., GE requests the director for a reduced suite for all future groundwater samples to include only BTEX, 1,2,4-TMB, 1,3,5-TMB, and naphthalene.

## 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 Q3 2024 - Status Update to RPN 24644

### 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.

Per Rule 705.b, and in line with guidance laid out in the SBAP, Gunnison Energy has general liability insurance in the amount of \$2M, and Gunnison Energy has umbrella insurance, which sits over the general liability insurance in the amount of \$10M. The umbrella and general liability insurance covers property damage, bodily injury to third parties, and sudden or accidental pollution under a combined \$12M.

Operator anticipates the remaining cost for this project to be: \$ 100000

### 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 location has been through final reclamation.

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. \_\_\_\_\_

Actual Spill or Release date, or date of discovery. \_\_\_\_\_

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 08/22/2022

Proposed site investigation commencement. 07/10/2023

Proposed completion of site investigation. 07/02/2024

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 06/02/2025

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**

In accordance with ECMC Rule 915-1, Footnote 1, GE requests relief of hexavalent chromium as a contaminant of concern (COC). The concentration of all investigative confirmation soil samples collected to date range from 0.256 milligrams per kilogram (mg/kg) [20220825-FEDERAL 11-90-7(PIT W)@9-10] to 0.558 mg/kg [20240701-FED1190-7(MW-03)@8-10] which is within site specific background sample 20240705-FED1190-7(BGW2)@2 with reported a concentration of 0.839 mg/kg. All previously collected soil samples can be refenced in DNs 403193909 and 403527386. A location map showing the location samples collected on July 1 through July 5, 2024, at this Site is included as Figure 2. The analytical results of all soil samples collected at the Site to date are summarized on Table 2 and all soil analytical reports are included in Enclosure C of the attached ROWC.

In accordance with ECMC Rule 915.e.(2).C., GE requests the Director for a further reduced suite for soil to include arsenic, barium, BTEX, TPH, 1,2,4-TMB, 1,3,5-TMB, 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene. Additionally, GE requests the Director for a reduced suite for all future groundwater samples to include BTEX,1,2,4-TMB, 1,3,5-TMB, and naphthalene.

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

Signed: Dustin Held

Title: Lead Consultant

Submit Date: 09/30/2024

Email: dustin.held@wsp.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: Jason Kosola

Date: 12/06/2024

Remediation Project Number: 24644

**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**

403879334	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
403916895	MONITORING REPORT
403940565	ANALYTICAL RESULTS
403940566	ANALYTICAL RESULTS
403940568	ANALYTICAL RESULTS
403940570	ANALYTICAL RESULTS
404018623	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 7 Files

**General Comments****User Group****Comment****Comment Date**

Environmental	ECMC approves reduced analyte request for groundwater sampling.	12/06/2024
	ECMC approves reduced analyte request for soil sampling.	

Total: 1 comment(s)