

State of Colorado
Energy & Carbon Management Commission

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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 COGCC 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>GUNNISON ENERGY LLC</u>	Operator No: <u>10515</u>	Phone Numbers
Address: <u>1801 BROADWAY #1150</u>		Phone: <u>(303) 296-8807</u>
City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80202</u>		Mobile: <u>()</u>
Contact Person: <u>Tyson Johnston</u>	Email: <u>tyson.johnston@oxbow.com</u>	

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 2023 - Status Update - Administratively Close Open Pit Facility IDs (100431 and 115194).

SITE INFORMATION

Yes Multiple Facilities

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

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

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? No

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	TBD	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 Colorado Oil and Gas Conservation Commission (COGCC) Document Number (DN) 403193909 for initial investigative activities completed. All investigative activities can be referenced under Remediation Project Number (PRN) 24644.

Between July 31, 2023, and August 4, 2023, seven investigative borings were advanced by using solid stem and air core drilling technologies to depths ranging from 20 feet below ground surface (bgs) to 30 feet bgs. The seven borings were advanced at locations as follows; soil boring PIT-SB was advanced within the pit center, soil borings PIT-SB-S, PIT-SB-E, PIT-SB-W, and PIT-SB-N were advanced in each cardinal direction immediately outside the pit footprint and soil borings PIT-SB-S-2 and PIT-SB-E-2 locations were advanced beyond PIT-SB-S and PIT-SB-E boring locations to confirm lateral delineation. Discrete confirmation soil samples were collected from each boring for laboratory analysis, the most impacted based on field screening results and each boring terminus.

Please see the attached 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 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 Gunnison, the plan will then be presented to the COGCC. Vertical and lateral delineation of the soil impacts associated with the historic blow down pit has been confirmed. Based on the latest subsurface investigation completed between July 31, 2023 and August 4, 2023, 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 of the attached ROWC.

Please see the attached ROWC for additional investigative activities summarized above.

Proposed Groundwater Sampling

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

All groundwater samples will be submitted for COGCC Table 915-1. An environmental drill rig will be mobilized to the location to delineate groundwater impacts and install up to three groundwater monitoring wells. The focus of the delineation attempts will be beyond the former pit along the original disturbance of the location. One monitoring well will be advanced upgradient, cross-gradient, and downgradient of the previously confirmed impacts. The proposed monitoring well locations are illustrated on Figures 2 and 4 of the attached ROWC.

Please see the attached ROWC for additional investigative activities summarized above.

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 "Proposed Groundwater Sampling" sections above. For additional detail not mentioned in the "Proposed Soil Sampling and Proposed Groundwater Sampling" sections reference the attached ROWC which details the "next steps" of the site investigation assessment.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil	NA / ND
Number of soil samples collected <u>14</u>	-- Highest concentration of TPH (mg/kg) <u>3279</u>
Number of soil samples exceeding 915-1 <u>14</u>	NA Highest concentration of SAR _____
Was the areal and vertical extent of soil contamination delineated? <u>Yes</u>	BTEX > 915-1 <u>Yes</u>
Approximate areal extent (square feet) <u>4000</u>	Vertical Extent > 915-1 (in feet) <u>30</u>
Groundwater	
Number of groundwater samples collected <u>4</u>	-- Highest concentration of Benzene (µg/l) <u>342</u>
Was extent of groundwater contaminated delineated? <u>No</u>	-- Highest concentration of Toluene (µg/l) <u>20200</u>
Depth to groundwater (below ground surface, in feet) <u>9</u>	-- Highest concentration of Ethylbenzene (µg/l) <u>879</u>
Number of groundwater monitoring wells installed <u>0</u>	-- Highest concentration of Xylene (µg/l) <u>17000</u>
Number of groundwater samples exceeding 915-1 <u>3</u>	NA Highest concentration of Methane (mg/l) _____

Surface Water

1 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?

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

One site-specific background soil boring was advanced in native undisturbed ground north of the pad for the purpose of collecting representative and comparable soil samples per COGCC Rule 915.e.(2).D. A total of three discrete site-specific background soil samples were collected and submitted for analysis in intervals of five feet as well as the soil boring terminus. Additionally, one grab groundwater sample was collected as groundwater was observed.

Please see the attached ROWC for more details associated with the site-specific background sampling summary/results.

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 for more details on investigative activities.

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.

Once the impacts are fully delineated a plan to remove the source (former blowdown pit) will be presented.

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.

Once lateral delineation of groundwater has been confirmed, a remediation plan will be presented to the COGCC for remediation of the historic pit soil impacts.

Vertical and lateral definition of the soil impacts associated with the historic blowdown pit has been completed. Gunnison is still in the process of determining the 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 Gunnison, the plan will then be presented to the COGCC. Based on the latest subsurface investigation there are approximately 2,143 cubic yards of impacted soil to be remediated at the Site. The approximate area of impacted soils is illustrated on Figures 2 and 3 of the attached ROWC.

Additional site-specific background borings will be advanced to total depths of approximately 15 feet bgs from nearby locations relative to the Site to continue to establish representative background soil data per COGCC 915 Rule.e(2).D. Discrete soil samples from the site-specific background boring/borings will be collected at every 2-foot interval and at the boring terminus. All background samples will be submitted for arsenic, barium, and chromium (VI).

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 COGCC 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.

Gunnison plans to install a minimum of three groundwater monitoring wells to define impacts to groundwater observed in and immediately surrounding the historic pit location. The monitoring wells will be installed within the original pad disturbance boundary to determine if groundwater impacts are confined within the original pad disturbance boundary. One monitoring well will be advanced upgradient, cross-gradient, and downgradient of the previously confirmed impacts. The proposed monitoring well locations are illustrated on Figures 2 and 4 of the attached ROWC. Once installed the wells will be properly developed and sampled. All future groundwater samples will be submitted for COGCC Table 915-1.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

Quarterly Semi-Annually Annually Other

Q3 2023 - Status Update - Administratively Close Open Pit Facility IDs (100431 and 115194)

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 Oil and Gas Facility Pit or Cuttings trench closure per COGCC Rule 911.c. and 913.c.(1).

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 _____

COGCC Disposal Facility ID #, if applicable: _____

Non-COGCC Disposal Facility: _____

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

E&P waste (liquid) description _____

COGCC Disposal Facility ID #, if applicable: _____

Non-COGCC 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 COGCC 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. There is currently nothing to reclaim.

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. 10/23/2023

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

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

Signed: Dustin Held

Title: Sr. Consultant, Geologist

Submit Date: 10/09/2023

Email: dustin.held@wsp.com

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

COGCC Approved: Jason Kosola

Date: 01/11/2024

Remediation Project Number: 24644

COA Type**Description**

0 COA	

Attachment Check 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**

403527386	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
403553986	SITE INVESTIGATION REPORT
403651489	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 3 Files

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

		Stamp Upon Approval
--	--	---------------------

Total: 0 comment(s)