

State of Colorado
Energy & Carbon Management Commission

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404435852
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Report taken by:
Chris Sanchez

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>MURFIN DRILLING COMPANY INC</u>	Operator No: <u>61650</u>	Phone Numbers Phone: <u>(316) 858-8664</u> Mobile: <u>()</u>
Address: <u>250 N WATER ST STE 300</u>		
City: <u>WICHITA</u>	State: <u>KS</u>	Zip: <u>67202</u>
Contact Person: <u>Cristina Goodrich</u>	Email: <u>cgoodrich@murfininc.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 34358 Initial Form 27 Document #: 403702928

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>009-06440</u>	County Name: <u>BACA</u>
Facility Name: <u>SE CAMPO UNIT 101</u>	Latitude: <u>37.034547</u>	Longitude: <u>-102.581359</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SESE</u>	Sec: <u>34</u>	Twp: <u>34S</u>	Range: <u>46W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: <u>LOCATION</u>	Facility ID: <u>321093</u>	API #: _____	County Name: <u>BACA</u>
Facility Name: <u>SE CAMPO UNIT-634S46W 34SESE</u>	Latitude: <u>37.034547</u>	Longitude: <u>-102.581359</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SESE</u>	Sec: <u>34</u>	Twp: <u>34S</u>	Range: <u>46W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: SPILL OR RELEASE Facility ID: 487527 API #: _____ County Name: BACA
Facility Name: SE Campo Unit 101 Latitude: 37.034540 Longitude: -102.581378
** correct Lat/Long if needed: Latitude: _____ Longitude: _____
QtrQtr: SESE Sec: 34 Twp: 34s Range: 46w Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SM Most Sensitive Adjacent Land Use Rangeland

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

CR 28 650' E, within Lesser Prairie Chicken Estimated Occupied Range, within Lesser Prairie Chicken Connectivity Area, within Comanche National Grassland.

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 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	lab analysis if encountered
Yes	SOILS	250 sq ft	lab analysis

INITIAL ACTION SUMMARY

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

On 7/23/25, additional excavation and grab confirmation soil sampling occurred at the floor and south sidewall of the wellhead excavation and submitted to Origins Laboratory in Denver, Colorado for full ECMC Table 915-1 analysis. Lab results confirm Table 915-1 compliance in soil sample EX01-SS-07@4' at the south sidewall and elevated Arsenic above background local cleanup level remains in the floor of the excavation at soil sample EX01-FS-01@8'. Additional excavation and confirmation sampling is needed at the floor of the wellhead excavation. See attached figures, tables, photo log, and laboratory analytical reports for all work completed since previous SF27 document number 404310207 was submitted, which has not yet been reviewed by ECMC.

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):

Additional excavation and confirmation grab soil sampling is needed at the floor of the excavation. All TPH and Organic Compounds in soil are non-detect in EX01-FS-01@8', Murfin would like to request ECMC approval for a reduced soil analysis of Arsenic only for all confirmation soil samples from the wellhead excavation floor moving forward.

Proposed Groundwater Sampling

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

If groundwater is encountered during site assessment, a grab groundwater sample will be collected and analyzed for ECMC Table 915-1 Organic Compounds in Groundwater and Groundwater Inorganic Parameters.

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):

Initial flowline assessment per approved SF27 document number 403890168. The United States Forest Service (USFS) has directed Murfin to put an indefinite hold on all offsite flowline assessment ground disturbance in the Campo Field within Comanche National Grassland until further notice while they review previous archeological surveys. Murfin has not been granted USFS permission to do the offsite flowline assessment per approved IF27 document number 403890168. It is unknown at this time when USFS permission will be granted.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

NA / ND

Number of soil samples collected 9 -- Highest concentration of TPH (mg/kg) 1686
 Number of soil samples exceeding 915-1 4 -- Highest concentration of SAR 23.2
 Was the areal and vertical extent of soil contamination delineated? No BTEX > 915-1 No
 Approximate areal extent (square feet) 250 Vertical Extent > 915-1 (in feet) 8

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?

Were background samples collected as part of this site investigation?
 Per email correspondence with Chris Sanchez of ECMC on 5/16/25, ECMC will consider a Campo Field master background table and figure for local cleanup level comparison for Murfin's Campo field since all locations are relatively close in the same USFS Comanche National Grasslands. See attached Figure 3, Table 5, and laboratory analytical reports for all Campo Field grab background soil samples collected to-date that have not yet been submitted with previous SF27 submissions.

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 Sampling Plan

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.
 Well is P&A'd

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.

Excavation for offsite disposal.

Soil Remediation Summary

In Situ Ex Situ
 _____ Bioremediation (or enhanced bioremediation) Yes Excavate and offsite disposal
 _____ Chemical oxidation If Yes: Estimated Volume (Cubic Yards) 40
 _____ Air sparge / Soil vapor extraction Name of Licensed Disposal Facility or ECMC Facility ID # _____

_____ Natural Attenuation
_____ Other _____

_____ 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 _____

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.

Murfin is adequately bonded as shown by submitted Form 3A Doc: 403418364 and has General Liability insurance.

Operator anticipates the remaining cost for this project to be: \$ 5000

WASTE DISPOSAL INFORMATION

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

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

none

Volume of E&P Waste (solid) in cubic yards _____ 40

E&P waste (solid) description impacted soil _____

ECMC Disposal Facility ID #, if applicable: _____

Non-ECMC Disposal Facility: Twisted Barrel _____

Volume of E&P Waste (liquid) in barrels _____ 0

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 completed in accordance with ECMC 1000 Series Rules or as agreed upon with the Surface Owner.

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. _____

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). _____

Proposed site investigation commencement. 07/22/2024

Proposed completion of site investigation. 02/28/2026

REMEDIAL ACTION DATES

Proposed start date of Remediation. 05/01/2025

Proposed date of completion of Remediation. 02/28/2026

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:

OPERATOR COMMENT

All TPH and Organic Compounds in soil are non-detect in EX01-FS-01@8', Murfin would like to request ECMC approval for a reduced soil analysis of Arsenic only for all confirmation soil samples from the wellhead excavation floor moving forward.

Previous SF27 document number 404310207 has not yet been reviewed by ECMC. This form is being submitted to satisfy the Rule 913.e quarterly requirement.

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

Signed: David Castro

Title: Senior Project Scientist

Submit Date: 11/14/2025

Email: dcastro@eagle-enviro.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: Chris Sanchez

Date: 01/07/2026

Remediation Project Number: 34358

COA Type**Description**

	Background sampling locations should be sufficiently away from the impacted area to reflect conditions not impacted by oil and gas activity, and should be obtained from similar depths and soil horizons or lithologic materials for comparison to confirmation soil samples.
	All ongoing/unaddressed comments/COAs from previous Forms remain applicable.
	Operator shall continue Quarterly Reporting until the Site Assessment is completed, and the remediation area demonstrates Compliance with Full Table 915-1 Standards.
	ECMC acknowledges the request for a reduced analyte suite and does not approve it at this time. If Operator requests to use off location background samples Operator shall provide a NRCS map showing all sample points, the distance from the site that the background samples were taken, soil type, and a confirmation of same land use. Operator shall also provide original laboratory analytical. Operator shall provide additional data to justify the use of off site background determinations to include: the distance from the site that the background samples were taken, soil type, and a confirmation of same land use.
4 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**

404435852	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
404435860	LABORATORY ANALYTICAL REPORT
404435861	LABORATORY ANALYTICAL REPORT
404435862	LABORATORY ANALYTICAL REPORT
404435863	MAP
404435864	SOIL SAMPLE LOCATION MAP
404435865	SOIL SAMPLE LOCATION MAP
404435866	PHOTO DOCUMENTATION
404435867	SITE INVESTIGATION REPORT
404435868	ANALYTICAL DATA SUMMARY TABLE(S)
404435869	ANALYTICAL DATA SUMMARY TABLE(S)
404435870	ANALYTICAL DATA SUMMARY TABLE(S)
404435871	ANALYTICAL DATA SUMMARY TABLE(S)

Total Attach: 14 Files

General Comments

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

Total: 0 comment(s)