

State of Colorado Oil and Gas Conservation 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: WESTERN OPERATING COMPANY	Operator No: 95620	Phone Numbers Phone: (303) 893-2438 Mobile: ()
Address: 1165 DELAWARE STREET #200		
City: DENVER	State: CO Zip: 80204	
Contact Person: Steve James	Email: steve@westernoperating.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 20712 Initial Form 27 Document #: 402860904

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: WELL	Facility ID: _____	API #: 061-06023	County Name: KIOWA
Facility Name: DAWSON A 1	Latitude: 38.424060	Longitude: -102.466500	
** correct Lat/Long if needed: Latitude: 38.423673		Longitude: -102.465408	
QtrQtr: NENW	Sec: 9	Twp: 19S	Range: 45W Meridian: 6 Sensitive Area? No

SITE CONDITIONS

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

Is domestic water well within 1/4 mile? Yes Is surface water within 1/4 mile? No

Is groundwater less than 20 feet below ground surface? Yes

Other Potential Receptors within 1/4 mile

One DWR Permitted well (Receipt # 0420224) is located approximately 1,150 feet west-southwest of the Site. Site specific depth to groundwater is unknown as no depth to water is reported for DWR well Receipt # 0430224, but may be present at less than 20 feet below ground surface based (bgs) on the well log of DWR well Receipt # 9087905 (located ~1.7 miles west-southwest of site), which reported a water depth of 14 feet bgs in 1966. A residential home is located approximately 890 feet west-northwest of the site. The site is located within mapped Lesser Prairie Chicken High Priority Habitat Area. No other potential receptors or sensitive areas were identified.

The landowner has two groundwater wells on his property which are screened at 30 feet bgs and 90 feet bgs per COGCC. The wells are located approximately 1,190 feet and 1,345 feet west-northwest of the tank battery.

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
Yes	SOILS	Unknown	Visual observation

INITIAL ACTION SUMMARY

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

COGCC inspected the site on October 27, 2021 (Field Inspection Form Document Number 690202223) and identified oily soil present west of the tank battery. It is believed that this material is residual from the closed remediation project 3546. Western Operating is currently conducting source removal operations. As of February 25, 2022, approximately 20 cubic yards has been excavated for offsite removal.

On February 18, 2022, a release occurred at the site from the free water knockout tank at the tank battery due to a failed pressure relief valve. Approximately 20 bbl of crude oil and produced water was released which spread throughout the containment, escaped the containment on the southern side, and flowed approximately 250 feet east-northeast. Cleanup activities began the same day the release was discovered. A hydrovac truck was used along with a hot water flush to recover as much of the released fluids as possible and the remaining impacted soil is being scraped up for offsite disposal. As of February 25, 2022, approximately 10 cubic yards has been excavated for offsite removal. The spill was reported to COGCC in a Form 19 (Document ID 402960182). COGCC advised that sampling for the new spill be submitted under the open remediation project number 20712.

Additional scraping is being conducted to remove impacts from both the historical and recent release.

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):

Following excavation activity, confirmation samples will be collected from scraped/excavated areas and from within the tank battery containment per COGCC Rule 915.e.(2) and submitted for analysis of benzene, toluene, ethylbenzene, total xylenes, total petroleum hydrocarbons (C6-C36), electrical conductivity, sodium adsorption ratio, pH, and hot water soluble boron. Samples from the new release area will also be submitted for analysis of all Table 915-1 Organic Compounds and Metals in Soil.

Proposed Groundwater Sampling

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

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):

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 9

Number of soil samples exceeding 915-1 9

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

Approximate areal extent (square feet) 5000

NA / ND

-- Highest concentration of TPH (mg/kg) 110

-- Highest concentration of SAR 1

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 2

Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet)

Number of groundwater monitoring wells installed

Number of groundwater samples exceeding 915-1

Highest concentration of Benzene (µg/l)

Highest concentration of Toluene (µg/l)

Highest concentration of Ethylbenzene (µg/l)

Highest concentration of Xylene (µg/l)

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?☐ 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?**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.

The oily soil is being removed by excavation and transported offsite to a properly permitted waste disposal facility. Removal of the remaining impact is expected be completed by the end of May 2022. Subsequent confirmation soil sampling will be completed verify adequate removal.

Soil with elevated pH will be mixed with unimpacted soil onsite as discussed below.

REMEDATION 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.

Western proposes onsite ex-situ soil mixing to mitigate the remaining areas with elevated pH levels. The areas with elevated pH will be removed by excavation, which will extend beyond the release area to include unimpacted material. Additional confirmation samples will be collected for laboratory analysis of pH to confirm adequate removal of the lateral and vertical extent of pH impact. The excavated material will be mixed/blended onsite with a backhoe. The stockpile will be surrounded by straw waddle and/or earthen berms to prevent offsite sediment runoff. Composite soil samples will be collected from the mixed soil at a frequency of at least one 10-point composite per 100 cubic yards of material. The composite samples will be submitted for laboratory analysis of the Table 915-1 Soil Suitability for Reclamation parameters. Upon confirmation that the analytical results are compliant, the mixed soil will be used as backfill in the tank battery area. The soil mixing will commence by the end of June 2022.

Soil Remediation Summary

☐ In Situ

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

☒ Ex Situ

Yes _____ Excavate and offsite disposal
If Yes: Estimated Volume (Cubic Yards) _____ 30
Name of Licensed Disposal Facility or COGCC Facility ID # _____ 0
Yes _____ Excavate and onsite remediation
No _____ Land Treatment
No _____ Bioremediation (or enhanced bioremediation)
No _____ Chemical oxidation
Yes _____ Other _____ Soil mixing _____

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

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 30

E&P waste (solid) description Oil and produced water impacted soil

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: Waste Management's Buffalo Ridge Landfill

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

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.

Location will be reclaimed in accordance with 1000 series rules following remediation.

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. 10/27/2021

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 10/27/2021

Proposed site investigation commencement. 03/14/2022

Proposed completion of site investigation. _____

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

Please see the attached Operator Comment Document.

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

Signed: Steve James

Title: President

Submit Date: 05/25/2022

Email: steve@westernoperating.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: 06/22/2022

Remediation Project Number: 20712

Condition of Approval**COA Type****Description**

	Operator shall ensure proper contaminated waste management by utilizing best management practices to prevent contaminated soil from traveling off the location by wind or stormwater.
	Tank battery area sampling: reduced analyte suite for the remaining confirmation samples at the site consisting of benzene, toluene, ethylbenzene, total xylenes, total petroleum hydrocarbons (C6-C36), electrical conductivity, sodium adsorption ratio, pH, and hot water soluble boron is approved only for the area immediately around the former tank battery.
	Operator shall conduct additional soil sampling in area of historic release to demonstrate that groundwater has not been impacted per COA on previously approved Form 27 Supplemental (Doc 403033175). Samples should be analyzed for all Table 915 -1 soil constituents. Operator shall demonstrate that soil below spill areas are clean and unaffected by spills in lieu of groundwater sampling.
3 COAs	

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**

403046005	FORM 27-SUPPLEMENTAL-SUBMITTED
403051639	SITE INVESTIGATION REPORT
403051643	ANALYTICAL RESULTS
403051680	ANALYTICAL RESULTS
403051683	SOIL SAMPLE LOCATION MAP
403051684	OTHER

Total Attach: 6 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)