

State of Colorado
Oil and Gas Conservation Commission

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Report taken by:
Laurel Anderson

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>KP KAUFFMAN COMPANY INC</u>	Operator No: <u>46290</u>	Phone Numbers
Address: <u>1700 LINCOLN ST STE 4550</u>		
City: <u>DENVER</u>	State: <u>CO</u>	Zip: <u>80203</u>
Contact Person: <u>Ray Gorka</u>	Email: <u>rgorka@kpk.com</u>	Phone: <u>(720) 434-2215</u>
		Mobile: <u>()</u>

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 11883 Initial Form 27 Document #: 401770647

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: <u>FLOWLINE</u>	Facility ID: <u>324648</u>	API #: _____	County Name: <u>JACKSON</u>
Facility Name: <u>MCCALLUM UNIT-610N79W 34NESW</u>	Latitude: <u>40.793330</u>	Longitude: <u>-106.254190</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NESW</u>	Sec: <u>34</u>	Twp: <u>10N</u>	Range: <u>79W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

SITE CONDITIONS

General soil type - USCS Classifications SC 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

0 habitable structures are within a quarter mile of the site; Jackson County Road 10 is 685 feet to the east; SURFACE WATER: Aband Ditch is located approximately 2,310 feet southwest of the site. The 100 year floodplain is not located within 1/4 mile of the site; High Priority habitat is located over the site: Greater Sage Grouse General and Priority Habitat Management Areas, Pronghorn Migration Corridors buffer, and Greater Sage Grouse Lek Site. Additionally, Pronghorn Winter Concentration buffer is approximately 275 feet northwest of the site. No Bald Eagle Roost site or Bald Eagle Active Nest site are mapped within a mile of the site. CPW has been contacted about these buffers. There are 0 domestic water wells within a quarter mile of the site.

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	300'x5'	Visual delineation

INITIAL ACTION SUMMARY

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

The previous operator, Bonanza Creek, exposed and repaired the flowline. All of the impacted soil was removed from the excavation. Soil samples were collected from the excavation which indicated the remaining soil was compliant with COGCC Table 910-1 standards. The excavation has since been back filled. However, when the release reached the ground surface it ran down the access road bar ditch. This area of surface impact is being treated in place by surface tilling. Discrete soil samples were collected at SS01, SS03, SS05, SS06, SS07 and SS08 were collected on 8/26/2016. There were exceedance for SAR on two of the samples, so additional soil samples were collected. KPK collected samples on 9/26/2018 to verify that the soil was compliant with COGCC Table 910-1. No exceedances were observed in these samples.

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 9/14-9/15/2022, additional soil samples, including background soil samples, were collected as described in the Rule 915.e.(2) Guidance Document along the access road bar ditch from depths of 2 feet bgs and analyzed for current Table 915-1 constituents. COGCC was provided with a 48 hr notice prior to the sampling event. September 2022 sampling was conducted to ensure the pathway from soil to groundwater is incomplete and that all impacted soil has been removed/tilled out. 2 samples exceeded site-specific background levels. SS-3@2' exceeded for arsenic. SS-8@2' exceeded for cadmium and nickel. These two samples' exceedances are not indicative of an oil or produced water release. For example, there are no SAR or EC readings above site-specific limits in the confirmation samples collected in September 2022. No additional soil sampling is required and operator is requesting to move to the reclamation phase. A Soil Sample Location Map has been provided as an attachment.

Proposed Groundwater Sampling

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

If encountered, a grab groundwater sample will be collected from the excavation. Groundwater samples will be analyzed for Table 915-1 Organic Compounds in Groundwater and Table 915-1 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):

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 30

Number of soil samples exceeding 915-1 25

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

Approximate areal extent (square feet) 1860

NA / ND

-- Highest concentration of TPH (mg/kg) 529

-- Highest concentration of SAR 29.73

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 1

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?

An adjacent bar ditch carried some of the produced water from the location. The previous operator, Bonanza Creek, was tilling the roadside ditch, and since the Spring of 2018, KPK has continued the process. September 2022 soil sampling analytics indicate no impacts from the produced water release remain in-situ. Operator is requesting closure for this facility with reclamation to include reclaiming the roadside bar ditch to its previous state.

Were background samples collected as part of this site investigation?

6 background samples were collected. Background soil sample locations are provided in the attached Soil Sample Location map.

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 remaining impacted soil was treated in place through surface tilling. The soil removed at the release point was stockpiled and sampled. The soil was compliant with COGCC Table 910-1 standards and was used to backfill the excavation. Additionally, soil sample analytics for samples collected from depths of 2 feet confirmed all impacted soil has been removed or treated with tilling.

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.

The impacted soil in the bar ditch was tilled until field screening and laboratory analysis indicated the impact has been removed. Confirmation soil samples were collected and analyzed for Table 915-1 constituents in September 2022. Soil analytics indicate all impacted soil has been addressed. Operator is requesting to move to reclamation phase.

Soil Remediation Summary

In Situ

Ex Situ

No Bioremediation (or enhanced bioremediation)

Excavate and offsite disposal

No Chemical oxidation

If Yes: Estimated Volume (Cubic Yards) _____

No Air sparge / Soil vapor extraction

Name of Licensed Disposal Facility or COGCC Facility ID # _____

Yes Natural Attenuation

Excavate and onsite remediation

No Other _____

Land Treatment

Bioremediation (or enhanced bioremediation)

Chemical oxidation

Other _____

Groundwater Remediation Summary

No Bioremediation (or enhanced bioremediation)

No Chemical oxidation

No Air sparge / Soil vapor extraction

No Natural Attenuation

No 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.

If groundwater is encountered during remediation, groundwater samples will be collected, and a Groundwater Monitoring (GWM) Plan will be proposed to COGCC. Upon approval of the GWM plan, COGCC will be provided with a 72-hour notice before well installation.

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.

Upon completion of any required backfill in the bar ditch, KPK will consult with the landowner on seeding preference. Reclamation will commence following the 1000 series reclamation rules.

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? Yes

If YES, does the seed mix comply with local soil conservation district recommendations? Yes

Did the local soil conservation district provide the seed mix? No

SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. 11/21/2022

Proposed date of completion of Reclamation. 12/26/2022

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. 07/28/2016

Actual Spill or Release date, or date of discovery. 07/28/2016

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 08/24/2016

Proposed site investigation commencement. 08/24/2016

Proposed completion of site investigation. 09/14/2022

REMEDIAL ACTION DATES

Proposed start date of Remediation. 08/24/2016

Proposed date of completion of Remediation. 09/14/2022

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:

Confirmation soil samples indicate no impacted soil remains in place to the north in the bar ditch. Operator is requesting to move towards reclamation and is updating the implementation schedule to reflect that. Reclamation may need to wait until the spring to adequately establish any vegetation that was disturbed. If that is the case, Operator will update the implementation schedule in the next Form 27 submittal.

OPERATOR COMMENT

In September 2022 sampling was conducted to ensure the pathway from soil to groundwater is incomplete and that all impacted soil has been removed/tilled out. Confirmation samples were collected according to COGCC Rule 913.b.(2)C (discrete sampling instead of composite sampling in the past). COGCC-approved methodology of 1.25 times the highest background analysis indicates there are no impacted soils remaining near the source or along the roadside bar ditch. 2 samples exceeded site-specific background levels. SS-3@2' exceeded for arsenic. SS-8@2' exceeded for cadmium and nickel. These two samples' exceedances are not indicative of an oil or produced water release. For example, there are no SAR or EC readings above site-specific limits in the confirmation samples collected in September 2022. No additional soil sampling is required and operator is requesting to move to the reclamation phase. A site map and soil sample location map have been attached with this submission. Previous operator did not provide waste disposal manifests during the transfer, so no waste disposal manifests have been provided for the removed impacted soil discussed in the initial action summary section. As stated in the implementation schedule section, reclamation may need to wait until the spring to adequately establish any vegetation that was disturbed. If that is the case, Operator will update the implementation schedule in the next Form 27 submittal.

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

Signed: Josiah Reamy

Title: Project Manager

Submit Date: 10/25/2022

Email: primarycontractor@marcomllc.net

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: Candice (Nikki) Graber

Date: 11/22/2022

Remediation Project Number: 11883

COA Type

Description

	On the next Form 27 Operator shall provide a detailed stand alone implementation plan proposing dates for completion of all field work to occur as soon as possible in Spring 2023.
	All unaddressed COAs/CAs from previously approved forms/inspections still apply. Additionally, all COAs applied to the GRIP apply to this remediation project.
	Operator will provide notice to COGCC EPS Nikki Graber (nikki.graber@state.co.us) and COGCC EPS Kris Neidel (kris.neidel@state.co.us) at least 48 hours prior to soil boring, or any sampling events performed on location.
	This Form 27 Supplemental is being approved as submitted. However, the next Form 27 Supplemental must be populated with the Adequacy of Operator's General Liability Insurance and Financial Assurance data field under the Remediation Progress Update tab as required by Rules 703.b and 705.b. Note: Based on the scope of work proposed COGCC does not believe Operator anticipated the remaining cost for this project is adequate.
	Backgrounds amples were submitted for analytical but not discussed or reported in the summary tables. Operator shall provide a detailed background analysis or a remedial action plan to address inorganic impacts observed.
	COGCC denies Operators request to transition this remedition to a reclamation plan. Exceedances of cadmium, nickel, and arsenic above Table 915-1 and 1.25x background are present at this produced water spill. Cadmium, nickel and arsenic are indicators of produced water impacts. Additionally, Rule 915-1 only allows for closure under a reclamation plan for SAR, EC, pH, and boron.
6 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

403205003	FORM 27-SUPPLEMENTAL-SUBMITTED
403205703	ANALYTICAL RESULTS
403205704	ANALYTICAL RESULTS
403205705	ANALYTICAL RESULTS

403205706	ANALYTICAL RESULTS
403205710	SITE MAP
403205711	SOIL SAMPLE LOCATION MAP

Total Attach: 7 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Environmental	COGCC "Do all soils meet Table 915-1 standards?" changed from YES to NO.	11/22/2022

Total: 1 comment(s)