FORM 27 Rev 5/22

State of Colorado
Oil and Gas Conservation Commission

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Report taken by:

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 INFORMATON

Name of Operator: KP KAUFFMAN COMPANY INC Operator No: 46290
Address: 1700 LINCOLN ST STE 4550
City: DENVER State: CO Zip: 80203
Contact Person: Craig Meis Email: cmeis@kpk.com

Phone Numbers
Phone: (303) 825-4822
Mobile: ( )

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 9363 Initial Form 27 Document #: 2086966

PURPOSE INFORMATION

- [X] Rule 913.c.(1): Pit or Cuttings Trench closure.
- [ ] Rule 913.c.(2): Buried or partially buried vessel closure, which will be by removal.
- [X] 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: PIT Facility ID: 102705 API #: County Name: MORGAN
Facility Name: BOXER Unit Historical PW Pit Latitude: 40.102397 Longitude: -103.890037
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: NWNE Sec: 32 Twp: 2N Range: 58W Meridian: 6 Sensitive Area? No

SITE CONDITIONS

General soil type - USCS Classifications SM
Most Sensitive Adjacent Land Use RANGELAND
Is domestic water well within 1/4 mile? Yes
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

There are no residents or habitable buildings within a quarter mile of the pit. County road 14 is 1521' to the West. The Closest marked surface water is a drainage channel 1662' to the Southwest. There is an unmarked drainage located 479' to the South of the pit. The 100 year floodplain is approximately 1,512' West of the pit. High Priority habitat is not within a Quarter mile of the pit. There are no Bald Eagle Roost or Bald Eagle Active Nest site half mile buffers within a quarter mile of the site. There are no domestic water wells within a quarter mile of the pit. The National wetlands inventory does not list any wetlands within a quarter mile of the release, however, it does list the Pit as a freshwater Pond, and there has not been water in the pit for 10 plus years.

SITE INVESTIGATION PLAN

TYPE OF WASTE:

[X] **E&P Waste**	[X] **Other E&P Waste**	[ ] **Non-E&P Waste**
[X] Produced Water	[ ] Workover Fluids	_____
[ ] Oil	[ ] Tank Bottoms	
[ ] Condensate	[ ] Pigging Waste	
[ ] Drilling Fluids	[ ] Rig Wash	
[ ] Drill Cuttings	[ ] Spent Filters	
	[X] Pit Bottoms	
	[ ] Other (as described by EPA) _____	

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	SOILS	Unknown	sample analytical data

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 unlined earthen pit (Fac ID 102705) located 300' east of the Boxer Battery was closed in 2012 by KPK. KPK has investigated the site post-closure of the pit by sampling the locations shown in the attached location drawing. The samples were analyzed for BTEX, GRO, DRO, EC, SAR and pH as required under COGCC Rule 910.(3)B. Samples were collected at various depths ranging from 6" to 3' to accurately investigate the soil in the berm and under and near the closed pit. Field screening with a PID reader was performed and logged for each sample. Analytical results for the samples show that petroleum hydrocarbons are not present in soil in the former pit. Elevated SAR and EC levels that exceed the Table 915-1 Soil Suitability standards and background concentrations indicate that soil in the pit has been impacted by produced water constituents. Additional investigation is required to determine the vertical extent of the produced water impacts.

PROPOSED SAMPLING PLAN

Proposed Soil Sampling

[X] Will soil samples be collected as part of this investigation? (Number, type (grab/composite), analyses, and locations of samples):

Additional investigation is required to determine the vertical extent of the produced water impacts. Using Rule 911.c. Pit Closure guidance, soil borings SB-1 through SB-13 will be installed at the locations shown on the attached Proposed Soil Boring Location Figure. The soil borings will be installed to 25 feet bgs, the first occurrence of groundwater, or refusal, whichever occurs first. Soil samples will be collected at 2.5 foot intervals and screened with a PID and EC probe. At a minimum, one grab sample will be collected from each boring and submitted for analysis of Table 915-1 soil constituents. If needed, additional extent borings may be installed and soil samples collected to evaluate the extent of impacts. COGCC will be provided with a 48 hr notice prior to any sampling event.

Proposed Groundwater Sampling

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

If groundwater is encountered during investigation activities, a grab sample will be collected as soon as practical. Groundwater samples will be submitted for laboratory analysis of BTEX, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene by EPA Method 8260. A Groundwater Monitoring plan will be constructed to cover upgradient, cross gradient, down gradient, and at source groundwater impacts (Additional wells may be necessary). The Groundwater Monitoring plan will be submitted for approval, and Groundwater monitoring will continue until 4 clean consecutive quarters is achieved. COGCC will be provided a 48 Hour notice prior to the installation of Monitoring wells. Boring logs and monitoring well construction logs will be completed for each well and submitted in a supplemental Form 27.

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):

Three additional background soil borings will be installed to evaluate metals and soil suitability for reclamation parameters in soil outside of the pit. Sample depths will be determined in the field based on sample depths for other soil samples. Proposed locations are shown on the soil sample location figure.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected: 16
Number of soil samples exceeeding 915-1: 9
Was the areal and vertical extent of soil contamination delineated? No
Approximate areal extent (square feet): 2500

NA / ND

ND — Highest concentration of TPH (mg/kg):
-- — Highest concentration of SAR: 52.5
BTEX > 915-1: No
Vertical Extent > 915-1 (in feet): 0

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?

[X] Were background samples collected as part of this site investigation?

Background soil samples BG001 through BG003 were analyzed for EC, SAR and pH. Levels for those 3 constituents were less than the Soil Suitability for Reclamation standards in each sample, additional Background samples will be collected and analyzed for full Table 915-1 Inorganic constituents.

[ ] Was investigation derived waste (IDW) generated as part of this investigation?

Volume of solid waste (cubic yards):
Volume of liquid waste (barrels):

[X] Is further site investigation required?

Please see the scope proposed in the Site Investigation Plan section.

REMEDIAL ACTION PLAN

Does this Supplemental Form 27A include changes to a previously approved Remedial Action Plan? Yes

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

If results from the collected soil samples are found to exceed the reporting threshold limits established in COGCC Table 915-1, KPK will evaluate soil excavation activities where applicable. Excavated soil will be disposed of at a certified disposal facility.

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.

KPK will evaluate soil excavation activities where applicable, pending results from the investigation proposed with the Geoprobe.

Soil Remediation Summary

[ ] **In Situ**

Bioremediation (or enhanced bioremediation)

[ ] **Ex Situ**

Excavate and offsite disposal

Chemical oxidation

Air sparge / Soil vapor extraction

Natural Attenuation

Other

If Yes: Estimated Volume (Cubic Yards)

Name of Licensed Disposal Facility or COGCC Facility ID #

Excavate and onsite remediation

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 investigation activities, a grab sample will be collected as soon as practical. Groundwater samples will be submitted for laboratory analysis of BTEX, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene by EPA Method 8260. A Groundwater Monitoring plan will be constructed to cover upgradient, cross gradient, down gradient, and at source groundwater impacts (Additional wells may be necessary). The Groundwater Monitoring plan will be submitted for approval, and Groundwater monitoring will continue until 4 clean consecutive quarters is achieved. COGCC will be provided a 48 Hour notice prior to the installation of Monitoring wells. Boring logs and monitoring well construction logs will be completed for each well and submitted in a supplemental Form 27.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

[X] 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.

KPK has sufficient insurance and bonding to fully address the anticipated costs of Remediation, including the remaining estimated costs for this project. KPK has general liability insurance and financial assurance in compliance with COGCC rules. The cost for remediation is a preliminary estimate only, costs may change upwards or downward based on site-specific information. KPK makes no representation or guarantees as to the accuracy of the preliminary estimate.

Operator anticipates the remaining cost for this project to be: $ 7500

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:

Operator attests that all junk, trash, debris, vegetation, and pit covers, if present, were removed at the time of reclamation. No waste documentation has been located. Operator will review available files and provide documentation if it becomes available.

Volume of E&P Waste (solid) in cubic yards 0

E&P waste (solid) description

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility:

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.

If remediation is required following the analysis of the collected soil samples, KPK will excavate contaminated areas and dispose of excavated soil at a certified disposal facility. New soil samples will be collected from excavation areas and analyzed for full Table 915-1 constituents. If results from the collected soil samples are found below the reporting threshold limits established in COGCC Table 915-1, KPK will backfill excavation areas with clean soil and grade to match the existing landscape of the area. Native seed will be applied to revegetate and promote natural erosion control and the area regarded to match the existing landscape.

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. 06/05/2023

Proposed date of completion of Reclamation. 07/03/2023

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. 11/19/2015

Actual Spill or Release date, or date of discovery. 12/10/2015

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 12/10/2015

Proposed site investigation commencement. 03/06/2023

Proposed completion of site investigation. 03/31/2023

REMEDIAL ACTION DATES

Proposed start date of Remediation. 04/03/2023

Proposed date of completion of Remediation. 04/28/2023

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:

Revised implementation schedule.

OPERATOR COMMENT

This form presents soil analytical data collected following the closure of the pit (Facility ID 102705) and presents a plan that is consistent with 911.c. Pit Closure guidance to continue site investigation activities . All known previous COAs have been addressed. A separate Form 19 was submitted to report the discovery of the SAR and EC in soil at the site.

A revised implementation schedule has been provided in this form. Although the landowner has previously denied access, Operator will re-initiate contact in order to implement the proposed scope.

Soil sample locations, analytical results with GPS data, and boring logs are attached. GPS data in the logs was corrected based proposed sample locations. Corrected GPS data are provided in the analytical results summary table.

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

Signed: Kevin Tautkus Title: Project Manager

Submit Date: 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: Date:

Remediation Project Number: 9363

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
403206571	MAP
403206575	SITE MAP
403206582	LOGS
403281188	ANALYTICAL RESULTS
403281960	SOIL SAMPLE LOCATION MAP

Total Attach: 5 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)