

State of Colorado
Oil and Gas Conservation Commission

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Document Number:
403170660
Receive Date:
09/19/2022
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 #: 23366 Initial Form 27 Document #: 403055757

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>LOCATION</u>	Facility ID: <u>479311</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>UPRR 42 PAN AM AE MANIFOLD 2</u>	Latitude: <u>40.094130</u>	Longitude: <u>-104.925760</u>	
	** correct Lat/Long if needed: Latitude: <u>40.094020</u>	Longitude: <u>-104.925690</u>	
QtrQtr: <u>NESE</u>	Sec: <u>31</u>	Twp: <u>2N</u>	Range: <u>67W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>
Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>481730</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Facility 4 AE 2</u>	Latitude: <u>40.094059</u>	Longitude: <u>-104.925604</u>	
	** correct Lat/Long if needed: Latitude: _____	Longitude: _____	
QtrQtr: <u>NESE</u>	Sec: <u>31</u>	Twp: <u>2N</u>	Range: <u>67W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

SITE CONDITIONS

General soil type - USCS Classifications SM

Most Sensitive Adjacent Land Use Developed

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

Mapped wetlands approximately 450 feet north of release point. Residential structures approximately 200 feet southwest.

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
UNDETERMINED	GROUNDWATER	Undetermined	undertermined
Yes	SOILS	280 yards	Calculated based off of extent of excavation

INITIAL ACTION SUMMARY

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

KPK was notified by another operator that impacts were located near the KPK flowline. KPK dispatched field crews to the site and began excavating to expose line. NO leaks or damage was found and it was labeled as a historical release. KPK crews began excavating and removing impacted soil. The flowline transports produced fluid from Facility #4 west of the site.

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 August 22, 2022, COGCC approved Document #403127197 but the backfill request was not approved in the conditions of approval (COAs). In the COAs, COGCC requested that KPK define the lateral extent of the elevated barium concentration in soil sample SW-3@7' and elevated cadmium in soil sample SW-5@7'. In response to the request, between August 30 and September 2, 2022, MarCom oversaw additional excavation along the north and east walls, including the SW-3@7' and SW-5@7' sample locations. Waste manifests will be included in a supplemental form submission. Following the required notification to COGCC, on September 2, 2022, MarCom collected soil sample SW-7@7' and SW-8@7' near the SW-5@7' and SW-3@7' locations, respectively. Analytical results show that barium and cadmium concentrations in soil samples SW-7@7' and SW-8@7' were below the applicable background concentration or Protection of Groundwater Soil Screening Level Concentration listed in COGCC Table 915-1.

Proposed Groundwater Sampling

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

Quarterly groundwater sampling will be conducted. Groundwater samples will be collected from each well and analyzed for the Organic Compounds in Groundwater listed in COGCC Table 915-1 and for barium and cadmium concentrations. If needed, additional groundwater assessment will be conducted.

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

NA / ND

Number of soil samples collected 18 -- Highest concentration of TPH (mg/kg) 154.5
 Number of soil samples exceeding 915-1 9 -- Highest concentration of SAR 8.8
 Was the areal and vertical extent of soil contamination delineated? No BTEX > 915-1 No
 Approximate areal extent (square feet) 945 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?
 On May 25, 2022, MarCom oversaw the installation of background soil borings BK-1 through BK 4 at the location shown on the attached Soil Sample Location Figure. Background soil samples were collected from 4 feet bgs and from 8 feet bgs and submitted for analysis of the inorganic constituents listed on COGCC Table 915-1. Background soil analytical data is summarized in the attached Soil Analytical Summary Table.

Was investigation derived waste (IDW) generated as part of this investigation?
 Volume of solid waste (cubic yards) 10 Volume of liquid waste (barrels) 0

Is further site investigation required?
 Following the site redevelopment, four groundwater monitoring wells will be installed at the locations shown on the attached Well Location Figure. Quarterly groundwater sampling will then be conducted. Groundwater samples will be collected from each well and analyzed for the Organic Compounds in Groundwater listed in COGCC Table 915-1 and for barium and cadmium concentrations. If needed, additional groundwater assessment will be conducted.

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.
 Between April 5 and April 25, 2022, Marcom, LLC (MarCom) oversaw the excavation of approximately 420 tons of exploration and production (E&P) waste. Confirmation soil samples were collected by MarCom from the excavation sidewalls on April 28, 2022, and the bottom of the hole on July 6, 2022. Six samples were collected from the sidewalls (SW) at 7 feet below ground surface (bgs) and one sample was collected from the bottom of the hole (BH) at 10 feet bgs. Soil sample locations are shown on the attached Soil Sample Location Figure. Soil samples were submitted to Summit Scientific and analyzed for the contaminants of concern listed in Colorado Oil and Gas Conservation Commission (COGCC) Table 915-1, including the Soil Suitability for Reclamation, Organic Compounds in Soils, and Metals in Soils. Organic compounds concentrations were less than the applicable clean-up concentration for all samples submitted for analysis. Soil analytical data is summarized in the attached Soil Analytical Summary Table.

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.
 MarCom recommends that the excavation be backfilled and that site reclamation plan be prepared that incorporates the redevelopment as proposed by Yes! Communities. Following the redevelopment, four groundwater monitoring wells will be installed at the locations shown on the attached Well Location Figure. Quarterly groundwater sampling will then be conducted. Groundwater samples will be collected from each well and analyzed for the Organic Compounds in Groundwater listed in COGCC Table 915-1 and for barium and cadmium concentrations. If needed, additional groundwater assessment will be conducted. COGCC will be notified 48 hours prior to sampling.

Soil Remediation Summary

In Situ

Ex Situ

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

- Yes _____ Excavate and offsite disposal
- _____ If Yes: Estimated Volume (Cubic Yards) _____ 290
- _____ Name of Licensed Disposal Facility or COGCC Facility ID # _____
- No _____ 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
- Yes _____ 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.

Following the redevelopment, four groundwater monitoring wells will be installed at the locations shown on the attached Well Location Figure. Quarterly groundwater sampling will then be conducted. Groundwater samples will be collected from each well and analyzed for the Organic Compounds in Groundwater listed in COGCC Table 915-1 and for barium and cadmium concentrations. If needed, additional groundwater assessment will be conducted.

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 Form 27

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: \$ 10000

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 290

E&P waste (solid) description Hydrocarbon impacted soil

COGCC Disposal Facility ID #, if applicable: _____

Non-COGCC Disposal Facility: Front Range 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.

The excavation will be backfilled to existing grade with clean, imported clay. Clay backfill was selected for suitability as a base for road construction and suitability at limiting the vertical infiltration rate of surface water. Clay backfill will be imported from the Front Range Landfill source. No topsoil will be imported due to its incompatibility as a construction base. Following backfill, the site will be graded according to the plan for the residential community. No grass seed will be planted. The site will be periodically inspected for erosion until the redevelopment begins. Final grading will be determined by the site redeveloper.

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. 10/17/2022

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

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. 03/09/2022

Actual Spill or Release date, or date of discovery. 03/09/2022

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 03/09/2022

Proposed site investigation commencement. 04/28/2022

Proposed completion of site investigation. 06/10/2022

REMEDIAL ACTION DATES

Proposed start date of Remediation. 03/09/2022

Proposed date of completion of Remediation. 12/12/2023

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:

Change is requested to reflect the new proposed implementation schedule.

OPERATOR COMMENT

Site investigation data were presented in a Form 27 submittal (Document #403127197) on August 4, 2022. In the Form, MarCom recommended that the excavation be backfilled and that a site reclamation plan be prepared that incorporates the redevelopment as proposed by Yes! Communities. Following the redevelopment, four groundwater monitoring wells were proposed to be installed at the locations shown on the attached Well Location Figure. Quarterly groundwater sampling was then be conducted. Groundwater samples were be collected from each well and analyzed for the Organic Compounds in Groundwater listed in COGCC Table 915-1 and for barium and cadmium concentrations. If needed, additional groundwater assessment will be conducted.

On August 22, 2022, COGCC approved Document #403127197 but the backfill request was not approved in the conditions of approval (COAs). In the COAs, COGCC requested that KPK define the lateral extent of the elevated barium concentration in soil sample SW-3@7' and elevated cadmium in soil sample SW-5@7'. In response to the request, between August 30 and September 2, 2022, MarCom oversaw additional excavation along the north and east walls, including the SW-3@7' and SW-5@7' sample locations. Waste manifests will be included in a supplemental form submission. Following the required notification to COGCC, on September 2, 2022, MarCom collected soil sample SW-7@7' and SW-8@7' near the SW-5@7' and SW-3@7' locations, respectively. Analytical results show that barium and cadmium concentrations in soil samples SW-7@7' and SW-8@7' were below the applicable background concentration or Protection of Groundwater Soil Screening Level Concentration listed in COGCC Table 915-1. Based on the analytical data, barium and cadmium concentrations have been defined laterally and no additional site investigation is planned.

In addition to the soil sampling COA, COGCC requested clarification regarding a Site Reclamation Plan. Since the site is planned to be redeveloped as an access road for a residential community, the reclamation plan is that the excavation will be backfilled and compacted with clean, imported clay soil. Clay backfill was selected for its suitability as a base for road construction and suitability at limiting the vertical infiltration rate of surface water, thereby minimizing potential contaminant migration. The excavation will be backfilled to existing grade. No topsoil will be imported due to its incompatibility as a construction base. No grass seed will be planted. The site will be periodically inspected for erosion until the redevelopment begins. Final grading will be determined by the site redeveloper.

Also noted in a COA were data for soil sample SW-3@7' that showed a pH level of 8.32. Analytical results for the post-excavation sample SW-8@7' show that the pH level was reduced to 7.80, which is below the average background level of 8.22 discussed above. Based on the analytical data, pH levels in soil samples collected from the excavation are below the background level and no additional site remediation or investigation for pH is required.

Based on the supplemental soil sampling data, MarCom requests that the excavation be backfilled according to the reclamation plan presented above. Following site redevelopment, MarCom will implement the groundwater monitoring plan approved in Document #403127197.

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: 09/19/2022

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: 11/01/2022

Remediation Project Number: 23366

COA Type

Description

	All unaddressed COAs/CAs from previously approved forms/inspections still apply.
	Per COA on Doc #403055757: "Operator shall provide a list of the associated wells associated with the Facility AE 2 flowline system on the next Supplemental Form 27." Operator has not provided this information to date - Operator shall provide this information on the subsequent Supplemental Form 27.
	Per COA on Doc #403127197 Operator has stated: "Following the redevelopment, four groundwater monitoring wells will be installed at the locations show on the attached Well location Figure". Operator shall provide a timeline for the proposed scope of work on the subsequent Supplemental Form 27.
	The proposed date of commencement of Reclamation in the Site Reclamation Dates section of Doc 403170660 indicates a commencement date of 12/12/2022. Reclamation cannot begin until the site investigation and remediation are complete. Operator shall update this section in the next Supplemental Form 27.
4 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
403170660	FORM 27-SUPPLEMENTAL-SUBMITTED
403170805	SOIL SAMPLE LOCATION MAP
403170808	MAP
403170816	GROUND WATER SAMPLE LOCATION
403170817	SITE MAP
403170819	ANALYTICAL RESULTS
403170826	ANALYTICAL RESULTS
403170950	REMEDIATION PROGRESS REPORT

Total Attach: 8 Files

General Comments

User Group	Comment	Comment Date
Environmental	COGCC has reviewed and approves Operator's request to backfill the excavation.	10/31/2022

Total: 1 comment(s)