

State of Colorado
Oil and Gas Conservation Commission

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Report taken by:
Kari Brown

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>Craig Meis</u>	Email: <u>cmeis@kpk.com</u>	Phone: <u>(970) 261-3567</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 Residential

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

A residential development is located approximately 200 feet southwest of the site. County Road 15 475' to the east; Indian Paint Brush Street is located 125 feet south of the site; SURFACE WATER: Stormwater retention ponds are located approximately 450 feet north of the release point. The retention ponds are USFWS-mapped freshwater emergent wetlands (PEM1F) The 100 year floodplain is not within 1/4 mile of the site; High Priority habitat is not within 1/4 mile of the site. 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
UNDETERMINED	GROUNDWATER	TBD	Analytical Testing
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):

Operator is planning to meet with the developer, Yes! Communities, and their engineer in December 2022 to mark out monitoring well locations. Operator intends to install monitoring wells before 1/31/2023. Five groundwater monitoring wells will be installed at the locations shown on the Well Location Figure attached to Doc # 403170660. Locations may be adjusted in the field with the developer's engineer. 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.

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 18
 Number of soil samples exceeding 915-1 9
 Was the areal and vertical extent of soil contamination delineated? No
 Approximate areal extent (square feet) 945

NA / ND

-- Highest concentration of TPH (mg/kg) 154.5
 -- Highest concentration of SAR 8.8
 BTEX > 915-1 No
 Vertical Extent > 915-1 (in feet) 8

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?

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) _____ Volume of liquid waste (barrels) _____

Is further site investigation required?

Following the site redevelopment, five 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.

Operator has removed all impacts from the release with excavation and off-site disposal. Confirmation samples were collected and COGCC approved backfill on Doc # 403170660. The excavation has been backfilled.

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 has been backfilled. MarCom and Operator will meet with the developer, Yes! Communities, to incorporate monitoring well locations with the developer's engineer. MarCom plans to meet with them in December 2022 and install monitoring wells before 1/31/2023. 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 a meeting with the developer, five groundwater monitoring wells will be installed at the locations shown on the well location figure attached to Doc # 403170660. Locations may be adjusted in the field with the developer's engineer. 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 _____

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? Yes

Does the previous reply indicate consideration of background concentrations? Yes

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 has been backfilled. A stormwater drain is now planned through the area, so Operator and MarCom are planning to meet with the developer, Yes! Communities, and their engineer to determine monitoring well locations. This meeting is planned for December 2022. After consulting with the developer and their engineer, Operator will install 5 monitoring wells. Monitoring wells will be sampled quarterly for a minimum of 4 quarters of static monitoring.

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? No

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

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

SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. 03/31/2023

Proposed date of completion of Reclamation. 09/29/2023

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. 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. 01/31/2024

REMEDIAL ACTION DATES

Proposed start date of Remediation. 03/09/2022

Proposed date of completion of Remediation. 01/31/2024

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:

Implementation schedule has been updated to reflect a planned December 2022 meeting with the developer, Yes! Communities, to mark out monitoring well locations. This will be followed by monitoring well installs in January 2023 and 1 year of groundwater sampling (4 quarters). Operator has allotted 1 month to address any final grading requesting from the developer after removing wells in January 2024. This schedule may need to be adjusted if impacts are observed in the groundwater samples.

OPERATOR COMMENT

Operator has removed all impacts from the release with excavation and off-site disposal. Confirmation samples were collected and COGCC approved backfill on Doc # 403170660. The excavation has been backfilled. Operator and MarCom plan to meet with the developer, Yes! Communities, and their engineer to mark out monitoring well locations in December 2022. Operator plans to install monitoring wells by 1/31/2023. Groundwater sampling will be required for a minimum of 4 quarters. Implementation Schedule has been updated to reflect anticipated field work completion dates. Boring logs and well construction logs will be provided in a supplemental Form 27 submittal. Updated site maps and photo documentation will also be submitted in a supplemental Form 27.

Associated wells for the facility include the UPRR 42 PAN AM AE 1, UPRR 42 PAN AM AE 2, UPRR 42 PAN AM AE 3, UPRR 42 PAN AM AE 4, UPRR 42 PAN AM AE 5, and UPRR 42 PAN AM AE 6.

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: 12/20/2022

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: 02/28/2023

Remediation Project Number: 23366

COA Type

Description

	Operator shall collect confirmation soil samples as described in the Rule 915.e.(2) Guidance Document. Operator will analyze soil samples for TPH (C6-C36), Table 915-1 Organic Compounds in Soil, Table 915-1 metals, and Table 915-1 Soil Suitability for Reclamation (Electrical conductivity, Sodium adsorption ratio, and pH by saturated paste method, boron (hot water soluble)).
	Operator shall provide boring logs in accordance with standard environmental practices. This includes at a minimum; lithology description, USCS classifications, PID readings, sample collection depths, depth to water, and well construction.
	Based on site conditions an additional well should be installed between MW-2 and MW-5.
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

403254319	FORM 27-SUPPLEMENTAL-SUBMITTED
403266653	GROUND WATER SAMPLE LOCATION

Total Attach: 2 Files

General Comments

User Group

Comment

Comment Date

		Stamp Upon Approval
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Total: 0 comment(s)