

# State of Colorado Oil and Gas Conservation Commission

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Document Number:

403196597

Receive Date:

11/14/2022

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>	<b>Phone Numbers</b>
Address: <u>1700 LINCOLN ST STE 4550</u>		Phone: <u>(970) 261-3567</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>	Mobile: <u>( )</u>

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 23510 Initial Form 27 Document #: 403047594

#### 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>SPILL OR RELEASE</u>	Facility ID: <u>481067</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Moser 1A</u>		Latitude: <u>40.027435</u>	Longitude: <u>-104.850558</u>
		** correct Lat/Long if needed: Latitude: _____	Longitude: _____
QtrQtr: <u>NENE</u>	Sec: <u>26</u>	Twp: <u>1N</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 Agriculture followed by residences

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

18 domestic water wells are located within 1/4 mile of the site. Brantner Ditch, 365 feet west-southwest of the site, is a mapped wetland. An unnamed irrigation ditch, 775 feet east of the site, is a mapped wetland as well. The site is not located in the 100-year floodplain. 5 habitable structures and associated agricultural buildings are located within 1/4 mile of the site. The right-of-way for County Road 23 is located approximately 685 feet east of the site. High priority habitat is located approximately 2,230 feet east-northeast of the site. Bald Eagle Roost Site is located approximately 2,230 feet east-northeast of the site. No Bald Eagle Active Nest Site Half Mile buffers are located within 1/4 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	364 yards	Excavation Measurements

### INITIAL ACTION SUMMARY

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

Historical contamination was discovered at the site during flowline work on 11/8/2021. Following the discovery, a Form 19 was submitted and excavation commenced to remove impacted soil. Once field screening results indicated impacted soil was removed, confirmation samples were collected from the bottom-of-hole and sidewalls and submitted to Summit Scientific for analysis.

### 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 the completion of excavation MarCom conducted field screening at the site and determined further excavation was required. Further excavation was completed and collected on 1/26/2022. After review of the analytical it was determined that additional excavation is needed. Additionally a plan for site specific at depth backgrounds has been submitted for approval. Additional confirmation samples were collected on 5/18/2022 and submitted for laboratory analysis. Analytical data indicates additional excavation to the south (SW-18@5') and west (SW-16@5') needs to be conducted for exceedances of barium above site-specific backgrounds and Table 915-1 levels. All other impacts have been removed in the most recent excavation.

#### Proposed Groundwater Sampling

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

Groundwater impacts have not been identified. If groundwater is encountered during excavation activities, a grab sample will be collected as soon as practical. If contaminated soil is in contact with groundwater or if free product/hydrocarbon sheen are observed, the release will be reported in accordance with Rule 912.b. 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 with a total of 5 wells, 1 upgradient, 2 cross gradient, 1 down gradient, and 1 at source (Additional wells may be necessary) 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.

#### 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 39

Number of soil samples exceeding 915-1 3

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

Approximate areal extent (square feet) 1312

### NA / ND

ND Highest concentration of TPH (mg/kg)

-- Highest concentration of SAR 4.19

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 5

### 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?

Background samples were collected at 1 foot bgs, 5 feet bgs, and 10 feet bgs. Background samples were analyzed for Table 915-1 metals and soil suitability parameters. A sample locations map and analytical data are included as attachments.

☐ 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?

Analytical data indicates additional excavation to the south (SW-18@5') and west (SW-16@5') needs to be conducted for exceedances of barium above site-specific backgrounds and Table 915-1 levels. All other impacts have been removed in the most recent excavation.

## 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 source of the impacts was shut in when the release was discovered. Free product was removed utilizing a Hyrdovac, and excavation commenced to eliminate hydrocarbons transporting across the site. All impacted soil will be excavated and hauled to a certified disposal location. All removed groundwater will be disposed of at a certified disposal location. Waste disposal manifests have been provided with this submission. MarCom will provide the required 48-hour notification to COGCC prior to beginning work.

## REMEDIAL ACTION 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.

Following the completion of excavation MarCom conducted field screening at the site and determined further excavation was required. Further excavation was completed and samples were collected on 1/26/2022. After review of the analytical it was determined that additional excavation is needed. On 5/13/2022, additional background samples were collected at depths of 5 feet and 10 feet bgs. On 5/18/2022, additional confirmation samples were collected and analyzed for Table 915-1 constituents. Confirmation samples were compared to background sample analytics, and analytical data indicates additional excavation to the south (SW-18@5') and west (SW-16@5') needs to be conducted for exceedances of barium above site-specific backgrounds and Table 915-1 levels. All other impacts have been removed in the most recent excavation.

## 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) \_\_\_\_\_ 364  
 \_\_\_\_\_ 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

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 excavation activities, a grab sample will be collected as soon as practical. If contaminated soil is in contact with groundwater or if free product/hydrocarbon sheen are observed, the release will be reported in accordance with Rule 912.b. 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 with a total of 5 wells, 1 upgradient, 2 cross gradient, 1 down gradient, and 1 at source (Additional wells may be necessary) will be submitted for approval, and Groundwater monitoring will continue until 4 clean consecutive quarters is achieved. COGCC will be provided a 72 Hour notice prior to the installation of Monitoring wells.

## 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:

No beneficial use for soil or groundwater

Volume of E&P Waste (solid) in cubic yards 364

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.

Upon receiving confirmation sample analytical that shows all impacts have been removed, KPK will submit a request for backfill to the state. Upon completion of the backfill, 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? 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. 02/13/2023

Proposed date of completion of Reclamation. 03/13/2023

## 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. 11/08/2021

Actual Spill or Release date, or date of discovery. 11/08/2021

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 11/08/2021

Proposed site investigation commencement. 11/09/2021

Proposed completion of site investigation. 02/06/2023

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 01/21/2022

Proposed date of completion of Remediation. 02/06/2023

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:

Recent confirmation sampling analytics indicate additional excavation is required to the south and east of the excavation. Site investigation projected to be completed by the first week of February after COGCC review/approval process.

## OPERATOR COMMENT

Recent soil sample analytical data indicates additional excavation to the south (SW-18@5') and west (SW-16@5') needs to be conducted for exceedances of barium above site-specific backgrounds and Table 915-1 levels. All other impacts have been removed in the most recent excavation. There are no elevated levels of pH when comparing excavation samples to background samples. No pH-specific Reclamation Plan will be submitted with this Form 27.

On Doc #402870863, COGCC stated that it observed groundwater within the excavation. However, neither the Operator or MarCom observed water in the excavation. No inspection date was provided with this claim, and MarCom did not locate any inspection forms in a records review of the COGCC database. On 11/29/2021, MarCom collected samples from 5 feet through 10 feet bgs at the site and did not observe any water in the excavation. On 5/13/2022, 4 soil borings were advanced to 10 feet bgs, and no groundwater was observed. Water level readings from the DWR GIS website for the shallow alluvial aquifer indicate static water levels are between 14 feet and 25 feet. All other available groundwater surface data was for deeper aquifers for domestic water wells. Based on the lack of observed groundwater in the excavation by KPK and MarCom, the lack of an inspection form with photo documentation, the lack of groundwater encountered during multiple soil borings, and the measured groundwater levels available on the DWR GIS website, the pathway from soil to groundwater is incomplete.

Operator still intends to excavate to the south and to the west to remove barium-impacted soils. Operator will submit request to backfill once soil analytical results indicate all impacts have been removed. 48 hour notice will be provided to COGCC prior to commencing additional site investigation and all soil sampling.

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: 11/14/2022

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: \_\_\_\_\_

Date: \_\_\_\_\_

Remediation Project Number: 23510

## COA Type

## Description

	<p>COGCC denied this Form for the following reasons:</p> <ul style="list-style-type: none"><li>- Per comment on Doc #402870863 groundwater was observed in contact with impacted soils within the excavation. Due to the presence of impacted soil in contact with groundwater (groundwater observed within the excavation) Operator shall: Comply with Table 915-1 Protection of Groundwater Soil Screening Level Concentrations.</li><li>- Borings were advanced to a depth of 10' however excavation is reported at 10'; additional delineation at a similar depth to impacts is required.</li><li>- Per COA on DDocument #403047594 "Analytical data indicates pH in multiple soil samples onsite exceed Table 915-1 soil suitability levels for reclamation. If the Operator proposes to leave material with elevated levels of pH in situ, the Operator will provide a detailed Reclamation plan that includes, but is not limited to, soil analysis from adjacent undisturbed lands, revegetation techniques, site stabilization, and details of seeded species. Operator will submit such a Reclamation plan on a Form 27 Supplemental Report for Director review"</li></ul>
1 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

403196597	FORM 27-SUPPLEMENTAL-SUBMITTED
403197441	SOIL SAMPLE LOCATION MAP
403197442	SITE MAP
403197443	DISPOSAL MANIFESTS
403197444	ANALYTICAL RESULTS
403197445	ANALYTICAL RESULTS
403197446	ANALYTICAL RESULTS

403197447	ANALYTICAL RESULTS
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Total Attach: 8 Files

### **General Comments**

<b><u>User Group</u></b>	<b><u>Comment</u></b>	<b><u>Comment Date</u></b>
Environmental	This Form 27 cannot be approved based on the information submitted. Therefore Document ID #[403196597] will be denied. The Operator is directed to submit a replacement form.	02/22/2023
Environmental	<p>COGCC basis for groundwater screening level requirement:</p> <ul style="list-style-type: none"> <li>- COGCC inspection Document #690100010 includes both narratives and photos of groundwater within the excavation.</li> <li>- Groundwater was intermittently observed in the excavation throughout the project history.</li> <li>- Previous Form 27, Document #403047594 submitted by Operator indicated groundwater was sampled on 1/26/2022 however, no analytical has been provided for this sampling event.</li> </ul>	02/22/2023

Total: 2 comment(s)