

State of Colorado  
Oil and Gas Conservation Commission

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Document Number:  
403191005

Receive Date:

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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 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>		
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 #: 19716 Initial Form 27 Document #: 402763685

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>479923</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>George Norden Consolidation</u>	Latitude: <u>40.043646</u>	Longitude: <u>-104.837190</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NWNE</u>	Sec: <u>24</u>	Twp: <u>1N</u>	Range: <u>67W</u> Meridian: <u>6</u> Sensitive Area? <u>No</u>

SITE CONDITIONS

General soil type - USCS Classifications SC

Most Sensitive Adjacent Land Use Cropland followed by a mapped riparian wetland to the east

Is surface water within 1/4 mile?

Is domestic water well within 1/4 mile? Yes

Yes

Is groundwater less than 20 feet below ground surface? Yes

**Other Potential Receptors within 1/4 mile**

The site is located within a CPW high priority habitat. An apparent stormwater retention pond/stock pond is located approximately 305 feet southwest of the site. A stream (Lupton Bottom Ditch) is located 750 feet east of the site. The pond and stream are USFWS-mapped wetlands. A single-family residence is located approximately 970 feet southwest of the site. According to COGCC GIS map, approximately 33 domestic water wells are located within 1,320 feet of the site (.25 mile). County Road 8 is located adjacent to the north of the site. The site is located within the 100-year floodplain. A City of Aurora well field is 100 feet north of the release point.

# SITE INVESTIGATION PLAN

## **TYPE OF WASTE:**

- |  |  |  |
|--|--|--|
| <input checked="" type="checkbox"/> E&P Waste      | <input type="checkbox"/> Other E&P Waste             | <input type="checkbox"/> Non-E&P Waste |
| <input checked="" type="checkbox"/> Produced Water | <input type="checkbox"/> Workover Fluids             | _____                                  |
| <input checked="" type="checkbox"/> Oil            | <input type="checkbox"/> Tank Bottoms                |  |
| <input type="checkbox"/> Condensate                | <input type="checkbox"/> Pigging Waste               |  |
| <input type="checkbox"/> Drilling Fluids           | <input type="checkbox"/> Rig Wash                    |  |
| <input type="checkbox"/> Drill Cuttings            | <input type="checkbox"/> Spent Filters               |  |
|  | <input type="checkbox"/> Pit Bottoms                 |  |
|  | <input type="checkbox"/> Other (as described by EPA) | _____                                  |

## **DESCRIPTION OF IMPACT**

Impacted?	Impacted Media	Extent of Impact	How Determined
UNDETERMINED	GROUNDWATER	TBD	Analytical Testing
Yes	SOILS	5,500 ft sq	Excavation Extent

## **INITIAL ACTION SUMMARY**

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

Consolidation line was immediately isolated/shut in to prevent further release. Equipment was brought in same day to remove standing liquids and contain flowline release at ground surface level. E&P waste was properly disposed of at a disposal facility.

## **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 ):

The total horizontal and vertical extent has been established. Extent of impact listed above is based on the limits of final excavation. All soil samples were analyzed and verified compliant with COGCC Table 915-1 via background sample analytics. Confirmation samples prove lead and EC impacts have been removed from the release because all confirmation samples collected on 8/24/2022 were below COGCC Table 915-1 limits. No further soil excavation is proposed. Operator is requesting backfill.

Borings for proposed wells MW-1 through MW-5 will be field screened with a PID and logged every 2.5 feet. Based on field screening, at least 1 soil sample will be retained for analysis of Table 915-1 organic constituents.

### **Proposed Groundwater Sampling**

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

A groundwater sample was collected on August 24, 2022. The analytical results from the August 24, 2022, source sample indicate there are no impacts to groundwater from the release. Sulfate concentrations are considered consistent with background concentrations based on analytical data collected from nearby release sites, including the H. Huett release (Remediation Project #16135) that show background sulfate ranges from 265 mg/L to 318 mg/L. Due to the proximity of impacted soil to the groundwater table, following the completion of backfill, MarCom proposes the installation of 5 Groundwater Monitoring wells: 1 at the source, 1 downgradient, 1 upgradient, and 2 cross gradients. Upon approval of the GWM plan, COGCC will be provided with a 48-hour notice before well installation. Groundwater samples will be analyzed for Table 915-1 Organic Compounds and Table 915-1 inorganic parameters. 4 quarters of static monitoring will be conducted following backfill.

### **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 37  
Number of soil samples exceeding 915-1 37  
Was the areal and vertical extent of soil contamination delineated? No  
Approximate areal extent (square feet) 2435

### NA / ND

-- Highest concentration of TPH (mg/kg) 351  
-- Highest concentration of SAR 11.1  
BTEX > 915-1 No  
Vertical Extent > 915-1 (in feet) 12

### Groundwater

Number of groundwater samples collected 1  
Was extent of groundwater contaminated delineated? Yes  
Depth to groundwater (below ground surface, in feet) 13  
Number of groundwater monitoring wells installed 0  
Number of groundwater samples exceeding 915-1 0

ND Highest concentration of Benzene (µg/l) \_\_\_\_\_  
ND Highest concentration of Toluene (µg/l) \_\_\_\_\_  
ND Highest concentration of Ethylbenzene (µg/l) \_\_\_\_\_  
ND Highest concentration of Xylene (µg/l) \_\_\_\_\_  
NA Highest concentration of Methane (mg/l) \_\_\_\_\_

### Surface Water

0 Number of surface water samples collected  
0 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?

6 background samples were collected from depths of 2 feet and 4 feet bgs.

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?

Due to the proximity of impacted soil to the groundwater table, following the completion of backfill, MarCom proposes the installation of 5 Groundwater Monitoring wells: 1 at the source, 1 downgradient, 1 upgradient, and 2 cross gradients. Upon approval of the GWM plan, COGCC will be provided with a 48-hour notice before well installation. Groundwater samples will be analyzed for Table 915-1 Organic Compounds in Groundwater and Table 915-1 inorganic parameters. 4 quarters of static monitoring will be conducted following backfill.

## 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.

All impacted soil has been excavated and hauled to a certified disposal location. Updated waste disposal manifests with signatures have been provided.

### 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 performed to remove all impacted soil. Impacted soil has been disposed of at the Front Range Landfill in Erie, CO. Confirmation soil samples confirm all impacts have been removed. Operator is requesting backfill with this submission. Operator will install groundwater monitoring wells following backfill. Groundwater will be monitored for 4 quarters. Area will be reclaimed according to landowner preferences.

### 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)   
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.

Due to the proximity of impacted soil to the groundwater table, following the completion of backfill, MarCom proposes the installation of 5 Groundwater Monitoring wells: 1 at the source, 1 downgradient, 1 upgradient, and 2 cross gradients. Upon approval of the GWM plan, COGCC will be provided with a 48-hour notice before well installation. Groundwater samples will be analyzed for the parameters in the site investigation plan. A map of the proposed monitoring well locations has been attached.

# 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: \$ 12000

## 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:

Volume of E&P Waste (solid) in cubic yards 3400

E&P waste (solid) description Petroleum Contaminated 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? No

Is additional groundwater monitoring to be conducted? Yes

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.

Operator is requesting backfill for the project according to source and background sampling analytics. The excavation area will be backfilled using clean fill dirt, recontoured, and seeded according to landowner preferences.

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. 02/06/2023

Proposed date of completion of Reclamation. 03/06/2023

## 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. 10/05/2022

Actual Spill or Release date, or date of discovery. 04/29/2021

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 07/29/2021

Proposed site investigation commencement. 02/01/2023

Proposed completion of site investigation. 04/24/2024

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 07/01/2022

Proposed date of completion of Remediation. 04/24/2024

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:

Updating implementation schedule to account for COGCC time to review and operator time to backfill, install monitoring wells, and monitor GW for 4 quarters.

## **OPERATOR COMMENT**

All soil samples were analyzed and verified compliant with COGCC Table 915-1 via background sample analytics. Confirmation samples prove lead and EC impacts have been removed from the release because all confirmation samples collected on 8/24/2022 were below COGCC Table 915-1 limits. No further soil excavation is proposed. Operator is requesting backfill.

ND values were replaced with the respective lab reporting limit. Operator has updated the potential receptor list. Samples DS-6 and DS-7 were delineation samples, and it was decided to not submit these two samples for analysis. The samples were field screened. Implementation schedule has been updated. Operator has updated the analytical summary table to reflect the use of Table 915-1 Protection of Groundwater Soil Screening Level Concentrations and 1.25 times Background Concentrations. For the free product that was hydrovac'd in initial response, the Operator mixed liquid waste with solid waste in their field operations yard to dispose of as a solid waste. No liquid waste disposal manifests are available from this remedial activity.

Per COGCC comment, updated waste disposal manifests with signatures and tonnage/yardage are attached. Duplicates have been removed.

As requested in a COA for Document #403143480, a copy of email correspondence between the operator and the Fort Lupton Fire Department is attached. Based on the updated receptor information, the City of Aurora has been notified due to the proximity of a city-owned well field. A copy of the notification is attached.

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: \_\_\_\_\_

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: 19716

### **COA Type**

### **Description**

<b><u>COA Type</u></b>	<b><u>Description</u></b>
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**

403191903	ANALYTICAL RESULTS
403191910	ANALYTICAL RESULTS
403192196	SITE MAP
403192198	MAP
403192199	MAP
403192203	MAP
403192210	MAP
403192252	MAP
403264303	SOIL SAMPLE LOCATION MAP
403264304	CORRESPONDENCE
403276033	ANALYTICAL RESULTS
403276118	SITE INVESTIGATION PLAN
403278259	DISPOSAL MANIFESTS
403291085	CORRESPONDENCE

Total Attach: 14 Files

## **General Comments**

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Environmental	Some of the waste manifests submitted in attachment Doc # 403192261 are not compliant with Rule 905.b	12/09/2022

Total: 1 comment(s)