

# State of Colorado Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:

403060891

Receive Date:

11/09/2022

Report taken by:

Candice (Nikki) Graber

## 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>(303) 825-4822</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 #: 18594 Initial Form 27 Document #: 402707643

#### 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>PIT</u>	Facility ID: <u>118555</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>PAUL HEINZE1</u>		Latitude: <u>40.034628</u>	Longitude: <u>-104.916813</u>
		** correct Lat/Long if needed: Latitude: _____	Longitude: _____
QtrQtr: <u>NESW</u>	Sec: <u>20</u>	Twp: <u>1N</u>	Range: <u>67W</u>
		Meridian: <u>6</u>	Sensitive Area? <u>No</u>
Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>479232</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Paul Heinze #1 Flowline</u>		Latitude: <u>40.035140</u>	Longitude: <u>-104.917660</u>
		** correct Lat/Long if needed: Latitude: _____	Longitude: _____
QtrQtr: <u>NESW</u>	Sec: <u>20</u>	Twp: <u>1N</u>	Range: <u>67W</u>
		Meridian: <u>6</u>	Sensitive Area? <u>No</u>

Facility Type: <u>SPILL OR RELEASE</u>		Facility ID: <u>480128</u>		API #: _____		County Name: <u>WELD</u>	
Facility Name: <u>Paul Heinze #1 Flowline (No. 2)</u>				Latitude: <u>40.035030</u>		Longitude: <u>-104.917750</u>	
** correct Lat/Long if needed: Latitude: _____				Longitude: _____			
QtrQtr: <u>NESW</u>	Sec: <u>20</u>	Twp: <u>1N</u>	Range: <u>67W</u>	Meridian: <u>6</u>	Sensitive Area? <u>No</u>		

Facility Type: <u>SPILL OR RELEASE</u>		Facility ID: <u>480864</u>		API #: _____		County Name: <u>WELD</u>	
Facility Name: <u>Paul Heinze #1 (2018)</u>				Latitude: <u>40.035140</u>		Longitude: <u>-104.917660</u>	
** correct Lat/Long if needed: Latitude: _____				Longitude: _____			
QtrQtr: <u>NESW</u>	Sec: <u>20</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 SM      Most Sensitive Adjacent Land Use Cropland

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**

In a designated high priority habitat area due to near by Bald Eagle nesting site. Riverine and Freshwater Emergent Wetlands within 200 south and east feet of release points. Nearest residence is approximately 1,600 feet southeast.

## 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	Unknown	Undetermined
Yes	SOILS	6200 ft2	current 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.

Associated wells (Paul Heinze #1 and #2) have been shut-in since discovery of the releases. Excavation and disposal of impacted soil has been an ongoing process since the discovery of the releases.

### 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 ):

Analytical results for soil samples collected from soil borings SB-1 through SB-14 installed in June 2022 show that SAR and EC levels exceed Table 915-1 soil suitability for reclamation standards. Soil borings MW-1 through MW-6 will be at the locations shown on the attached Soil Boring Location Figure. At least 1 soil sample will be collected from each boring and analyzed for Table 915-1 constituents. Soil borings SB-15, SB-16, and SB-17 will be installed to evaluate background soil quality and analyzed for Table 915-1 inorganic and soil suitability for reclamation constituents. Additional wells or borings may be installed and sampled according to this plan. Excavation is planned for the third release point. In addition, the produced water vessel encountered during remedial excavation work will be removed. Following excavation and vessel removal, soil samples will be collected and analyzed for Table 915-1 constituents. Soil sample locations will be determined in the field.

#### Proposed Groundwater Sampling

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

In accordance with COAs included in document #403061877, groundwater monitoring wells MW-1 through MW-6 will be installed at the locations shown on the attached Proposed Monitoring Well Location Figure. The wells will be installed with 2-inch diameter PVC well materials. Groundwater samples will be collected quarterly from each well and submitted for Table 915-1 organic and inorganic groundwater constituents.

#### 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 34

Number of soil samples exceeding 915-1 28

Was the areal and vertical extent of soil contamination delineated? No

Approximate areal extent (square feet) 6200

-- Highest concentration of TPH (mg/kg) 535

-- Highest concentration of SAR 18.4

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?

☐ 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?

See the proposed scope in the 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.

Soil excavation activities are on-going. Impacted soil from releases #1 and #2 has been excavated and hauled to a certified disposal location. Waste manifests for soil are attached. Additional excavation will be conducted for release #3. All removed groundwater has been disposed of at a certified disposal location. Water waste manifests will be provided in a future form 27 submittal.

#### 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 will be performed to remove impacted soil from associated facilities. Impacted soil will be brought to a certified disposal facility. If groundwater is found to be impacted, a revised groundwater monitoring plan will be submitted for review and approval to address identified impacts to groundwater.

Excavation and disposal of impacted soil will proceed until field screening results indicate soil impacts have been removed. Confirmation samples will be collected following notification to COGCC if field screening results indicate impacts have been removed.

#### Soil Remediation Summary

☐ In Situ

☒ Ex Situ

Bioremediation ( or enhanced bioremediation )

Yes

Excavate and offsite disposal

Chemical oxidation

If Yes: Estimated Volume (Cubic Yards)

1000

\_\_\_\_\_ Air sparge / Soil vapor extraction

\_\_\_\_\_ Natural Attenuation

\_\_\_\_\_ Other \_\_\_\_\_

\_\_\_\_\_ 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

\_\_\_\_\_ 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.

In accordance with COAs included in document #403061877, groundwater monitoring wells MW-1 through MW-6 will be installed at the locations shown on the attached Proposed Monitoring Well Location Figure. The wells will be installed with 2-inch diameter PVC well materials. Groundwater samples will be collected quarterly from each well and submitted for Table 915-1 organic and inorganic groundwater constituents.

## REMEDATION 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 Quarterly Update and Additional Site Investigation Work Plan

### 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: \$ 20000

### 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 1500

E&P waste (solid) description Non-hazardous waste

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:

## REMEDATION COMPLETION REPORT

### REMEDATION 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.

Area of excavation will be backfilled with clean fill dirt. Backfilled excavation area will be recontoured, ripped, and seeded.

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. 07/26/2023

Proposed date of completion of Reclamation. 07/26/2024

## 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. 01/17/2021

Actual Spill or Release date, or date of discovery. 01/17/2021

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 01/18/2021

Proposed site investigation commencement. 10/31/2022

Proposed completion of site investigation. 12/30/2022

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 05/09/2018

Proposed date of completion of Remediation. 12/30/2023

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:

Updated schedule based on work completed to date and proposed remedial activities. Site investigation will begin upon approval from COGCC.

## OPERATOR COMMENT

This form 27 submittal responds to COAs on document #403061877 and in email comments received on November 2, 2022. This form presents a work scope for additional site investigation and remedial excavation. Elevated organic constituents, SAR, specific conductance, and pH levels in soil require additional investigation to determine the lateral extent. Additional groundwater investigation is required to evaluate for the presence of impacts outside of the excavation and to determine the groundwater flow direction. This form also provides updated receptor information. The root cause analysis of all three releases is believed to be corrosion of the steel lines in the 6 o'clock position. All lines have or will be repaired following source removal activities. Operator has attached a copy of the correspondence with CPW prior to September 2022 in regards to the nearby active eagle nest. In addition, a copy of the most recent CPW correspondence is attached.

The attached soil analytical results summary table presents soil analytical data collected by the Operator and MarCom, as well as GPS data for each sample location. Non-detect values listed in the table will be replaced with reporting limits once the electronic reports can be modified. Groundwater impacts are still listed as undetermined as hydrocarbon impacted soil and free product that was observed by COGCC Staff in previous inspection reports has been removed and recent site inspections have not revealed evidence of groundwater impacts (i.e., free product or sheens). A final determination of groundwater impacts will be made based on the results of the proposed groundwater investigation.

All available waste disposal documentation has been attached. Additional disposal documentation will be provided as it becomes available. No liquid disposal documentation is available. Operator typically mixes liquid waste with solid waste for disposal as solid waste at the Front Range Landfill. Liquid waste generated at this site is believed to have been disposed using this method.

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: 11/09/2022

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: 11/15/2022

Remediation Project Number: 18594

## COA Type

## Description

	<p>Correspondence with CPW indicates the bald eagle nest remains available for the next breeding season (starts December 1). However, the proposed site investigation and remedial action dates extend through December.</p> <p>COGCC conditionally approves the work proposed to continue up to December 1 so long as a trained wildlife biologist with stop work authority is on location at all times that work is being performed. If work is to continue after December 1 Operator shall coordinate with CPW and submit a Supplemental Form 27 documenting wildlife BMPs and workplans.</p>
	<p>COGCC conditionally approves of the plan for soil boring and monitoring well installation to define horizontal and vertical extent.</p> <p>If, during the course of this conditionally approved investigation, additional soil borings, not described in this Form 27 are necessary to complete the investigation and vertical and lateral delineation of impacts, Operator may use their discretion to conduct additional investigation without seeking additional approval from COGCC; any such changes in scope will be documented in a subsequent Supplemental Form 27, as required.</p> <p>Location lies within the recommended buffer of a Bald Eagle Roost. Please note that Approval of this Form 27 does not supersede any Federal, State or Local regulations pertaining to the Migratory Bird Treaty Act.</p>
	<p>The proposed date of completion of remediation (12/30/2022) is unfeasible as four quarters of static groundwater monitoring are required prior to closure at this site. Operator shall update the Implementation Schedule on the next Form 27.</p>
	<p>Operator indicates: "Elevated organic constituents, SAR, specific conductance, and pH levels in soil require additional investigation to determine the lateral extent." Operator shall delineate the vertical and lateral extent of all impacts including metals.</p>



	<p>Various constituents in multiple soil samples were reported as ND; however, the laboratory reporting limit exceeded the respective Table 915-1 allowable limit for Protection of Groundwater Soil Screening Level Concentration. Operator shall report values as less than the respective laboratory reporting limit on laboratory analytical summary tables.</p> <p>Operators response: "Non-detect values listed in the table will be replaced with reporting limits once the electronic reports can be modified." Operator shall clarify what is meant by: "once the electronic reports can be modified".</p>
	<p>Operator indicates: "Groundwater impacts are still listed as undetermined as hydrocarbon impacted soil and free product that was observed by COGCC Staff in previous inspection reports has been removed and recent site inspections have not revealed evidence of groundwater impacts (i.e., free product or sheens). A final determination of groundwater impacts will be made based on the results of the proposed groundwater investigation." despite free product having been observed in contact with groundwater during previous COGCC inspections. Free product and hydrocarbon impacted soil in contact with groundwater at any point indicates groundwater has been impacted. Operator shall update this information on the subsequent Supplemental Form 27.</p>
	<p>COGCC acknowledges Operator comment: "All available waste disposal documentation has been attached. Additional disposal documentation will be provided as it becomes available." However, Operator is required to provide all waste manifests for all E&amp;P Waste, inspection derived wastes, and oily waste (soil and groundwater) hauled off-site for disposal during the course of this site investigation as required by Rule 905.b.(3). Operator, shall provide waste manifests for oily waste as it is generated on subsequent Supplemental Form 27s.</p>
	<p>A COA applied prior to returning the subject form to drafted stated: "Operator shall provide boring logs in accordance with standard environmental practices for all soil borings and monitoring wells installed on site on the next supplemental Form 27. This includes at a minimum; lithology description, USCS classifications, PID readings, sample collection depths, depth to water, and well construction (if applicable)."</p> <p>The "Lab Sample" column of the attached soil boring logs has not been populated despite samples having been collected. Operator shall update the soil boring logs and attach them on the subsequent Supplemental Form 27.</p>
	<p>Operator states: "No liquid disposal documentation is available. Operator typically mixes liquid waste with solid waste for disposal as solid waste at the Front Range Landfill. Liquid waste generated at this site is believed to have been disposed using this method."</p> <p>Per COA on Doc #403061877: "Operator has previously provided a Disposal Water Ticket; However, no data has been provided in Waste Disposal Information section. Operator shall populate the applicable information on the next Supplemental Form 27." Operator has not updated the applicable information despite disposal documentation having been provided previously.</p>
9 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.

<b><u>Att Doc Num</u></b>	<b><u>Name</u></b>
403060891	FORM 27-SUPPLEMENTAL-SUBMITTED
403144488	DISPOSAL MANIFESTS
403144495	SITE MAP
403144498	SITE MAP
403144507	GROUND WATER SAMPLE LOCATION
403144508	ANALYTICAL RESULTS
403223532	SITE MAP

403223534	ANALYTICAL RESULTS
403223827	ANALYTICAL RESULTS
403224032	LOGS
403224058	SOIL SAMPLE LOCATION MAP
403224118	CORRESPONDENCE
403224121	CORRESPONDENCE

Total Attach: 13 Files

### **General Comments**

<b><u>User Group</u></b>	<b><u>Comment</u></b>	<b><u>Comment Date</u></b>
Environmental	The subject form was returned to draft on 11/2/2022 an follow up email correspondence sent to the Operator; the form was resubmitted on 11/9/2022.	11/10/2022

Total: 1 comment(s)