

State of Colorado Energy & Carbon Management Commission

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Document Number:

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Receive Date:

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>	Phone Numbers
Address: <u>1700 LINCOLN ST STE 4550</u>		Phone: <u>(720) 868-9848</u>
City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80203</u>		Mobile: <u>(303) 550-8872</u>
Contact Person: <u>John Peterson</u>	Email: <u>jpeterson@kpk.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 18932 Initial Form 27 Document #: 402720755

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>479267</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Longmont Farms Unit #5 Flowline</u>	Latitude: <u>40.105497</u>	Longitude: <u>-104.994215</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWSW</u>	Sec: <u>27</u>	Twp: <u>2N</u>	Range: <u>68W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

SITE CONDITIONS

General soil type - USCS Classifications SC Most Sensitive Adjacent Land Use Single-family 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

Approximately 27 residences, possibly 9 habitable structures are within a quarter mile of well; Tipple Parkway is approximately 1,170 feet south of the site; I-25 is approximately 0.7 miles east of the site. SURFACE WATER: The site is 1,330 feet south-southwest of Sullivan Ditch which is a USFWS-mapped riverine wetland (R4SBCx). The 100-year floodplain is not mapped within 1/4 mile of the site. No High Priority habitats are within 1/4 mile of the site; High Priority habitat is approximately 3,955 feet southwest of the site; a Bald Eagle Roost site is not located within 1/4 mile of the site; a Bald Eagle Active Nest site half mile buffer is 3,955 feet southwest of the site. There are 2 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
No	GROUNDWATER	Unimpacted	Temporary Monitoring Wells
Yes	SOILS	5250 sq ft	Analytical

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 of a release at the site & immediately dispatched crews to shut in the line. The well was shut in & flowline depressurized. Additional crews were dispatched, & free product was removed utilizing a Hyrdovac, & excavation commenced to eliminate hydrocarbons transporting across the site. Excavation efforts have taken place to define the vertical and horizontal extent of the release. The cause of failure was due to internal corrosion within the 3" fiberglass flowline at the 12 o'clock position. The line was cut, the section was removed, & replaced with 3" poly. By recommendation of the state, the 3" poly section was removed & replaced with 3" fiberglass.

Final vertical & horizontal extent of excavation was based on limits of excavation & on results from grab soil samples and photoionization detector (PID) field screening. 10 confirmation soil samples were collected on 6/21/2021 as described in the Rule 915.e.(2) Guidance Document & were analyzed for TPH (C6-C36), Table 915-1 Organic Compounds in Soil, Table 915-1 metals, & Table 915-1 Soil Suitability for Reclamation (Electrical conductivity, Sodium adsorption ratio, & pH by saturated paste method, boron (hot water soluble). 3 background soil samples were collected & analyzed for arsenic to assess naturally occurring arsenic concentrations. ECMC was provided with a 48 hr notice prior to the sampling event. See attached tables, laboratory reports & figures for more details.

On 6/17/2021, APEX Consulting Services, Inc. installed a temporary monitoring well to 17.5 (refusal) feet bgs. Groundwater was not encountered during probing activities. The temporary well was checked for groundwater on 6/21, 7/6, & 7/19/2021; no groundwater was observed in the well on these dates. Therefore, the pathway from soil to groundwater is incomplete. KPK requests authorization to use the residential screening level at this site. The groundwater well report is attached to ECMC Form 27 Doc #402777901.

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):

KPK proposes collecting 16 additional background samples for analysis of Table 915-1 inorganics; 4 sample locations with each location collecting a grab sample at surface, 4' bgs, 8' bgs and 12' bgs. KPK believes these sample results will offer a stronger comparison between background and confirmation samples. See attached figure.

Proposed Groundwater Sampling

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

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 13

Number of soil samples exceeding 915-1 13

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

Approximate areal extent (square feet) 5250

NA / ND

ND Highest concentration of TPH (mg/kg)

-- Highest concentration of SAR 1.29

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 13

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?

Arsenic, barium, and selenium exceed the soil to groundwater table 915 levels in all samples except SC @ 7'. Using site specific background levels, arsenic does not exceed the limit. pH exceeds in W(#4) @ 7', EC @ 7', and SC @ 7'. On 6/17/2021, APEX Consulting Services, Inc. installed a temporary monitoring well to 17.5 feet bgs (refusal). Groundwater was not encountered during probing activities. The temporary well was checked for groundwater on 6/21, 7/6, and 7/19/2021; no groundwater was observed in the well on these dates. Therefore, the pathway from soil to groundwater is incomplete. KPK requests authorization to use the residential screening level at this site. Laboratory reports and tables summarizing the analytical data are attached. See attached figure for soil sampling locations and monitoring well locations.

☒ Were background samples collected as part of this site investigation?

3 background soil samples were collected and analyzed for arsenic to assess naturally occurring arsenic concentrations. Laboratory reports and tables summarizing the analytical data are attached. See attached figure for background sampling locations.

☒ Was investigation derived waste (IDW) generated as part of this investigation?

Volume of solid waste (cubic yards) 1494

Volume of liquid waste (barrels) 0

☒ Is further site investigation required?

Due to previous background samples only being tested for arsenic, KPK proposes the collection of 16 additional background samples to be tested for Table 915-1 inorganics. KPK believes this will allow for a stronger comparison between background samples and confirmation samples. Four sample locations will be collected at surface, 4 feet bgs, 8 feet bgs, and 12 feet bgs. See attached figure for proposed background sampling locations.

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. Fluids removed from the excavation were mixed with impacted soil before disposal. All impacted soil was excavated and hauled to a certified disposal location. No groundwater was encountered during the source removal. Waste disposal manifests have been provided with this submission. KPK will provide the required 48-hour notification to ECMC 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.

Final vertical and horizontal extent of excavation was based on limits of excavation and on results from grab soil samples and photoionization detector (PID) field screening. Confirmation soil samples were collected as described in the Rule 915.e.(2) Guidance Document and were analyzed 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). Samples were collected in accordance with ECMCs table 915-1 sample collection guidelines table. ECMC was provided with a 48 hr. notice prior to the sampling event.

Since backfill has been approved, KPK backfilled up to the flowline to make necessary repairs. KPK installed a new section of 3-inch fiberglass pipe to reconnect flowline. Flowline was pressure tested following the completion of repair work. A copy of the flowline pressure test was attached with 403221853.

KPK has disposed of the stockpile soil material at a certified disposal facility after it was determined that the material would not be used to backfill the excavation. This was completed in 6/2021. Manifests are included in attachments. The excavation has been backfilled with clean fill completed in 7/2022.

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) _____ 1494

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.

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. This project is approximately 90 percent complete, remaining scope of work consists of collecting and analyzing 16 background samples.

Operator anticipates the remaining cost for this project to be: \$ 7000

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

Volume of E&P Waste (solid) in cubic yards 1494

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 N/A

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.

KPK reclaimed the site for its previous intended use (oil and gas facility). The excavation was compacted using wheel compaction with a front loader.

Is the described reclamation complete? Yes _____

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. 10/04/2021

Proposed date of completion of Reclamation. 07/13/2022

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. 01/20/2021

Actual Spill or Release date, or date of discovery. 01/19/2021

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/09/2021

Proposed site investigation commencement. 06/09/2021

Proposed completion of site investigation. 03/09/2024

REMEDIAL ACTION DATES

Proposed start date of Remediation. 06/09/2021

Proposed date of completion of Remediation. 06/22/2021

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:

OPERATOR COMMENT

Of note, several manifest documents lack volumes for waste disposal. The volumes were determined by a staff member at Waste Connections by using the corresponding ticket numbers. Documentation of this correspondence is included as an attachment.

KPK plans to fully address contaminant exceedances once background samples have been tested for Table 915-1 inorganics.

On 6/17/2021, APEX Consulting Services, Inc. installed a temporary monitoring well to 17.5 (refusal) feet bgs. Groundwater was not encountered during probing activities. The temporary well was checked for groundwater on 6/21, 7/6, & 7/19/2021; no groundwater was observed in the well on these dates. Therefore, the pathway from soil to groundwater is incomplete. KPK requests authorization to use the residential screening level at this site.

See attached COA Response Document for KPK's resolutions of site-specific COAs.

I hereby certify all statements made in this form are to the best of my knowledge true, correct, and complete.

Signed: Katherine Kahn

Title: Senior Hydrogeologist

Submit Date: _____

Email: kkahn@cdhconsult.com

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: 18932

COA Type**Description**

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**

403549454	DISPOSAL MANIFESTS
403549459	CORRESPONDENCE
403549461	MAP
403549859	OTHER
403550970	OTHER
403550978	ANALYTICAL RESULTS
403550980	ANALYTICAL RESULTS
403550990	SOIL SAMPLE LOCATION MAP
403551020	SITE MAP
403551345	SOIL SAMPLE LOCATION MAP

Total Attach: 10 Files

General Comments**User Group****Comment****Comment Date**

		Stamp Upon Approval
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Total: 0 comment(s)