

State of Colorado Oil and Gas Conservation Commission

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403259161

Receive Date:

12/20/2022

Report taken by:

Laurel Anderson

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>(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 #: 25606 Initial Form 27 Document #: 403116197

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>482194</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Stromquist 4A</u>		Latitude: <u>40.123447</u>	Longitude: <u>-105.013035</u>
		** correct Lat/Long if needed: Latitude: _____	Longitude: _____
QtrQtr: <u>NWSW</u>	Sec: <u>21</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 Residential

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

The location is also within Colorado Parks & Wildlife High Priority Habitat Rule 309.e.1 Other Consultation Habitats for Bald Eagle Active Nest Site and Bald Eagle Roost Site; <150' from occupied residence; ~200' from Flume Ditch; ~200' from National Wetlands Inventory Riverine; ~500' from National Wetlands Inventory Freshwater Emergent; ~100' from 100-year floodplain; <100' to surface water/pond; ~750' from recreational well; ~650' from County Road 5; and within City of Frederick and Weld County.

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	N/A	Analytical Testing
Yes	SOILS	TBD	Analytical Testing
No	SURFACE WATER	N/A	Analytical Testing

INITIAL ACTION SUMMARY

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

The line was isolated and depressurized. Impacted soil has been removed and disposed of at a certified disposal facility. Confirmation soil samples were collected from the excavation on 10/21/2022. 10/21/2022 samples indicated impacts remain in-situ and additional investigation was required. MarCom advanced 11 delineation soil borings (SB-1 through SB-11) on 11/14/2022 to guide further excavation. Soil sample analytics from the 11/14/2022 soil sampling is discussed below and in the Operator Comments section.

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 will conduct additional site investigation to evaluate soil and groundwater in the source area for the presence of petroleum hydrocarbon and produced water constituents. Additional background soil samples are required to evaluate naturally occurring concentrations of inorganic Table 915-1 constituents. Final extent of remedial excavation will be based on the results from the grab soil samples and PID field screening. Currently the excavation needs to be extended to the west to account for Table 915-1 organic exceedances in SB-8@7.5' and SB-11@5'. Confirmation soil samples will be collected and analyzed for Table 915-1 constituents. Deeper excavation may not be feasible to account for exceedances in bottom-hole samples due to shallow groundwater. Operator will assess when site investigation work continues after consultation with CPW.

Proposed Groundwater Sampling

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

Water sample SS-1 from inside of the excavation exceeded Table 915-1 limit for benzene. Monitoring wells MW-1 through MW-6 were constructed around the excavation and samples collected. Groundwater samples were analyzed for the organic and inorganic compounds in groundwater listed in COGCC Table 915-1. The wells were surveyed and the groundwater flow direction calculated using the survey and gauging data. MW-1 has been designated as a background boring based on groundwater flow directions and release point location. Based on background analytics, the extent of benzene in groundwater has been defined. No other exceedances were noted when considering background analytics for samples collected from well MW-1. Quarterly groundwater monitoring will be conducted using monitoring wells MW-1 through MW-6 for 4 quarters at a minimum. Groundwater samples will be collected from each well and analyzed for the organic and inorganic compounds in groundwater listed in COGCC Table 915-1.

Proposed Surface Water Sampling

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

Surface water sample SS-2 was collected from the adjacent pond to the north. No exceedances of Table 915-1 cleanup levels are noted for the surface water sample.

Additional Investigative Actions

- ☐ Additional alternative investigative actions described in attached Site Investigation Plan (summary):

Additional soil borings and/or monitoring wells may be installed to evaluate soil and groundwater quality following the completion of excavation activities. Data will be presented in a supplemental form submittal.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 45
Number of soil samples exceeding 915-1 45
Was the areal and vertical extent of soil contamination delineated? No
Approximate areal extent (square feet) 3700

NA / ND

-- Highest concentration of TPH (mg/kg) 1346
-- Highest concentration of SAR 51.4
BTEX > 915-1 Yes
Vertical Extent > 915-1 (in feet) 15

Groundwater

Number of groundwater samples collected 7
Was extent of groundwater contaminated delineated? Yes
Depth to groundwater (below ground surface, in feet) 5
Number of groundwater monitoring wells installed 6
Number of groundwater samples exceeding 915-1 1

-- Highest concentration of Benzene (µg/l) 27.9
-- Highest concentration of Toluene (µg/l) 11.4
-- Highest concentration of Ethylbenzene (µg/l) 12.5
-- Highest concentration of Xylene (µg/l) 42.2
NA Highest concentration of Methane (mg/l)

Surface Water

1 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?

Landowner discovered impacts on the ground surface on his property.

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

2 background soil samples were collected. Additional background samples are required. MW-1 has been designated as a background monitoring well to establish site-specific limits for chloride and sulfate.

☐ 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?

Additional excavation to the west followed by confirmation soil sampling is required. Further excavation vertically may not be feasible with shallow groundwater in the area. Operator will assess after consulting with CPW on HPH restrictions. A monitoring well will likely be required near the source once the excavation has been backfilled to account for the benzene spike in the groundwater sample collected from the 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.

Delineation borings and monitoring wells have been utilized to guide additional site investigation. 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 will be provided with the next form submittal. Work will proceed after consultation with Colorado Parks and Wildlife and the US Fish and Wildlife Agency. 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.

Delineation borings and monitoring wells have been utilized to guide additional site investigation. Excavation will be performed to remove impacted soil from the release location. Impacted soil will be brought to a certified disposal facility. Excavation and disposal of impacted soil will proceed until PID field screening results indicate that soil impacts have been removed. Following notification to COGCC, confirmation samples will be collected and analyzed for Table 915-1 constituents. Groundwater within the excavation was found to be impacted, so a monitoring well will be required in this area once the excavation has been backfilled.

Soil Remediation Summary

☐ In Situ

☒ Ex Situ

_____ Bioremediation (or enhanced bioremediation)

Yes _____ Excavate and offsite disposal

_____ Chemical oxidation

_____ If Yes: Estimated Volume (Cubic Yards) _____ 20

_____ Air sparge / Soil vapor extraction

_____ Name of Licensed Disposal Facility or COGCC Facility ID # _____

_____ Natural Attenuation

No _____ Excavate and onsite remediation

_____ Other _____

_____ 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

Yes _____ 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.

6 monitoring wells have been installed at the site. Considering background sampling analytics, there are no exceedances for samples collected on 11/17/2022. 1 groundwater sample (grab sample) was collected from within the excavation which exceeded Table 915-1 limit for benzene. Operator will continue grab sampling from the excavation with quarterly groundwater sampling.

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

Volume of E&P Waste (solid) in cubic yards 20

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.

Following the removal of all impacts, KPK will request backfill. Once backfill approval is granted, KPK will consult with landowner on seeding and reclamation of the site.

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. 02/06/2024

Proposed date of completion of Reclamation. 03/26/2024

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. 05/16/2022

Actual Spill or Release date, or date of discovery. 05/16/2022

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 05/17/2022

Proposed site investigation commencement. 09/23/2022

Proposed completion of site investigation. 02/05/2024

REMEDIAL ACTION DATES

Proposed start date of Remediation. 09/23/2022

Proposed date of completion of Remediation. 01/16/2023

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:

Operator has updated the implementation schedule to reflect additional excavation is required followed by confirmation sampling. The schedule may need to be updated after additional consultation with CPW about bald eagle nesting buffer restrictions for the site and proposed work.

OPERATOR COMMENT

Currently the excavation needs to be extended to the west to address Table 915-1 organic exceedances in soil samples SB-8@7.5' and SB-11@5'. Confirmation soil samples will be collected and analyzed for Table 915-1 constituents. Deeper excavation may not be feasible to account for exceedances in bottom-hole samples due to shallow groundwater. Operator will assess when site investigation work continues after consultation with CPW about bald eagle nest identified in recent survey by subcontractor SLR.

6 monitoring wells were constructed and samples collected from the wells. Groundwater samples were analyzed for the organic and inorganic compounds in groundwater listed in COGCC Table 915-1. The wells were surveyed and the groundwater flow direction calculated using the survey and gauging data. Well MW-1 has been designated as a background boring/well based on groundwater flow directions and release point location. Based on background analytics, there are no exceedances for Table 915-1 constituents in groundwater. Water sample SS-1 from inside of the excavation exceeded Table 915-1 limit for benzene. No other exceedances were noted when considering background analytics from MW-1. No surface water impacts have been identified.

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: _____

Date: _____

Remediation Project Number: 25606

COA Type**Description**

	This Form 27 cannot be approved based on the information submitted. Therefore Document ID #[403259161] will be denied. The Operator is directed to submit a replacement form.
	COGCC has denied this form for the following reasons: - Per Operator's consultation with CPW no work may proceed at this location during bald eagle nesting season. - Operator's laboratory analytical report for samples collected 11/15/2022 have been edited by jtaylor on 11/30/2022. Operator shall resample the samples that were supposedly incorrectly labeled. - Operator provided no explanation of the foam documented on surface water in the photo log. - Based on COGCC inspections, additional excavation is feasible at this location.
2 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.

<u>Att Doc Num</u>	<u>Name</u>
403259161	FORM 27-SUPPLEMENTAL-SUBMITTED
403260423	ANALYTICAL RESULTS
403260424	ANALYTICAL RESULTS
403260427	ANALYTICAL RESULTS
403260429	ANALYTICAL RESULTS
403260430	ANALYTICAL RESULTS
403260431	SOIL SAMPLE LOCATION MAP
403260432	GROUND WATER SAMPLE LOCATION
403260435	LOGS
403260437	LOGS
403260441	PHOTO DOCUMENTATION
403261269	GROUND WATER ELEVATION MAP

403266867	MAP
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Total Attach: 13 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
		Stamp Upon Approval

Total: 0 comment(s)