

State of Colorado
Energy & Carbon Management Commission

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Document Number:
403818659
Receive Date:
06/19/2024

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 ECOM 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 Phone: <u>(720) 8689848</u> Mobile: <u>(303) 5508872</u> |
| Address: <u>1700 LINCOLN ST STE 4550</u> | | |
| City: <u>DENVER</u> | State: <u>CO</u> | Zip: <u>80203</u> |
| Contact Person: <u>John Peterson</u> | Email: <u>jpeterson@kpk.com</u> | |

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 34666 Initial Form 27 Document #: 403690515

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>PRODUCED WATER TRANSFER SYSTEM</u> | Facility ID: <u>446598</u> | API #: _____ | County Name: <u>WELD</u> |
| Facility Name: <u>JOHNSON</u> | Latitude: <u>40.102800</u> | Longitude: <u>-104.968080</u> | |
| ** correct Lat/Long if needed: Latitude: _____ Longitude: _____ | | | |
| QtrQtr: <u>SWSE</u> | Sec: <u>26</u> | Twp: <u>2N</u> | Range: <u>68W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u> |

| | | | |
|---|----------------------------|-------------------------------|---|
| Facility Type: <u>OFF-LOCATION FLOWLINE</u> | Facility ID: <u>475954</u> | API #: _____ | County Name: <u>WELD</u> |
| Facility Name: <u>Wellhead Line</u> | Latitude: <u>40.103130</u> | Longitude: <u>-104.968120</u> | |
| ** correct Lat/Long if needed: Latitude: _____ Longitude: _____ | | | |
| QtrQtr: <u>SWSE</u> | Sec: <u>26</u> | Twp: <u>2N</u> | Range: <u>68W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u> |

| | | | |
|--|----------------------------|-------------------------------|---|
| Facility Type: <u>SPILL OR RELEASE</u> | Facility ID: <u>485936</u> | API #: _____ | County Name: <u>WELD</u> |
| Facility Name: <u>Johnson 1 Flowline</u> | Latitude: <u>40.103217</u> | Longitude: <u>-104.968156</u> | |
| ** correct Lat/Long if needed: Latitude: _____ | | Longitude: _____ | |
| QtrQtr: <u>SWSE</u> | Sec: <u>26</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 Commercial land

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

6 commercial structures are located within 0.25 miles of the spill. The nearest occupied building is located approximately 380 feet east of the site. Tipple Parkway is located 330 feet to the south. The site is located within a freshwater emergent wetland, located 25 feet east of Godding Hollow Stream and within a 100-year floodplain. There are no High Priority Habitats within 0.5 miles to the spill. One well is located within 0.25 miles of the site. The nearest well is located 1150 feet east. Two wells are located within 0.5 miles of the spill.

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 |
|-----------|----------------|------------------|-------------------|
| Yes | GROUNDWATER | Undetermined | Visual inspection |
| Yes | SOILS | 560 Square Feet | 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.

At 12pm on 1/23/24 a KPK pumper noticed oil daylighting at ground surface. KPK immediately shut in the well, and isolated and blew down the pipeline. KPK crews scraped and temporarily staged the contaminated soil onto 6ml poly north of the separator. The contaminated soil was eventually transported Front Range Landfill for disposal. Cause of failure is due to a poorly secured clamp on the line that was likely exacerbated due to recent freezing temperatures. A new clamp was placed on the line and secured. One source and one background sample were collected from the soil surface and three surface water samples were collected weekly beginning 1/29/24 from Godding Hollow Stream located west of the spill (see attached figures). Available analytical results are included. Free product was observed on the groundwater within the excavation. KPK skimmed the product from the groundwater using a vac truck. The maximum dimensions of the excavation in each direction are 24'x35'x4'. The current excavation was mapped using a Trimble GPS unit and the size is 560 square feet. Manifests and disposal tickets are attached. One soil boring and five monitoring wells were installed surrounding the excavation in May 2024. Two background borings were also advanced at this time. One discrete soil sample was collected from each MW/boring location and submitted for the full Table 915-1 organics/inorganics.

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):

In a prior approved Form 27 (Doc# 403690515) KPK proposed collecting 8 discrete soil samples from the sidewalls/base of the spill excavation; 4 field screening soil samples from the sidewalls & 1 discrete soil sample from the base of the produced water vessel excavation will be collected following decommissioning. Following backfill of the excavation, one monitoring well will be installed at the source area. All samples will be screened & the interval exhibiting the highest PID reading will be submitted. If no impacts are noted during field screening, the interval immediately above the water table will be submitted. The samples collected from the excavation and produced water vessel will be submitted for full Table 915-1 analysis.

Proposed Groundwater Sampling

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

In May 2024, KPK installed 5 monitoring wells around the perimeter of the excavation of the spill location and 2 background borings. One discrete soil sample was collected from each MW/boring location and submitted for the full Table 915-1 organics/inorganics. The groundwater from these 5 wells were sampled for Table 915-1 analytes on 6/10/24 and results are pending. Monitoring well and boring locations are shown on the attached Figures 5 & 6.

Proposed Surface Water Sampling

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

Surface water locations Drainage 1, Drainage 2 and Drainage 3 in Godding Hollow Stream have been collected on a weekly basis since the inception of the spill and the samples were analyzed for ECMC Table 915-1 organics. The approximate surface water sample locations are shown on Figure 7 and the results are summarized in Table 1. Since the inception of spill discovery, surface water has not been impacted and KPK will continue to collect surface water samples on a weekly basis to monitor potential impacts to the nearby drainage until the extent of impact to groundwater is defined and the threat of impact to the stream has been mitigated.

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 10

Number of soil samples exceeding 915-1 10

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

Approximate areal extent (square feet) 560

NA / ND

-- Highest concentration of TPH (mg/kg) 11340

-- Highest concentration of SAR 19.9

BTEX > 915-1 Yes

Vertical Extent > 915-1 (in feet) 4

Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet) 4

Number of groundwater monitoring wells installed 5

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

51 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?

The source sample (excavated) exceeded ECMC Table 915-1 Protection of Groundwater Soil Screening Level Concentrations for benzene, toluene, ethylbenzene, total xylenes, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, benzo(a)anthracene, fluorene, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene & DRO, RRO, GRO, arsenic, barium, specific conductance & SAR. The detection limit for dibenz(a,h)anthracene was above the screening level. The 3 surface water locations sampled weekly in Godding Hollow Stream have all been below detections limits for Table 915-1 organics since inception. Soil samples from the monitoring wells and boring were below Table 915-1 levels for organics. As and Ba exceeded Table 915-1 levels in all samples but were below site-specific background levels (SSBLs) calculated using highest background x 1.25 per Table 915-1 Footnote 11. Lead exceeded Table 915-1 and SSBL for lead in B-1@0-5'. See attached figures and tables for sampling locations and analytical results.

Were background samples collected as part of this site investigation?

One background sample was collected at the surface in January 2024 and exceeded Table 915-1 Protection of Groundwater Levels for arsenic, barium and pH. Additional background samples were collected outside of the facility's footprint in May 2024 and those samples also exceeded Table 915-1 Protection of Groundwater Levels for arsenic, barium, pH, boron EC and SAR. Monitoring well and boring locations are shown on Figures 5 & 6. Results are shown in the attached Tables 3 and 4. Analysis is provided.

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

Volume of solid waste (cubic yards) 1 Volume of liquid waste (barrels) 0

Is further site investigation required?

A minimum of 8 confirmation soil samples will be collected from the excavation.
One monitoring well will be installed at the source area following backfill of the excavation.
Four field screening soil samples and one discrete soil sample will be collected following the produced water vessel decommissioning.
Groundwater from all monitoring wells will be sampled quarterly.
Weekly surface water samples will continue to be collected at the three locations along Godding Hollow Stream.

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.

Approximately 234 cubic yards of impacted soil was abated from the spill area and transported offsite for disposal. 255 barrels of groundwater were removed from the excavation. Additional excavation is required from the spill area and produced water vessel as proposed in Doc#403690515. Confirmation soil samples will be collected to ensure soil impacts are removed. Manifests are attached.

REMEDICATION 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.

Operator is currently investigating the extent of impacts to soil and groundwater. Analytical data indicates impacted soils are present at the source. Operator has installed five monitoring wells around the perimeter of the current excavation and submitted one sample from each location based on the highest PID reading or the sample collected nearest the observed groundwater table. See Figure 6 for monitoring well locations and Table 5 for PID results. Based on analytical results as shown on Table 2, the organic constituents did not exceed Table 915-1 Protection of Groundwater Soil Screening Levels (PGSSL). Arsenic and Barium exceeded Table 915-1 levels in all samples but were below site-specific background levels (SSBLs) calculated using highest background x 1.25 per Table 915-1 Footnote 11. Lead exceeded Table 915-1 and SSBL for lead in B-1 0-5'. Selenium in soil exceeded Table 915-1 levels in MW-1 through MW-5 and SSBL in MW-1 through MW-4. SAR exceeded the Table 915-1 level in B-1 but was below the SSBL (highest background result). pH exceeded the Table 915-1 level in 4 samples, but only exceeded the SSBL in MW-5.. Further excavating is required at the existing excavation to remove organic contaminants from the existing side walls, as well as the elevated lead contaminants, as observed at the B-1 location. Additional subsurface background samples will be collected from outside of the facility's footprint to address the elevated selenium issues observed at the MW-1 through MW-5 locations. Soil impacts regarding the produced water vault remains to be investigated, as proposed in the approved Form 27 (Doc#403690515). Once all soil and groundwater impacts are defined, remedial technologies will be evaluated to address impacts. ECMC will be provided 48-hour notice prior to any sampling event.

Soil Remediation Summary

| | |
|--|--|
| <input type="checkbox"/> In Situ _____ Bioremediation (or enhanced bioremediation) _____ Chemical oxidation _____ Air sparge / Soil vapor extraction _____ Natural Attenuation _____ Other _____ | <input checked="" type="checkbox"/> Ex Situ Yes _____ Excavate and offsite disposal If Yes: Estimated Volume (Cubic Yards) _____ 234 Name of Licensed Disposal Facility or ECMC Facility ID # _____ _____ 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.

Five monitoring wells (1 source, 1 upgradient, 1 downgradient, and 2 cross-gradient) were installed in May 2024 to determine if groundwater has been impacted at the facility. See Figures 5 & 6. Monitoring wells will be sampled quarterly for Table 915-1 analysis until 4 consecutive quarters of results are below Table 915-1 levels. The wells were sampled for Table 915-1 analytes on 6.10.24 and results are pending. See attached Figure 5 for well locations.

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 ECMC 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. The project is 20% complete. Remaining tasks include the following.

- determining impacts to soil
- determining impacts to groundwater
- determining impacts to surface water
- additional remediation of impacted medias
- 4 consecutive quarters of clean groundwater and surface water samples
- reclamation of site.

Operator anticipates the remaining cost for this project to be: \$ 75000

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 234

E&P waste (solid) description Petroleum impacted soil

ECMC Disposal Facility ID #, if applicable: _____

Non-ECMC Disposal Facility: Front Range Landfill

Volume of E&P Waste (liquid) in barrels 255

E&P waste (liquid) description Petroleum impacted groundwater

ECMC Disposal Facility ID #, if applicable: _____

Non-ECMC Disposal Facility: NGL Energy Partners LP

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? No

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 ECMC 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.

Reclamation will occur 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. 04/30/2025

Proposed date of completion of Reclamation. 05/31/2025

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. 01/23/2024

Actual Spill or Release date, or date of discovery. 01/23/2024

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 01/23/2024

Proposed site investigation commencement. 01/23/2024

Proposed completion of site investigation. 08/30/2024

REMEDIAL ACTION DATES

Proposed start date of Remediation. 01/23/2024

Proposed date of completion of Remediation. 10/30/2024

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:

OPERATOR COMMENT

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

Signed: Dan Motisi

Title: Environmental Geologist

Submit Date: 06/19/2024

Email: dmotisi@kpk.com

Based on the information provided herein, this Application for Site Investigation and Remediation Workplan complies with ECMC Rules and applicable orders and is hereby approved.

ECMC Approved: Kari Brown

Date: 07/23/2024

Remediation Project Number: 34666

COA Type

Description

| | |
|--------|--|
| | Operator shall submit results of monitoring well sampling, including laboratory results and groundwater contour map, on the next Form 27 Supplemental. |
| | Per ECMC field observations on 7/23/2024 MW-4 has been destroyed. Operator shall install a replacement MW and obtain point of compliance within 45 days of approval of this form (9/6/2024). |
| | Operator will provide notice to ECMC EPS Kari Brown (kari.l.brown@state.co.us) and Nikki Graber (nikki.graber@state.co.us) at least 48 hours prior to monitoring well installation, backfill or any sampling events performed on location. |
| | In accordance with Rule 913.e.(3), Operator will adopt a quarterly reporting schedule (every 90 days). |
| | Proposed date of completion of Remediation is unfeasible; at least 4 quarters of groundwater monitoring are required once the excavation has been backfilled and source well installed. On the next quarterly Form 27 Supplemental Operator will provide a revised Proposed date of Remediation Completion. |
| 5 COAs | |

ATTACHMENT 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

| | |
|-----------|--|
| 403818659 | INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL) |
| 403822688 | DISPOSAL MANIFESTS |
| 403822689 | DISPOSAL MANIFESTS |
| 403822691 | DISPOSAL MANIFESTS |
| 403822694 | DISPOSAL MANIFESTS |
| 403822697 | DISPOSAL MANIFESTS |
| 403822699 | DISPOSAL MANIFESTS |
| 403822702 | DISPOSAL MANIFESTS |
| 403822706 | DISPOSAL MANIFESTS |
| 403822708 | DISPOSAL MANIFESTS |
| 403822709 | DISPOSAL MANIFESTS |
| 403822745 | DISPOSAL MANIFESTS |
| 403822746 | DISPOSAL MANIFESTS |

| | |
|-----------|--------------------------------|
| 403822747 | DISPOSAL MANIFESTS |
| 403823917 | ANALYTICAL RESULTS |
| 403823939 | LOGS |
| 403823941 | LOGS |
| 403824071 | OTHER |
| 403829460 | ANALYTICAL RESULTS |
| 403829493 | MAP |
| 403862715 | FORM 27-SUPPLEMENTAL-SUBMITTED |

Total Attach: 21 Files

General Comments

| User Group | Comment | Comment Date |
|-------------------|----------------|---------------------|
| | | Stamp Upon Approval |

Total: 0 comment(s)