FORM 27 Rev 5/22

State of Colorado
Energy & Carbon Management Commission

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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 INFORMATON

Name of Operator: KP KAUFFMAN COMPANY INC Operator No: 46290
Address: 1700 LINCOLN ST STE 4550
City: DENVER State: CO Zip: 80203
Contact Person: John Peterson Email: jpeterson@kpk.com

Phone Numbers
Phone: (720) 8683848
Mobile: ( )

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 24848 Initial Form 27 Document #: 403124257

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.
- [X] 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: SPILL OR RELEASE Facility ID: 478370 API #: County Name: WELD
Facility Name: Suckla-Brown Unit 17 Header Latitude: 40.065230 Longitude: -104.878096
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: NWSE Sec: 10 Twp: 1N Range: 67W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SC
Most Sensitive Adjacent Land Use Agricultural
Is domestic water well within 1/4 mile? Yes
Is surface water within 1/4 mile? No
Is groundwater less than 20 feet below ground surface? Yes

Other Potential Receptors within 1/4 mile

Occupied residence approximately 900 feet east, possibly 6 habitable structures are within a quarter mile of the well; County Road 10.5 adjacent to the north of the site; SURFACE WATER: An unnamed irrigation channel is approximately 1,300 feet northwest of the site. The 100 year floodplain is not within 1/4 mile of the site; High Priority habitat is approximately 3,600 feet northwest of the site; Aquatic Native Species Conservation Waters are approximately 3,600 feet northwest of the site; no Bald Eagle Roost sites or Bald Eagle Active Nest site half mile buffers are within 1/4 mile of the site. There are 6 domestic water wells within a quarter mile of the site. The National Wetlands Inventory does not list any wetlands within a quarter mile of the release.

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- [X] **E&P Waste**
  - [X] Produced Water
  - [X] Oil
  - [ ] Condensate
  - [ ] Drilling Fluids
  - [ ] Drill Cuttings
- [ ] **Other E&P Waste**
  - [ ] Workover Fluids
  - [ ] Tank Bottoms
  - [ ] Pigging Waste
  - [ ] Rig Wash
  - [ ] Spent Filters
  - [ ] Pit Bottoms
  - [ ] Other (as described by EPA) _____
- [ ] **Non-E&P Waste** _____

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	GROUNDWATER	Undertermined	Sampling
Yes	SOILS	Undetermined	Sampling

INITIAL ACTION SUMMARY

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

On March 8, 2021, approximately 155 cubic yards (206 tons) of impacted soil were disposed of at the Front Range Landfill. Post-excavation confirmation soil samples collected on March 9, 2021, show that all organic constituents were below the applicable COGCC Table 915-1 Protection of Groundwater Soil Screening Level Concentrations. 4 monitoring wells (MW-1 through MW-4) were installed and sampled in August 2021. Organic exceedances were found in MW-2 and MW-4. LNAPL was detected on the groundwater surface in two wells (MW-1 and MW-3). Analytical results and sample location figures are attached.
Soil samples were not collected during the installation of MW-1 through MW-4. 3 additional monitoring wells (MW-5 through MW-7) were installed in September 2022. GW results from the September 2022 sampling event confirm organic exceedances from 3 wells (MW-2, MW-3, and MW-7). MW-4, MW-5 and MW-6 were dry. LNAPL was discovered in MW-1. Soil samples were collected from the installation of MW-5 through MW-7. An additional soil boring (SB-3) was installed to the west of the former excavation. Soil sample results from these borings indicate organic exceedances in SB-2 (MW-6), SB-3, and SB-4 (MW-7).

PROPOSED SAMPLING PLAN

Proposed Soil Sampling

[X] Will soil samples be collected as part of this investigation? (Number, type (grab/composite), analyses, and locations of samples):

Operator proposes to install "companion soil borings" adjacent to MW-1 through MW-4 in an effort to retroactively assess the soil in the vicinity of those wells. Operator also proposes to install 2 additional background soil borings, from which soil will be collected vertically every 5 feet. Operator proposes to install additional soil borings to delineate the impacts found in SB-2, SB-3, and SB-4.

Proposed Groundwater Sampling

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

Operator conducted an elevation survey in July 2023. According to the contour map (included as an attachment), gw appears to flow to the south or southwest. As such, Operator proposes to install POC wells as indicated on the attached figure.

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):

Additional investigation/excavation may be required pending results of boring results. If COGCC Table 915-1 organic constituents remain in place following investigative boring, levels will be reviewed to determine if additional ex-situ treatment, or in-situ treatment is the best path forward to remediate impacts.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected: 14
Number of soil samples exceeeding 915-1: 14
Was the areal and vertical extent of soil contamination delineated? No
Approximate areal extent (square feet): 2400

NA / ND

-- Highest concentration of TPH (mg/kg): 640
Highest concentration of SAR: 19.3
BTEX > 915-1: Yes
Vertical Extent > 915-1 (in feet): 15

Groundwater

Number of groundwater samples collected: 5
Was extent of groundwater contaminated delineated? No
Depth to groundwater (below ground surface, in feet): 8
Number of groundwater monitoring wells installed: 7
Number of groundwater samples exceeding 915-1: 5

-- Highest concentration of Benzene (µg/l): 330
-- Highest concentration of Toluene (µg/l): 17
-- Highest concentration of Ethylbenzene (µg/l): 97
-- Highest concentration of Xylene (µg/l): 220
NA 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?

[X] Were background samples collected as part of this site investigation?

2 background soil samples (Outside South Barrier and Background-2) were collected in march 2021 and September 2022, respectively. Based on their locations, and their proximity to nearby impacts, these may not be representative of background conditions. Operator proposes to install 4 background soil borings, from which a soil samples will be collected vertically every 5 feet. The locations of these proposed borings are shown on the attached figure.

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

Volume of solid waste (cubic yards):
Volume of liquid waste (barrels):

[X] Is further site investigation required?

Operator proposes to to install POC wells, install companion soil borings, and install background soil borings. Operator also proposes to install additional soil borings to delineate the impacts found in SB-2, SB-3, and SB-4. Locations of wells and borings are indicated on the attached figure.

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 155 yards (206 tons) of impacted soil were removed from the release area and transported off-site for disposal at the Front Range Landfill. Manifests are included as an attachment.

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.

Operator is currently investigating the extent of impacts to soil and groundwater from the release. Recent analytical data indicates additional impacted soils are in-situ surrounding the original excavation. Operator is reviewing their possible remedial strategies. COGCC will be provided 48 hour notice prior to any sampling event.

Soil Remediation Summary

[ ] **In Situ**
[X] **Ex Situ**

Bioremediation (or enhanced bioremediation)
Yes Excavate and offsite disposal

Chemical oxidation

Air sparge / Soil vapor extraction

Natural Attenuation

Other

If Yes: Estimated Volume (Cubic Yards) 155

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.

Existing wells MW-1 through MW-4, MW-7, plus any new wells,will continue to be sampled on a quarterly basis. All monitoring well will be analyzed for the organic and inorganic compounds in groundwater listed in COGCC Table 915-1.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

[X] 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 155

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.

Upon completion of the remediation, reclamation will be done in accordance with 1000 series 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?

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.

Proposed date of completion of Reclamation.

IMPLEMENTATION SCHEDULE

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

PRIOR DATES

Date of Surface Owner notification/consultation, if required. 10/15/2020

Actual Spill or Release date, or date of discovery. 10/01/2020

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 03/09/2021

Proposed site investigation commencement. 09/06/2022

Proposed completion of site investigation. 02/26/2024

REMEDIAL ACTION DATES

Proposed start date of Remediation. 10/31/2023

Proposed date of completion of Remediation. 11/30/2023

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:

Additional impacts to soil and groundwater were discovered during September 2022 field activities. Additional soil borings and groundwater monitoring are required to delineate the extent of impacts.

OPERATOR COMMENT

Following Supplemental Form 27 Doc#403216365 Denial COGCC Comments Addressed:
"Waste manifests provided are for approximately 240 cubic yards, significantly larger than the initial repair excavation which was backfilled on 4/18/2021.Additionally, COGCC Inspection Document #689501175 observed stockpiled contaminated soils on 3/29/2021; the latest waste manifest provided is for3/8/2021." - Explanation: Manifests initially provided were duplicative and there may have been come confusion on total volume, see attached manifeststhat correspond with 155 cubic yards of waste removed. Stockpiled soils observed on 3/29/2021 was unused backfill material."Operator has not provided a groundwater gradient map to evaluate the proposed additional work." - Groundwater contour map provided in attachment from July 2023 gauging and surveying event.

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

Signed: Michael Stauthamer Title: Project Manager

Submit Date: Email: michael.stauthamer@stantec.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: 24848

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
403507512	ANALYTICAL RESULTS
403507513	ANALYTICAL RESULTS
403507514	ANALYTICAL RESULTS
403507515	ANALYTICAL RESULTS
403507517	DISPOSAL MANIFESTS
403507518	GROUND WATER ELEVATION MAP
403507519	ANALYTICAL RESULTS
403507522	ANALYTICAL RESULTS

Total Attach: 8 Files

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