

# State of Colorado Oil and Gas Conservation Commission

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Document Number:

402686887

Receive Date:

05/26/2021

Report taken by:

PETER GINTAUTAS

## 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.

Refer to Rules 340, 905, 906, 907, 908, 909, and 910

### OPERATOR INFORMATION

Name of Operator: <u>KP KAUFFMAN COMPANY INC</u>	Operator No: <u>46290</u>	<b>Phone Numbers</b>
Address: <u>1675 BROADWAY, STE 2800</u>		Phone: <u>(303) 8254822</u>
City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80202</u>		Mobile: <u>( )</u>
Contact Person: <u>Jeff Rickard</u>	Email: <u>jrickard@kpk.com</u>	

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 15951Initial Form 27 Document #: 402486065

#### PURPOSE INFORMATION

- |  |   |
|--|---|
| <input type="checkbox"/> 901.e. Sensitive Area Determination                                       | <input type="checkbox"/> 909.c.(5), Rule 910.b.(4): Remediation of impacted ground water                              |
| <input type="checkbox"/> 909.c.(1), Rule 905: Pit or PW vessel closure                             | <input checked="" type="checkbox"/> Rule 909.e.(2)A.: Notice completion of remediation in accordance with Rule 909.b. |
| <input type="checkbox"/> 909.c.(2), Rule 906: Spill/Release Remediation                            | <input checked="" type="checkbox"/> Rule 909.e.(2)B.: Closure of remediation project                                  |
| <input type="checkbox"/> 909.c.(3), Rule 907.e.: Land treatment of oily waste                      | <input type="checkbox"/> Rule 906.c.: Director request  |
| <input type="checkbox"/> 909.c.(4), Rule 908.g.: Centralized E&P Waste Management Facility closure | <input type="checkbox"/> Other _____  |

#### SITE INFORMATION

Y Multiple Facilities ( in accordance with Rule 909.c. )

Facility Type: <u>NONFACILITY</u>	Facility ID: <u>477263</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>soil spreadfield</u>	Latitude: <u>40.150173</u>	Longitude: <u>-104.891253</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NWSE</u>	Sec: <u>9</u>	Twp: <u>2N</u>	Range: <u>67w</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>
Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>477650</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Soil Spreadfield</u>	Latitude: <u>40.150012</u>	Longitude: <u>-104.891124</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NWSE</u>	Sec: <u>9</u>	Twp: <u>2N</u>	Range: <u>67W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

#### SITE CONDITIONS

General soil type - USCS Classifications SMMost Sensitive Adjacent Land Use LivestockIs domestic water well within 1/4 mile? YesIs surface water within 1/4 mile? YesIs groundwater less than 20 feet below ground surface? Yes

Other Potential Receptors within 1/4 mile

# 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	Results of collected groundwater samples.
UNDETERMINED	SOILS	Unknown	Results of collected soil samples.
UNDETERMINED	SURFACE WATER	Unknown	Results of collected surface water samples.

## INITIAL ACTION SUMMARY

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

Material brought by truck from the site of spill 468756 (Remediation Project 14962) to create spreadfield will be consolidated into a single stockpile in the SE area of the spreadfield location and hauled off to a certified disposal facility. A berm will be constructed around soil stockpile for stormwater management until fully removed from location.

## 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 ):

Soil underneath spreadfield footprint needs to be investigated to determine if it has been impacted. Once spreadfield material has been removed from location soil samples will be collected from each of the 19 proposed sample locations (Proposed sample location map attached). Each collected sample will be analyzed for TPH-GRO, DRO & ORO, BTEX, inorganics in soils, and metals in soils.

### Proposed Groundwater Sampling

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

Groundwater samples will be collected from each of the proposed sample locations (Proposed sample location map attached). Each collected sample will be analyzed for BTEX.

### Proposed Surface Water Sampling

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

Surface water samples will be collected from each of the proposed sample locations (Proposed sample location map attached). Each collected sample will be analyzed for BTEX.

## 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 19

Number of soil samples exceeding 910-1 0

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

Approximate areal extent (square feet) 13920  
0

### NA / ND

ND Highest concentration of TPH (mg/kg)

-- Highest concentration of SAR 16.26

BTEX > 910-1 No

Vertical Extent > 910-1 (in feet) 1

### Groundwater

Number of groundwater samples collected 5

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet) 6'

Number of groundwater monitoring wells installed 0

Number of groundwater samples exceeding 910-1 0

ND Highest concentration of Benzene (µg/l)

ND Highest concentration of Toluene (µg/l)

ND Highest concentration of Ethylbenzene (µg/l)

ND Highest concentration of Xylene (µg/l)

ND Highest concentration of Methane (mg/l)

### Surface Water

0 Number of surface water samples collected

0 Number of surface water samples exceeding 910-1

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?

# 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.

Spreadfield material will be consolidated into a single stockpile in preparation for removal. Stockpile will be hauled off location and taken to a certified disposal facility.

## 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.

If soil beneath spreadfield material is found to be impacted, excavation will be performed to remove all impacted soil. Impacted soil will be disposed of at certified disposal facility. If groundwater is found to be impacted, a groundwater monitoring plan will be submitted for review and approval to address groundwater impacts.

## 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) \_\_\_\_\_ 4745

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.

## REMEDATION PROGRESS UPDATE

### PERIODIC REPORTING

**Frequency:** ☒ Quarterly ☐ Semi-Annually ☐ Annually ☐ Other \_\_\_\_\_

**Report Type:** ☐ Groundwater Monitoring ☐ Land Treatment Progress Report ☐ O&M Report  
☐ Other \_\_\_\_\_

### 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 4745

E&P waste (solid) description 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: \_\_\_\_\_

## REMEDATION COMPLETION REPORT

### REMEDATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? No \_\_\_\_\_

Do all soils meet Table 910-1 standards? No \_\_\_\_\_

Does the previous reply indicate consideration of background concentrations? No \_\_\_\_\_

Are the only residual soil impacts pH, SAR, or EC at depths greater than 3 feet below ground surface? No \_\_\_\_\_

Does Groundwater meet Table 910-1 standards? Yes \_\_\_\_\_

Is additional groundwater monitoring to be conducted? No \_\_\_\_\_

## 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 stockpiled material and any identified impacted soil, location will be backfilled with clean fill dirt (if needed), recontoured and reseeded per the landowners requirements.

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 approve the seed mix? Yes \_\_\_\_\_

If NO, does the seed mix comply with local soil conservation district recommendations? No \_\_\_\_\_

## IMPLEMENTATION SCHEDULE

### PRIOR DATES

Date of Surface Owner notification/consultation, if required. \_\_\_\_\_

Actual Spill or Release date, if known. \_\_\_\_\_

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 09/03/2020

Date of commencement of Site Investigation. 11/09/2020

Date of completion of Site Investigation. \_\_\_\_\_

### REMEDIAL ACTION DATES

Date of commencement of Remediation. 11/23/2020

Date of completion of Remediation. \_\_\_\_\_

### SITE RECLAMATION DATES

Date of commencement of Reclamation. \_\_\_\_\_

Date of completion of Reclamation. \_\_\_\_\_

### OPERATOR COMMENT

KPK is requesting closure of Remediation Project #15951, with a COA that Surface water be collected when it is present. Surface water locations were still dry as of 5/26/21, photo documentation attached (originals with metadata showing dates taken can be provided if requested) .

All soil has been disposed of at an approved landfill, manifests are attached.

All impacted soil has been removed and removal has been confirmed by sampling, results attached. Ground water was sampled and no impacts were confirmed by lab samples, see report. No soil boring logs were taken for GW borings as they were not proposed or required by COA per DOC#402486065. All impacted soil was removed and non-impacted soil was confirmed by lab sampling under the impacted soil to show no path to groundwater is present.

Per COGCC EPS request, background samples were taken at the NESSSU #1 location, sample maps and results attached.

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

Signed: Jeff Rickard

Title: Regulatory

Submit Date: 05/26/2021

Email: jrickard@kpk.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: PETER GINTAUTAS

Date: 06/17/2021

Remediation Project Number: 15951

### Condition of Approval

#### COA Type

#### Description

Remediation project 15951 – June 17, 2021  
The re-submitted (May 26, 2021) supplemental form 27 (document 402686887) has been approved with the modification that the request for closure could not be approved at this time based on the data and information provided. An itemized list of the issues noted to date as to why the closure request cannot be approved at this time are presented below.  
1. The summary table of results lists Table 915-1 Residential Soil Screening Level concentrations (attachment 402686962). Data presented with respect to the presence of shallow groundwater at the site and also with respect to soil composition/grain size (attachment 402686890) indicate that the appropriate thresholds from Table 915-1 are the Protection of Groundwater Soil Screening Levels. The summary table needs to be changed to show the Protection of Groundwater Screening Level unless the operator can provide convincing documentation that a pathway to groundwater between the near surface and the shallow groundwater does not exist. Soil boring logs were not present in the groundwater sampling report (attachment 402686890). Soil borings logs or other evidence of the lack of a migrations pathway from the surface to the relatively shallow

groundwater at the site must be added to the data and information for the site if any request for use of Table 915-1 Residential Soil Screening Level concentrations is made.

2. The summary table of results (attachment 402686962) did not include data for two compounds listed in Table 915-1 (1-methylnaphthalene and 2-methylnaphthalene). Lab reports indicated that these two contaminants of concern were analyzed. A summary table must be prepared and submitted that includes data for these two compounds. The summary table must also be modified to include accurate reporting thresholds for naphthalene. The lab reports submitted indicate a different report limit for naphthalene that was reported by the operator. The summary table included incorrect <RL concentrations for all 19 samples. The Lab's reported less than values for naphthalene in all 19 samples indicate this contaminant of concern was not detected above the Protection of Groundwater Screening Level for soils (0.0038mg/kg). The table submitted by the operator incorrectly indicated that naphthalene was not detected at less than 0.005mg/kg which is not at or below the Table 915-1 Protection of Groundwater Screening level.

3. Operator and/or their consultant noted that surface water was not present on one or two calendar days. The absence of surface water on one day or two days does not imply that surface water has not been present near the spreadfield in the time since the site investigation and remediation plan was approved, as aerial images indicate that surface water is present at many times in the past and sampling could have been accomplished. The approved project plan included sampling and analysis of nearby surface water which could have been accomplished when water was present last summer and fall. No request to modify the approved plan has been approved by COGCC. Sampling and analysis of nearby surface water is required per the approved plan.

4. Analytical data submitted indicates that five sites have Sodium Adsorption Ratios (SAR) >than the Table 915-1 threshold (<6). The remediation project will not be closed unless these SAR exceedances are addressed by removal of impacted soils, or by demonstrating compliance under rule 915.e.(2)D or by satisfying conditions of rule 915.b. If background sampling is planned to potentially demonstrate compliance with 915.e(2)D, a supplemental form 27 should be submitted documenting the plan and for prior approval by staff. The background samples collected by the operator to date are not considered representative of the surface soils impacted by the addition of E&P wastes at the site. The operator collected background samples were collected at depths of 3 feet and 6 feet below the surface which are considered comparable to the potentially impacted soils with a few inches of the surface.

5. Analytical data submitted to date indicate that the concentrations of arsenic (As) and selenium (Se) in each of the 19 spreadfield soil samples exceeds the Table 915-1 Protection of Groundwater Soil Screening Levels. The remediation project cannot be closed unless these metals exceedances are addressed by removal of impacted soils, or by demonstrating compliance under rule 915.e.(2)D. If background sampling is planned to potentially demonstrate compliance with 915.e(2)D, a supplemental form 27 should be submitted documenting the plan and for prior approval by staff. The operator collected background samples were collected at depths of 3 feet and 6 feet below the surface which are consi

Changed to quarterly report.

Changed to not a request for Final Closure

Changed to not all soils meet table 915-1 standards. Form 27 was submitted prior to update of form with changes now in place to document 915-1 instead of 910-1. Rule changed in January, 2021 but changes to form in database took some time.

	<p>May 20, 2021 Remediation project 15951 The submitted supplemental form 27 (document 402686887) has been pushed back to draft so that additional information, revisions and general changes can be made to better enable consideration of the request for no further actions made by Operator. An itemized list of the issues noted to date are presented below.</p> <p>1.The chain of custody (COC) for samples collected on 10 March 2021 indicates each of the 19 soil samples were collected at 9:00am (attachment 402686889). I visited the site on that day and believe that samples were collected over a few hours and not all at one time. COC's are considered evidentiary documents so if the time of collection is not correct for each sample some documentation of this discrepancy must be provided to COGCC.</p> <p>2.No information regarding the type or mode of sample collection was provided in the lab report (attachment 402686889) or in the summary table (attachment 40268962). For example were the samples composites at each sampling location or were they discrete samples. Were the samples collected at a specified depth such as from 0-6inches or 0-12inches. The AAL lab report included (attachment 40268889) indicates a depth of 0-6inches for these samples but since the chain of custody to Summit Scientific does not include this information it is unclear how the AAL lab came to this conclusion other than it is their assumed standard or recommended depth of sampling. Documentation of the sampling depth and mode of collection must be provided to COGCC.</p> <p>3.The summary table of results lists Table 915-1 Residential Soil Screening Level concentrations (attachment 402686962). Data presented with respect to the presence of shallow groundwater at the site and also with respect to soil composition/grain size (attachment 402686890) indicate that the appropriate thresholds from Table 915-1 are the Protection of Groundwater Soil Screening Levels. The summary table needs to be changed to show the Protection of Groundwater Screening Level unless the operator can provide convincing documentation that a pathway to groundwater between the near surface and the shallow groundwater does not exist. Soil boring logs were not present in the groundwater sampling report (attachment 402686890). Soil borings logs should be added to the groundwater sampling report.</p> <p>4.The summary table of results utilizes an alpha presentation of results for analytes the lab reported as less than their established quantification levels (attachment 402686962). It is not possible to compare an alpha presentation of the results to the numeric thresholds established by Table 915-1. The summary table must be modified to include a numeric value such as &gt;0.002mg/k for example instead of the alpha ND for each sample and value presented as ND in the summary table.</p> <p>5.Operator and/or their consultant noted that surface water was not present on one calendar day. The absence of surface water on one day does not imply that surface water is not present near the spreadfield as aerial images indicate that surface water is present at many times in the past. The approved project plan included sampling and analysis of nearby surface water. No request to modify the approved plan has been received or approved by COGCC. Sampling and analysis of nearby surface water is required per the approved plan.</p> <p>6.Attachment 402686920 is indicated by Adobe Acrobat to be an incompatible or corrupted file. Please replace that set of disposal manifests with a new version of the PDF.</p>
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>
402686887	FORM 27-SUPPLEMENTAL-SUBMITTED
402686889	ANALYTICAL RESULTS
402686890	ANALYTICAL RESULTS
402686891	SOIL SAMPLE LOCATION MAP
402686893	DISPOSAL MANIFESTS
402686907	DISPOSAL MANIFESTS
402686920	DISPOSAL MANIFESTS
402686923	DISPOSAL MANIFESTS
402686942	DISPOSAL MANIFESTS
402686962	ANALYTICAL RESULTS
402686971	ANALYTICAL RESULTS
402686972	SOIL SAMPLE LOCATION MAP
402699987	DISPOSAL MANIFESTS
402699990	SOIL SAMPLE LOCATION MAP
402700037	ANALYTICAL RESULTS
402702001	PHOTO DOCUMENTATION

Total Attach: 16 Files

**General Comments**

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

Total: 0 comment(s)