

State of Colorado
Oil and Gas Conservation Commission

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Report taken by:
KRIS NEIDEL

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>		
City: <u>DENVER</u>	State: <u>CO</u>	Zip: <u>80203</u>
Contact Person: <u>Craig Meis</u>	Email: <u>cmeis@kpk.com</u>	Phone: <u>(720) 868-9848</u>
		Mobile: <u>(970) 261-3567</u>

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 14784 Initial Form 27 Document #: 402257492

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>447431</u>	API #: _____	County Name: <u>JACKSON</u>
Facility Name: <u>SPILL/RELEASE POINT</u>	Latitude: <u>40.782165</u>	Longitude: <u>-106.244577</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SENE</u>	Sec: <u>3</u>	Twp: <u>9N</u>	Range: <u>79W</u>
	Meridian: <u>6</u>	Sensitive Area? <u>Yes</u>	

SITE CONDITIONS

General soil type - USCS Classifications SM Most Sensitive Adjacent Land Use Range Land
 Is domestic water well within 1/4 mile? No 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

There are no residence within a quarter mile of the release. County Road 10 is located within a quarter mile of the release. No lakes, rivers, streams, or 100-year flood plains within a quarter mile of the site. There are 4 High Priority habitats located within a quarter mile of the release, they include a Greater Sage Grouse Lek Site, a Greater Sage Grouse Priority Habitat Management Area, a Pronghorn Migration Corridor, and a Greater Sage Grouse General Habitat Management Area. There are no Bald Eagle Roost sites, or Bald Eagle active nest site half mile buffer within a quarter mile of the release. There is 1 water well within a quarter mile of the site.

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 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	SOILS	190'x20'	Visual delineation, field screening, and laboratory analysis

INITIAL ACTION SUMMARY

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

Under the previous operator, Bonanza Creek, a ruptured injection flowline released approximately 20 bbls of produced water to the ground. The line was repaired, and pressure tested prior to returning to service. As the impacted soil of the release was being removed a historical release was discovered. The excavation reached a depth of approximately 60' before the work became no longer safe or efficient. It was decided to backfill the excavation and move forward with a different remediation approach. A mobile drill rig was mobilized, and 7 soil borings were drilled and sampled. The sample results indicate that the historical release extends to the southwest on the McCallum Unit 5 well pad.

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):

7 soil borings were drilled, and soil samples were collected to delineate the release under COGCC Table 910-1. MarCom is proposing additional soil investigation and borings installing 56 additional monitoring wells to further assess impacts and Groundwater. If additional excavation is needed Final vertical and horizontal extent will be based on limits of excavation and results from grab soil samples and photoionization detector (PID) field screening. Confirmation soil samples will be 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 past method, boron (hot water soluble). Please refer to the attached Site Investigation Summary report. Proposed monitoring well locations will be where previous borings were installed (Please refer to attached maps).

Proposed Groundwater Sampling

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

To determine if impacts are present in groundwater the operator shall comply with Table 915-1 Protection of Groundwater Soil Screening Level Concentrations. MarCom proposes the installation of 5 Groundwater Monitoring wells. 1 at the source, 1 downgradient, and 2 cross gradient. Upon approval of the GWM plan, COGCC will be provided with a 72-hour notice before well installation. Groundwater samples will be analyzed for Table 915-1 Organic Compounds in Groundwater and Table 915-1 inorganic parameters. Groundwater will be monitored until 4 consecutive quarters of clean data has been collected. Please refer to proposed groundwater monitoring map. Proposed monitoring well locations will be where previous borings were installed (Please refer to attached maps).

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):

At depth background concentration samples will also be conducted during borings, as well as installing groundwater monitoring wells to evaluate groundwater conditions. Further investigation may be required to determine the extent of the impacts. If further excavation is necessary, it may be warranted to delineate further the extent of the excavation utilizing Geoprobng or drilling equipment, depending on excavation status, and analytical results. If Geoprobng is necessary to determine the extent of impacts step out borings from the original proposed plan may be warranted to find the full extent of the impacts. If Geoprobng is necessary a supplemental Form 27 will be submitted with a proposed boring plan.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 12
Number of soil samples exceeding 915-1 5
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet) 3800

NA / ND

-- Highest concentration of TPH (mg/kg) 4088
NA Highest concentration of SAR _____
BTEX > 915-1 No
Vertical Extent > 915-1 (in feet) 60

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 _____

NA Highest concentration of Benzene (µg/l) _____
NA Highest concentration of Toluene (µg/l) _____
NA Highest concentration of Ethylbenzene (µg/l) _____
NA Highest concentration of Xylene (µg/l) _____
NA Highest concentration of Methane (mg/l) _____

Surface Water

0 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?

Based on the collected borehole samples, the historical impact trends to the southwest on the McCallum Unit 5 well pad.

Were background samples collected as part of this site investigation?

Backgrounds will be collected during the installation of monitoring wells. A total of 6 Backgrounds will be submitted for analysis of Table 915-1 Inorganics, and Metals. Background location will be determined based up extent of impacts discovered during investigation borings. A Background map will be provided in a supplemental form 27 with coordinates.

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?

6 additional at depth background concentration samples, as well as installing 5 groundwater monitoring wells, will help determine the full extent of the impacts, and the next steps proceeding forward with excavation or in-situ treatments if all impacts to 60 feet have been removed.

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 Hydrovac, and excavation commenced to eliminate hydrocarbons transporting across the site. All impacted soil has been excavated and hauled to a certified disposal location. All removed groundwater will be disposed of a a certified disposal location. Waste disposal manifests will continue to 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.

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.

Impacted soil has been excavated and disposed of at a certified disposal facility. Soil samples have been collected from the previous excavation area to determine the vertical and horizontal extent of impact. Soil samples will need to be recollected as well as installing groundwater monitoring wells and collecting background soil samples. For additional specific site investigation please refer to the attached Site Investigation Summary report.

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) _____ 1666
 _____ 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.

To determine if impacts are present in groundwater the operator shall comply with Table 915-1 Protection of Groundwater Soil Screening Level Concentrations. MarCom proposes the installation of 5 Groundwater Monitoring wells. 1 at the source, 1 downgradient, 1 upgradient, and 2 cross gradient. Upon approval of the GWM plan, COGCC will be provided with a 72-hour notice before well installation. Groundwater samples will be analyzed for Table 915-1 Organic Compounds in Groundwater and Table 915-1 inorganic parameters. Groundwater will be monitored until 4 consecutive quarters of clean data has been collected. Please refer to the proposed groundwater monitoring map.

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 receiving confirmation sample analytical that shows all impacts have been removed, KPK will submit request for Backfill to the state. Upon completion of the backfill KPK will consult with the landowner on seeding preference. Reclamation will commence 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. 08/18/2023

Proposed date of completion of Reclamation. 09/15/2023

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. 08/23/2023

Actual Spill or Release date, or date of discovery. 08/23/2016

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 08/24/2016

Proposed site investigation commencement. 04/01/2018

Proposed completion of site investigation. 06/23/2023

REMEDIAL ACTION DATES

Proposed start date of Remediation. 08/24/2016

Proposed date of completion of Remediation. 11/17/2023

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 COMMENT

This Form 27 supplemental is being submitted to move forward with further investigation at the site, and to fully determine the extent of impacts at the site. This work may be put off until spring 2023 pending on access to the site due to inclement weather, and geographical location. Updated site maps, photo documentation, analytical results, and disposal manifest will be submitted in a supplemental Form 27.

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

Signed: Harrison Coleman

Title: Environmental Scientist

Submit Date: 11/07/2022

Email: hcoleman@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: Candice (Nikki) Graber

Date: 11/22/2022

Remediation Project Number: 14784

COA Type**Description**

	Based on the information provided surface impacts were observed during the initial spill and no surface or near surface samples have been analyzed and reported to date. Additionally, the limits of the excavation were not reported in any of the provided maps. On the next Supplemental Form 27 Operator shall provide a map showing the limits of the investigation so COGCC can determine if additional near surface samples need to be collected.
	This Form 27 Supplemental is being approved as submitted. However, the next Form 27 Supplemental must be populated with the Adequacy of Operator's General Liability Insurance and Financial Assurance data field under the Remediation Progress Update tab as required by Rules 703.b and 705.b. Note: Based on the scope of work proposed COGCC does not believe Operator anticipated the remaining cost for this project is adequate.
	Operator will provide notice to COGCC EPS Nikki Graber (nikki.graber@state.co.us) and COGCC EPS Kris Neidel (kris.neidel@state.co.us) at least 48 hours prior to soil boring, or any sampling events performed on location.
	All unaddressed COAs/CAs from previously approved forms/inspections still apply. Additionally, all COAs applied to the GRIP apply to this remediation project.
	Location lies within mapped Greater Sage Grouse Lek Site, a Greater Sage Grouse Priority Habitat Management Area, a Pronghorn Migration Corridor, and a Greater Sage Grouse General Habitat Management Area. Please note that Approval of this Form 27 does not supersede any Federal, State or Local regulations. COGCC recommends consultation with Colorado Parks and Wildlife and US Fish and Wildlife Agency. Operator shall provide correspondence via Form 27 prior to initiating field work.
	On the next Form 27 Operator shall provide a detailed stand alone implementation plan proposing dates for completion of all field work to occur as soon as possible in Spring 2023.
	If, during the course of this conditionally approved investigation, additional soil borings, not described in this Form 27 are necessary to complete the investigation and vertical and lateral delineation of impacts, Operator may use their discretion to conduct additional investigation without seeking additional approval from COGCC; any such changes in scope will be documented in a subsequent Supplemental Form 27, as required.
7 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.

Att Doc Num**Name**

403217486	FORM 27-SUPPLEMENTAL-SUBMITTED
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403217585	OTHER
403217612	MAP
403217650	SITE MAP
403217728	SOIL SAMPLE LOCATION MAP
403217747	ANALYTICAL RESULTS
403217794	MAP
403217888	SOIL SAMPLE LOCATION MAP
403217905	SOIL SAMPLE LOCATION MAP
403217934	ANALYTICAL RESULTS
403217951	ANALYTICAL RESULTS
403218158	LOGS
403218985	SITE INVESTIGATION REPORT

Total Attach: 13 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Environmental	Document #403217905 and 403217728 are identical.	11/22/2022

Total: 1 comment(s)