

State of Colorado
Oil and Gas Conservation Commission

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Report taken by:
Candice (Nikki) Graber

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>	Mobile: <u>()</u>
Contact Person: <u>Craig Meis</u>	Email: <u>cmeis@kpk.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 19620 Initial Form 27 Document #: 402757839

PURPOSE INFORMATION

- Rule 913.c.(1): Pit or Cuttings Trench closure.
- Rule 913.c.(2): Buried or partially buried vessel closure, which will be removed.
- 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), (4), 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>478772</u>	API #: _____	County Name: <u>LOGAN</u>
Facility Name: <u>Knudsen PW Pit</u>	Latitude: <u>40.698704</u>	Longitude: <u>-103.233609</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SENW</u>	Sec: <u>6</u>	Twp: <u>8N</u>	Range: <u>52W</u> Meridian: <u>6</u> Sensitive Area? <u>No</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? Yes
 Is groundwater less than 20 feet below ground surface? No

Other Potential Receptors within 1/4 mile

No residences or habitable structures are located within a quarter mile of the well; County Road 38 is located approximately 1,275 feet north of the site; SURFACE WATER: Sterling Inlet Canal is located approximately 1,065 feet south of the site, which is a USFWS-mapped wetland; Additionally, surface water ponds located approximately 375 feet southwest of the site are USFWS-mapped wetlands. The 100 year floodplain is located over 1 mile from the site to the southwest west; No wetlands are mapped by USFWS within 1/4 mile of the site; High Priority habitat is mapped on the site; Mule Deer Sever Winter Range is mapped on the site; No Bald Eagle Roost sites or Bald Eagle Active Nest site half mile buffers are located within 1/4 mile of the site. CPW has been contacted about the one mapped high priority habitat for the site. There are 0 domestic water wells within a quarter mile of the site.

DENIED

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 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	SOILS	50' X 40' (AERIAL)-DEPTH TBD	Estimated measurements of PW earthen containment area.

INITIAL ACTION SUMMARY

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

COGCC provided notification via Field Inspection Report (Doc #699602108 & 699602115) to KPK of an observed crude oil ring inside of a produced water storage pit. The observed ring on the earthen containment berm indicated that crude oil had entered into the produced water pit. The cause of crude entering the produced water pit was due to mechanical failure with the vertical heater treater's dump valve. The dump valve on the water side at some point in time became stuck open causing total fluids to be sent to the produced water storage area. No free-standing liquid was observed in the storage pit, so no HydroVac was utilized to remove free product. Dump valves on the vertical heater treater will be inspected and serviced to prevent future malfunctions. Impacted soils around the pump shed were identified in FIR (Doc #688000547) as "New Spill". Per the COAs on the inspection report the "New Spill" will be investigated under this form 27 to determine the root cause of the release.

PROPOSED SAMPLING PLAN

Proposed Soil Sampling

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

Excavation will take place to remove impacted soils from the produced water pit and around pump shed. Confirmation soil samples will be collected as described in the Rule 915.e.(2) Guidance Document and field screened. Soil samples will be analyzed for full Table 915-1 constituents. For the produced water pit, soil samples will be collected from the surface and 5' bgs. For the pump shed release, samples will be collected from the base and sidewalls of the excavation. If needed, extent borings may be installed, and soil samples collected to evaluate the extent of soil impacts. Proposed soil sample locations for both releases are attached with this submission, and are subject to change based upon field observations and excavation extent. COGCC will be provided with a 48 hr notice prior to sampling.

Proposed Groundwater Sampling

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

If groundwater is encountered, a grab sample will be collected as soon as practical. If contaminated soil is in contact with groundwater or if free product/hydrocarbon sheen are observed, the release will be reported in accordance with Rule 912.b. Groundwater samples will be submitted for laboratory analysis of BTEX, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene by EPA Method 8260. A Groundwater Monitoring plan with a total of 5 wells, 1 upgradient, 2 cross gradient, 1 down gradient, and 1 near the source (Additional wells may be necessary) will be submitted for approval, and Groundwater monitoring will until 4 clean consecutive quarters is achieved. COGCC will be provided a 48Hour notice prior to the installation of Monitoring wells.

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 may be required to determine the extent of the impacts. If confirmation soil samples indicate impacts remain in-situ, Operator may delineate further the extent of the excavation utilizing Geoprobng or drilling equipment, depending on site status, and analytical results.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 0
Number of soil samples exceeding 915-1 _____
Was the areal and vertical extent of soil contamination delineated? _____
Approximate areal extent (square feet) _____

NA / ND

Highest concentration of TPH (mg/kg) _____
Highest concentration of SAR _____
BTEX > 915-1 _____
Vertical Extent > 915-1 (in feet) _____

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 _____

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

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 areas 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?

Additional investigation may be required to determine the extent of the impacts. If confirmation soil samples indicate impacts remain in-situ, Operator may delineate further the extent of the excavation utilizing Geoprobng or drilling equipment, depending on site status, and analytical results.

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.

Impacted soil will be excavated and hauled to a certified disposal location. If encountered, all removed groundwater will be disposed of at a certified disposal location. Waste disposal manifests have been provided with this submission. CPW has been contacted about the priority habitat buffer that is mapped over the site. 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.

Excavation will be conducted at produced water pit and at area around pump shed ("New Spill") to remove impacted soils. Impacted soil will be excavated and disposed of at a certified disposal facility. Final vertical and horizontal extent of excavation will be based on limits of excavation and on 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 will be analyzed for Table 915-1 constituents. Samples will be collected in accordance to COGCCs table 915-1 sample collection guidelines table. If needed, extent borings may be installed, and soil samples collected to evaluate the extent of soil impacts. COGCC will be provided with a 48 hr. notice prior to any sampling event.

Soil Remediation Summary

In Situ

Ex Situ

- _____ Bioremediation (or enhanced bioremediation)
- _____ Chemical oxidation
- _____ Air sparge / Soil vapor extraction
- _____ Natural Attenuation
- _____ Other _____

- Yes Excavate and offsite disposal
- _____ If Yes: Estimated Volume (Cubic Yards) 77
- _____ Name of Licensed Disposal Facility or COGCC Facility ID # _____
- No Excavate and onsite remediation
- _____ Land Treatment
- _____ Bioremediation (or enhanced bioremediation)
- _____ Chemical oxidation
- _____ Other _____

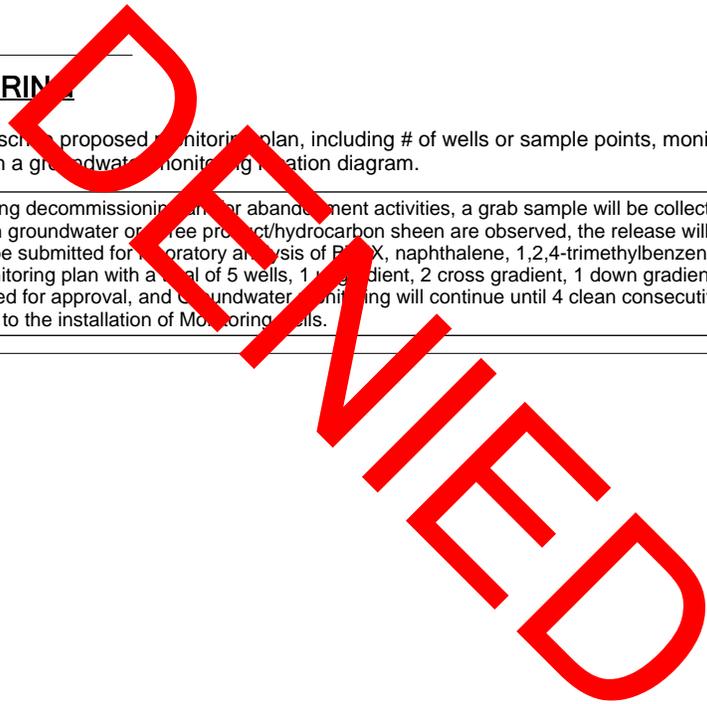
Groundwater Remediation Summary

- 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.

If groundwater is encountered during decommissioning or abandonment activities, a grab sample will be collected as soon as practical. If contaminated soil is in contact with groundwater or free product/hydrocarbon sheen are observed, the release will be reported in accordance with Rule 912.b. Groundwater samples will be submitted for laboratory analysis of BTEX, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene by EPA Method 8260. A Groundwater Monitoring plan with a total of 5 wells, 1 up gradient, 2 cross gradient, 1 down gradient, and 1 at source (Additional wells may be necessary) will be submitted for approval, and Groundwater monitoring will continue until 4 clean consecutive quarters is achieved. COGCC will be provided a 72 Hour notice prior to the installation of Monitoring wells.



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 receiving confirmation sample analytical that shows all impacts have been removed, KPK will submit request for Backfill to the state. Reclamation will commence following the 1000 series reclamation rules. Areas of excavation will be backfilled with clean fill dirt. Pit will be reconstructed to continue operation at the location.

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 conservation district recommendations? _____

Did the local soil conservation district provide the seed mix? No

SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. 04/27/23

Proposed date of completion of Reclamation. 05/24/23

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. 12/06/2020

Actual Spill or Release date, or date of discovery. 12/05/2020

SITE INVESTIGATION DATES

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

Proposed site investigation commencement. 02/06/2023

Proposed completion of site investigation. 03/06/2023

REMEDIAL ACTION DATES

Proposed start date of Remediation. 03/07/2023

Proposed date of completion of Remediation. 04/10/2023

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:

Updated the implementation schedule since confirmation samples have not been collected. Form also accounts for COGCC staff review.

OPERATOR COMMENT

Excavation work will be completed to remove the "oily soil ring" in the produced water pit. Confirmation samples are still needed at this time for the initial release point. For the second release near the shed, excavation and confirmation samples are still required. Inspection Form (Doc. 688000547) requested the new release be added to this form and continued here. No Form 19 was requested and no form has been submitted as Operator has not confirmed that a reportable release has occurred.

Confirmation soil samples will be collected as described in the Rule 915.e.(2) Guidance Document and will be 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 paste method, boron (hot water soluble). If needed, extent borings may be installed, and soil samples collected to evaluate the extent of soil impacts. Proposed soil sample locations for both releases are attached with this submission. Proposed site-specific background sample locations are provided as an attachment.

The waste manifests have been attached as requested in the attached communication. MarCom's most recent photos of the site are attached. COGCC will be provided the required 48-hour notification prior to sampling. Sample depths for the produced water pit have been provided in the site investigation plan section of this form. Confirmation soil sample depths are dependent on excavation extent for the pump shed release. Field screening will be utilized during excavation. Implementation schedule has been updated to account for confirmation sampling and reclaiming the site as an E&P facility. Updated site maps, photographs, analytical results, and waste manifest will continue to be provided in supplemental form 27s.

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: 01/18/2023

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: 19620

COA Type**Description**

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**

403063093	FORM 27 DENIED
403070359	CORRESPONDENCE
403209824	PHOTO DOCUMENTATION
403209825	MAP
403216636	SOIL SAMPLE LOCATION MAP
403284393	SOIL SAMPLE LOCATION MAP
403284394	CORRESPONDENCE
403284454	DISPOSAL MANIFESTS
403358855	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 9 Files

General Comments**User Group****Comment****Comment Date**

Environmental	COGCC has denied this form for the following reasons: - Operator comment regarding the second spill is out of compliance with Rule 912.b.(1).G. A Form 19 should have been submitted.	02/27/2023
Environmental	This Form 27 cannot be approved based on the information submitted. Therefore Document ID #[403063093] will be denied. The Operator is directed to submit a replacement form.	02/27/2023

Total: 3 comment(s)

DENIED