

State of Colorado Oil and Gas Conservation Commission

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401840122

Receive Date:

11/14/2018

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.

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>	Phone Numbers
Address: <u>1675 BROADWAY, STE 2800</u>			Phone: <u>(303) 825-4822</u>
City: <u>DENVER</u>	State: <u>CO</u>	Zip: <u>80202</u>	Mobile: <u>()</u>
Contact Person: <u>Susana Lara-Mesa</u>		Email: <u>slaramesa@kpk.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 11879Initial Form 27 Document #: 401769517

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 type="checkbox"/> Rule 909.e.(2)A.: Notice completion of remediation in accordance with Rule 909.b. |
| <input checked="" type="checkbox"/> 909.c.(2), Rule 906: Spill/Release Remediation | <input 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

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

Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>447185</u>	API #: _____	County Name: <u>JACKSON</u>
Facility Name: <u>SPILL/RELEASE POINT</u>		Latitude: <u>40.756420</u>	Longitude: <u>-106.208360</u>
		** correct Lat/Long if needed: Latitude: _____	Longitude: _____
QtrQtr: <u>NENE</u>	Sec: <u>13</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 SMMost Sensitive Adjacent Land Use RangelandIs domestic water well within 1/4 mile? NoIs surface water within 1/4 mile? NoIs groundwater less than 20 feet below ground surface? No

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
Yes	SOILS	190'x4'	Visual extend 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.

The leak was repaired and the impacted soil was removed. The remaining soil was tilled and treated in place.

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):

Under the prior operator, Bonanza Creek, three initial soil sample analytical results came back above COGCC Table 910-1 concentration levels for inorganics. The soil was treated in place and resampled a year later. The subsequent analytical results indicate continued exceedence of COGCC Table 910-1 standards for inorganics. KPK has been operating the facility since the spring of 2018 and has continued tilling/discing the impacted. Soil samples collected on 09-26-2018 indicate that inorganics have come down near Table 910-1 levels, but are not below the threshold. KPK will collect a background sample to determine if background levels are similar to current results. If background samples are lower than current results, KPK will continue to till the soil and resample again during the Spring 2019.

Proposed Groundwater Sampling

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

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):

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 3

Number of soil samples exceeding 910-1 3

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

Approximate areal extent (square feet) 760

NA / ND

NA Highest concentration of TPH (mg/kg)

-- Highest concentration of SAR 20.8

BTEX > 910-1 No

Vertical Extent > 910-1 (in feet) 0

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 910-1

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 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?

A bar ditch carried the produced water off location. KPK continues to till the barr ditch to remediate the impact

☐ 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.

The source will be remediated through natural attenuation. The impacted soil will be tilled regularly until the impact has been removed and confirmation soil samples are compliant with COGCC Table 910-1.

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.

Remediation will occur through natural attenuation. The impacted soil will be tilled regularly until the impact has been remediated and confirmation soil samples are compliant with COGCC Table 910-1.

Soil Remediation Summary

☒ **In Situ**

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

☐ **Ex Situ**

_____ Excavate and offsite disposal
_____ If Yes: Estimated Volume (Cubic Yards) _____
_____ Name of Licensed Disposal Facility or COGCC Facility ID # _____
_____ 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.

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? No

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

Volume of E&P Waste (solid) in cubic yards _____

E&P waste (solid) description _____

COGCC Disposal Facility ID #, if applicable: _____

Non-COGCC Disposal Facility: _____

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

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? _____

Does the previous reply indicate consideration of background concentrations? _____

Are the only residual soil impacts pH, SAR, or EC at depths greater than 3 feet below ground surface? _____

Does Groundwater meet Table 910-1 standards? _____

Is additional groundwater monitoring to be conducted? _____

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 obtaining compliant confirmation soil samples, the area will be disced, crimped with straw, and seeded using a BLM approved seed mix.

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? Yes

IMPLEMENTATION SCHEDULE

PRIOR DATES

Date of Surface Owner notification/consultation, if required. 08/03/2016

Actual Spill or Release date, if known. 08/03/2016

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 07/28/2016

Date of commencement of Site Investigation. _____

Date of completion of Site Investigation. _____

REMEDIAL ACTION DATES

Date of commencement of Remediation. 07/28/2016

Date of completion of Remediation. _____

SITE RECLAMATION DATES

Date of commencement of Reclamation. _____

Date of completion of Reclamation. _____

OPERATOR COMMENT

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

Signed: Susana Lara-Mesa

Title: VP Engineering

Submit Date: 11/14/2018

Email: slaramesa@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: KRIS NEIDEL

Date: 12/11/2018

Remediation Project Number: 11879

COA Type

Description

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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

401840122	FORM 27-SUPPLEMENTAL-SUBMITTED
401840153	ANALYTICAL RESULTS
401840156	ANALYTICAL RESULTS
401840172	SOIL SAMPLE LOCATION MAP

Total Attach: 4 Files

General Comments

User Group

Comment

Comment Date

Environmental	A more aggressive treatment of 910-1 exceedances may be necessary.	12/11/2018
Environmental	Initial spill date was 8/2/2016. All natural attenuation (land treatment) activity should be completed within three years of initial spill date (8/2/2019).	12/11/2018

Total: 2 comment(s)