FORM 27 Rev 4/21

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 Form27.
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: 1675 BROADWAY, STE 2800
City: DENVER State: CO Zip: 80202
Contact Person: Jennifer Galles Email: PrimaryContractor@marcomllc.net

Phone Numbers
Phone: (208) 2018280
Mobile: ( )

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 19616 Initial Form 27 Document #: 402762330

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: 480275 API #: County Name: WELD
Facility Name: E. Stieber Consolidation Latitude: 40.043547 Longitude: -104.857700
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: NWNE Sec: 23 Twp: 1N Range: 67W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

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

Other Potential Receptors within 1/4 mile

SITE INVESTIGATION PLAN

TYPE OF WASTE:

[X] **E&P Waste**	[ ] **Other E&P Waste**	[ ] **Non-E&P Waste**
[X] Produced Water	[ ] Workover Fluids	
[X] Oil	[ ] Tank Bottoms	
[X] 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	GROUNDWATER	TBD	Monitoring well samples
Yes	SOILS	TBD	Soil 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.

The flowline has been repaired and the impacted soil in the immediate area has been removed.

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):

The number of soil samples will be determined once impacts are delineated

Proposed Groundwater Sampling

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

6 monitoring wells were installed at the site; 4 were removed during excavation activities. A groundwater monitoring plan will be proposed following excavation and in-situ treatment, if approved by COGCC. At a minimum, monitoring wells will be reinstalled within the excavated area and further into the downgradient direction as horizontal delineation of groundwater was not previously achieved.

Grab samples of groundwater were collected from potholes on the north side of County Road 8; analytical results are currently pending.

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):

An indoor air sample was collected from the residence adjacent to the excavation. Analytical results are attached as a lab report and a summary table. Results are below regulatory values.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected: 6

Number of soil samples exceeeding 915-1: 3

Was the areal and vertical extent of soil contamination delineated? No

Approximate areal extent (square feet): 900

NA / ND

-- Highest concentration of TPH (mg/kg): 768

NA Highest concentration of SAR:

BTEX > 915-1: Yes

Vertical Extent > 915-1 (in feet): 8

Groundwater

Number of groundwater samples collected: 6

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet): 8`

Number of groundwater monitoring wells installed: 6

Number of groundwater samples exceeding 915-1: 2

-- Highest concentration of Benzene (µg/l): 220

-- Highest concentration of Toluene (µg/l): 86

ND Highest concentration of Ethylbenzene (µg/l):

-- Highest concentration of Xylene (µg/l): 1200

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

[X] Were impacts to adjacent property or offsite impacts identified?

Impacts have been observed on the western excavation wall via soil staining. Additional potential for off-site impacts on the north side of CR8 are currently being investigated through soil and groundwater samples; analytical results are pending.

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

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

Volume of solid waste (cubic yards): 900

Volume of liquid waste (barrels): 407

[X] Is further site investigation required?

Excavation ongoing. Monitoring wells will need to be reinstalled following excavation activities.

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.

Soil: Removal and disposal

Water: Pumping for disposal.

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.

Currently KPK has been excavating and removing impacted soils. Excavation has gone down to the smear zone, with the exception of an area at the NW side of the excavation, which is down below the water table. Additional pothole activities have occurred on the north side of CR8 to collect soil and groundwater samples for additional delineation (results pending).

MarCom and KPK propose utilizing calcium peroxide product to apply to the exposed groundwater within the excavation and to apply 2,500 lbs COGAC to the remainder of the excavation at the smear zone. The COGAC will then be mixed into the smear zone and compacted to ensure proper carbon placement, followed by backfill of the excavation. Once backfill is complete, drilling and installation of groundwater monitoring wells will be performed to reinstall wells removed during excavation activities as well as provide further delineation downgradient. Soils will be logged for lithology and any observations of impacts, PID screenings. A minimum of 1 soil sample will be collected from each boring, from the areas most likely to be impacted. Additional samples may be collected, if warranted based on PID screenings and observations. A map of proposed groundwater monitoring well locations will be provided in a supplemental Form 27 for approval prior to installation.

It is proposed to accomplish in-situ remediation as soon as COGCC approval is obtained as irrigation line is anticipated to be turned back on around April 1.

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) 900
  - Name of Licensed Disposal Facility or COGCC Facility ID # ____
- No — Excavate and onsite remediation
  - No — Land Treatment
  - No — Bioremediation (or enhanced bioremediation)
  - No — Chemical oxidation
  - ____ Other ____

Groundwater Remediation Summary

- No — Bioremediation (or enhanced bioremediation)
- Yes — Chemical oxidation
- No — Air sparge / Soil vapor extraction
- No — Natural Attenuation
- Yes — Other: Application of calcium peroxide to exposed groundwater plus COGAC to smear zone

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.

Currently 2 monitoring wells are installed on the site. Additional wells will be proposed following excavation backfill.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

☐ Quarterly ☐ Semi-Annually ☐ Annually ☒ Other Bi weekly domestic well sampling results

☐ **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

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 900

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 407

E&P waste (liquid) description Hydrocarbon impacted water

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: NGL

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.

Impacted area will be reclaimed to 1100 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. 09/01/2022

Proposed date of completion of Reclamation. 10/31/2022

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. 07/07/2021

Actual Spill or Release date, or date of discovery. 07/07/2021

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 07/07/2021

Proposed site investigation commencement. 07/07/2021

Proposed completion of site investigation. 04/30/2022

REMEDIAL ACTION DATES

Proposed start date of Remediation. 07/27/2021

Proposed date of completion of Remediation. 09/30/2022

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 schedule to match GRIP submittal

OPERATOR COMMENT

Please see attached letter which addresses COAs.

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

Signed:` Jennifer Galles Title: Consultant

Submit Date:` 03/02/2022 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: Candice (Nikki) Graber Date: 03/15/2022

Remediation Project Number: 19616

Condition of Approval

COA Type	Description
	COGCC does not approve of the proposal to use calcium peroxide as a means of subsurface remediation due to the location of the excavation in relation to the shallow domestic well, as well as the corrosive nature of calcium peroxide which may negatively impact nearby steel flowlines. Operator may proceed with the application of GAC.
	Operator shall provide boring logs in accordance with standard environmental practices for the monitoring wells installed on site on. This shall include at minimum: lithology description, USCS classifications, PID readings, sample collection depths, depth to water, and well construction
	COA from Doc #402762330 states: "Operator shall track the volume of fluids recovered daily and provide quantities in a table on the next supplemental Form 27." MarCom's response states: "MarCom and KPK believe this COA to pertain to the fluids that were previously being recovered from the standpipe, which is no longer installed. A table with volumes according to dates hydrovac was performed and waste manifests is attached." COGCC acknowledges the removal of the standpipe. However, this COA pertains to all fluids recovered. Operator shall provide all related waste manifests and continue to update the table with volumes of any fluid recovered from this remediation. This includes but is not limited to the purge water being stored on site in a drum and then vacuumed out for off-site disposal.
	Operator shall field confirm the location of the domestic water well and depict the location on all future Sample Location and Groundwater Elevation Contour maps.
	Operator shall define the vertical and lateral extent of impacts to soil proposed to be treated in situ.
	Based on site characteristics, operator submittals, and COGCC inspections MW-1 and MW-2 do not properly define vertical and horizontal extent of impacts to groundwater. Additional monitoring wells shall be proposed within 45 days of completion of remedial excavation.
6 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
402965303	FORM 27-SUPPLEMENTAL-SUBMITTED
402970559	LOGS
402970560	DISPOSAL MANIFESTS
402970563	DISPOSAL MANIFESTS
402970568	GROUND WATER SAMPLE LOCATION
402970623	ANALYTICAL RESULTS
402970637	ANALYTICAL RESULTS
402970763	ANALYTICAL RESULTS
402970853	SAFETY DATA SHEETS
402970854	SAFETY DATA SHEETS
402970870	ANALYTICAL RESULTS
402970871	ANALYTICAL RESULTS
402970920	OTHER
402970923	CORRESPONDENCE
402971220	ANALYTICAL RESULTS

Total Attach: 15 Files

General Comments

User Group	Comment	Comment Date
Environmental	COGCC acknowledges Operator's statement: "MarCom could not locate data for August 3 or September 15, 2021. The well was sampled 12/8/21, not 12/6/21; data was submitted on Form 43 #402907470 and Doc ID 402905938. Data for sample collected 12/21/21 (Doc ID 402923455) and 1/4/22 were submitted on Form 43 402923390. All Form 43 information has been attached to corresponding Form 27 submittals. The laboratory reports for 12/8/21, 1/4/22, and 2/10/22 have been attached to this submittal."	03/15/2022
Environmental	COGCC agrees to the proposed monitoring well installation schedule and sampling plan.	03/15/2022

Total: 2 comment(s)