

May 12, 2015

Mr. Chris Canfield
Colorado Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801
Denver, CO 80203

Re: Remediation Summary and Request for No Further Action Status
Remediation Project Number: 4431
UPRR 50 PAN AM D #5 Legacy Spill

Dear Mr. Canfield:

K.P. Kauffman Inc. (KPK) is respectfully submitting a summary of the remediation work performed due to a legacy remediation project that was initially reported as a spill on November 23, 2008. Attached is a full summary report and soil sample analysis performed in 2009 and 2014 for the above mentioned project.

Due to attainment of soil cleanup standards at this remediation location, KPK respectfully requests a "No Further Action" status for this legacy spill. Any additional reclamation activities at this location will be compliant with Colorado Oil and Gas Conservation Commission rules.

Please do not hesitate contacting me if you require any further information at (303) 825-4822 or at slaramesa@kpk.com

Respectfully,

A handwritten signature in dark ink, appearing to read "Susana", followed by a stylized flourish.

Susana Lara-Mesa
VP of Engineering

1. INTRODUCTION

On November 23, 2008 K.P. Kauffman Company, Inc. (KPK) reported a leak from the UPRR 50 Pan Am D #1 flowline (flowline) in Weld County, Colorado. The flowline leak was estimated to have released approximately 3 barrels (bbl) of oil and 4 bbl of water into a pasture area located just south of Weld County Road (CR) 14 and about 1,500 ft. East of CR 31 near Fort Lupton, Colorado. This spill was reported through Colorado Oil and Gas Conservation Commission (COGCC) Form 19 (Document No. 1941138). Remediation work was performed at the spill area based on the remediation plan submitted in the COGCC Form 27 on March 12, 2009. The spill area was estimated to be eighty (80) ft. long, six (6) ft. wide, and two (2) ft. deep (See Appendix A).

The excavation process of the contaminated soil from the flowline leak removed a total of 190 cubic yards of soil and was disposed of at Waste Management's (WM) facility in Bennett, Colorado. Given the time of the spill, neither KPK nor WM have physical copies of the manifests, but records of ticket numbers and volumes of soil disposed are presented in Table 1. Based on the volume of excavated soil, the excavation area is estimated to be ninety-five (95) ft. long, ten (10) ft. wide, and five (5) deep. Once the contaminated soil was removed from location the flowline was properly repaired.

Based on conversations with field personnel that were involved in the historic cleanup activities, the spill area had an initial composite sample (2009) collected from ten (10) locations within the identified spill area (See Appendix A). The confirmation composite sample (2014) was collected two (2) ft. outside of the backfilled area at a depth of five (5) ft in order to avoid collecting a soil sample from the excavation area already backfilled with clean fill dirt. The initial soil sample was collected on February 6, 2009 and analyzed by Evergreen Analytical Laboratory, Inc. Results from the initial soil sample indicated that the excavated spill area contained soil that had concentration levels of Total Petroleum Hydrocarbons (TPH) – Diesel (DRO) above the COGCC cleanup standards. A second composite sample was collected on July 11, 2014.

Accutest Laboratories (Accutest) was retained by KPK to perform a laboratory analysis on the collected composite soil sample in 2014. Following the verification that the detected concentrations from Accutest's analysis are below COGCC cleanup standards specified in Table 910-1, the spill location was brought to its original condition by backfilling all sampling locations and grating the excavation area to match the natural contour of the area and provide an adequate seedbed.

It should be noted that the American Petroleum Institute (API) well number on the original Form 19 and Form 27 is incorrect in addition to referencing a well that is unrelated to this project. Additionally, this report references Facility #2, which is the consolidation tank battery to which the subject well is connected to with the flowline that failed.

| Date | WM Ticket | Volume |
|--------------|-----------|---------------|
| 1/9/2009 | NA | 10 cy |
| 1/16/2009 | 67734 | 10 cy |
| 1/16/2009 | 67735 | 10 cy |
| 1/29/2009 | 94063 | 10 cy |
| 1/29/2009 | 94070 | 10 cy |
| 1/29/2009 | 94066 | 10 cy |
| 1/30/2009 | 68009 | 10 cy |
| 2/5/2009 | 94212 | 10 cy |
| 6/12/2009 | 94376 | 10 cy |
| 2/13/2009 | 94422 | 10 cy |
| 2/13/2009 | 94421 | 10 cy |
| 2/13/2009 | 94418 | 10 cy |
| 2/13/2009 | 94417 | 10 cy |
| 2/13/2009 | 94430 | 10 cy |
| 2/13/2009 | 94429 | 10 cy |
| 2/13/2009 | 94426 | 10 cy |
| 2/13/2009 | 94425 | 10 cy |
| 2/16/2009 | 94436 | 10 cy |
| 2/16/2009 | 94435 | 10 cy |
| TOTAL | | 190 cy |

Table 1: Soil Disposal Summary

2. FIELD ACTIVITIES

a. Soil Sampling

On February 6, 2009, the first composite soil sample was collected from the spill location following field screening that indicated that the contaminated soil had been removed. The sample was analyzed by Evergreen Analytical Laboratory, Inc. for Total Petroleum Hydrocarbons (TPH) – Diesel (DRO) and Gasoline Range Organics (GRO), Electrical Conductivity (EC), Specific Gravity (SG), Sodium Adsorption Ratio (SAR), and (pH). These results of the soil analysis are attached in Appendix C.

Verification of the sampling locations that made up the composite sample was determined by interviewing current qualified KPK staff that were involved in the cleanup activities and verified with the map submitted to the COGCC with the original Form 27 on March of 2009.

On July 11, 2014, a second composite sample was collected from the same locations as the initial soil sample within the spill area. The composite soil sample was submitted to Accutest (Sample No. D59686) to be analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX), TPH (DRO & GRO), EC, SG, SAR, and pH. The composite sample was collected at depths of approximately five (5) ft below ground surface (BGS). The locations of where soil was collected to make up the composite sample is illustrated in Appendix A. The soil sample was field screened for staining and/or discoloration. The sample did not exhibit any staining or discoloration.

Top soil was present in the excavation from the surface to a depth of 1.5 feet BGS. The top soil was underlain by sand and gravel. Groundwater was not encountered during the excavation or the sampling process.

b. Analytical Results

The 2009 and 2014 composite soil samples were handled with clean, new, nitrile gloves and placed in a laboratory supplied sample container and labeled. The composite samples were placed in a cooler and were delivered to Accutest under chain-of-custody documentation. The composite samples were analyzed for TPH (DRO & GRO), EC, SG, SAR, and pH for both 2009 and 2014, and additionally for BTEX in 2014.

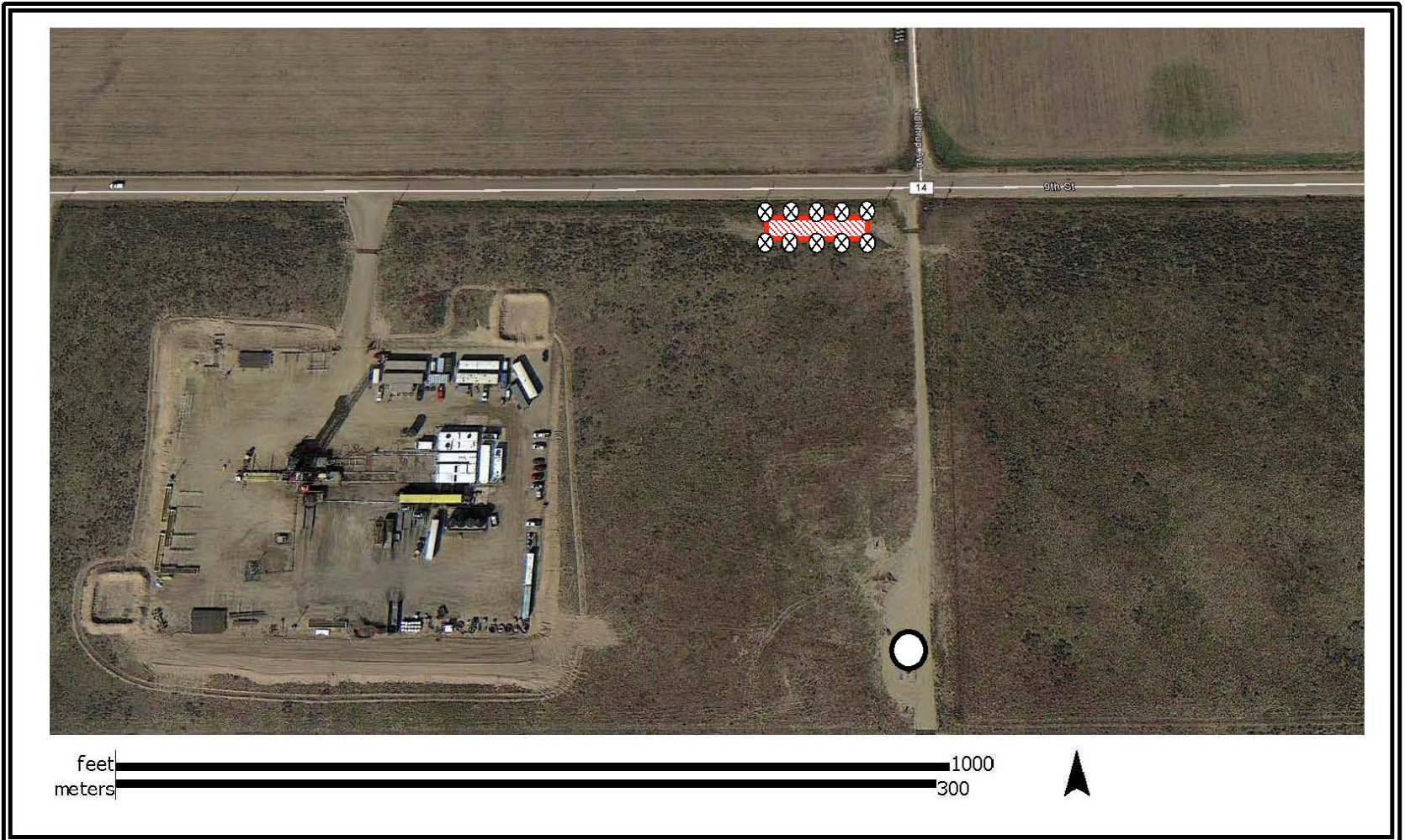
Laboratory results from the 2009 composite sample showed an elevated concentration of TPH (DRO) at 2,200 mg/kg. The remain portion of Analytica's analyses indicated EC, SG, SAR, and pH were not above the COGCC reporting limit based on parameters established in Table 910-1. The 2014 laboratory results indicated the BTEX, TPH (GRO), EC, SG, SAR, and pH were not above the COGCC reporting limit based on parameters established in Table 910-1. TPH (DRO) compounds were detected in Sample No. D59686 at a concentration of 259 milligrams per kilogram (mg/kg). The laboratory results are summarized in Appendix B. The laboratory analytical reports and chain-of-custody forms provided by Accutest are also included in Appendix C.

3. CONCLUSIONS AND RECOMMENDATIONS

A composite soil sample was collected on July 11, 2014, from the historical excavation area located immediately south of CR 14 and 1,500 ft East of CR 31 in Weld County, Colorado. No staining or discoloration was observed in the composite sample. The detected concentrations from Accutest Sample No. D59686 are below COGCC cleanup standards specified in Table 910-1 (See Appendix B).

Based on the analytical results, additional work at the property is not warranted at this time.

Appendix A: Soil Sampling Location



UPRR 50 PAN AM D #5 (FACILITY #2)

K.P. Kauffman Company, Inc.

Location Drawing

Lat: 40.087205,-104.765980

NENW 3 1N 66W 6 PM

Weld County, Colorado



Approximate Excavation Area (95' x 10' x 5')



UPRR 50 PAN AM D #5 Wellhead



Approximate Soil Sample Point

Appendix B: Laboratory Results Comparison

| Comparison of COGCC Table 910-1 | | | |
|---|-----------------------------------|--------------------------------|-----------------------------|
| Concentration Levels | | | |
| UPRR 50 PAN AM D #5 | | Sampling Results | |
| Contaminant of Concern | Concentrations | Date Sampled: February 6, 2009 | Date Sampled: July 11, 2014 |
| | COGCC Table 910-1 Parameters | 09-0825 | D59686 |
| Organic Compounds in Soil | | | |
| TPH (total volatile and extractable petroleum hydrocarbons) - GRO (Gasoline Range Organics) | 500 mg/kg | ND | ND |
| TPH (total volatile and extractable petroleum hydrocarbons) - DRO (Diesel Range Organics) | 500 mg/kg | 2200 mg/kg | 259 mg/kg |
| Benzene | 0.17 mg/kg ² | | ND |
| Toluene | 85 mg/kg ² | | ND |
| Ethylbenzene | 100 mg/kg ² | | ND |
| Xylenes (total) | 175 mg/kg ² | | ND |
| Acenaphthene | 1,000 mg/kg ² | | |
| Anthracene | 1,000 mg/kg ² | | |
| Benzo(A)anthracene | 0.22 mg/kg ² | | |
| Benzo(B)fluoranthene | 0.22 mg/kg ² | | |
| Benzo(K)fluoranthene | 2.2 mg/kg ² | | |
| Benzo(A)pyrene | 22 mg/kg ² | | |
| Dibenzo(A,H)andthracene | 0.022 mg/kg ² | | |
| Fluoranthene | 1,000 mg/kg ² | | |
| Fluorene | 1,000 mg/kg ² | | |
| Indeno(1,2,3,C,D)pyrene | 0.22 mg/kg ² | | |
| Napthalene | 23 mg/kg ² | | |
| Pyrene | 1,000 mg/kg ² | | |
| Organic Compounds in Ground Water | | | |
| | | | |
| Benzene | 5 µg/l ³ | | |
| Toluene | 560 to 1,000 µg/l ³ | | |
| Ethylbenzene | 700 µg/l ³ | | |
| Xylenes (total) | 1,400 to 10,000 µg/l ³ | | |
| Inorganics in Soils | | | |
| Electrical Conductivity (EC) | < 4 mmhos/cm or 2x background | 1.47 mmhos/cm | 1.53 mmhos/cm |
| Sodium Adsorption Ration (SAR) | < 12 ⁵ | 3.4 | 7.28 |
| pH | 6-9 | 7.07 | 7.41 |
| Inorganics in Ground Water | | | |
| Total Dissolved Solids (TDS) | < 1.25 x background ³ | | |
| Chlorides | < 1.25 x background ³ | | |
| Sulfates | < 1.25 x background ³ | | |
| Metals in Soils | | | |
| Arsenic | 0.39 mg/kg ² | | |
| Barium (LDNR True Total Barium) | 15,000 mg/kg ² | | |
| Boron (Hot Water Soluble) | 2 mg/l ³ | | |
| Cadmium | 70 mg/kg ^{2,3} | | |
| Chromium (III) | 120,000 mg/kg ² | | |
| Chromium (VI) | 23 mg/kg ^{2,6} | | |
| Copper | 3,100 mg/kg ² | | |
| Lead (inorganic) | 400 mg/kg ² | | |
| Mercury | 23 mg/kg ² | | |
| Nickel (soluble salts) | 1,600 mg/kg ^{2,6} | | |
| Selenium | 390 mg/kg ^{2,6} | | |
| Silver | 390 mg/kg ² | | |
| Zinc | 23,000 mg/kg ^{2,6} | | |
| Liquid Hydrocarbons in Soils and Ground Water | | | |
| Liquid Hydrocarbons including condensate and oil | Below detection Level | | |
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| *ND = NON DETECT | | | |

Appendix C: Laboratory Results