

**BROWNSFIELDS ASSESSMENT DECISION
Kansas Department of Health and Environment
Bureau of Environment Remediation**

SITE NAME: Spring River PWWSD #19

ADDRESS: Clem Road and SE 85th Street

CITY/COUNTY: Galena/ Cherokee County

REFER TO REPORT DATED: August 2010

REPORT TYPE: Phase II Brownsfields Targeted Assessment (BTA)

REPORT DEVELOPED BY: Burns & McDonnell

DECISION DISCUSSION AND RATIONALE

The Kansas Department of Health and Environment (KDHE) conducted a Phase II Brownsfields Targeted Assessment (BTA) at the Spring River Public Wholesale Supply District (PWWSD) #19 property in Cherokee County, Kansas. The BTA was conducted on behalf of the Spring River PWWSD #19 (with eligible support) for a property that is proposed for a water treatment facility, which would supply water to four Rural Water Districts and the City of Columbus, all within Cherokee County. The project is very high priority and essential for the sustainable growth of the community. Historical area-wide lead/zinc mining operations and an active "identified sites" facility (Jayhawk Ordnance Works), located adjacent south created environmental uncertainties.

Based on the Phase I, a Recognized Environmental Condition (REC) was identified as: the location of the property immediately adjacent to the Cherokee County NPL site boundary, which is currently listed on the Final NPL Site List. This is a mining area covering about 410 square miles of Cherokee County. As a result of extensive mining activities covering almost 100 years, large tailing piles cover an estimated 4,000 acres in southern Cherokee County. Due to the potentially elevated concentrations of toxic metals, a Phase II was conducted on the property.

The Phase II consisted of collecting soil samples from three locations at the Site (SB-1, SB-2, and SB-4) using direct-push sampling techniques. Two soil samples were collected from each boring at depths of 0-2' and 6-8' bgs. Soil Boring SB-3 was inaccessible for the GeoProbe™ track rig so a surface soil sample from 0-2' bgs was collected from SB-3. All soil samples were analyzed for RCRA metals. Background soil samples were also collected from an offsite location for RCRA metals. Despite persistent attempts and various sampling methodologies (including piezometers), groundwater was not available. Bedrock refusal was encountered in all the borings between 7.5 to 13' bgs. A surface water sample was also collected from Spring River at the approximate location of the proposed water intake. Results of the investigation indicated the following:

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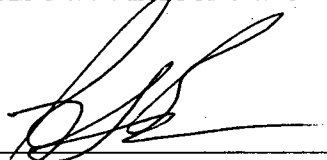
- **SOIL:** Arsenic was detected above the KDHE RSK residential value (11 mg/kg) in all shallow soil samples (0-2'). However, all of the arsenic concentrations were below the arsenic concentration detected in shallow (0-2') background soil sample. Arsenic was detected in the shallow (0-2') interval in SB-1, SB-2, and SB-4 at 14.4 mg/kg, 17.7 mg/kg, and 15.9 mg/kg, respectively. Arsenic was detected in the shallow (0-2) background sample at 21.5 mg/kg.
- **SURFACE WATER:** Based on the surface water sample, lead and cadmium were elevated above the Kansas Surface Water Quality Standards. Lead was detected at 96 µg/L and cadmium was detected at 13.8 µg/L, which exceeded the Surface Water Quality Standards of 15 µg/L and 5 µg/L, respectively. The KDHE Bureau of Water regulates surface water quality in Kansas. The Kansas Surface Water Quality Standards are based on total metals concentrations (not filtered). As such, the surface water sample was not filtered and reported as total metals concentrations.

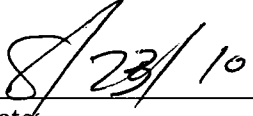
Based on the Phase I, the property is under a Restrictive Covenant and subsequent "Activity Use Limitations", which may affect redevelopment planning. Based on the Phase II data, the arsenic detections in the soil are likely naturally occurring background levels, rather than related to a point-pollution source(s). As such, additional assessment is not warranted. The surface water quality of the Spring River depicted elevated metals prior to filtration. The Kansas Bureau of Water (BOW) is the regulatory authority in Kansas for surface water quality and public water supply systems. Per an August 19, 2010 phone conversation with Dave Waldo, Kansas BOW Public Water Supply Section, KDHE BOW is currently working with the Spring River PWWSD #19 on system design. The Brownfields Assessment data will be referred to the Kansas BOW to assist them with future project guidance.

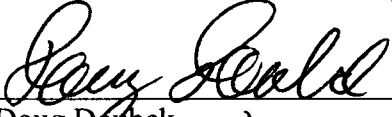
The conclusions and recommendations provided herein are based exclusively on the conditions identified through the Brownfields Assessment. Future contaminant releases on the subject property and/or future discovery of additional environmental impacts may warrant subsequent response not discussed in the BTA report or this document.

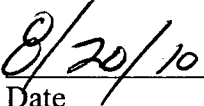
BROWNFIELDS ASSESSMENT DECISION CONCURRENCE

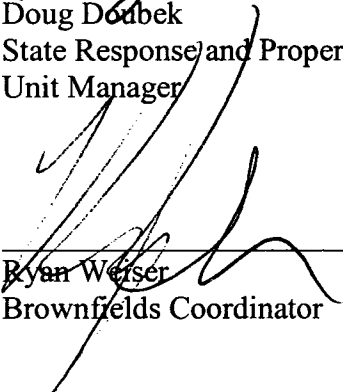
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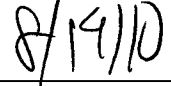
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