

Kansas Department of Health and Environment

Bureau of Environmental Remediation, Remedial Section

State Cooperative Program



McGraw Trucking, Frontenac

Background

McGraw Trucking in Frontenac used a substantial amount of mining waste and bottom ash from a coal-fired power plant as fill material in order to build a parking lot at their business. Unfortunately these materials can form acidic leachate when it rains; this leachate would drain into a tributary of First Cow Creek, located 100 feet away. The acidic runoff also dissolved iron and minerals that could potentially threaten aquatic life in First Cow Creek.



Highly acidic rainwater runoff is stained red and orange from dissolved iron and minerals.

Solution

EPA performed a temporary interim measure in 2009 that involved grading the site and creating a berm to reduce the amount of rainfall runoff, and applying agricultural lime and limestone to reduce the acidity of the runoff. Approximately 530 tons of limestone and 240 tons of powdered lime were used in the interim measure. KDHE has since collaborated with Veolia Energy KC, Inc., and McCabe Industrial Minerals, Inc., under a consent agreement to remove and neutralize acid-producing fill materials.



Excavating the fill material used to build the parking lot.

Remedial action occurred in two phases between August and October 2012, with final activities in July 2013. Approximately 17,367 total tons of fill material was excavated, characterized, and disposed of in permitted landfills. Applied layers of agricultural lime and limestone gravel work to neutralize any remaining acid-producing materials and provide buffering to the underlying soil. Site grading improved drainage, prevents ponding, and controls water infiltration into the subsurface. Finally, an Environmental Use Control was applied to the property and the site entered the Orphan Sites Program for long-term monitoring.

Benefits

- **More than 17,000 tons of fill material excavated and properly disposed of.**
- **Buffering materials reduce the production of acidic leachate containing high levels of dissolved metals and minerals that pose a danger to humans and wildlife.**
- **First Cow Creek has been protected.**