

Reclamation of Former Mining Waste Areas

Baxter Springs, Kansas



Client Cherokee County Superfund Site PRPs

Date 1999/present

WSP Contact

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Overview

Large scale mining in this 500 square mile region began in the early 1900's and continued through the 1950's. The historical mining and ore processing resulted in heavy metals contamination of soil, sediments, groundwater, and surface water. In 1983, the USEPA added the Cherokee Superfund Site, the Kansas portion of the Tri-State Mining District, to the NPL. The Baxter Springs subsite was one of seven operable units within the overall Superfund Site. Approximately 1,250 acres within the subsite were covered with surficial mining waste piles, tailings impoundments, and outwash tailings deposits.

Our client's challenge

Our clients were ordered to fulfill the remedial action objectives specified by the Record of Decision for this site. The project required relocation in excess of 1 million cubic yards of mining waste followed by capping while managing storm water and erosion loss over 200 acres identified as high priority for stabilization. Treatment before discharge was required for the water located within the impoundments as well as rainfall during construction, estimated at 10 million gallons.

Our approach/services

Based upon our pre-design studies, The USEPA modified the Record of Decision, eliminating water treatment since surface water over the majority of the Tri-State region was impacted by mining waste to a varying extent and treatment of the site did not provide a negligible benefit. The resultant cost savings exceeded \$2 million. Other services included pre-design and design work followed by contractor procurement and construction oversight.

Our design approach incorporated sustainable alternatives (termed "value added engineering" at the time) to reduce costs and energy requirements.

Disturbed areas were seeded with native grasses to allow light grazing and hay baling for feed or construction uses.

Outcome

Our approaches and ideas offered effective options to satisfying the project requirements resulting in significant savings to the PRPs. Our creativity was well received by the regulatory authorities and appreciated by the PRPs. We continue to provide our services during the maintenance phases of the project.