Tribal-Lead Remedial Action at the Tar Creek Superfund Site –

Quapaw Tribe of Oklahoma
Introduction

- Tar Creek site is part of the Tri-State Mining District which comprises approximately 300 sq. mi. in Missouri, Kansas, and Oklahoma.
- Principal metals mined were lead and zinc.
- Mining peaked in Missouri around 1916, then shifted to Kansas and Oklahoma where it finally ceased in the 1970s.
Tribal Involvement

- Nine tribes were moved to NE Oklahoma from various areas of the country by treaty in the 1800s.
- The Quapaw Tribe was moved to northeast Oklahoma from their ancestral homelands in what is now Arkansas and eastern Oklahoma through a series of treaties in the 1800s.
- Lead and Zinc discovered on Quapaw tribal lands in the early 1900s.
TRIBES IN OTTAWA COUNTY
Ore Deposits in the Tar Creek Area Were Found in the Boone Formation (Limestone) at Depths of 100 to 300 Ft.
TAR CREEK SUPERFUND SITE
Operable Units

- OU 1- Surface water/groundwater (ROD 1984)
- OU 2- Residential Properties (ROD 1997)
- OU 3- Eagle Picher Office Complex (Removal 2000)
- OU 4- Chat piles, mine and mill residue (ROD 2008)
- OU 5- Sediment
OU 4 Selected Remedy

- Voluntary Relocation
- Chat Processing & Sales
- Chat Base & Pile Removal
  - Phase 1 – Bases/Piles outlying areas
  - Phase 2 – Remaining Bases/Piles
- Stream Reclamation
- Hydrogeologic Study
- Tailing Pond Remediation
- Estimated cost - $167 million
Figure A-1: Catholic 40 and St. Mary’s of the Quapaw Location Map.
Picher 7.5 minute USGS Quadrangle.
“Catholic 40” History

- The “Catholic 40” is a 40-acre parcel owned by the Quapaw Tribe and set aside by it for the Catholic Church for religious and educational purposes. The parcel is located in Section 6, Township 28N, Range 24E. St. Mary’s of the Quapaw, a Catholic cemetery, church, and boarding school was established there in 1892. St. Mary’s operated until 1927.
- In 1937 the church leased the property for mining.
- In 1975, the Catholic Church deeded the property back to the Quapaw Tribe. Today, the Catholic 40 is overgrown, partially covered by mining chat, and contains the cemetery and ruins of the church and school buildings.
Figure A-3: St. Mary’s of the Quapaw School, undated. Note the same 2-story building as in the previous figure and small building that may have been John Quapaw’s school. (Photo from Quapaw Pow-wow Program, 1990)

Figure A-4: St. Mary’s of the Quapaw School photo showing the reverse side of the same buildings as the previous photo (photo courtesy of the Dodson Museum, Ottawa County Historical Society.)
Figure A-5: St. Mary’s of the Quapaw School, post-1915
Note the large concrete structure constructed 1915 (Photo from Nieberding 1953).

Figure A-6: St. Mary’s of the Quapaw School, post-1915. View of the school toward the south showing the 1915 three story building and two-story frame building (photo courtesy of the Dodson Museum, Ottawa County Historical Society).
In 1908, President Theodore Roosevelt signed the patent that transferred the 40-acre St. Mary’s tract to the Board of Catholic Indian Missions (Nieberding 1953). The Quapaw Council, Catholic Indian Bureau of Washington, and Mother Katherine Drexel all supported the school. In October 1915, a new dormitory (Figures A-5 and A-6) was built at the St. Mary’s School. According to a news account at the time of its erection, the “modern concrete building” was three-stories high, measured 32 by 72 feet, and housed a chapel and classroom on the first floor (Figure A-5), and dormitories on the second and third floors (Nieberding 1953). The number of students at St. Mary’s averaged 60 students, primarily Quapaws, Miamis, Peorias, Ottawas, and Osages, with some non-Indian students (Nieberding 1983). Students studied under Sister (Superior) Rodriguez (Figure A-6) and later Head Sister Mary Henrietta and five Sisters. The curriculum was “quite bookish” and academic with a rich and popular music program (Baird 1980).

In addition to academics, students were expected to help with the work of the school. Under the tutelage of the overseer, the boys milked the cows, tended to the hogs and chickens, worked in the gardens, maintained the buildings and grounds, chopped wood, and the like. The girls learned embroidery, washed, cooked, and cleaned. Former students recall St. Mary’s as “beautiful,” with “flower-bordered walks leading to the little chapel” and playing on the “park-like grounds of the school” set on the rolling land (Nieberding 1953).

Indeed the St. Mary’s of the Quapaw campus was attractive. It can be reconstructed from nine historic photographs, two aerial photos from 1927 and 1939, and a field survey of the former grounds by historical archaeologists. The primary entrance to the campus was from the north. Not visible on any of
Photo 8: This photograph (A-29) shows the interior of what is supposed to be the three-story concrete classroom/dorm. Note the ornate ceiling, wood paneling, and the concrete porch support seen through the window. Also note the presence of Angle students in addition to the Native American students.

Figure A-29: Undated photo showing a classroom in the interior of what appears to be the three-story building at St. Mary's of the Quapaw School. Photo courtesy of Marquette University Archives.
Figure A-32: 1927 aerial photograph with St. Mary’s of the Quapaw School campus indicated.
A.3.2. Building 2: St. Mary’s of the Quapaw School, three-story school and dormitory.

Figure A-8: St. Mary’s of the Quapaw school, Building 2 (1915 Dormitory Building), view northwest of fallen wall section and interior floor support walls.

Figure A-9: St. Mary’s of the Quapaw school, Building 2 (1915 Dormitory Building), view east of interior wall frame fallen into the interior of the structure.
veneer above poured chatacrete. There is a cut vertical pipe jutting from the southwest corner of the foundation along with a pile of rubble immediately south of the southwest corner. A round stone lined well (Figure A-16) is located approximately ten feet southeast of the southeast corner of the foundation. The well is four feet in diameter and lined with fieldstone.

A.3.6. Building 7: St. Mary's of the Quapaw school, gabled roof ruins

This rectangular stone building is immediately south of Building 4. Its function is unknown but was probably a shed or agricultural related building (Figure A-17). This building measures 20 ft. north-south by approximately 12 ft. east-west and is partially covered to the west by the adjacent chat pile. The building is composed of fieldstone with chatacrete mortar and had a steep pitched gable roof. A small 12 in. by 12 in. window is in the peak of the gable in the north wall. Much of the east wall is missing or has collapsed, probably from stresses related to mining.
A.3.7. Building 8: St. Mary's of the Quapaw school, chapel/classroom/comm

Figure A-18: St. Mary's of the Quapaw school, Building 8, view south of north façade with upper stairway landing with arched entrance of stairway to lower story. Alcove at right may have been for firewood.

Figure A-19: St. Mary's of the Quapaw school, Building 8, view southwest of the east elevation and part of the north façade.
A.3.1. **Building 1: St. Mary's of the Quapaw School, water tower**

*Figure A-7: St. Mary's of the Quapaw School, Building 1 (Water Tower).*

Building 1 (Figure A-7) of St. Mary's of the Quapaw School is a poured concrete water tower located near the northeast corner of the Catholic 40 acreage. The seams or interfaces from its various stages of pouring are still visible. It is the northernmost building associated with St. Mary's of the Quapaw school that is still visible. The water tower measures 10 ft. north-south by 11 ft. east-west at base and is constructed of chuterete and has an extant hipped wooden roof. The door opening on the west façade is seven ft. wide and nine ft. tall. A poured concrete decorative pediment surround frames the door opening. There is a square window in the south wall of the first story, and a set of four 4-6 in. openings approximately six feet above the window that appear to have been openings for water pipes from the second story water storage area. Various iron pipe remnants are scattered in and around the tower.
Figure A-43: Composite map showing Catholic 40 parcel with St. Mary’s of the Quapaw building remains/features both field verified and projected from historic sources superimposed on 2004 aerial photograph.
Catholic 40 site Remedial Action

- EPA had planned to task their primary contractor at Tar Creek, CH2M Hill, to remediate the site.
- Because of the historical significance of the site to the Tribe, in 2012 the Tribe requested that EPA fund the Tribe, through a SFCA, to remediate the site.
- In early 2013, the Tribe’s Environmental Dept. submitted a SFCA application along with a work plan and budget.
Catholic 40 site Remedial Action

- After a successful negotiation process, the EPA approved the Tribe’s SFCA application in February, 2013.
- The Tribe’s Environmental Dept., retained the services of a consulting engineering firm and is now generating plans and specifications, along with other pre-construction documents necessary to bid the project out to prospective contractors.
- The Tribe is hopeful that its construction company, Quapaw Services Authority (QSA), will be the successful bidder for the project.
- EPA funding is scheduled to be finalized this month and construction is estimated to begin this fall.
Catholic 40 site Remedial Action

- Reportedly this will be the first Tribal-Lead Superfund cleanup project in the nation.

- Upon successful completion of this project, the Tribe hopes to manage the remainder of Tar Creek remediation on Tribal Lands.