The Missouri Portion of the Tri-State Mining District: A Do-It-Yourself (DIY) Tour Route

Introduction.

I visited the Tri-State District in 1989 while managing the US Bureau of Mines Environmental Research Program. This was during the early days of the EPA Superfund program and its cleanup activities in the district which are still ongoing. The Bureau had a long history of applied research projects focused on improving the safety and efficiency of mining and milling practices and extending the life of the district which produced critical lead and zinc for two World Wars. I was accompanied by staff members from the USBM Research Center in Rolla, MO. (The USBM was abolished in 1996.)

Background on the Tri-State.

The Tri-State District covers parts of Missouri, Kansas, and Oklahoma. Mining started in the vicinity of Joplin, MO, along a mineralized belt extending from Oronogo, MO, through Webb City and Carterville, to Duenweg, MO, as well as in Joplin itself. All these areas are in Jasper. County. A second mining area was in the vicinity of Granby, MO, in Newton and Lawrence, Counties.

Mining in the Kansas portion of the Tri-State started in the vicinity of Galena, KS, in Cherokee County, west of Joplin. With the later discovery of the Picher Field, mining extended from Kansas into Oklahoma in the vicinity of Baxter Springs, KS and Treece. KS. The Picher Field will be the focus of an all-day MHA conference field trip.

The Oklahoma portion of the Tri-State was the legendary Picher Field. It was the largest and most productive part of the Tri-State District. This was Indian land comprised of Indian allotments. The allotees leased the mineral rights and received royalties for the ores produced.

The EPA Region 6, 2020 Status Report on the Tar Creek Superfund Site contains an excellent concise history of the district so I will not repeat it here. The EPA Regions also prepare periodic reports on their remedial progress at each Superfund site.

Tri-State production peaked around 1925 but during both World Wars the District was an essential source of lead and zinc. Nearly all mining had stopped by 1974 due to declining ore grades, depletion of ore, and depressed metal prices. As mining ceased and pumping stopped, the mines flooded. Shallow mine workings and hundreds of mine shafts collapsed. Gigantic mounds of chat (solid mining and processing waste) dotted the landscape. Acid mine drainage from metals leaching out of mine workings and the solid wastes and pollution of local aquifers became major problems. These

problems caused the district to be declared a mega-Superfund site, encompassing 4 Superfund Sites:

-The Oronogo-Duenweg Mineral Belt [Missouri] Superfund Site, AKA the Joplin Field
-The Cherokee County, Kansas Superfund Site, AKA the Galena Field
-The Tar Creek [Oklahoma] Superfund Site, AKA the Picher Field, AKA the Miami-Picher District
-The Newton County, Missouri Mine Tailings Superfund Site

Two EPA Regional Offices shared jurisdiction, Region 6 in Tulsa covered the Oklahoma portions and Region 7 in St. Louis covered the Missouri and Kansas portions. It took quite a while for the two Regions to adopt a unified approach to solving environmental problems. EPA's cleanup efforts are still underway after more than 30 years.

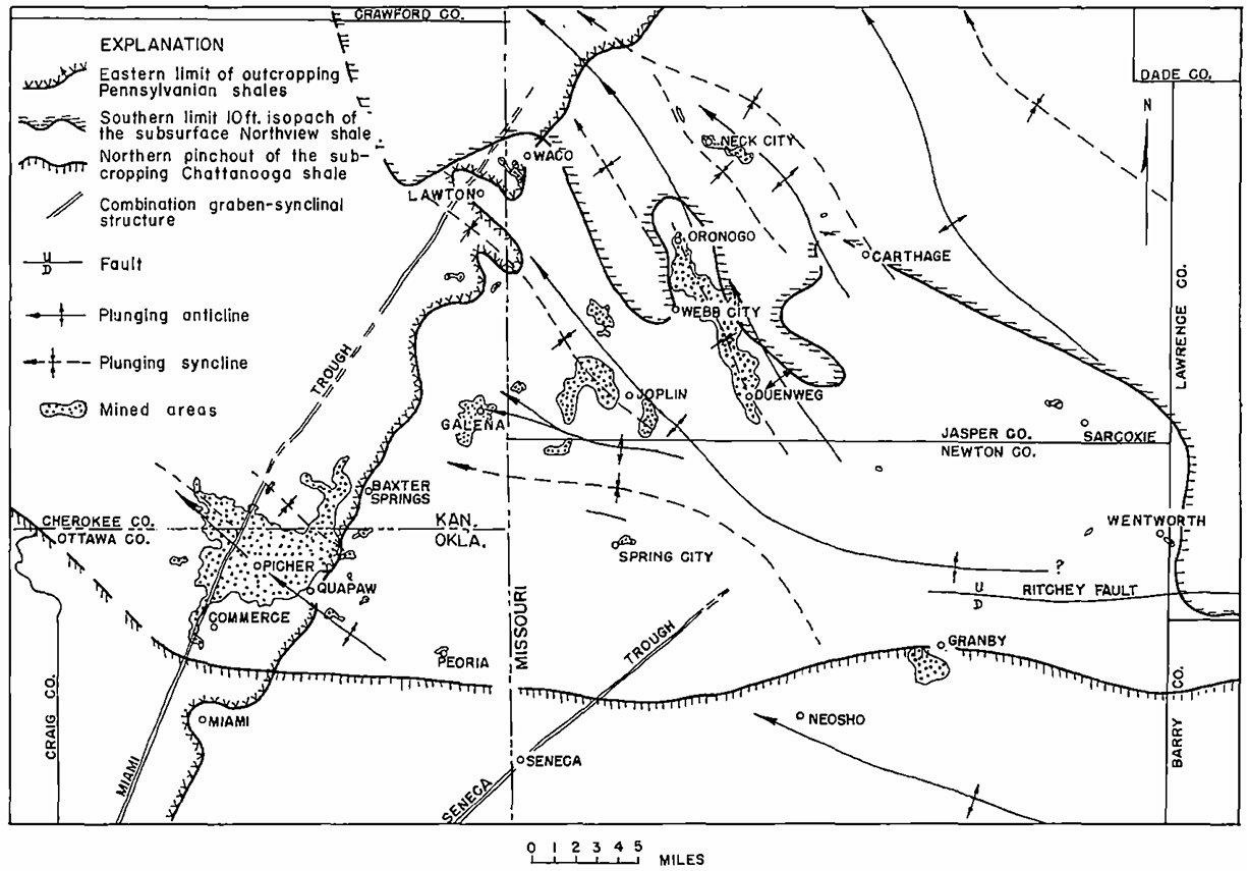


FIG. 1. *Map of the Tri-State District, showing the major structural and geological features.*

(From Brockie, Douglas C., Hare, Jr., Edward H., Dingess, Paul R., "Ore Deposits of the United States, 1933-1968," Chapter 20, American Institute of Mining, Metallurgical, and Petroleum Engineers (AIME), 1968, New York, New York.)

What is Left to See in the Missouri Portion of the Tri-state

With the 2026 Mining History Conference to be headquartered in Pittsburg, KS, I wanted to see what was left to see in both the coal areas near Pittsburg and in the Tri-State lead and zinc mining areas. The conference includes tours of much of the Picher Field and the Pittsburg coal areas. This suggested Do It Yourself (DIY) Tour covers only the Missouri and Galena, KS areas not included on the conference tour. See the suggested tour routes on the maps below. At this time (2024), the DIY route has not been driven by the Virginia-based author. He is very anxious to drive it in 2026.

I first perused Google Earth imagery and discovered that while there were no mine buildings or headframes to be found and many of the chat piles had been removed during EPA's cleanup projects, there were many foundations of the dozens of mills that once dotted the Picher Field. Prior to the early 1930s, each mine had its own mill which was very inefficient. In the 1932, Eagle Picher built its Central Mill just north of Commerce, OK. Just before that, the Consolidated Mining Company built its Birg Dog Mill. While all traces of the Central Mill are now gone, the Bird Dog Mill foundations are still present. Other remaining areas of interest are the now-ghost towns of Picher and Cardin, OK and Treece, KS. The government bought out the residents of these towns because the environmental hazards were so extreme.

Typical mill ruins at mine sites near Picher, Cardin, and Commerce, OK.

In September 26-27, 1986, the Association of Missouri Geologists held its 33rd Annual Meeting and Field Trip in Joplin. The two-day field trip covered Joplin, Duenweg, Webb City and Oronogo mining areas in the Joplin Field; Galena and Baxter Springs in the Galena Field in Kansas; and the Picher Field in Oklahoma including Treece, KS. By using the Guidebook for the field trip, it was possible to virtually "revisit" the mining sites that were visited in 1986. Throughout this tour they observed many historic mining sites including those with the greatest environmental hazards. On Google Earth (and on the ground) one can see the same sites and others of interest today. The progress of the remediation work can also be seen.

MHA TRI-STATE MINING DISTRICT
DIY TOUR: WE START IN MISSOURI

Oronogo Circle Mine, one of the few open pits in the Tri-State. A thick concentration of ore at this location made surface mining practical. Room and pillar workings can be seen in the pit walls.

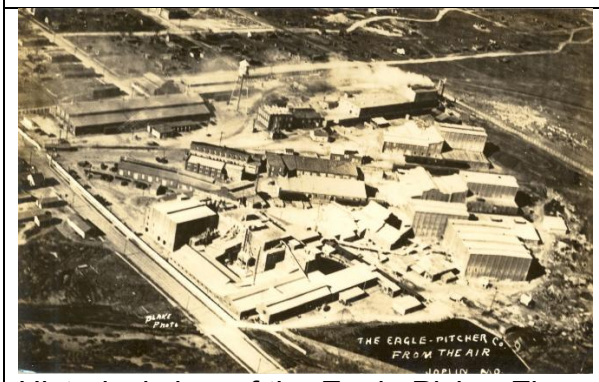
The Oronogo Circle pit is now water filled and reclaimed.

The Webb City, Sucker Flats mining area has been reclaimed. It is now the King Jack Park and Miners' Memorial.

Historic mining in Webb City, MO.

Holy Smoke Mine collapse near Prosperity, MO.

The lead mineral Galena was first discovered in this streambed in Leadville, MO, now a neighborhood in the suburbs of Joplin.



Historical view of the Eagle Picher Zinc Plants, Joplin, MO. They made zinc

Eagle Picher Technologies, LLC., the surviving firm, Joplin, MO.

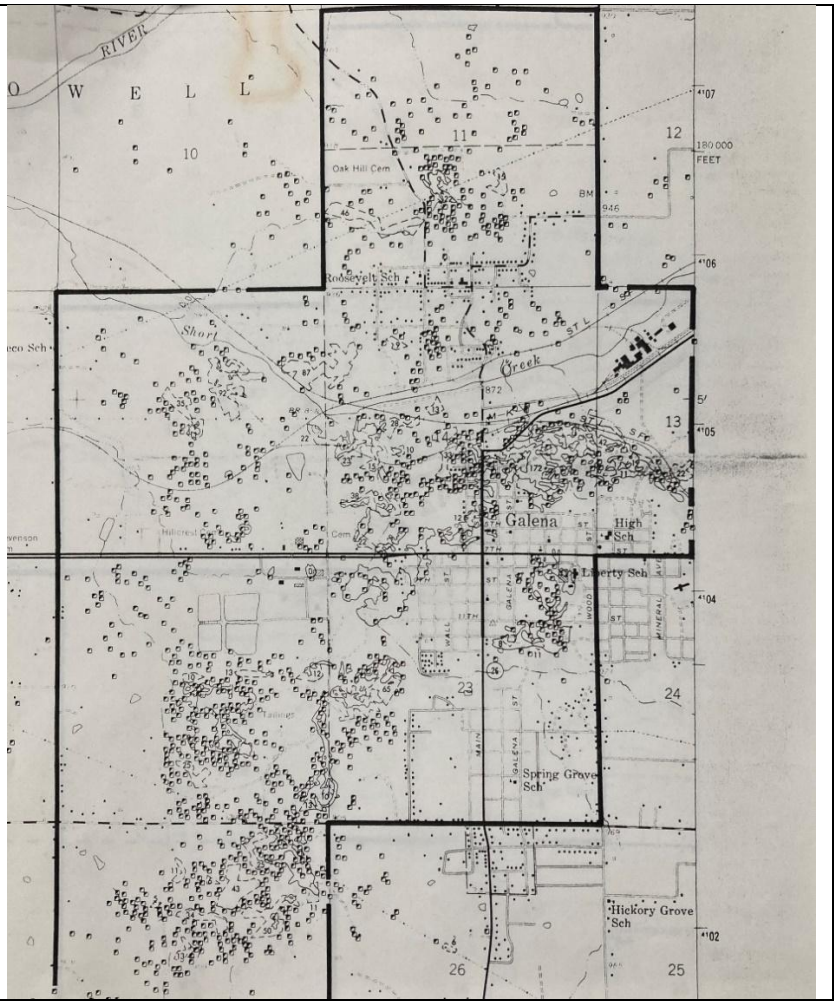
oxide, spelter (zinc metal) and other zinc products.

The Joplin History and Mineral Museum interprets the mining history and mineralogy of the Tri-State.

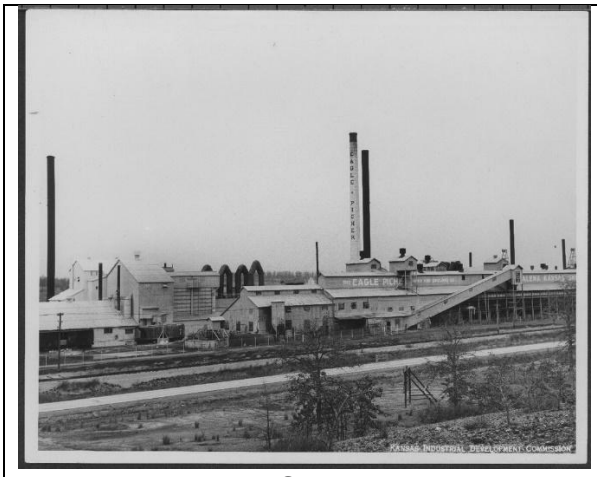
Mineral specimens from the Tri-State are legendary, as shown in this exhibit at the Smithsonian Museum of Natural History. They are on display at many other museums around the World.

ONWARD TO KANSAS ON HISTORIC ROUTE 66

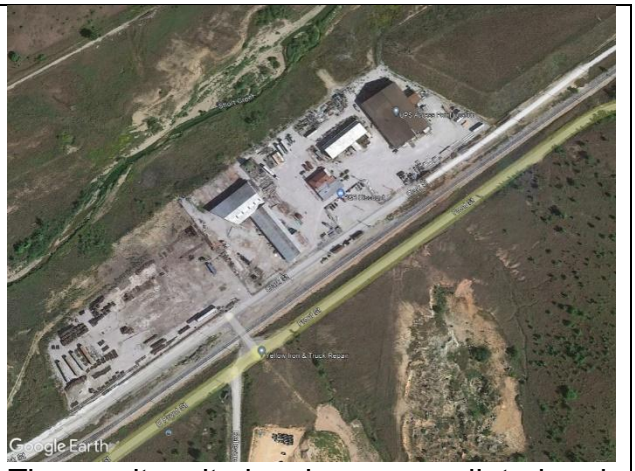
Galena, KS in Cherokee County (right), was extensively mined with hundreds of prospect and



production shafts. (USBM map)	



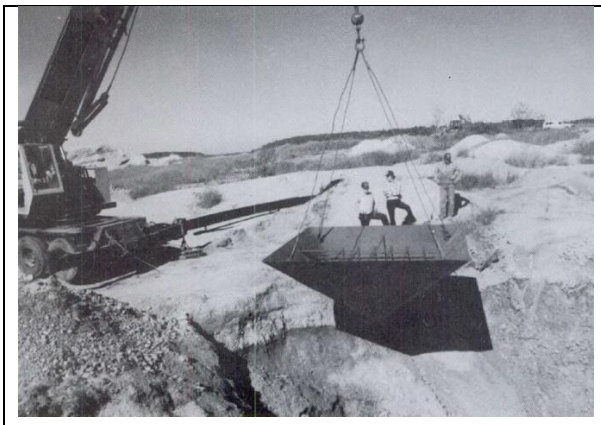
This Eagle Picher Smelter was located along historic Route 66 just north of Galena, KS.



The smelter site has been remediated and now houses other businesses.

Hazardous subsidence resulted from the extensive shallow mine workings and 377 abandoned shafts in Galena, KS. The area in the photo was dubbed “Hell’s Half Acre.”

The “Hells Half Acre” mine subsidence area, across Route 66 from the Galena Smelter, has been reclaimed through Superfund and is being repurposed as a landfill.

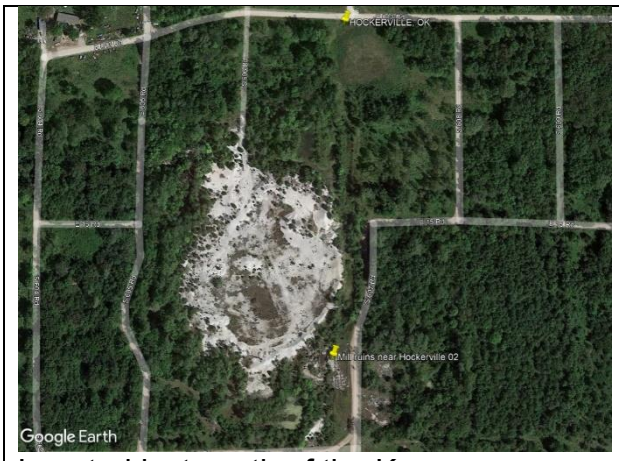


A view of the US Bureau of Mines installing an experimental inverted pyramid-shaped cap for an abandoned shaft in the northwest corner of Galena, KS. While effective, it proved too costly.

Substantial buildings along Galena's Main Street reflect the boom days of mining.

The Galena Mining and Heritage Museum is in the historic railroad station.

Baxter Springs, KS Museum interprets the mining history in the Picher Field of Kansas and Oklahoma. Its collections include those previously in the Picher, OK Mining Museum. The museum will be included on the MHA tour.



Located just south of the Kansas-Oklahoma line, the mining town of Hockerville, OK, is now a ghost town. Ruins of the mill and other structures remain on the site.

Chat piles being sold commercially at the Swift Mine site in Oklahoma, near Treece, KS.

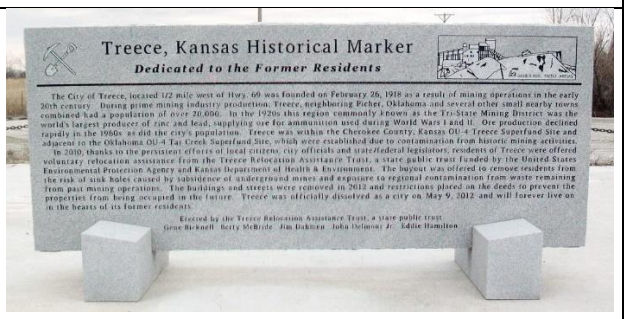
The collapse of a shaft of the Muncie Mine north of Treece, KS, caused Tar Creek to flow into the workings and cause flooding and polluted water supplies further downstream. The Superfund site was named for this event. Eventually the creek was rerouted and the shaft surrounded with a dike.

The dike (left) surrounding the caved mine openings diverts Tar Creek from its prior creek bed at the bridge (right).

Rerouted, Tar Creek continues its flow southward into the Oklahoma portion of the Picher Field.

Mill ruins at the Muncie Mine are visible from the road.

Treece, KS is another Tri-State mining ghost town. Only the traces of the streets remain.

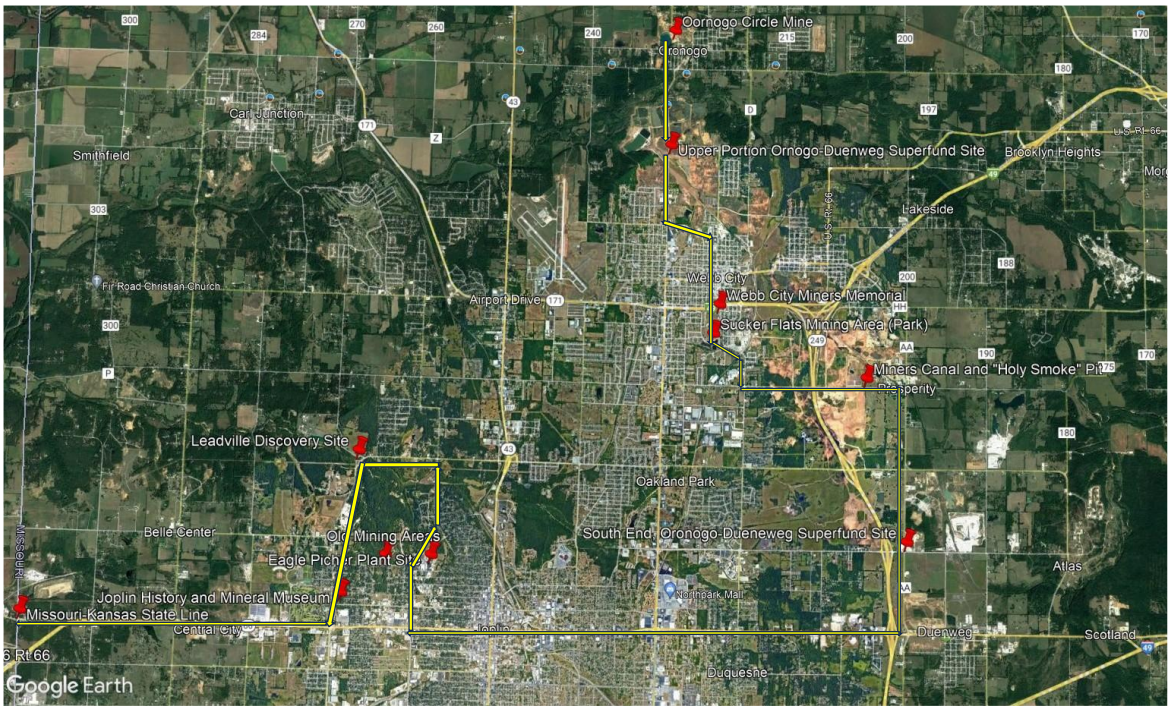


Treece, KS Historical Marker. EPA bought out the property owners and they relocated from the Tar Creek Superfund area.

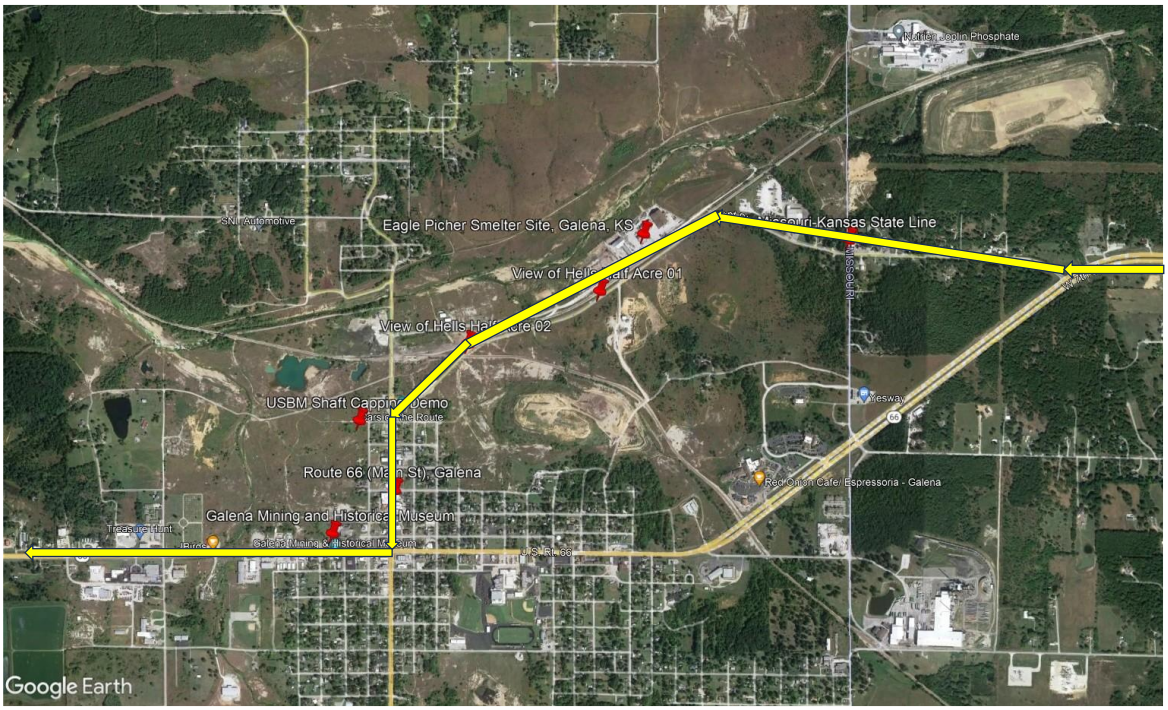
At the end of the tour, north of Picher, OK, return to Pittsburg, KS (43 miles).

DIY Tour Maps

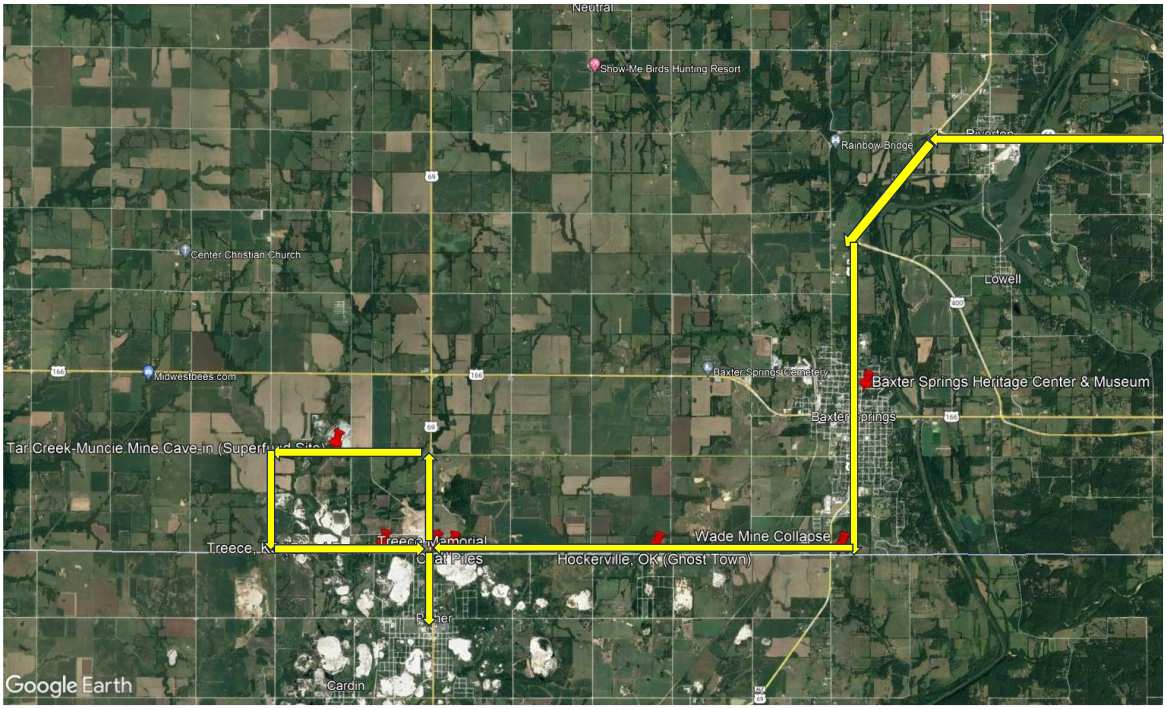
Map 1. Drive from Pittsburg, KS to Oornogo, MO (32 miles) for the first sight on the tour.



Map 2. From the MO-KS State Line to Galena KS.



Map 3. Galena, KS to Treece, KS (mining ghost town) via Baxter Springs, KS.



Final Thoughts. From this evaluation it is clear that the DIY route may require as much as a full day depending on the time spent at the various points of interest. Some sites may have limited access. Some of the sites may be closed because of safety hazards. USE CAUTION. Inquire locally about access.

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Arlington VA
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Revised October 27, 2025

10/27/2025 DRAFT Revision of 1/20/2024 **Tri-State Lead and Zinc Mining District – What I have Learned**