GOOD EARTH

Exploring Missouri’s Old Lead Belt

by Benjamin Hoste

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Introduction

Just as lumber is to the Pacific Northwest and coal is to West Virginia, lead is to Southeast Missouri. Lead was first discovered in what would become the state of Missouri by French explorers in 1719, and has continued unabated for nearly 300 years. Between 1864 and 1972 lead was mined, first by hand with picks and shovels and then by steam power and electric trains, in what would come to be known as the Old Lead Belt.

Over the course of this 108-year-span, book ended by the bloody Civil War and Vietnam, an estimated 8.5 million tons of pure lead was extracted from the ground, producing over 250 million tons of contaminated tailings. Although lead is primarily used today to manufacture batteries, a century ago it was the essential ingredient in manufacturing munitions.

As lead mining in the Old Lead Belt grew so did the communities that formed around the mines. These communities quickly evolved into company towns where the lead companies dominated the social, political, and commercial aspects of everyday life. However, in contrast to other mining towns, now infamous for their exploitative practices, these company towns appear to have been quite pleasant to live in. The lead companies are remembered for being fair if not benevolent.

Eventually, by the 1950s, all of the individual mines in the Old Lead Belt, some of which reached depths of close to 1,000 feet, were linked together beneath the surface, forming one complex mega-mine. By the time the mines closed in 1972 around 300 miles of underground electric rail lines were in place to transport lead ore blasted from solid rock at the front end of each heading to centralized milling facilities above ground. Now, all but forgotten, this infrastructure sits beneath hundreds of feet of water in the abandoned and flooded mines.

With every boom must come a bust, and by 1972 all of the mines in the Old Lead Belt were mined out. Although new mining ventures had sprung up to the West of the Old Lead Belt in 1960 in what was dubbed the Viburnum Trend, the closing of the Federal Mill in Elvins in 1972 marked the permanent conclusion to the only existence the Old Lead Belt had ever known.

Some continued to work for the mining company and either moved or commuted the 50 miles to Viburnum. Others left the area. Some stayed and tried to make a new life with new ventures. But for an entire rural community entirely established and defined by more than a century of lead mining, forging a new identity in the wake of such a monumental shift was extremely difficult.

And although the communities of Bonne Terre, Deslodge, Leadwood, and what would become Park Hills have slowly moved on in the four decades that have passed since the mines closed, there are still constant reminders of what once was. And what will never be again.

Chat piles, comprised of mine tailings the consistency of beach sand stand, hundreds of feet in height and pepper the horizon. Core samples about one inch in diameter litter the ground. Abandoned or repurposed mining buildings alternate on some streets with more modern structures. And drinking water is drawn from the abandoned and flooded mines, no longer constantly pumped of the ever-rising ground water that haunts all mining endeavors.

As the health risks posed by lead contamination have become more clear, the chat piles of the Old Lead Belt have morphed from monuments to Superfund sites. Efforts by the government to clean them up have been interpreted as wasteful by most, if not insulting. With an unknown and potentially bleak future ahead for the Old Lead Belt, many seem to be holding on to the past as tightly as they can.
I can do all things through Christ who strengthens me. 
Philippians 4:13
Photographs

[1] Best friends Calin Brown, age 18, and Courtney Shelton, age 18, on the Mississippi River in Herculaneum, Mo. Both graduated from high school in 2013 and visit the river when they’re stressed. Adjacent to the Mississippi River in Herculaneum is the final primary lead smelter in the United States and has operated nearly continuously since its construction in 1892. In 2002 Doe Run was forced to buyout over 150 homes surrounding the smelter due to lead contamination and is permanently shutting down operations at the smelter at the end of 2013 due to countless environmental, health, and safety violations. In the future all lead ore concentrate will be shipped overseas for smelting. Herculaneum is 30 miles north of the Old Lead Belt along the Mississippi River.

[2] A northwest view from the summit from Taum Sauk Mountain, the highest point in Missouri. Taum Sauk Mountain is part of the St. Francois Mountains, one of the oldest exposures of Precambrian igneous rock in North America. Prehistoric seas over hundreds of thousands of years surrounded the mountain range, forming coral reefs, which eventually formed the 300 foot thick Bonneterre Dolomite Formation in which lead was entrained as mineralizing flows later percolated through the region. The first mining in Missouri occurred near Fredericktown where the Bonneterre Formation emerges on the surface. In the Old Lead Belt, the Bonneterre formation ranges from 50 to 300 feet below the surface, and in the Viburnum Trend where mining is ongoing the formation ranges from 1,000 to 1,5000 feet deep.


[4] Earl Faircloth, age 96. Faircloth was born and raised in the Old Lead Belt and worked for the St. Joe Lead Company for 46 years in employee relations. After retiring he gave tours in the defunct Bonne Terre mine for over a decade until he could no longer navigate the stairs that lead down into the mine.

[5] Plants enjoy 24 hours of light underground in the defunct Bonne Terre mine. The mine was closed in 1962 and later was reopened for tours.


[7] Deer scraps are collected in a trashcan outside of Dane’s Deer Processing. The scraps are donated to the Crown Valley Ridge Tiger Sanctuary in Ste. Genevieve and feed to tigers.

[8] Family Fun Center, Bonne Terre, Mo.

[9] Keith Kinnard’s hunting room, Leadwood, Mo. Kinnard is a third generation lead miner and currently works in the Viburnum Trend where he drives 40 ton dump trucks 1,500 feet below the surface.


[11] 120 Buckley Street, Park Hills, Mo. The entire street of Buckley backs up on the Desloge Chat Pile, a massive mound of mine tailings that has since been remediated and partially turned into an industrial park.

[12] The Elvins Chat Pile, Park Hills, Mo. Now owned by Lead Belt Materials, the chat is being repurposed and used in cold-mix and hot-mix asphalt.

[13] John Voss with his dirt bike at the off road vehicle area in St. Joe State Park. Over 2,000 acres of sand flats, which are the remains of the St. Joe mine tailings pond, were turned into an a playground for off road vehicles despite high levels of lead contamination in the remains of the tailings.
Four-wheelers race along in the off-road vehicle area in St. Joe State Park. Because all of the sand is from the former tailings pond, the entire area is contaminated with high levels of lead, up to 1000ppm in some areas of the park. Lead enters the body through either consuming lead particles or breathing them in. Visitors are warned that the area is contaminated, poses a more serious risk to children, and asked to spray down their vehicles to wash off any dust before leaving the park.

An abandoned powder shack in St. Joe St. State Park. Three of these powder shacks sit nearby the Federal Mine milling facility (now the Missouri State Mines Historic Site) and were used to store black powder and dynamite that was used in the mining operations.

Graffiti, both from miners and hobos, blanket the interior of a powder shack in St. Joe State Park.

A trailer used as an office for the Leadwood mine tailings remediation effort sits abandoned in Leadwood, Mo.

Eagle Estates mobile home park just north of Bonne Terre, Mo.

St. Francois State Park.

Hunting near the Black River, just south of the Old Lead Belt.

A meat locker at Dane’s Deer Processing. Between bow and rifle season, Marvin Dane will process nearly 200 deer. On opening day of rifle season in 2012, by the end of the day this locker was filled with over 85 deer.

A JV wrestling match between Central and North County high schools in Park Hills, Mo.

Sabrina Radford, age 16, and Zak Dodd, age 17. Both attend Central High School in Park Hills. A senior, Zak is a linebacker on the Central football team and plans to join the army after graduating high school. They’ve been a couple for nine months.

Original showers in the Federal Mine milling facility in Park Hills, Mo.

Women’s sitting room at the Shared Blessings homeless shelter in Bonne Terre, Mo.

Abbey Hartman, age 31, the day after her 31st birthday in Bonne Terre, Mo. Alcoholic and homeless, and originally from Des Moines, Iowa, she ended up in Missouri after leaving her job working for a traveling carnival. After detoxing in Farmington, she ended up at Shared Blessings and found a job working for the Monterey Mushroom canning plant in Bonne Terre. She has now been sober for just over a month and is optimistic about her future in the area. “Instead of sitting here and being filled with anxiety I’m filled with hope,” she said. “Once I got here [to Missouri] I knew I wasn’t leaving—I was home.”

Cassandra Benton, age 22, with her daughter Joslyn Soltys, age 4, and their two dogs, Molly (the lab) and Buddy (the yorkie) in Bonne Terre, Mo. Joslyn recently tested over three times the allowable limit set by the CDC for blood-lead levels in children and as a result their yard was remediated by the Doe Run Company. The contamination was likely washed into their yard by a creek that runs alongside their home and then tracked into their home by their dogs. Children are especially susceptible to lead poisoning due to their hand-to-mouth behavior and rapidly developing brains. Benton was pregnant while still in high school and graduated early, right before giving birth to her daughter. “I was completely terrified. I was beyond terrified. I’m very picky on health and to find out that my daughter’s [blood-lead] level was that high; it scared me to no other. And honestly if, I told them if they couldn’t get our yard [remediated] soon enough I would probably
have to go back to Texas because I was not going to keep her around this area if it was going to be a problem for her health.”

[28] The Federal Mine milling facility in Park Hills, Mo. Now the site of the Missouri Mines State Historic Site. The majority of the facility is off limits, however, one building has been renovated and is used as a mining and minerals museum. The entire mine, around 300 feet below the surface, is now flooded with water and supplies the town of Park Hills with it’s drinking water.

[29] Flat River Movies on Main Street in downtown Park Hills, Mo. Now closed.

[30] Main street in downtown Bonne Terre, Mo. Summer’s Prom & Bridal Boutique is one of the few local businesses still operating in a downtown where vacant storefronts outnumber active businesses.

[31] A display case filled with models of historic Bonne Terre buildings in City Hall in Bonne Terre, Mo.

[32] A display case explaining how the lead companies drilled exploratory shafts to locate pockets of lead ore in the Missouri Mines State Historic Site museum in Park Hills, Mo.

[33] A stained glass window and organ in St. Peters Episcopal Church in Bonne Terre, Mo.

[34] Neil Stegail, age 35, in the sorting room of the Helping Hand thrift store in Bonne Terre, Mo. Stegail is a minister at East Bonne Terre First Baptist and the community services coordinator for the thrift store.

[35] Reverend Charles Henrickson changes the announcement board outside of the St. Martin Lutheran Church in Bonne Terre, Mo. The church was originally founded and built in 1918 by Slovak miners.

[36] Faith Cowboy Church, Desloge, Mo.

[37] Thomas Donaldson, age 13, and Dalton Clubs, age 14 at a rodeo in Desloge, Mo. Dalton planned to compete in the peewee bull riding competition later in the evening.

[38] Faith Cowboy Church, Desloge, Mo.

[39] Civil War era home, Farmington, Mo. Built in 1862 and now abandoned, electricity was added to the home in 1941. The home has been vacant since the last owner, Mr. Reeves, passed away in 1997. St. Francois County remained in Union hands throughout the Civil War, largely due to its importance as a lead producer.

[40] The Big River intersecting Highway 67, Bonne Terre, Mo. The Big River is the largest river in the area, and a Mississippi tributary, with most smaller streams and creeks draining into the Big River. Lead contamination in the river is high and extremely high along the river’s floodplain. According to Dr. Pavlowsky at Missouri State University, the Big River system and floodplain is the most contaminated of all river systems in the world contaminated by lead mining. The Big River is prone to flash flooding which will carry larger and more hazardous lead contamination to the perimeter of the floodplain, contaminating the entire floodplain in the process.

[41] The lake room in the Bonne Terre Mine in Bonne Terre, Mo. Only enough water is pumped from the mine, through the visible pipe, to keep the top 100 feet of the mine dry. The remaining 300 feet of the mine are flooded and internationally renown for scuba diving due to the exceptional visibility in the water. Jacque Cousteau famously dived and filmed there in the 1980s, putting the mine on the map as a diving destination.

[42] Joe Holloway, age 72, in Park Hills, Mo. Holloway worked for St. Joe Lead Company as an underground electrician for a decade until the mine closed in Park Hills in 1972. “It was so dark that you couldn’t see your hand.”
Photographs

[43] Joe Clark, Scrap Solutions, Park Hills, Mo. Scrap Solutions recycles every conceivable type of metal, including lead. Lead is the most recycled metal in the world with over 98% of lead, mostly from batteries, recycled.

[44] Photographs of brothers Fred and Jim McDaniel hang on Fred McDaniel’s wall in Bonne Terre, Mo. Fred is now retired and living in Bonne Terre. Jim was killed in an automobile accident in 1965 while commuting to St. Louis for work at McDonald Douglass where he was working on the space capsule. Their father worked in the Bonne Terre lead mine until it closed in 1962.

[45] Jesse Holloway, age 23, replaces the constant-velocity axel on his ford escort in Park Hills, Mo. He carpoolls 75 miles each day to St. Louis in the vehicle with a neighbor where he works in a welding fabrication shop. “There’s no real jobs around here.”

[46] A view of the remediated Desloge chat pile. The pile is so large that a small meadow of grass has formed along a valley where water collects and drains off the pile. All of the chat piles have been covered in a thick layer of large rock in order to retain the piles and keep the large sand sized chat from washing away with runoff and blowing away in the wind.

[47] Shawn Myers, age 23, and Sierra Thomas, age 17, in Bonne Terre, Mo. Sierra dropped out of high school but is working to complete her GED. They have been together for two years.