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# CDC ATSDR

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## Petition Public Health Assessment for Jerome, Clarkdale, & Cottonwood



We request ATSDR use environmental health tools to investigate possible exposure pathways in our community:

1) whether mining waste has affected our community, 2) if those toxins could get into your body, and 3) if they could affect our health. 4) direct ADEQ on appropriate testing, so ATSDR and DHS can write a report and recommend actions to protect health. 5) review safety of using copper mining waste in upcycled material that could potential spread toxins and cause illness.

We also ask that ATSDR collaborate with University of Arizona Department of Environmental Science. Allow Dr Monica Rameriz assistance in studying the situation since ADEQ has been negligent and testing is delayed and not adequate. Together ATSDR and University of Arizona can communicate with community members to help them learn about the mining toxicity, how it could get into their bodies, and how to protect their families, themselves, and future reproductive health.

JANUARY 1, 2024

DR. SHAIDA SINA

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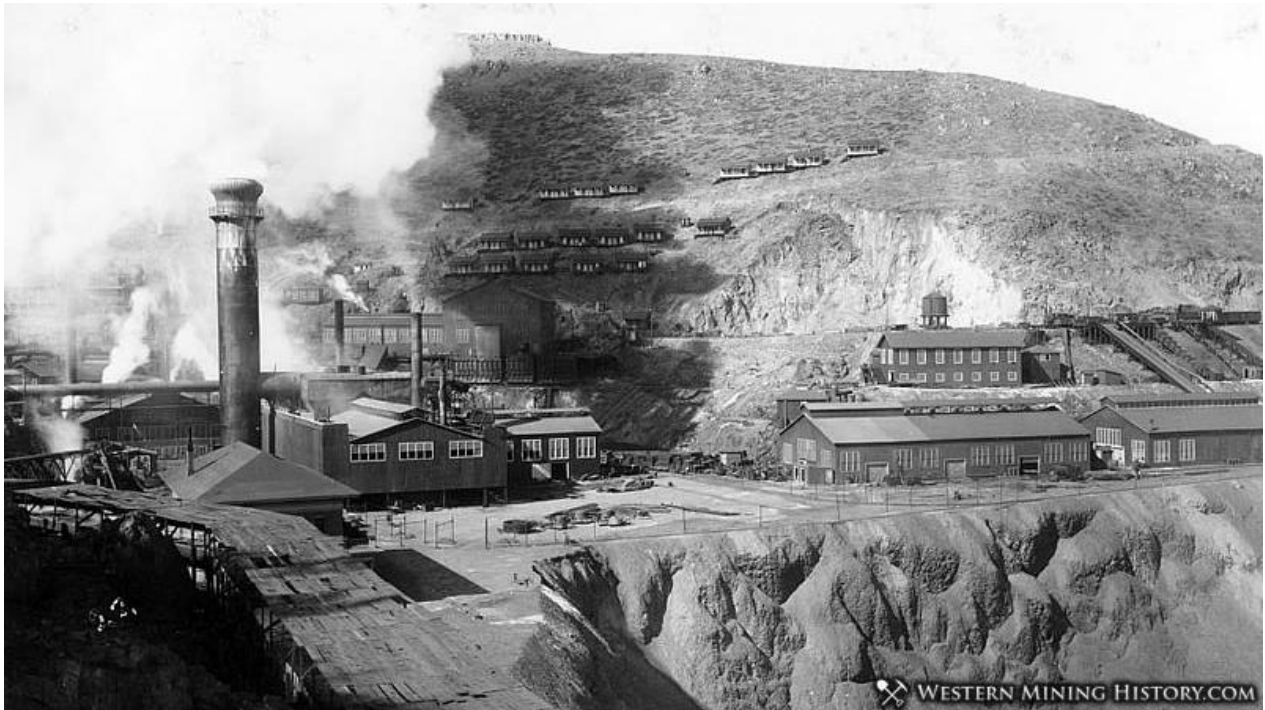
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## Background Information on Situation

Mining of Jerome, Clarkdale, and Cottonwood Arizona over roughly 70 years of Smelting, released millions of tons for mining waste into the air.<sup>1</sup>

### Section 1: Smelters

#### United Verde Smelter (Jerome)



The United Verde Copper Company smelter at Jerome closed after 32 years.

First established August 1, 1883, it ran 24 hours a day 7 days a week.

Retiring August 28, 1915.

Located toward Perkinsville Road on the out skirts of the town of Jerome.

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<sup>1</sup> <https://www.verdenews.com/news/2009/oct/27/smoke-gets-in-your-eyes-when-smelter-smoke-reigne/>

## Clarkdale Smelter

Smoke tinted the sky yellow.<sup>2</sup>



Clarkdale Smelter ran from 1915 – 1953. 24 hours a day 7 days a week.

Mining Waste in form of smoke mixed with metals and sulfuric acid **per day** from Smelter Stacks

In 1923: 783 tons

In 1924: 931 tons

In 1930: 981 tons

Clarkdale Smelter was located on the edge of town by the railroad station and Verde River.

<sup>2</sup> <https://www.verdenews.com/news/2023/aug/30/verde-heritage-1915-surface-rights-and-smoke-easem/>  
<https://www.verdenews.com/news/2022/sep/21/verde-heritage-biggest-smelter-jerome-closed-1915/>

## Clemenceau Smelter (Cottonwood)



### Clemenceau Smelter 1917 -1937

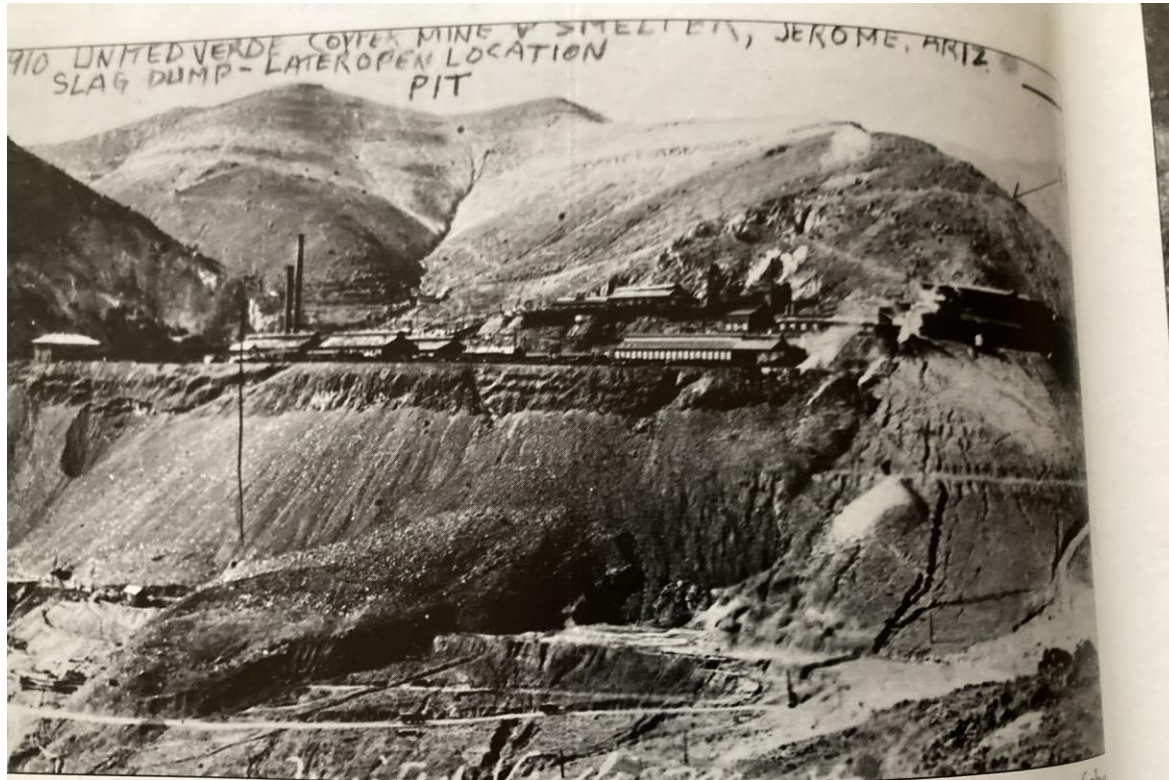
Originally located on the edge of town far from neighborhoods, bank, hotels, commercial properties, churches in Cottonwood. – Now in the Center of Cottonwood.

Keeping in mind that the Clemenceau Smelter (Cottonwood) at the time had the tallest stack in the world. The design was thought to reduce contamination in the surrounding area. This smelter most likely spread the toxicity further, Sedona, Cornville, Camp Verde.

## Section 2: Mining Waste (Copper Slag, Tailings, Mining Run off)

### Jerome Smelter

Jerome's smelter ran for 30 years before it became obsolete. Smelter waste including tailings and slag were dumped down the side of the mountain.



CC, 1910. This photograph shows the original UVCC mine intact and the location of the dump, railroad, and what would later become the open-pit mine.

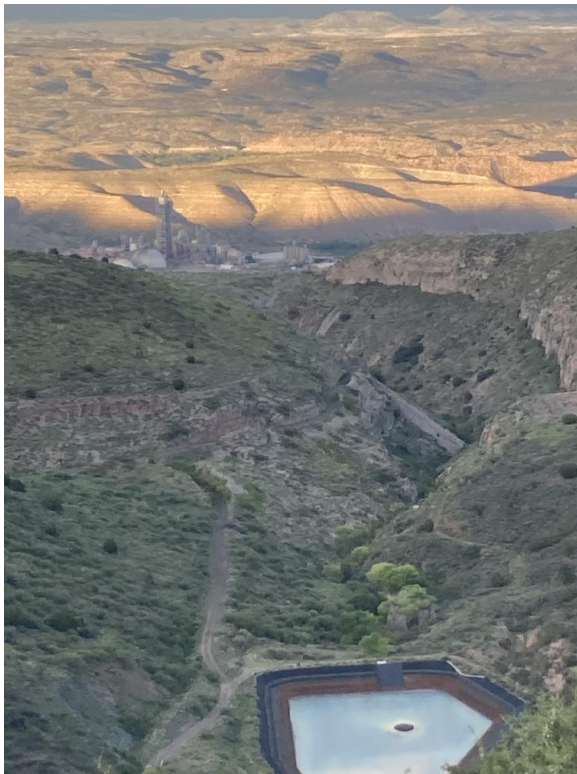
After years of mining tunnels collapsed, explosions, and fires, they went to open pit mining. This picture is from the overflow parking lot in Jerome.





Open Pit mine is currently fenced located by the overflow parking lot between Jerome and Gold King Mine. Monsoons and high rains, the pit will fill up with contaminated water.

### The Azure Waters of Jerome



I took this picture with one of my patients who has lived in Jerome for years. She currently has Sjögren's syndrome and an aggressive form of squamous cell carcinoma.

Storm water catchment set up when EPA fined Phelps Dodge. Distance is the Cement Plant another source of toxic dust.

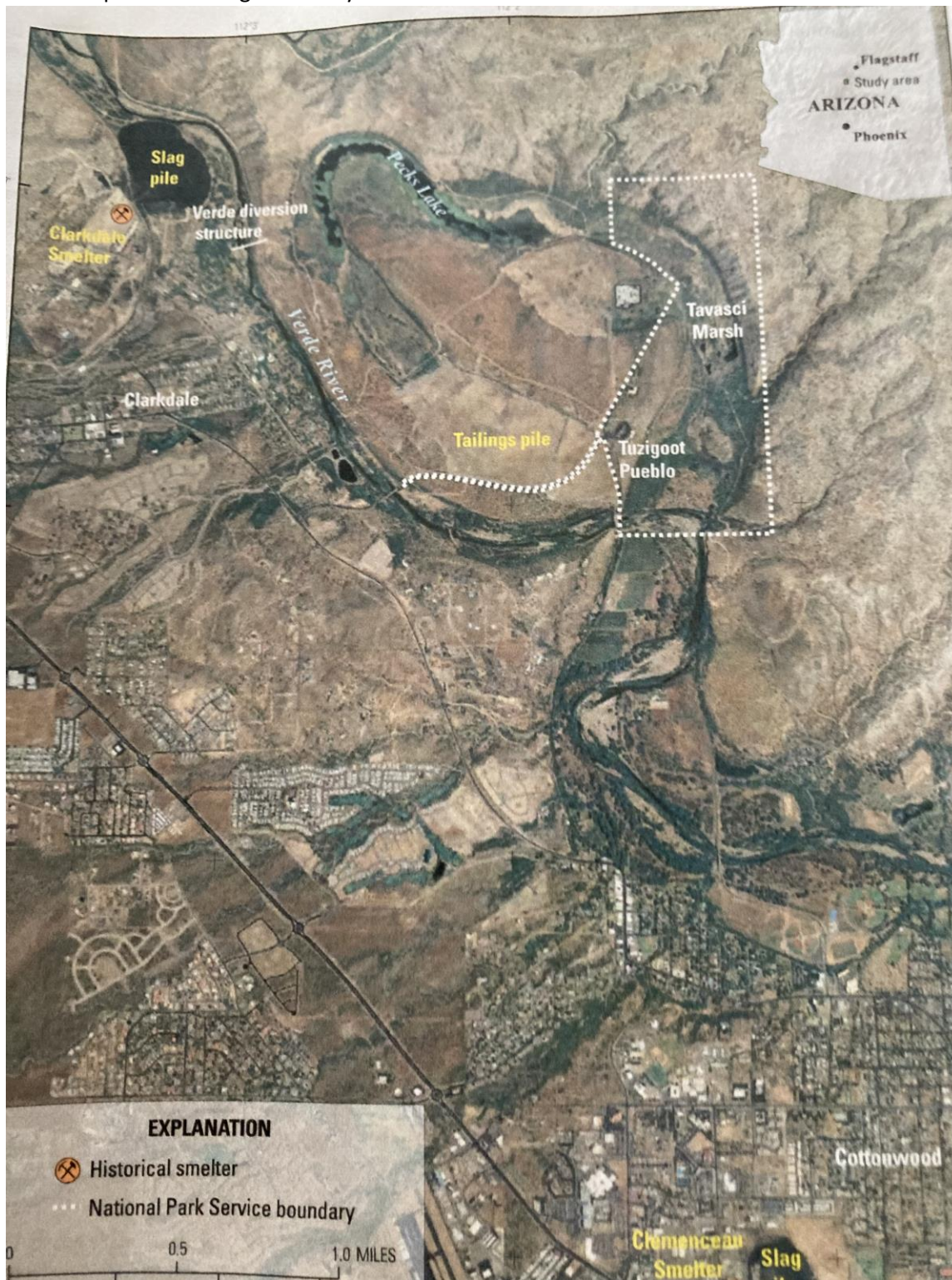
” The biggest environmental threat to citizens in Jerome was the flow of azure-colored water during heavy rains in drainages on Perkinsville Road between what is now the Gold King Mine and Jerome. Moreover, the large slag heap and tailings on Sunshine Hill, just above the Daisy Hotel and other nearby residences, would leach blue water into Bitter Creek, which flowed directly into Jerome ‘s newly renovated sewage treatment plant, potentially contaminating it and groundwater resources below it.

The blue water was laced with a heavy potion of copper sulfate. In that watery mix were also found cadmium, selenium, arsenic and other nasty substances.

Kids liked to throw nails and car parts into it and watch them turn copper. They liked touching it. Jerome citizens loved to take their dogs walking out on Sunshine Hill or out Perkins Road. The owners had to restrain the dogs form drinking the water.”

- Jerome blog on Azure Waters

“2014 Map of US Geological Survey”<sup>3</sup>



<sup>3</sup> <https://pubs.usgs.gov/sir/2014/5069/pdf/sir2014-5069.pdf>

## Clarkdale Smelter

William Clark decided to put his smelter by the Verde River. He used the water from the river for the smelter. He put a dam in and created a reservoir for the project. **There is a gap from 1915- 1927 where mining tailings were dumped.** The United Verde Copper Company started pumping slurry through miles of redwood pipes to the large tailing ponds located near Tuzigoot in 1927. The water that was dammed became a source of relaxation. UVCC turned the area into a country club. The “Verde Valley Country Club” with its 9-hole golf course closed October 1991. Many of my patients also loved to fish at the lake. 2019 the 120-year-old dam during the flood was compromised. In 2022 the dam was removed. Water, most likely toxic, was released into the Verde River. We as scientists have a saying solution for pollution by dilution. I will not swim there anymore.

Peak’s Lake, Tavasci Marsh, Shea Springs lay North and beyond the mining tailing by Tuzigoot National Monument. These are notable areas that are highly toxic according to the report. Once home to ranches and farms during the turn of the last century that were bought up by Phelps Dodge.<sup>4</sup> Too toxic to farm and ranch, so their only choice was to sell.



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<sup>4</sup> file:///C:/Users/Offic/Downloads/cr-18-d\_verdeminingjerome1.0%20(1).pdf

## Clarkdale's Tailings

Tailing Ponds became a dust bowl when the smelter closed.<sup>5</sup>



Top of the hill is Tuzigoot National Monument. Discovered 1933 – 1935. Below is where William Clarke piped out his mining tailing.

Mining tailing from UVX in Cottonwood were located around 6<sup>th</sup> street. When Phelps Dodge bought UVX they took the tailing from Cottonwood and re-mined them then supposedly added it to their tailing ponds in Clarkdale. After Phelps Dodge PD closed UVCC in 1953, no more water was applied to tailing ponds. The mining tailing became a dust bowl of toxic waste in the air contaminating the surrounding towns. 1956 PD diverted water from Peaks Lake to cover the tailing. In the 1980's Clarkdale decided to apply the towns effluence on to the tailing. EPA found it was a potential health hazard due to proximity of the Verde River. PD then applied a membrane with grass to reduce run off into the Verde River.



Mining tailing created fugitive dust throughout the Verde Valley. Complaint led to a membrane cover with soil and the addition of "native grass."

One of my patients lives nearby. He well had extreme arsenic now remediated. Last year I diagnosed him with prostate cancer.

<sup>5</sup> <https://www.verdenews.com/news/2023/aug/09/verde-heritage-smelter-tailings-create-dust-menace/>

Wildfire concerns many of our citizens; however, it is more concerning when a known area for toxic mining waste catches on fire. April 2023, we lost 106 acers at Tavasci Marsh located next to Dead Horse State Park to wildfires. According to the 2014 Geological Survey, high in lead, arsenic, and cadmium.<sup>6</sup> Still closed to the public, currently no ETA on reopening.



PM 2.5 and less laced with mining waste.

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<sup>6</sup> <https://journalaz.com/2023/04/03/wildland-fire-burns-20-acers-at-tavasci-marsh-near-tuzigoot-national-monument/>

## Clarkdale Smelter – Demolition



*After the Clarkdale Smelter closed in 1953, nearly 10 years later October 2, 1966, the Smelter Smoke Stake was demolished.<sup>7</sup> In 1953 Clarkdale was not built up. It had a population of roughly 1600. Now Clarkdale is roughly 4.5 k*



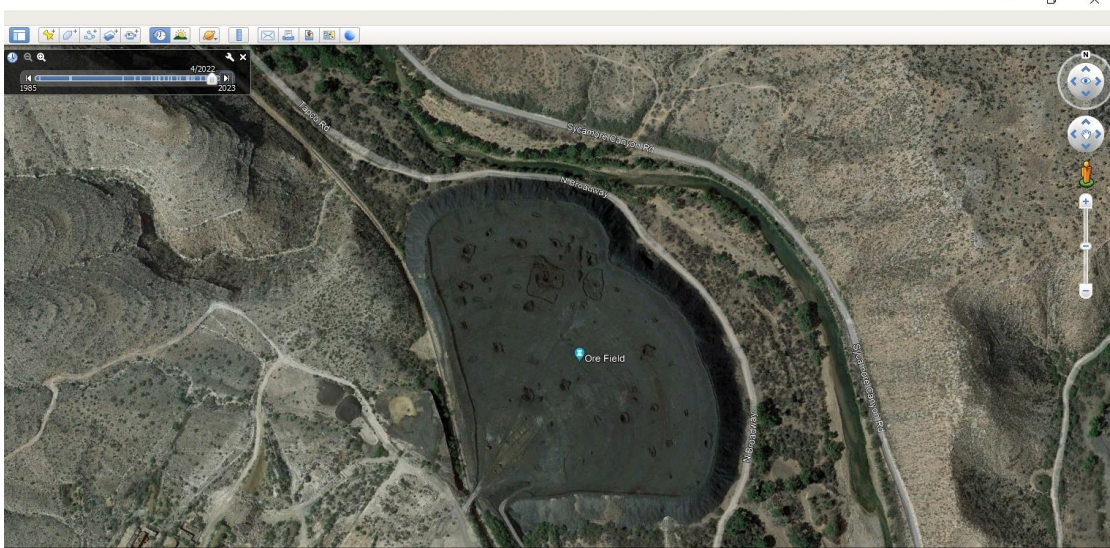
Clarkdale is also home to the Native people – Yavapai Apache Nation.

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<sup>7</sup> <https://www.verdenews.com/news/2008/feb/12/the-story-of-clarkdale/?templates=desktop>

## Clarkdale's Slag Pile

Over the years the Clarkdale slag pile was mostly undisturbed



The Verde River an impaired water way that feeds into Salt River. It runs by the slag pile. Slag pile occupies:

Roughly 75 acres

100 feet tall

Flotations and tailing ponds covering possible 65 acres.

The tailings pond was estimated to be 50 feet thick in some areas.

Leaving 20 million ton of slag



Flood of 2019 part of the Clarkdale Slag Pile broke off and fell into the Verde River. This is a popular tourist spot to swim and Kayak.

Please note there is not containment fence.



Verde Canyon Railroad running through the massive slag pile.

<https://www.youtube.com/watch?v=GLXqv0vFsE>

There was an attempt to re-mine the Clarkdale Slag pile for gold and silver. SearchLight Minerals reclamation project was halted due to a technology issue.

### Toxic Soil

Source of information on Clarkdale's toxicity for soil may be available through Freeport-McMoRan. Visit United Verde Soil Program. "The United Verde Soil Program (UVSP) is a soil remediation program being undertaken by Freeport Minerals Corporation (Freeport) to address elevated metals concentrations in soil on properties near the former United Verde Copper Company (United Verde) smelter in Clarkdale, AZ. The program is being coordinated under the Arizona Department of Environmental Quality's (ADEQ) Voluntary Remediation Program.

United Verde operated a copper smelter in northwest Clarkdale from 1915 to 1932. The smelter reopened in 1935 when Phelps Dodge Corporation purchased United Verde and continued to operate until 1953, when smelter operations ceased on a permanent basis. Freeport is the successor to Phelps Dodge Corporation. **Because the copper smelter operated in an era before emissions control equipment was commonly used, historical air emissions from the smelter deposited metal-bearing particles on nearby soil. The metals that are being evaluated in this program are associated with the United Verde/Jerome ore body and include arsenic, copper and lead.**"<sup>8</sup>



<sup>8</sup> <https://www.clarkdale.az.gov/308/United-Verde-Soil-Program>

## Request Special Focus on Cottonwood due to Re-mining of the Slag Pile for Health Studies

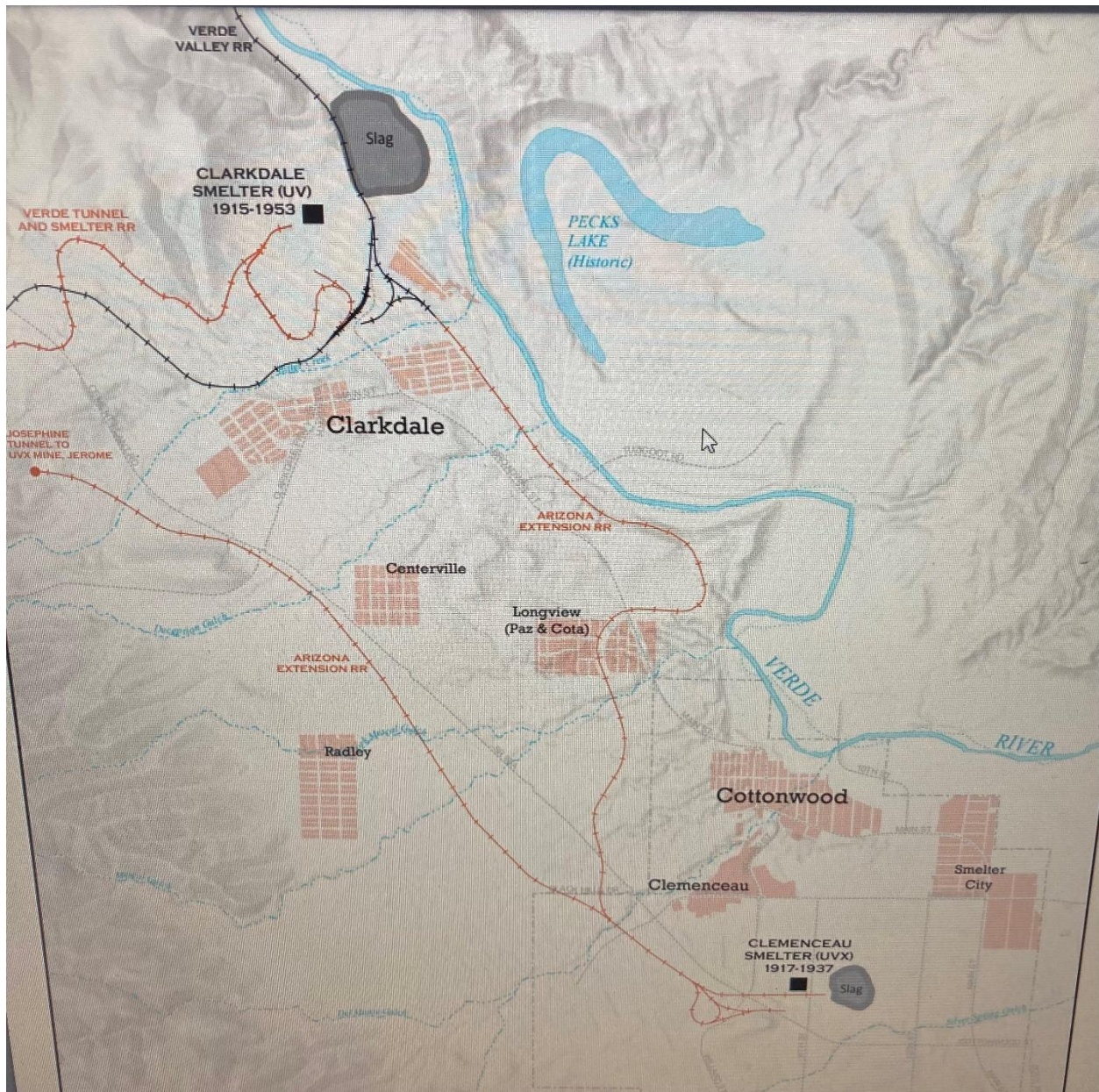
### Clemenceau Smelter Hill (Cottonwood)

Clemenceau smelter was located on top of Smokestack Hill, above 6<sup>th</sup> street. The population at the height of the smelter working for Cottonwood was roughly 361 people. When it closed in 1936, Cottonwood's population fell to less than 150 people.



425-foot-tall United Verde Extension Smelter smokestack was demolished in 1946. This is a view from Clemenceau Public School (now Cottonwood Elementary) located on Mingus and Willard miles away. Please note the toxic plum and diameter of the spread. Please note there are no buildings.

After UVX closed and Phelps Dodge bought both Clemenceau Smelter and Clarkdale Smelter. The Clemenceau Smelter was isolated from Cottonwood on the outskirts. Clemenceau eventually became annexed by Cottonwood.<sup>9</sup>



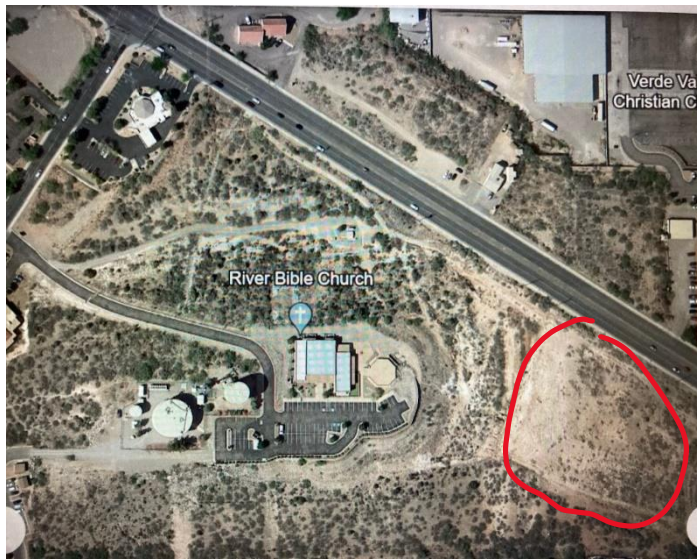
Cottonwood was incorporated in 1960. The population was roughly 1879 in 1960.

- 1910 (population was 361)
- 1920 (population was 298)
- 1940 (population was 140) smelter closed
- 1970 (population was 2610)

<sup>9</sup> <https://cottonwoodaz.gov/DocumentCenter/View/5929/City-Atlas-?bidId=>

Cottonwood is now at roughly 12,500 population.

**Clemenceau Smelter Hill – most likely location is River Bible Church**



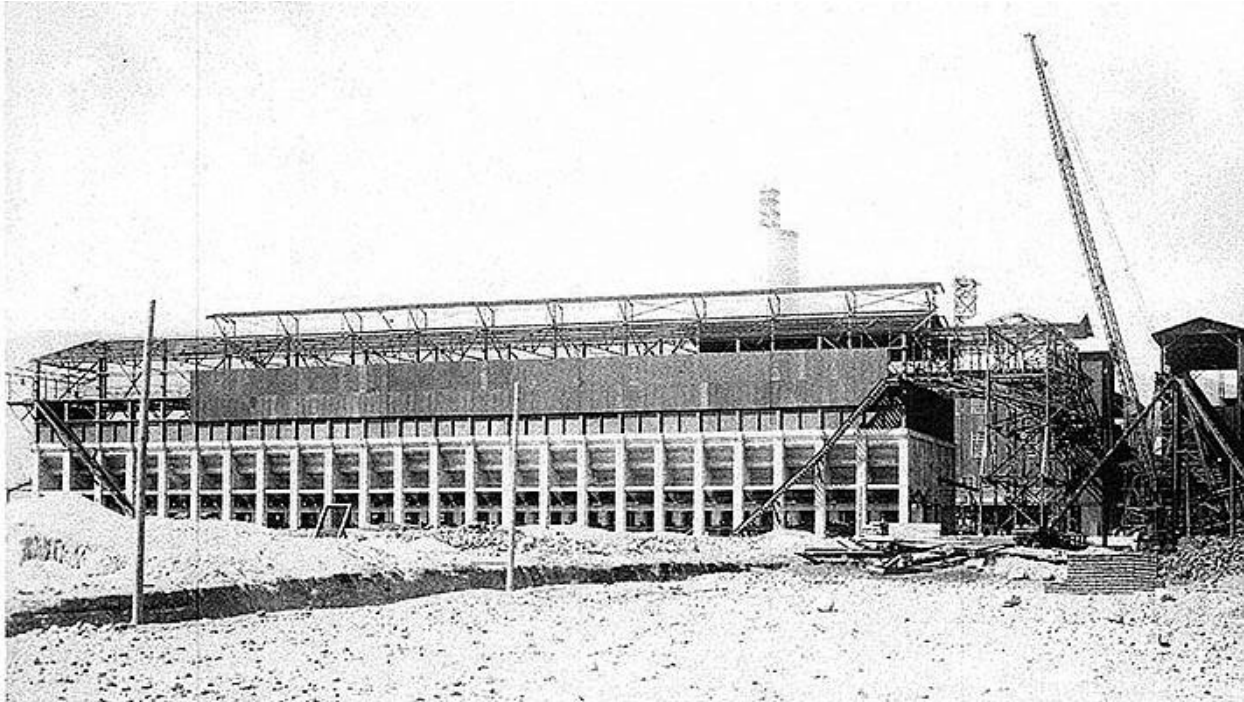
**Smelter Stack Demolition Area**

This empty lot is currently for sale. Report from former patient states excavators are looking for a place to move the soil.

View of church from the upcycle smelter building now know as the Clemenceau Plaza- River Bible Church is located on Smokestack Hill?



Transformation of Smelter (mining bins building) now home to dozens of businesses. The building was completed in January 1972. One of my patients who has multiple sclerosis worked with her grandmother in the building for years. EPA started March 1972.



Please take note the **slag pile** in upper right-hand corner with a red circle.

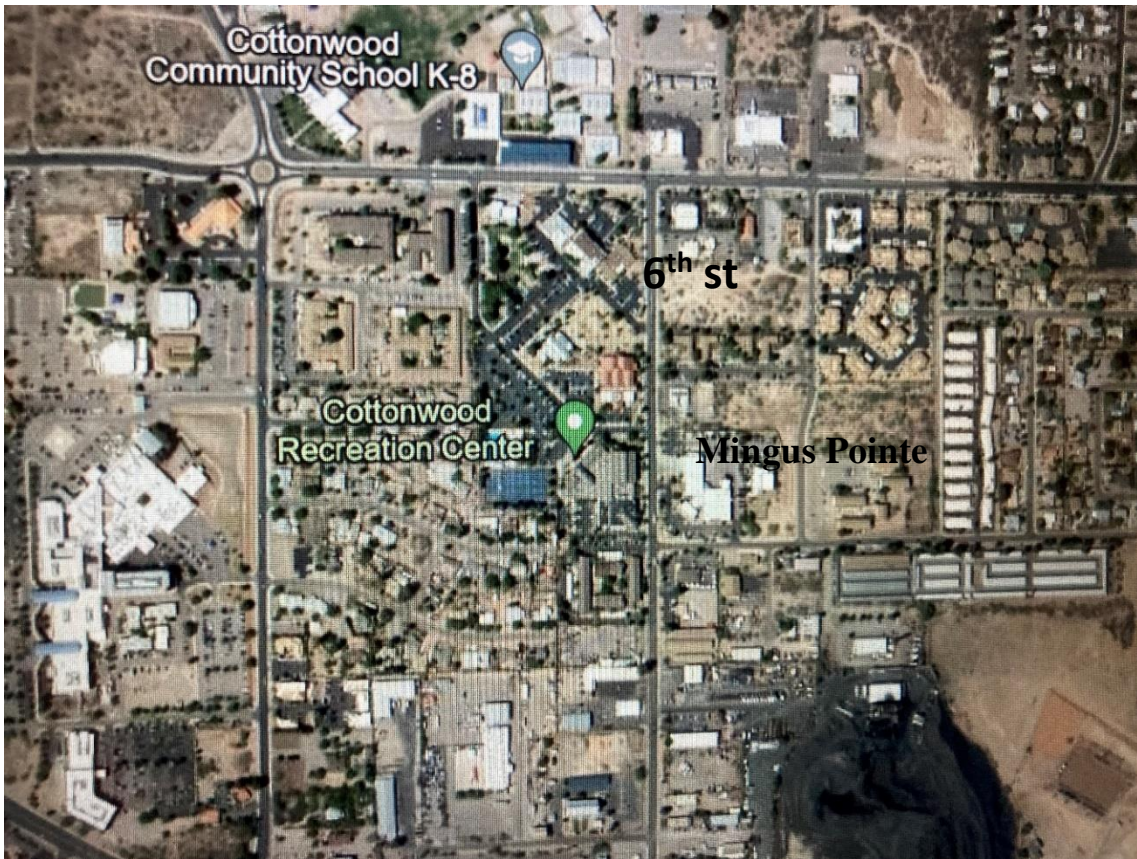
## Cottonwood Mining Tailings

Aerial view of possible location of mining tailing. In Verde Independent Article, it stated PD moved the tailings that were located around 6<sup>th</sup> street to the Clarkdale pile. The neighborhood at the bottom of the picture is S. sixth Street, the logical area.



Clemenceau blossomed into Cottonwood, a busy City. Abandoned 100-year-old solidified Slag Pile now sits in the background at our Fair Grounds. Bleachers for the rodeo grounds are conveniently tucked right up against our black mountain of toxic waste. Every Fourth of July they set the fireworks off on top of the pile. Many of my patients share that they spent a lot of their youth climbing up the pile and sliding down. Upper right-hand corner is MRI plant.



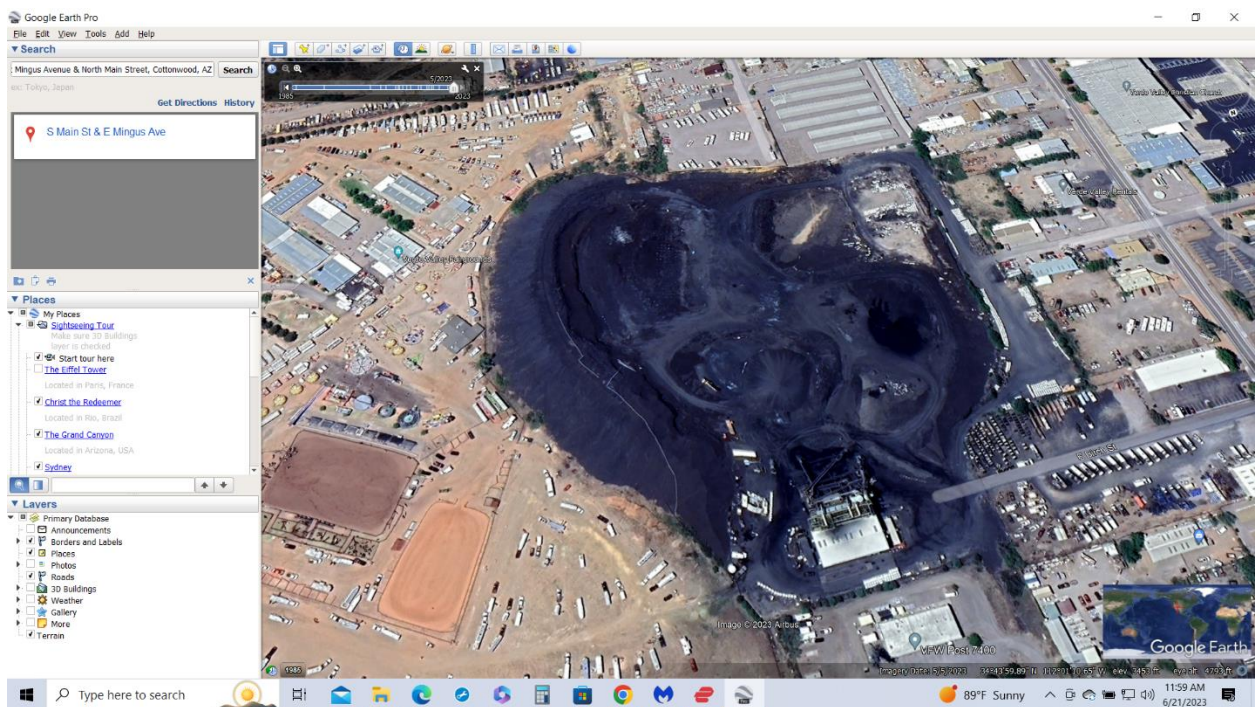


Mingus Pointe and other low-income housing – reports of illness from possible fugitive mining dust.



View from Storage Units by another set of low-income housing. Note the visible fugitive dust.

### Turn of Events – Remining of Cottonwood Slag Pile by Mineral Research Inc.



2006 proposal to re-mine the 100-year-old solidified mining waste pile is now a menace to the city of Cottonwood. MRI **re-mining** Explosive Blasting, Primary Cushing, Stockpiling (outside), Secondary Crushing has cause fine and ultrafine mining dust contamination. 2.5 pm and possibly less with known carcinogenic metals. See Doctors Data Report I ran over the Summer 2023 and review their MSDS posted on their website.



Storage unit of a patient, who did not have cancer until she got this unit which is next to MRI. Is this a contributing cause?

Reports on contaminated homes, businesses, churches,.. are prevalent within a 2-mile radius possible wider.

### Section 3: Future of our Communities

#### ADEQ Air Quality Testing

Nearly 20 years ago this project was proposed by Mineral Research. It is set to continue for another 20 years because of delays and magnitude of the pile. December 2023, ADEQ admitted they did not properly handle the re-mining of the Cottonwood Slag Pile from the start of the project. This is not ambient air. It is toxic mining waste. ADEQ took MRI's word that it would be collecting the dust. Please note the red circle below that denotes MRI water system to keep dust from blowing.

In 2012 the plant went in, and complaints began. The complaints were ignored. MRI does not have a proper permit 10 years later. ADEQ has not set up testing yet gave them consent to continue. We still do not have Air or Waste studies. Prolonging the situation is a tragedy.

Proposed sites for ADEQ Air Testing include the VFW (Veterans of Foreign Wars) and the Kids Park.



VFW Mini split's compressor faces the MRI processing center. Many of my patients use this space for meeting, social gathering, ... It is a good spot to test air and soil.

Kids Park- this is the location for play rounds, picnic, sports like soccer...

Mother of one of my patients who developed asthma and rashes after spending time at the kids park and rec center.



Many young children play here and play team sports. I have recently been informed that they are trying to find alternate areas for sports to reduce their children's exposures. This is a good spot to test air and soil.

Video showing fine dust:

<https://youtu.be/XNF78vE54kc>

Library / Rec Center on 6<sup>th</sup> street

Video showing fine dust:

<https://youtu.be/I2L8NzAjJ-k>

# Air Quality Monitoring Locations



December 15, 2023, I requested a pause be placed on MRI blasting, crushing, and processing till testing is set up. I was ignored by ADEQ and City of Cottonwood. Tuesday January 2<sup>nd</sup> MRI will be blasting again.

-Please consider the number of air quality devices and placement.

-Only a quarter of the permitter is designated for testing. The wind often blows towards the west by the library and rec center. To get an accurate assessment, we as a community request ADEQ, be directed to evaluate the surrounding areas around the slag pile as well.

-We as a community request ADEQ division of waste begin testing soil in Jerome, Clarkdale, and Cottonwood. There are many private wells, so water may need testing and recommendations.

We are grateful that there is a means to petition CDC ATSDR to look at how mining has affected our community and the extent of this contamination and to begin human health studies. This is an overview of our situation. As sample test result come in from University of Arizona, we as community hope you will take it as legitimate evidence.

Sincerely

Dr Shaida Sina

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