BAS 143 Zinc Welcome to Butte, America’s Story. I’m your host, Dick Gibson.

Butte is renowned for its huge production of copper and silver. Zinc, not so much – yet Butte produced nearly 5 billion pounds, 2½ million tons, of zinc. That makes Butte #6 in the U.S. as a zinc producer, and the U.S. Geological Survey ranks Butte at #4 in terms of produced plus remaining resource. The USGS estimated in 1998 that there is more zinc remaining unmined in Butte than has been produced.

Most of the zinc was found in the mineral sphalerite, zinc sulfide, which occurred throughout the district but was especially abundant in mines of the outer zone, including the Anselmo, Emma, and Orphan Girl on the west side, and the Black Rock and Elm Orlu on the north.

The Black Rock mine was also the site of a concentrator for zinc production that used a flotation process – the first flotation plant of any kind in the U.S. mining industry when it began operations in August 1911. The process used a froth of oil and air to separate the zinc ores.

The plant at the Black Rock was built for the Butte & Superior Copper Company under the direction of James M. Hyde, a pioneer in the technique who had worked with Minerals Separation, Ltd., of London. Hyde’s connection there was through a Stanford classmate, Theodore Hoover, whose brother Herbert Hoover, later the US President, was interested in investing in the Butte & Superior company. Herbert later backed out, and meanwhile Hyde and Butte & Superior were sued by the London company for patent infringement. Five years of litigation ended up in the U.S. Supreme Court, which ruled in favor of the London company. Eventually, in 1936, the headframe at the Black Rock was moved to the Anselmo, where it still stands.

Butte & Superior also produced zinc from the mines around Germania, south of the Orphan Girl where the World Museum of Mining is today. Butte & Superior was a Minnesota-based company that was established about 1906 and later absorbed a handful of smaller operations, including the Butte & Duluth, Butte & Milwaukee, and Butte & New York mining companies. Butte & Superior was one of the last independent operators in Butte, finally merged into the Anaconda Company about 1940.

William Clark’s Elm Orlu mine shipped its ore across the district to the concentrator on Timber Butte, where a flotation plant was also built in the 1910s. Today, all that remains of the immense Timber Butte concentrator is one of the ore bins, converted into a private home.

The Anaconda Company sent ores to Great Falls, where the world’s first electrolytic zinc refinery was built in 1916.

Zinc is used mostly for galvanizing iron to prevent rust, with minor volumes used in brass and bronze alloys and other products. Today 80% of U.S. zinc production comes from Alaska, mostly from the Red Dog mine in the Brooks Range, but the United States is still 85% dependent on imports for zinc, with Canada by far the leading import source. China produces almost seven times the zinc the U.S. mines, making it the world leader.

As writer Edwin Dobb has said, "Like Concord, Gettysburg, and Wounded Knee, Butte is one of the places America came from." Join us next time for more of Butte, America’s Story.