

THE GEOLOGICAL SURVEY OF WYOMING

HORACE D. THOMAS, STATE GEOLOGIST

MINERAL MEMORANDUM

SUMMARY OF WYOMING COPPER PRODUCTION

LARAMIE, WYOMING

April 1943

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BY

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SUMMARY

1. Wyoming has produced 28,856,720 pounds of copper since 1882.
2. Two maxima of production were reached; between 1900 and 1908 and between 1916 and 1917. (See attached graph)
3. Production since 1917 has been negligible. No ore was shipped between 1935 and 1940. In 1941 Carbon County produced 6,000 pounds of copper and Platte County produced 2,000 pounds. Several small shipments of ore were made in 1942.
4. There are copper reserves in the state but in order to intelligently exploit them a program of exploration and development should precede the opening of mines. (See attached index map.)

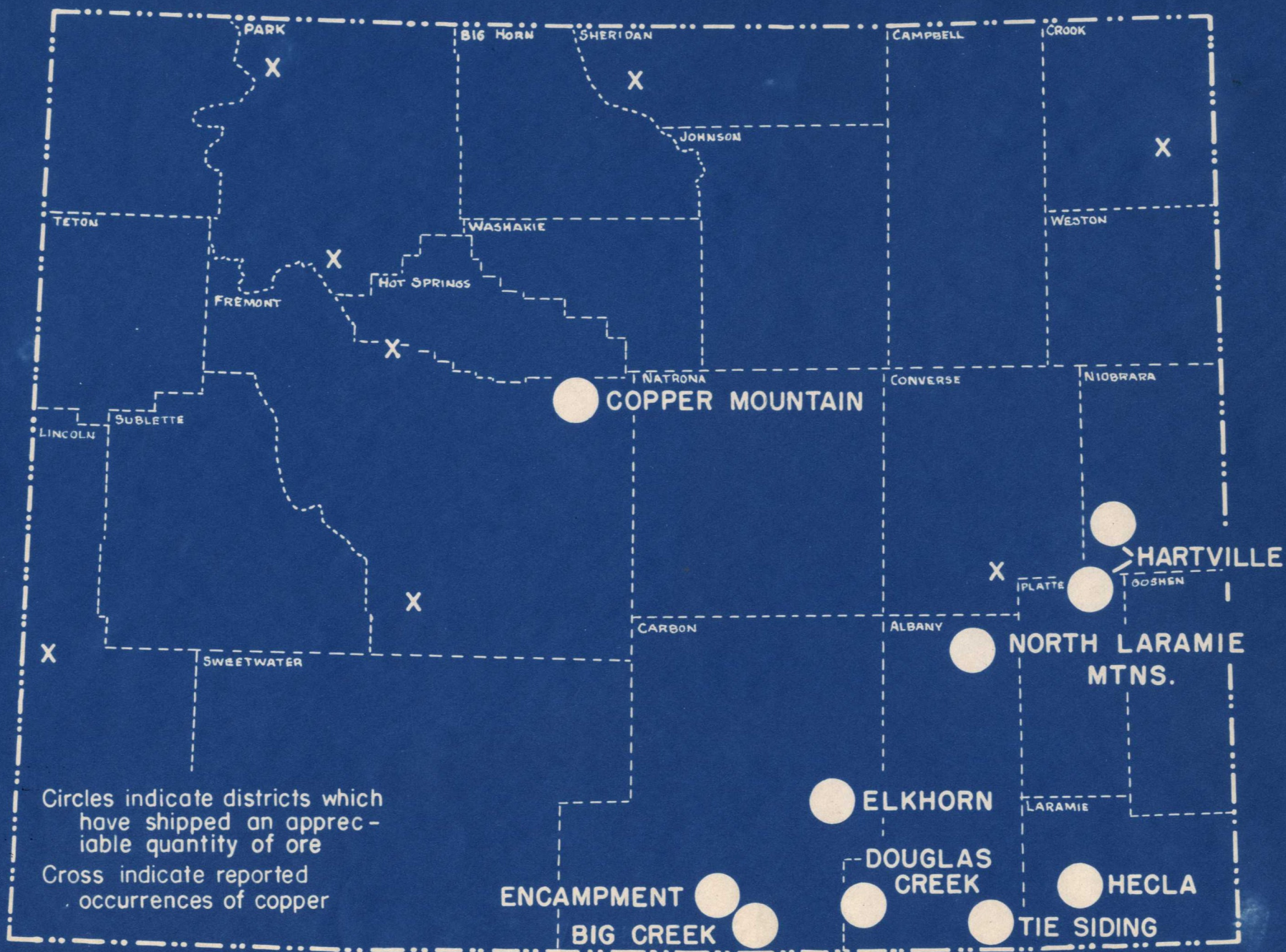
COPPER DEPOSITS

Although many areas have been prospected and some have produced a little copper, the districts of major importance are (1) the Encampment district, (2) the Douglas Creek district, (3) The Hartville district, and (4) the Copper Mountain district. Other districts of lesser or questionable value are (5) the North Laramie Mountains district, (6) the Hecla district, (7) the Elkhorn district, (8) the Tie Siding district, and (9) the Big Creek district.

Encampment district:- The Encampment district in Carbon County, produced the greater part of the copper mined in Wyoming, (about three-fifths), and mines produced from 1898 to as late as 1919, although little was produced after 1908. The mines were idle from 1910 to 1916 but between 1916 and 1919 a little copper was produced, the last shipment being a clean-up of the dump of the best mine in the area. All mines are now abandoned.

The Saratoga and Encampment railway served as an outlet, connecting with the main line of the Union Pacific Railroad, about 40 miles away.

The geology and ore deposits of the region are described in U.S. Geological Survey Professional Paper 25, published in 1904.



Between 1898 and 1916 this district produced a total of 22,012,236 pounds of copper and it is generally believed that there are still reserves of copper ore in the district, but an exploratory program would have to be undertaken before mining could be begun.

Douglas Creek district:- The Douglas Creek district, Albany County, began producing high-grade copper ore in 1901 and produced intermittently until 1923. The largest producer, the Rambler mine, is reported to have encountered a fault which offset the ore body and the mine was abandoned. Proper exploration might lead to the rediscovery of the ore body or might disclose other ore bodies in the area.

The Douglas Creek district lies near the Laramie, North Park and Western Railway which connects with the main line of the Union Pacific at Laramie, about 40 miles away.

Hartville district:- The Hartville district, Platte, Goshen, and Niobrara Counties, produced considerable copper between 1882 and 1898 and varying amounts at different times between 1906 and 1929.

The Sunrise iron mine, the largest iron mine in the West, was originally opened as a copper prospect and considerable copper was produced as a by-product from 1900 to 1920. Only one carload has been shipped since that year, however, Mr. Harry Wright, Superintendent, has informed the writer that the copper ore produced occurred as pockets on the old topography on the top of the hematite deposit, under several hundred feet of overburden, that the pockets were sporadically distributed, and that there is no manner of predicting their occurrence or of exploring for them. No copper ore has been showing up in the tailings from the present workings.

Other copper mines in the district were operated from 1882 until 1929. No ore was shipped from 1929 until 1941, when 2,000 pounds of copper was produced.

Sydney H. Ball is authority for the statement that "copper is widely distributed in the Hartville uplift and there is scarcely a square mile underlain by pre-Cambrian and Guernsey formations which does not contain copper showings. No very large mine has ever been discovered but copper is so widely distributed that the possibility of finding a mine or mines of some size is not unlikely." (U.S. Geological Survey Bulletin 315, 1907, p. 94. This bulletin discusses the geology of the deposits.)

The southern part of the Hartville district is crossed by the Burlington Railroad and the Chicago and Northwestern Railroad borders it on the north.

Copper Mountain district:- The Copper Mountain district, Fremont County, produced some copper between 1907 and 1930, although the amounts were never large. Little is known as to the geology or potentialities of the district, although it is reported that lack of water made mining difficult. The district is located about 15 miles from the Burlington and the Northwestern railroads.

North Laramie Mountains district:- The North Laramie Mountains district was prospected from 1904 to 1931 but produced only a few cars of ore in 1916 and again in 1931. The possibilities of the region are not well known but the ore deposits are described in U.S. Geological Survey Bulletin 626, 1916.

Hecla district:- The Hecla district, Laramie County, was prospected in the early days, a smelter was erected, and some copper was produced. The last production was between 1915 and 1918. Developments in the area have not been encouraging although additional exploratory work might disclose unworked ore bodies. The district lies only a few miles from the Colorado and Southern Railroad and from the main line of the Union Pacific Railroad.

Elkhorn district:- The Elkhorn district, Carbon County, produced several carloads of copper ore between 1909 and 1918. The region seems to hold little possibility as a large copper producer.

Tie Siding district:- The Tie Siding district, in Albany County, produced several cars of copper ore in 1917 and 1918 and a few cars between 1930 and 1934. The possibility of the district producing much copper seems remote. The district is adjacent to the main line of the Union Pacific Railroad.

Big Creek district:- A prospect at Big Creek, Carbon County, produced several cars of copper ore and concentrates ranging from 6% and 28% copper in 1931 and 1932. Development work was carried on in 1942 and some ore was shipped. The geology of the district is similar to that of the Encampment district.

Miscellaneous districts:- Numerous other areas in the state have produced a very little copper ore, or have been mentioned in the geological literature as having copper prospects, but in the main these are simply noted occurrences of copper minerals and little or nothing is known as to their extent or value.

PRODUCTION

The copper produced prior to 1898 came from the Hartville region. The large production between 1900 and 1908 represented the combined outputs of the Hartville, the Encampment, and the Douglas Creek districts. The Copper Mountain district also was active during that period. The increased production during the war years of 1916-1918 represented increased production from the Hartville area. In 1916 and 1917 that district was the largest producer. In 1916 the Encampment district ranked second. In 1917 the Douglas Creek district ranked second, the Encampment district third, and the Copper Mountain district was reopened.

The production of copper by years is as follows:

<u>YEARS</u>	<u>POUNDS</u>	<u>YEARS</u>	<u>POUNDS</u>
1882 -----	100,000	1917 -----	2,019,767
1883 -----	962,468	1918 -----	866,689
1888 -----	232,818	1919 -----	150,051
1889 -----	100,000	1920 -----	24,256
1898 -----	233,044	1921 -----	9,830
1899 -----	104,827	1922 -----	-----
1900 -----	4,203,776	1923 -----	87,686
1901 -----	2,698,712	1924 -----	-----
1902 -----	889,228	1925 -----	331
1903 -----	1,023,189	1926 -----	-----
1904 -----	3,565,629	1927 -----	-----
1905 -----	2,530,531	1928 -----	2,575
1906 -----	106,177	1929 -----	4,305
1907 -----	3,026,044	1930 -----	29,356
1908 -----	2,416,197	1931 -----	9,545
1909 -----	433,672	1932 -----	607
1910 -----	217,127	1933 -----	46
1911 -----	130,499	1934 -----	3,390
1912 -----	25,080	1935 -----	1,749
1913 -----	385,239	1936 -----	42
1914 -----	17,421	1937 -----	75
1915 -----	362,235	1938 -----	155
1916 -----	1,784,351	1939 -----	-----
		1940 -----	-----
		1941 -----	8,000

CONCLUSIONS

Although there are several districts in Wyoming which can probably produce copper it would be necessary to develop them anew. The exact condition of the old mines is unknown but from hearsay it seems likely that considerable work would be necessary in order to reopen any of them, provided investigation warranted attempting to produce from them.

COPPER PRODUCED IN WYOMING

