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MINERAL PRODUCTION IN WYOMING IN 1942

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Wyoming mineral production during 1942 was higher than at any time during the past 15 years, largely as a result of increased production in the war effort. Unusually large amounts of petroleum, coal, bentonite and iron were produced, but of major interest, perhaps, was the production of minerals which had never before been mined in the state.

Wyoming ranked 8th among the oil producing states with a total production of 32,736,000 barrels. During the year 93 wells were completed as oil wells, 6 as gas wells, and 20 were failures. Millions of barrels of oil were added to the state's reserves through new discoveries at North ~~Vermillion~~ ^{Hiawatha} Creek and at Horse Creek, and in deeper sands in the Pilot Butte, Elk Basin, and Cody fields. The total oil reserves of the state are now placed at 333,393,000 barrels. New gas reserves were added through the discovery of the Sherard field. Refineries have installed new equipment to produce aviation gasoline.

Coal production showed an increase over 1941 and although final figures are not available exceeded 7,000,000 tons and rated second in valuation in Wyoming mineral production.

Wyoming is the major bentonite-producing state and the increase in tonnage produced each year has been phenomenal. In 1926 only 4,409 tons were produced and by 1941 the output had increased to 145,574 tons. The 1942 production greatly exceeded that amount, with essentially all of the bentonite being mined in Weston County. The production was essentially equal to that of the total of the 11 other bentonite producing states. Bentonite has found increased uses in the war industries and the major use of Wyoming bentonite is now as a binding agent for foundry

sands used in making castings. Large amounts are also used in oil refining and in oil well drilling.

All of Wyoming's iron production comes at present from the Sunrise district, where over three-quarters of a million tons of high grade hematite ore was mined in 1942. Construction of the Bureau of Mines sponge iron pilot plant at Laramie is underway and within the next four months the plant will be testing other Wyoming iron ore for their adaptability to making sponge iron.

For the first time in history, Wyoming has become a tungsten producing state. The scheelite deposits on Copper Mountain, north of Shoshoni, bid fair to become one of the states most important mineral developments. The ore is rich compared to many of the tungsten ores being mined today and so far as can be told at present the deposits are reasonably large. The geological conditions which control the Copper Mountain deposits are duplicated at numerous other places in the state, and it is quite possible that other deposits will be found. The tungsten deposits south of Glenrock and in the South Pass district were further explored and developed during the past year. Tungsten is used largely for the production of high-speed tool steels which may be run at such speed as to become red hot but still retain thier temper and cutting ability.

Another important development of late 1942 was that of the Homestake Mining Company in opening a vanadium mine about 15 miles north of Cokeville, in Lincoln County. The vanadium occurs in the bedded phosphate rock along Sublette Ridge. The phosphate rock carries only a fraction of 1% vanadium, but even such a small amount warrants mining under certain conditions. Phosphate, which is used as a fertilizer,

will likely be a by-product. The project is a large one and Wyoming may eventually become one of the leading vanadium producing states, for the total amount of available vanadium ore is large. The United States is dependent on imports for most of its vanadium. Like tungsten, vanadium is in demand for the manufacture of high speed tool steels and for tough armament steels.

Minor amounts of other metals were produced in the state during 1942. Some copper was produced at various places, such as the Big Creek district, Carbon County; the Wall Rock Canyon district, Albany County; and the Hobble Creek district in Lincoln County. A little lead and some manganese were produced around Sundance, in Crook County. Some tantalum was produced in the Copper Mountain district, Fremont County, and a little beryl was mined at Copper Mountain and near Fox Park, Albany County. Development work, with a view to production, was undertaken on lead and zinc deposits near Buford, in Laramie County, and near Encampment, in Carbon County. Gold and silver production in the state in 1942 was almost negligible, as it has been for several years.

Non-metallic rocks and minerals, even aside from coal and bentonite, contributed far more in value to Wyoming's mineral production than did metallic minerals. Each year Wyoming produces over \$1,500,000 worth of crushed stone, sand, gravel, and building stone, which are used in construction work, as railroad ballast, and crushed lime which is used in sugar refining. Sodium sulphate was produced in Natrona and Carbon Counties; cement rock, gypsum, gypsite and alabaster were produced in Albany County; and brick clay was produced mainly near Laramie and near Lovell. Some mica was produced near Fox Park, in Albany County; sulphur in the Sunlight Basin, north of Cody; and some fluorspar from near Sundance.

Vermiculite, the peculiar expanding mica used for insulation, for lightweight aggregate in concrete, and many other purposes, was produced at several places, but most of the production came from the Encampment district, in Carbon County with lesser amounts from the Glenrock and Wheatland districts. Feldspar production increased in 1942 with the bulk of production coming from the Laramie Mountains and the Glenrock region.

Wyoming is not thought of as a state producing semi-precious stones, yet it is one of the two states which produces jade. Wyoming jade, the mineral nephrite, occurs at places along the Sweetwater River and has been sold all over the United States to lapidarists. Sweetwater moss agates are also in demand and a considerable amount is sold each year for polished stones, as is petrified wood from various places in the state. Rainbow agate, which occurs in the vicinity of Lander and Riverton, is eagerly sought after by lapidarists. Rubies and sapphires are also found in the Sweetwater region.

The outlook for mineral production in 1943 is bright. A number of metal mines which started to produce in 1942 in a small way will increase their production this year. In addition, many new properties on which development work was done in 1942 will begin to produce this year, and further development may lead to the opening of new deposits.