ORE.-BIN

Volume 15, 1953

STATE DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
Head Office: 1069 State Office Bldg., Portland 1, Oregon
Telephone: Columbia 2161, Ext. 488

****

OREGON'S MINERAL INDUSTRY IN 1952

Metals

Gold, silver, copper, lead, and zinc

Gold production in Oregon probably reached an all time low in 1952. Final figures are not yet available but incomplete reports by the U.S. Bureau of Mines indicate a value for the year of about $188,000. This contrasts with $4,000,000 in 1940. High costs, fixed price of gold, and government gold regulations all serve to discourage gold mining. Placer mining has accounted for more than 90 percent of the production and nearly all of this came from the dredge of the Powder River Dredging Company, Sumpter Valley, Baker County. About 40 small hydraulic mines were active in Josephine, Jackson, Grant, and Baker counties when water was available. Gold lode mining is nearly nonexistent. A small amount of ore from the Buffalo mine in Grant County and the Champion mine in Lane County was shipped to the Tacoma Smelter.

Oregon's copper, lead, and zinc mines remain dormant because of high costs and repressive taxation which discourage venture capital. Some underground exploration work was done at the Silver Peak mine south of Riddle in Douglas County and at the Ruth mine of the Pacific Mining & Smelting Company on the Little North Santiam River in Marion County.

Chromite

Mining and shipping of chrome ore to the government purchasing depot at Grants Pass occupied the center of the stage in the State's mining activities. Producers got a late start because of snow in the mountains, but receipts of ore at the depot started to increase in May and reached a high point from July through October. Weather conditions forced some producers to close down in November.

Prospecting uncovered some new ore deposits, the extent of which may not be evaluated. Concentrating ore continued to be mined at the Sordy property in Josephine County and treated at two small mills. Two mills in the John Day area of Grant County milled ore from properties near John Day. Reportedly new ore, including some of shipping grade, was found. Operators in the John Day area work under a severe handicap because of distance from Grants Pass, and shippers of concentrates from John Day to Grants Pass have paid $20 a ton freight. If production from this section is to be encouraged the government should give attention to providing a freight differential or provide a plan for direct shipment of acceptable ore to a government stockpile.

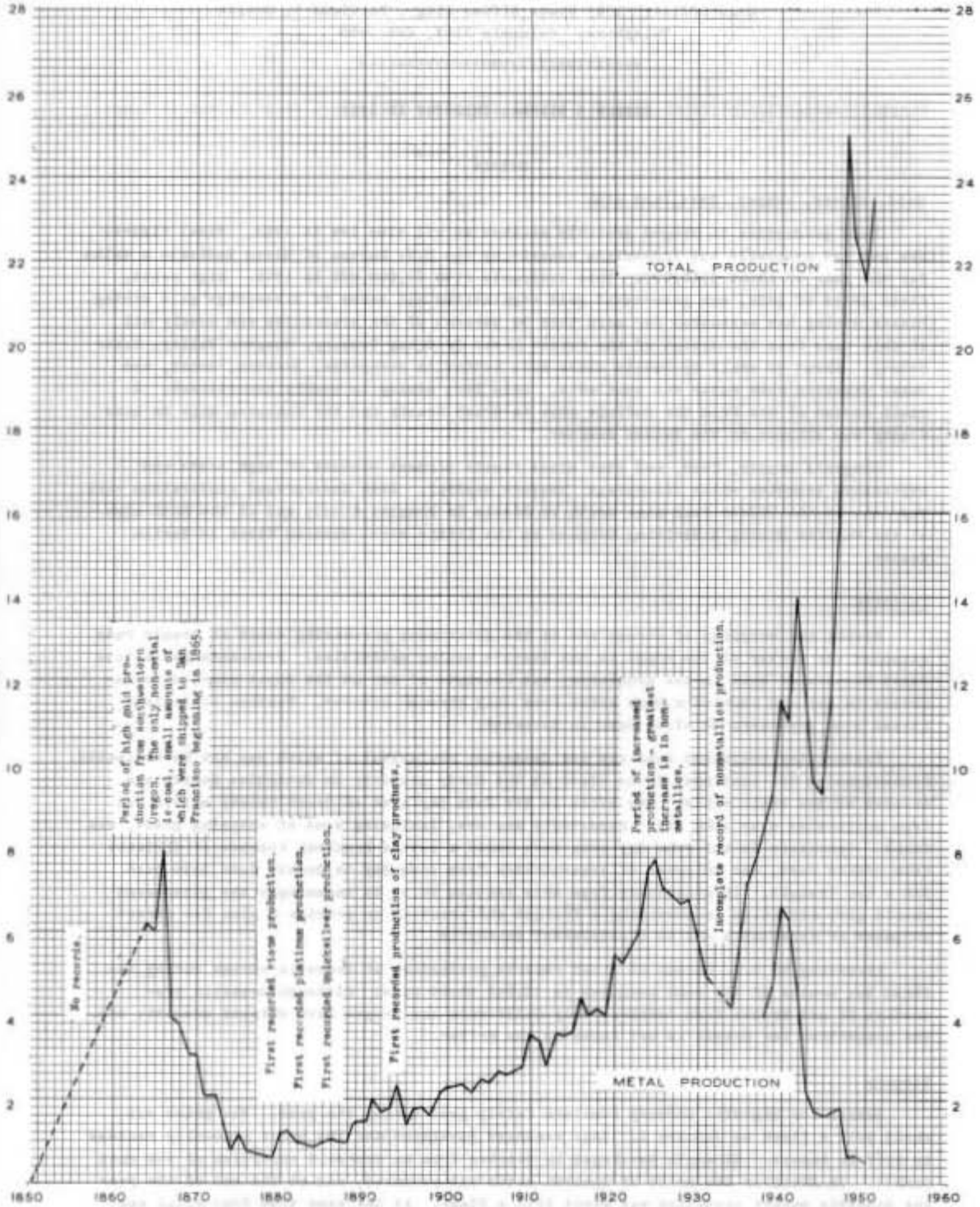
According to U.S. Bureau of Mines reports, production of domestic chrome during the first ten months of the year amounted to 13,652 short tons. Although domestic production is not broken down further, only California and Oregon have shipped domestic ore. The proportion for Oregon is not known by the writer.

Mercury

Demand for domestic mercury remained fairly good during the year. The price was about $212 a flask on January 1. Some weakness developed and the price gradually receded to $187 in August. Strength developed in October from an oversold condition of the spot market. In November the price of Spanish metal was advanced, and at the end of the year the domestic market quotation was about $218 a flask. At the same time E&MJ Metal and Mineral Markets reported that Spanish producers will not name an "official price" but will sell "at the market."

OREGON MINERAL PRODUCTION

(IN MILLIONS OF DOLLARS)



The Bonanza mine in Douglas County operated its furnace throughout the year and also developed some new ore. The Maury Mountain mine in Crook County started to mine ore and to retort some mercury late in the year. The Roba prospect on Murderers Creek in Grant County was active in prospecting early in the year and produced a few flasks of metal.

Government policies have encouraged foreign production at the expense of the domestic industry. Because of this factor, the unstable price situation, repressive taxes, and high operating costs there is no incentive to develop new mercury mines.

Nickel

The Hanna Development Company carried on extensive exploration work at Nickel Mountain near Riddle in Douglas County throughout the year. In addition a great deal of metallurgical testing work was done in continuing similar work of previous years. Contracts with the government were negotiated and certificates of necessity were granted under which rapid amortization of both a mining and a smelting plant was allowed. Total amount involved was announced as more than $28 million. On January 18, 1953, it was announced in the press that the Defense Materials Procurement Agency had entered into a contract with two subsidiaries of M. A. Hanna Company, Cleveland, Ohio, under which the government would purchase nickel ore at Nickel Mountain from the Ore and Coal Corporation for $6 a long ton for 1.5 percent ore, and resell to the Hanna Nickel Smelting Company at the same price for conversion into ferro nickel which will be purchased by the government. A minimum of 95 million pounds of nickel in ferro nickel will be purchased.

Bauxite

Alcoa Mining Company still maintains an office at Hillsboro, Oregon, but no field work was done during 1952 on the high-iron bauxite deposits owned by the company in Columbia and Washington counties.

Asbestos

Diamond drilling of a serpentine asbestos deposit in eastern Grant County was carried on during the summer and fall by the Johns Manville Company of Canada.

Tungsten

A small amount of scheelite was mined at the Mattern mine near Ashland and concentrated at the Van Curler Bros. mill. A new scheelite prospect was found about 1½ miles southwest of Ashland.

Antimony

Some prospecting for antimony was carried on in Jackson County.

Manganese

There was some activity in manganese prospecting in Baker County and a car of ore was shipped to the Ray-O-Vac Company in Salem. Also, deposits were prospected and ore mined at the Ranes property 4 miles from Whitney, Baker County.

Iron

The Orr Engineering and Chemical Company, Portland, Oregon, continued to treat limonite ore in a plant at Scappoose, Oregon. The limonite is mined from the Oregon Charcoal Iron Company deposit 2 miles northwest of Scappoose and is trucked to the plant where it is activated and sold to the Portland Gas & Coke Company for use in removing sulphur from manufactured gas. The Orr Company has also experimented with making paint pigment and in pelletizing the limonite for possible use as a raw material in iron making.

Nonmetallics

Limestone

Quarries of the Oregon Portland Cement Company at Lime, Baker County, and Dallas, Polk County, and the Pacific Portland Cement Company (control of which is now with the Ideal Portland Cement Company) at Marble Mountain, Josephine County, continued active throughout the year. Building construction slackened somewhat the first part of the year but increased near the end. Demand for cement was reported good, and local supplies were augmented by cement brought in from outside the State.

Limestone for calcium carbide was quarried at the Enterprise quarry in Wallowa County by the Pacific Carbide and Alloys Company. Fines in the operation of providing stone of proper size for carbide making are stockpiled for use as agricultural stone.

It has been estimated by the Production and Marketing Administration of the United States Department of Agriculture that Oregon farmers used the following amounts of limestone in 1952:

Estimated amount under the Agricultural Conservation Program	65,000 tons
Estimated amount outside of the Agricultural Conservation Program	5,000
Total	70,000 tons

Limestone supplied in 1952 came from both Oregon and Washington. Stone supplied under the program in 1951 amounted to 61,464 tons valued at $347,917. More than half of this stone came from Washington.

Concrete aggregate

Although demand for sand, gravel, and crushed rock for construction decreased during the first part of the year, it increased in the second part. Government dams required a large quantity as did construction of highways and logging roads. The dollar value has not yet been reported by the Bureau of Mines. Expanded shale used as lightweight concrete aggregate was made in two plants, one in Portland and one near Sunset Tunnel in Washington County. Demand for this material continues to increase.

Perlite

The perlite quarry and plant of Dant & Russell, Inc., Dantore Division, on the Deschutes River south of Maupin was bought by Kaiser Gypsum early in the year. Production of perlite plaster sand continued as before.

Pumice

Production of pumice aggregate used mainly in blocks and concrete pipe continued about as in 1951.

Diatomite

The Great Lakes Carbon Corporation operated the diatomite quarry and plant on the Deschutes River near Terrebonne continuously throughout the year.

Silica

Demand for crushed quartz and granite for poultry grit was good throughout the year. An increased demand for quartz developed because of the needs of the ferro silicon and silicon carbide industries. The only shipper was Bristol Silica Company, Rogue River.

F.W.L.

****

NORTHWEST CHROMITES INVESTIGATED FOR REFRACTORY PROPERTIES

The U.S. Bureau of Mines has recently published Report of Investigations 4929 entitled "Refractory properties of Pacific Northwest chromites" in which the results of tests on ores from 7 localities are described.

Four Oregon chromite ores were investigated. These were Krome Corp. concentrates from beach sands in Coos County, Oregon Chrome ore from Josephine County, and Chambers and Iron King ores, both from Grant County. Test bricks made from these ores when compared to commercial refractories showed that, for refractory purposes, ore from the Oregon Chrome mine, Josephine County, was a satisfactory substitute for Rhodesian chrome, and ore from the Chambers and Iron King mines, Grant County, was equal to Cuban chrome. The Krome Corp. concentrate made from black sand in an ancient marine terrace, Coos County, was found usable with corrective additions of high-grade chrome ore.

The publication has 38 pages and includes analyses of the ores, tabulated results of tests, and many illustrations. It may be obtained free of charge from Publication Distribution Section, U.S. Bureau of Mines, 4800 Forbes Street, Pittsburgh 13, Pa.

****

MAGNETITE IN MALHEUR COUNTY

The presence of magnetite deposits in an area extending approximately from Brogan to Ironside in northern Malheur County, Oregon, has been a source of interest to local prospectors for many years. Claims have been staked at different times and it is understood that a company of Ontario, Oregon, business men was once organized to develop the showings, but there is little evidence of development work. However, some bulldozing was done on one occurrence during the summer of 1952 by Harry Schaffer of Ontario. The ore consists of finely disseminated magnetite in siliceous rock matrix. Analysis of one grab sample shows 49.72 percent Fe and 27.94 percent SiO_2. Some one-inch octahedron crystals were seen. An examination will be made by the Department when the area is accessible this spring.

****

JOSEPHINE COUNTY METALS BULLETIN

A second edition of the Josephine County volume of the Oregon Metal Mines Handbook has just been issued by the State Department of Geology and Mineral Industries. The Department's Metal Mines Handbook, published as Bulletin 14, is a continuing series of volumes, each of which is a catalog of the mines and mineral resources of a particular portion of the State. The Josephine County volume describes, in alphabetical order, all the known mining properties in each of the six mining areas of the county. As the first edition of this volume, published in 1942, has been exhausted and there has been an increased demand for it because of resumption of chromite mining in southwestern Oregon, it was decided to reissue the bulletin together with such up-to-date information as was available. The new edition contains 234 pages and several illustrations. An index map showing location of chromite deposits together with a list of these deposits is included. The volume is designated as 14-C, Volume II, Section 1, Josephine County. It may be purchased at the Portland office of the State Department of Geology and Mineral Industries in the State Office Building or at the field offices in Baker and Grants Pass. If desired, it will be sent postpaid upon receipt of $1.25.

****

NEW PIPELINE

Petroleum Administration for Defense has allocated pipe for 103-mile line of Cal-Ore Pipe Line to cost $2,272,000 and run from Crescent City, California, to Medford, Oregon.

(From - Oregon Voter, December 27, 1952, p. 22.)

RADIOACTIVE MINERALS REPORT AVAILABLE

A new edition of a report entitled "Radioactive Minerals the Prospector Should Know" has just been issued by the State Department of Geology and Mineral Industries. The author is David J. White, Department geologist. The first edition, published in 1949, was recently exhausted because of the large demand. The new edition contains 14 pages including an index map, minerals list, and bibliography. There is a brief description of the geology of radioactive mineral deposits together with some suggestions on areas which might be favorable for prospecting. Some standard testing equipment is described. This report, G.M.I. Short Paper No. 18, may be obtained at the Department office in the State Office Building in Portland and in the field offices in Baker and Grants Pass. If desired, a copy will be sent postpaid. The price is 20 cents.

****

PROBLEMS AND HOW TO SOLVE THEM
(Condensed from the Lion Oil Company magazine)

Ingenuity, "know-how," and luck recently solved a knotty problem for the giant gasoline plant on the Diamond M field in west Texas.

When the Diamond M gasoline plant's operation hit its stride about a year ago, some 100,000 gallons of butane and 140,000 gallons of propane were recovered daily. But butane and propane are seasonal products, which means that demand for them in fall and winter is very high, while in spring and summer the demand is low. The problem was: what to do with the combined 240,000 gallons of LPG (liquid petroleum gas) products flowing from the plant daily during the "off season." Since the cost of building steel storage tanks was prohibitive, the problem had to be solved in a different way, and it was done by a very ingenious method.

Underlying a great expanse of west Texas, including the Diamond M field, is a stratum of salt about 800 feet below the surface and around 400 feet thick. It was discovered that by dissolving the salt and removing it from its underground bed, a great cavern could be created and used for storage space. Thus the Lion Oil Company has been able to store 2½ million gallons of butane and propane.

The process for developing and utilizing the underground cavern is as follows: A well is drilled to the salt stratum where casing is set to the top of the salt section. Next the salt section is penetrated with the drill bit, after which tubing is set to the base of the salt section. Fresh water, pumped through the tubing, dissolves the salt and the resulting brine is forced out through the casing around the tubing. The brine is stored in huge earthen pits on top of the ground. When the LPG products are ready to be stored, they are pumped into the cavern through the casing of the well. Brine in the cavern, displaced by the LPG products, is forced out through the tubing and transferred to the brine storage pits. When it is time to bring the products out of storage, the brine in the earthen pits is pumped back into the cavern, through the tubing. LPG products, being lighter in weight than brine, are forced out through the casing. During the periods when the products are gone to market, operations are changed again; fresh water is pumped underground, more brine is formed and forced out -- and the result is more cavern.

Today, there are three wells on the Diamond M property -- all of them steadily at work at various times enlarging the underground storage vaults. Eventually, there will be enough underground storage beneath the Diamond M to accommodate 15 million gallons of LPG products.

****

PHILIPPINE CHROME PRODUCTION

According to the Minerals News Service of the Philippines Bureau of Mines, from July 1, 1951, to June 30, 1952, the Republic of the Philippines produced chromite ores as follows:

Refractory	373,235 metric tons valued at ₱ 10,312,510	(₱ peso 49.92 cents U.S.)
Metallurgical	38,942 metric tons valued at ₱ 1,963,762	

****