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A CENTURY OF MINERAL PRODUCTION

The Department assisted in providing Mr. Stanley A. Easton* with some production figures used to prepare his address on mine development in the Northwest during the last 100 years, given at the Northwest Engineering Centennial in Portland on August 9, 1952. Mr. Easton was concerned only with a grand total and it seemed to the writer that some of the detailed figures which were assembled to get the total would be of interest as a record. In addition, the figures show the striking growth of the mineral industry and point to its value as a creator of new wealth.

The California State Division of Mines, the Idaho Bureau of Mines and Geology, the Montana Bureau of Mines and Geology, the U.S. Bureau of Mines, Albany, Oregon, and the Washington Division of Mines and Geology cooperated in assembling the production figures given below (to the nearest million dollars):

Total Value of Mineral Production
California, Idaho, Montana, Oregon, Washington - 1852 to 1951 (inclusive)

Gold		Silver		Copper	
California	$2,339,000,000	California	$ 92,000,000	California	$ 203,000,000
Idaho	188	Idaho	416	Idaho	37
Montana	392	Montana	576	Montana	2,024
Oregon	130	Oregon	5	Oregon	5
Washington	67	Washington	11	Washington	30
Total	$3,116,000,000	Total	$1,100,000,000	Total	$2,299,000,000

Lead		Zinc		Nonmetallics (Including coal, but excluding oil and gas)	
California	$ 39,000,000	California	$ 26,000,000	California	$2,700,000,000
Idaho	789	Idaho	327	Idaho	100
Montana	107	Montana	376	Montana	524
Oregon	,(91,800)	Oregon	,(22,860)	Oregon	364
Washington	22	Washington	43	Washington	1,011
Total	$ 957,000,000	Total	$ 772,000,000	Total	$4,699,000,000

Grand Totals

	Metallics	Nonmetallics	Total
California	$ 2,699,000,000	$ 2,700,000,000	$ 5,399,000,000
Idaho	1,757,000,000	100,000,000	1,857,000,000
Montana	3,475,000,000	524,000,000	3,999,000,000
Oregon	140,000,000	364,000,000	504,000,000
Washington	173,000,000	1,011,000,000	1,184,000,000
Totals	$ 8,244,000,000	$ 4,699,000,000	$12,943,000,000

Value of metallic aluminum produced in the Northwest since 1940, the year of initial production, through 1951, would add in excess of $800,000,000 to the grand total, although

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*President, Bunker Hill and Sullivan Mining and Concentrating Company, Kellogg, Idaho.

the aluminum oxide from which the metal is reduced must be brought in from the East.

Estimates for production of mercury, chromite, manganese, and iron ore are not included. Value of mineral production for the first quarter of the period was practically all from gold, and the records are incomplete. Records of production of nonmetallics are generally good only for the last 50 years. Organized collection of mineral production statistics by the government began about 1883, but many years elapsed before reliable figures, as we know them today, were assembled and published annually. Undoubtedly the real value of production is much greater than that recorded.

F.W.L.

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PERRY WICKHAM

Perry B. Wickham, well known mining engineer and mine operator in southern Oregon, died at Oakland, California, July 21, 1952. He had been in failing health for the past few years.

Mr. Wickham was born in Minnesota in 1884. The family moved west to Colorado, Idaho, and Washington, as Perry's father, a miner and mine manager, worked in several of the western mining camps. Around the turn of the century the elder Mr. Wickham examined a prospect near Galice, Oregon, and was attracted by the large bleached outcrop, later called the Big Yank Lode, at the Almeda mine near Galice. After reporting on his trip, he returned with his son, Perry, to the Almeda and organized the Almeda Consolidated Mining Company. This company did a large amount of development work under Perry Wickham as superintendent. A small matting furnace was installed and production started. Difficulties arose due to litigation and the property was finally closed down. Perry Wickham then became a field man for Western Metals Company and did development work on several prospects in southwestern Oregon. In 1928 he decided to start out on his own and bought the Ashland gold mine, famous for its high grade ore, situated a short distance out of the city of Ashland in southern Oregon. He operated this mine and a nearby property called the Shorty Hope mine and also, later on, the Greenback mine in northeastern Josephine County. These mines comprised some of the larger lode mining operations in the State. The Ashland mine was closed because of Order L-208. Mr. Wickham moved to Portland where he engaged in defense plant work during World War II. After the war he moved back to his home on the Rogue River near Rand. He attempted to resume operations at the Ashland mine but was unable to overcome the opposition of capital to gold mining. His health failed largely from frustration of his attempts to reopen the Ashland mine. He moved to Oakland, California, in 1951 and remained there until his death. Mrs. Wickham, two sons, James and Philip, and a sister, Mrs. George Harrison, survive. James Wickham recently graduated in mining engineering from the University of Arizona.

Probably no mining man knew southern Oregon lode mines better than Perry Wickham. His activities resulted in a substantial production from mines which he operated and this production was important to the economy of southern Oregon. His passing will bring sadness to his many friends in the West.

F.W.L.

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ANTIMONY MINE CLOSES

The E&MJ Metal and Mineral Markets, July 31, 1952, reported that as a result of slackening demand and lower prices Bradley Mining Company, Stibnite, Idaho, the only major antimony mine in the United States, will close down. The property produces about 90 percent of the domestically mined antimony.

(The big handicap of the Bradley antimony mine is that it is not situated in a foreign country where solicitous attention would probably be given by ECA. Ed.)

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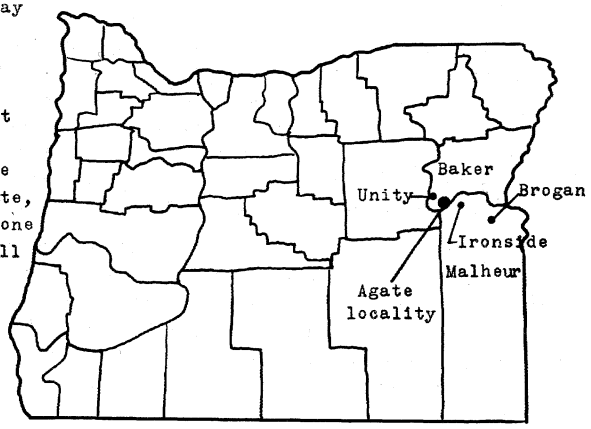
A NEW AGATE OCCURRENCE

Petrified wood, together with some fine agate, has been found over the years at random places in the country surrounding Brogan, Ironside, and Unity in northern Malheur and southern Baker counties. This region has never been noted, however, for any special source areas such as attract the attention of the rockhound fraternity elsewhere in eastern Oregon. For this reason the recent discovery of occurrences from which some very excellent banded agate and jasper have been recovered may be of more than passing interest.

The occurrences are situated about midway between Unity and Ironside. They consist of jasper bodies in an acid volcanic rock that can be roughly classified as rhyolitic. The jasper is typically light brown in color, but commonly grades into a whitish semi-agate phase. Seams and nodulelike bunches of agate are interspersed throughout the mass. To date, an insufficient amount of cutting has been done to evaluate properly the potentialities of all the agate variations present, but some very attractive settings have been made from banded agate and jasper. The banded jasper comes in both red and brown hues, and the pattern is close and intricate. The bulk of the pure agate is dense and light blue to colorless. A small percentage of this is obviously of cutting grade, and possibly some of the less obvious phases will prove attractive for jewelry purposes in the future. There is also a considerable abundance of mixed agate and jasper in which the components grade into each other and occur in rather large irregularly shaped forms without banding or individual internal pattern. Some exceptionally attractive sets have been made from select pieces of this material.



Index Map of Oregon

There is evidence that the Indians found and mined these occurrences years ago. All of these occurrences are in natural caves that have been enlarged by mining as indicated by the presence of crude "drifts," "raises," and "stopes," all of which follow seams of agate and jasper. Dumps of agate and jasper fragments occur outside near the portals. These are quite clean-cut in their bounds, showing that like material is not present everywhere in the area outside of the portals, and it seems quite obvious that they represent sites where larger chunks were cobbed down. A few jasper arrow points have been found, but in general the dumps are composed of rather large (2- to 3-inch) fragments, which suggests that the actual task of arrow making was conducted elsewhere. Why much of the material in the dumps was not considered as suitable and packed off accordingly, is not clear, and the absence of larger stone implements, or tools, is also a mystery unless they have already been picked up by collectors.

What may be found by future exploration is of course problematical, but it can be depended on that the discoverer, Mr. W. R. Parker, of Unity, will be on the lookout for Indian artifacts as well as agate, and if finds of unusual merit are made the information will be published in a future edition of the Ore.-Bin.

N.S.W.

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OIL TEST AT SUMPTER

The Baker Democrat-Herald in the July 28 and July 29, 1952, issues reports oil test drilling operations at Sumpter by Mr. L. H. Williams under the supervision of William D. Hostetler and Associates of Pasadena. The first drill hole bottomed at 410 feet and a second test was started. Leasing of land in Sumpter Valley is reported.

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SURVEY CONTINUES STUDIES IN MARSHALLS*

The U.S. Geological Survey announces that it has sent a two-man field party to explore the uninhabited Taongi and Bikar atolls as a continuation of a reconnaissance of the geology, hydrology, and vegetation in the Marshall Islands.

Sixty islands in the Marshalls were examined by the Survey between November 1950 and April 1952, and probably the most significant data obtained dealt with the types of sediments deposited on atolls and the conditions that determine the growth and stability of islands.

The islands thus far visited range in size from tiny sand bars to islands nearly 3 miles long. They are very transitory features, compared with the reefs on which they rest, for they are largely products of storms and are ultimately destroyed by them. The size, shape, and composition of the islands are controlled by a number of variables, such as seasonal changes in strength and direction of wind and waves, but storms are responsible for the greatest single accumulations of detrital materials as well as for the greatest destruction, and their effects are entirely unpredictable.

A rather delicate balance exists between the width of an island and the intensity of any given storm, it being possible for a narrow island to be swept away or at least denuded of all unconsolidated materials, whereas a large island might have a considerable amount of storm-cast detritus added to it. The effects of typhoons can hardly be overestimated. On many islands the changes caused by typhoons that happened before the memory of living inhabitants are still much more in evidence than the total changes caused by all subsequent events.

Many islands in the atolls visited are built on platforms of indurated rubble rock which stand 1½ feet to 3 feet above the present high-tide level, and which are composed of several distinct layers of flat-lying rubble that accumulated during a period of rising sea level. The upper surface of such raised platforms appears to be an erosion surface, similar to the present reef flats, and is attributed to wave planation which took place during minor pauses in a general lowering of the sea level.

Hydrologic studies indicate that a lens of fresh or relatively fresh ground water exists in each of the large islands of the atoll. This fresh-water lens in maintained by the accumulation of rain water in the clastic and reef deposits forming the island, and because of its lesser specific gravity, floats on the sea water that saturates the rocks below it. The thickness, areal extent, and relative freshnessof the lens are governed by the size of the island, the amount and distribution of rainfall, and the nature of the rocks containing the lens.

Examination of soils shows little alteration of the original sediments, the foraminiferal sand, the coral, and the algal fragments which make up the surface layers of the islands. An interesting phenomenon often noted is that of humus layers buried to some depth by wind or wave-transported sand or rubble. The frequent occurrence of these buried soils together with areas of completely fresh, unaltered coral sand and gravel, showing recent deposition or denudation, is an indication of the general instability of the islands and their domination by the sea.

As for vegetation the greatest part of the area visited has been planted to coconuts, obliterating evidence of original plant life. However, some undisturbed spots show that, before the advent of man and coconuts, the older parts of the islands supported forests of great trees a hundred feet tall. On newer areas and those exposed to strong winds, vegetation is scrubby, tangled, and difficult to penetrate.

*Condensed from U. S. Geological Survey Information Service.

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PACIFIC COAST EARTHQUAKES

The latest publication of the Condon Lecture Series by the Oregon State System of Higher Education is titled "Pacific Coast Earthquakes" by Perry Byerly, Ph.D., Professor of Seismology, University of California.

The publication is a compendium of earthquakes recorded in the Pacific Coast area and contains a large amount of descriptive material. It is an expansion of Prof. Byerly's lecture in the Condon Series presented in Eugene, Corvallis, and Portland in 1951. Other Condon Lecture publications were in limited supply and were out of print much too soon. It is not known what the supply of "Pacific Coast Earthquakes" is but anyone interested should write to Oregon System of Higher Education, Eugene, Oregon. Price is 75 cents a copy.

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BAKERSFIELD-TEHACHAPI EARTHQUAKE

As described in the Newsletter of the Pacific Section, American Association of Petroleum Geologists, August 1952, three geologists, John Crowell, Vern McMath, and Ed U'ren, made a survey of conditions following the southern California earthquake which occurred in the early morning of July 21, 1952. One part of their description which has to do with the effect of the earthquake on construction is as follows:

> "The three geologists were impressed with the fact that distress from the earthquake was related directly to the type of construction. Old brick-faced buildings, without adequate reinforcing, for example, collapsed in heaps of rubble in Tehachapi and Arvin, whereas nearby well-braced frame buildings came through essentially undamaged. In the middle of Tehachapi a new concrete and steel building was apparently undamaged, and its floor-to-ceiling plate glass window was not even broken."

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RECLAIM DREDGED LAND

Dredge operators, working in the Cascade Basin near Boise, Idaho, have announced plans to level tailing mounds, plant range grass, and try to eliminate discolored waters on the north fork of the Payette River. It has been reported that dredge operators have been successful in testing grass seeds best suited for growth on tailings and seeking means to eliminate discolored waters. Reclamation work will proceed with the coming of warm weather.

(From Mining Congress Journal, Washington, D.C., July 1952.)

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STEEL SCRAP

According to a publication of the American Iron and Steel Institute, about as much scrap as pig iron is used in the making of steel. Scrap is defined as worn out, broken, or discarded items containing iron or steel; pieces which remain after automobiles, refrigerators, or other products are made; and croppings produced by the steel mills themselves during the rolling of steel. More than half of the scrap consumed in steel plants is produced in the plants themselves during the manufacture of the finished product. Scrap is of great practical value. Its use helps save the country's resources of iron ore, coal, and limestone. It helps to quicken the steel making process. As scrap has been previously refined it is low in impurities.

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JOHN DAY CONCENTRATES SHIPPED TO GRANTS PASS

Bert Hayes, John Day, Oregon, has milled about 110 tons of chrome ore from the Dry Camp mine and produced 53 tons of concentrates which he has shipped by truck to the government depot at Grants Pass. The concentrates assayed nearly 48 percent Cr_2O_3 and had a chrome-iron ratio of about 2.6 to 1.

Mr. Curzon, who has recently built a chrome concentrating mill just east of the town of John Day, has shipped 9 tons of concentrates to the Grants Pass depot by truck and has another 9 tons ready to ship. The ore is coming from the so-called Potato Patch mine near John Day.

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COAST MINERALS, INC., ACTIVITIES

Messrs. Paul Littell and J. S. McKee together with the Idaho Canadian Dredging Company have built a mill on the Eagle property north of Bandon, Coos County, Oregon, and will treat the black sand deposit which occurs in the Eagle and adjoining Pioneer mine areas. The mill includes 14 tables, and a magnetic separator will be added. Gold, platinum, chromite, magnetite, ilmenite, garnet, zircon, and monazite fractions will reportedly be obtained. George Murphy is in charge of operations.

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NEW SOUTHERN OREGON CHROME MILL

A chrome concentrating mill is being built by Messrs. Paul Littell and J. S. McKee at the old granite quarry on N.W. "F" Street, Grants Pass. The mill includes a jaw crusher, hammer mill, and two tables with a third to be added. Capacity is said to be about 50 tons a day. Ore will be hauled from the Black Bird mine near the mouth of Swede Creek leased from Pete Neubert, Grants Pass.

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CHROMITE FLOAT SHIPPED TO GOVERNMENT DEPOT

Lew Robertson is sorting chromite from slide material near the old Nigger mine portal in Josephine County. A bulldozer is used and two men sort out chromite boulders from the slide material. About 2 tons of chrome per day is being sorted out in this operation. Exploration is being conducted in the tunnel of the old Nigger mine and near the top of the ridge above and west of the mine tunnel. Prospecting is also being done by Robertson on several other claims in secs. 14, 23, and 24, T. 36 S., R. 9 W.

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COMMENTS ON THE GOLD SITUATION

According to the Wallace Miner a French bond issue will be redeemable in gold at the free market price and is evidence that gold is again being established as a monetary base and standard of value in which people can have confidence. It is stated that the average Frenchman trusts gold and distrusts obligations payable in paper money which too often he has seen go down the drain of currency depreciation.

The Numismatic Scrapbook Magazine is the authority for the statement that when the new provision of the revised "Currency Act" becomes law, Canada will be able to set any appropriate value for a new gold coinage in terms of weight per dollar in coins of $5, $10, and $20 value. It is stated that the gold act provides for no new value for gold and also that the American valuation of $35 per ounce has been completely ignored and standard weights for the new coinage are left blank. The Finance Minister's words are quoted as follows: "The House will realize that because at the present time we are not making any fixed par for monetary unit, it would be impossible to lay down at this time any fixed standard weight for our gold coins - in other words, any parity for the dollar . . ." Is Canada preparing for a higher gold price?

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