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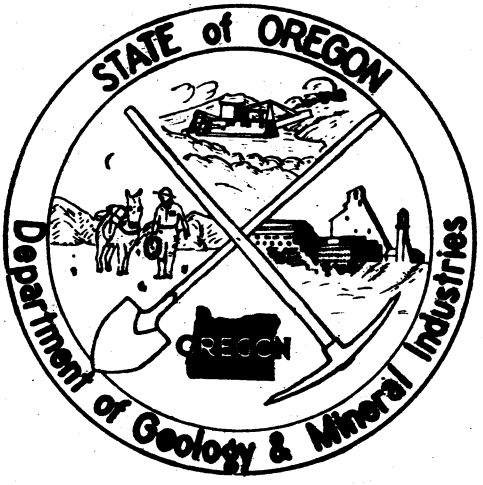

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DEPARTMENT OF GEOLOGY & MINERAL INDUSTRIES
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TO ALL EXCHANGE LIBRARIES

Announcement is made of the release of the revised edition of BULLETIN NO.8, "Feasibility of a Steel Plant in the Lower Columbia River Area", by Raymond M. Miller. Copies of this publication were mailed from this office on November 4, 1940. If not received within ten days from the above date, advise this office immediately; otherwise replacement for copies lost in the mail or elsewhere cannot be made.

STEEL BULLETIN REVISED

A revised edition of a bulletin covering an investigation of the feasibility of a steel plant in the lower Columbia River area by Raymond M. Miller, consulting metallurgist, has just been published by the Oregon State Department of Geology and Mineral Industries. The original report was issued by the Department in June 1938. Since that time much new statistical information on consumption of steel products as well as other market data has been assembled by Mr. Miller, who is now a metallurgist with the Bonneville Power Administration, and in the present revised edition the Bonneville power rates as they apply to an integrated steel operation are accurately outlined.

The above bulletin (No.8) may be obtained from the head office of the State Department of Geology and Mineral Industries, 702 Woodlark Building, Portland, Oregon, or from either of the State Assay Laboratories in Grants Pass and Baker. The postpaid price is 40 cents.

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GLASS

So commonplace is it that, without a reminder, we seldom give a thought to the universal application - the absolute necessity - of glass to our daily lives. It probably has contributed more to the progress of modern existence than any other substance. Of ancient lineage, it is only in relatively recent times that its use has expanded so rapidly. The research worker, the chemist, the electrical industry, all would be helpless without it, to say nothing of its ever-expanding application in the building industry, domestic use, as food and drug containers, in scientific and photographic apparatus, and for ornamental purposes. Over 3,000,000 tons of glass products are used in the United States annually.

The usual glass is made from silica, soda and lime, together with various substances such as borax, lead, selenium and barium to give certain desired special properties.

The molecules in glass are not arranged in regular patterns as in common solid materials, and from this characteristic comes its valuable properties. It has the characteristics of a solid solution in which the molecules take random positions. Glass flows like an ordinary liquid if its temperature is raised sufficiently. Thus it may be blown, moulded, spun, and formed into various shapes and articles.

The valuable insulating properties of glass are well known. If it were not brittle it would be as strong as steel, even so it has been stated that a glass window only one inch thick can be so constructed that it will stop a machine-gun bullet. Research work, notably by the Corning Glass Works and the General Electric Company has accomplished most remarkable results in the production of various types of glass and in glass making machinery. There is the fascinating procedure of producing a huge telescope mirror which requires many months of annealing at a controlled temperature; there is the case hardening of plate glass which gives it the strength of steel; there is the production of light globes on a scale comparable with the laying of salmon eggs. Light bulbs are blown by such machines at the rate of 800 a minute. Such machines have been inadequately described as almost human in their work. Such a description is flattering to humans; continuous production of the fragile bulbs, each with its own tiny filament coil, is little short of magic.

We are so familiar with the result that it is commonplace; we do not consider the months and years of scientific research responsible for the perfection of a near miracle.

To show striking comparisons we speak of such and such if placed end to end would reach so far on the surface of the earth, but if you want to get analogies for lengths of glass wool fibres, you must go into the solar system for distances. A pound of glass will make three thousand miles of fibre. Six million miles of glass wool a day is produced in a single large glass wool factory and a single cubic foot of the wool weighs only 24 ounces.

A wonderful human tool - glass; so universally useful is it that even though the many present glass products fill a need that no other substance could supply, the glass industry offers a most fertile field for research to produce new and better glass products.

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QUICKSILVER PRODUCTION

According to United States Bureau of Mines' monthly Mercury Release dated November 2, 1940, domestic production of mercury in September amounted to approximately 3,600 flasks, an increase of 100 flasks over August and 400 flasks over the July production. Domestic consumption was reported to have totaled about 2,100 flasks, so that the output of domestic mines was in excess of domestic requirements and allowed for substantial exports. Consumers' and dealers' stocks at the end of September were reported as about 13,100 flasks compared with 12,900 flasks on hand at the end of August. This would be equivalent to over six months' domestic requirements.

Companies that were responsible for 98% of Oregon's total in 1939 reported that the August total was 121% higher than the monthly average for 1939 and 2% below the August production, which was 14% above the July output. According to the Bureau of Foreign and Domestic Consumers there were no imports of mercury for consumption in August and September. Exports totaled 799 flasks in September compared to 633 flasks in August. Of the September exports, 42 flasks went to Canada; 646 to the United Kingdom; 38 to Colombia, and 26 to Australia. Domestic production increased from 1800 flasks in January 1940 to 3600 flasks in September. Domestic consumption was as follows:

January 1940	2,300 flasks	May 1940	2,100 flasks
February "	2,000 "	June "	2,400 "
March "	1,800 "	July "	2,200 "
April "	1,900 "	August "	2,100 "
		September	2,100 "

Consumers' and dealers' stocks in January 1940 amounted to 13,000 flasks. In September the figure was 13,100 flasks. Producers' stocks were 582 flasks in January and 377 flasks at the end of September.

The above statistics showing excess production over domestic consumption, are reflected in market quotations for quicksilver - prices have continually softened. About August first, market price was $188-$190 a flask. At the end of the month, quotations were $183-$185. Present market quotation at the beginning of November is slightly under $170 a flask.

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ASSESSMENT WORK - MILITARY SERVICE.

Congressional representatives have been asked to pass appropriate legislation which would exempt those inducted into military service from doing annual assessment work on mining claims during the time of military service. So far as known, no legislative action has been taken, but it has been stated in the press that it is believed no new legislation is necessary to accomplish this.

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CHROMITE REPORT

The U.S. Geological Survey has issued Bulletin 922-D, Chromite Deposits of Grant County, Oregon, A Preliminary Report, by T. P. Thayer. The bulletin consists of 113 pages with several maps and illustrations. The area described is in the Strawberry Range, which borders the John Day Valley on the south. Dr. Thayer describes general geology, ore deposits, and makes estimates of ore reserves. The report is for sale by the Superintendent of Documents, Washington, D.C. The price is 45¢.

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To all interested in Northwest industrial development we commend "Traf Fact", a pamphlet published by the Traffic Department of the Union Pacific Railroad, Omaha, Nebraska. In number 21, issued in October, are several meaty short articles and news items connected with the mineral industry. Also, the U.P.R.R. has recently issued a pamphlet giving a partial list of mineral properties tributary to the Company's lines. The title is "From Antimony to Zinc."

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DIATOMITE

At the Knob Hill Cyanide Mill, Republic, Washington, where about 575 tons of ore per day are treated, diatomite is used as an aid in clarifying cyanide solutions before precipitation. New filter cloths of the clarifying filter are coated uniformly with diatomite by pumping diatomite slurry through the leaves. This coating forms a pervious layer and inhibits slimes from penetrating the cloths. 4 to 5 pounds per 100 square feet of filtering area are used. Mining and milling operations at the Knob Hill property are described in U.S. B.M. Information Circular 7123.

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QUICKSILVER SHIPMENT

According to the Oregon Journal, Portland, Nov.7th, the American-Hawaiian freighter Virginian, scheduled to sail from Astoria to U.S. North Atlantic ports, loaded 500 flasks of Oregon-mined quicksilver. This would be about nineteen tons of quicksilver and have a present market value of about $85,000.

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DEPARTMENTAL NOTES

Earl K. Nixon, director of the Department, is recovering satisfactorily from an appendicitis operation performed October 22nd.

E. F. Burchard, geologist in charge of Section of Iron and Steel Metals, U.S. Geol. Survey, recently inspected iron ore deposits in Columbia County. Mr. Burchard has been studying iron ore occurrences throughout the Northwest.

Thomas P. Thayer of the U.S.G.S., who spent the last two seasons in a survey of chromite deposits of the John Day region, recently called at the Portland office on his way to California to engage in another chromite project.

"Oregon's Quicksilver Industry" is the title of an article by F. W. Libbey in the October issue of the Mining Congress Journal.

Mr. Wessley Paulsen has joined the staff of the Portland office as Junior Geologist, succeeding Wayne R. Lowell, who is doing graduate work at the University of Chicago.

Albert A. Lewis, analyst at the Grants Pass Laboratory, was married October 5th to Miss Lily Ann Nelson of Grants Pass.

Maurice Brady of Baker, who was in charge of the Oregon Mineral Exhibit at the San Francisco World's Fair, is now employed at the Portland office as multigraph operator.

Capt. Leslie L. Motz, metallurgical chemist with the Department since early in its organization in 1937, has entered active Army service with the Ordnance Department and is stationed at Fort Stevens, near Astoria.

Messrs. Hobbs and Pecora, of the U.S. Geological Survey, were in Portland Nov.8th, on their way north into Washington. For the past two months they have been studying the garnierite area on Nickel Mountain, near Riddle.

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CLEARING HOUSE

Mr. R. H. Russell, 227 Hutton Building, Spokane, Washington, desires to find placer properties suitable for dragline or bucketline dredge operations. If owners of placer ground in Oregon wish to contact placer operators, Mr. Russell would like to have them get in touch with him.

Minerals Research Co., 316 West Colorado Blvd., Glendale, California, is in the market for tungsten concentrates or tungsten crude ore in grades from 5 percent up regardless of impurities.

GOLD IS WHERE YOU FIND IT

(from Traf Fact)

In a summer long since over
There appeared in certain parts
A geologizing rover
With an aptitude for charts;
His manners were patrician
And his speech collegiate,
And his rock-wise erudition
Seemed both deep and up-to-date.

He spoke of schists and sulphides
And of sedimentary zones,
Of sphalerite and sericite
And correlated stones;
He was eloquent on shearings,
Displacements, dips and stresses,
On major faults and minor faults,
Intrusions and buttresses.

He named the varying strata
With familiar nonchalance
And was liberal with data
On their known significance.
He scheduled ores micaceous
And discoursed of diorite
Of shales carbonaceous
Hornblende and hematite.

His work was scientific,
He excelled in taking pains,
And, while loth to be specific
In assessing any veins,
He in one place gave the ruling
"Little hope of values here".

And some roughneck, short on schooling,
Mined a million there last year.
Not mine to science underrate,
Wealth follows oft behind it;
This tale is but to illustrate
That "Gold is where you find it".

- Author unknown.