STATE OF OREGON
DEPARTMENT OF GEOLOGY & MINERAL INDUSTRIES
329 S.W. OAK ST.
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THE ORE.-BIN

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NEW BULLETIN ANNOUNCED

Announcement is made of the publication of the following bulletin by the State Department of Geology and Mineral Industries:

Oregon Metal Mines Handbook: Northeastern Oregon, East Half. Bulletin 14-A.: by the Staff. 125 pp. with map of the area. Price 50 cents.

This is the first of five parts to be issued of the Oregon Mines Handbook, or so-called Mines Catalog. Other bulletins will include 14-B to E inclusive, and will cover Southwestern Oregon; Northeastern Oregon, West Half; Northwestern Oregon; and Central and Southeastern Oregon. The present handbook carries a geological introduction pertaining to the state as a whole, a chapter on the metals, and a bibliography. Then each district in the area covered by the bulletin is taken up,and various mines within the district are described.

Inasmuch as no mines handbook for Oregon has been issued since 1916, this publication should fill a long-felt need. Engineers and mining men are continually inquiring for up to date information regarding the various mines and mining properties in the district in question, which would cover the Baker territory.

Copies of this Bulletin may be obtained by addressing the headoffice of the Department in Portland, or either of the State Laboratories, in Grants Pass or Baker.

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U. S. BUREAU OF MINES WORKING IN CENTRAL OREGON.

Mr. O. H. Metzger, mining engineer of the U. S. Bureau of Mines, has been making examinations for the past several weeks of a number of chrome properties in the area south of Canyon City in Grant county. The purpose of Mr. Metzger's work, we understand, is to get definite figures on available tonnages of chromite. The extent of the work to be done and exploration to be carried out by the Bureau under Mr. Metzger's direction has not been announced, but it is understood that some of the properties may be reopened and some drainage and test pitting may be done, with the idea of ascertaining the continuity of ore bodies and their geology. It is even hinted that some diamond drilling may be done to determine conditions at depth. It is not understood that the Federal government is intending to purchase any ore from property owners, but rather to do the work for the determination of tonnages which may be available. Presumably tests will be carried out by the U.S.Bureau of Mines to determine whether or not some of these ores can be concentrated, and whether the leaner ores are amenable to reduction by some of the more recently developed metallurgical methods.

No announcement by the Bureau of Mines of their plans or intentions has been made, so far as we know, and the above is not to be construed as an announcement, but merely as our impression of what the Bureau is doing in the area.

Needless to say, this Department is tremendously pleased to know that the Federal Bureau is interested in chromite in this state, and has offered to cooperate in the work in every possible way.

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STATE GEOLOGICAL SURVEY PLANS.

Ford Young, a geologist, and Herbert Harper, a plane-table man, have been working for the last three weeks in the area southwest of Prineville, doing preliminary geologic work ahead of the regular summer geological field parties.

Two parties, one under John Eliot Allen, field geologist of this Department, and one under Dr. W. A. Wilkinson, geologist of Oregon State College, with both parties under charge of Dr. Wilkinson, will start work July 12th or 13th in the quicksilver area southeast of Prineville. The area to be covered is called the Post Quadrangle, which is south of the Mitchell and west of the Dayville, and covers territory about 20 miles wide east and west, by 33 to 34 miles north and south. A number of quicksilver mines and prospects are included in this district and it will be studied in some detail during the course of the work.

Eight or nine men will be employed on this work for at least a month, after which the crew may be diminished, and the leaders may carry on for a short time to clean up tag ends.

Dr. Wilkinson has been in charge of field work in the Dayville and Supplee districts for a number of years and his familiarity with the area makes him the logical geologist to direct the work.

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A.I.M.E. TRIP TO BAKER.

A group of members of the American Institute of Mining & Metallurgical Engineers left Portland Friday noon, June 30th and drove to Corvallis, Eugene and Prineville, and stayed all night at Prineville, on their way to the dredge areas of Grant county. Saturday, July 1st, the group, further augmented by other engineers and geologists, drove to John Day, visiting the dredges of Ferris and Marchbank and the Western Dredge Co. That night was spent at the John Day Hotel, and the group left early Sunday morning for Granite. There the party inspected the dredge of Porter Brothers, had lunch, and drove on to Sumpter, where they saw the dragline operation of Mr. Nutting and visited the big standard dredge of the Sumpter Valley Dredging Co.

Sunday evening the group, now numbering about thirty, were the guests of the Baker Chamber of Commerce and the Baker Miner's Jubilee officials at a banquet at the Baker Hotel. Later in the evening the formal meeting of the members of the AIME took place in one of the chambers.

Monday morning, July 3rd, a group of engineers and geologists from among the members made a trip to the Cornucopia Mine as guests of Mr. Leverett Davis, General Manager, and A .V. Quine, Superintendent, of the Cornucopia Mines Corporation. This trip through the Cornucopia, the largest mine operation in the

state and also the largest underground mine, was an especial treat to the group. Following this, the members returned to their homes (in Portland or elsewhere).

All in all, the trip was described by the various persons making the journey as a very pleasant experience and quite instructive. At Baker especially, the group appreciated the friendly hospitality of the Baker Chamber of Commerce and the officials of the Miner's Jubilee.

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PIONEER OREGON INDUSTRY.

One of the very first of Oregon's industries was the production of salt from salt springs, and the following description of the enterprise is taken from Mineral Resources of the United States, published in 1868.

"The Willamette Salt Works are located about 13 miles from Portland, half way between that city and St. Helens, and half a mile from the banks of the Willamette Slough. A range of low hills at this locality extends nearly east and west for about 20 miles, at the base of which are the salt springs. From one of them the brine used by the works is obtained. By means of a single furnace this spring yielded from 600 to 700 pounds of salt daily when the works were commenced; but for several months past it has yielded 4,000 pounds per day.

"This salt is pure and white. Samples of it analyzed by Professor W. P. Blake were found to be free from lime and magnesia, making it peculiarly adapted for use in preparing butter, fish and meats.

"Mr. Blake took samples to the Paris exhibition, where it was admired for its crystallization, purity and color.

"Springs in Jackson county produce about 10,000 pounds annually of a similar quality of salt.

"Beds of rock salt are reported to exist near the base of Mount Jefferson, in the Cascade range of mountains."

Incidentally, this 1868 report was the second of its kind published by the Federal Government. In 1866 J. Ross Browne was appointed special commissioner to collect statistical information concerning mines of the west and the first report published was in 1867.

There is little definite information on the exact location of these wells or deposits. If anyone has this information, it would be extremely valuable to the Department.

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TOPOGRAPHIC MAPS.

The United States Geological Survey announces the publication, without revision, of the Albany and Sumpter topographic maps. These areas were surveyed many years ago and the printed edition has been out of print for some time. Announcement is also made of the Hood River plan and profile, consisting of two plan sheets and two profile sheets.

Copies may be obtained from the many stores retailing these maps to the public or may be secured directly from the United States Geological Survey. The Albany and Sumpter quads are 10¢ each, and the set of four sheets for Hood River is 40¢.

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CANADA'S GREAT RADIUM MINE. [1]

Salient features of the unique operation on Great Bear Lake, near the Arctic Circle, Northwest Territories, where high grade silver-bearing pitchblende is being mined, are given below.

Mining rate is 125 tons a day.

The ore is concentrated by hand sorting and flotation.

40 tons of mine ore make 1 ton of pitchblende concentrate, which is shipped to Port Hope, Ontario, for refining.

In summer the concentrate is moved out by water via Mackenzie river, Great Slave Lake, Lake Athabasca, and connecting rivers. In winter concentrate is shipped by air.

At Port Hope 10 tons of concentrate produce 1 gram of radium, about 10,000 oz. of silver, and 7,800 lbs. of uranium, marketed as uranium oxide and sodium uranate. By-products are radio active lead (valued as a source of radium D), polonium[2], copper, and cobalt.

In 1937, recoveries of about 90% of both uranium and radium, and 96% of silver, were made. Total production has been about $850,000.

Ore reserves are now valued at about $15,000,000 and are adequate for about 15 years. It is believed by the operators that this is only a fraction of the ore which can be mined from the property.

Radium refined in Canada,	1923	3,021 milligrams
"	1937	23,770 "

(1) Abstracted from U.S.Bureau of Mines Mineral Trade Notes, May 20, 1939.
(2) Polonium (Radium F) radio active element discovered by M. and Mme. Curie in pitchblende - named from Curie's birthplace, Poland.

UTILIZATION OF LIGNITE COAL
BENEFIT TO OREGON INDUSTRIES FORESEEN.

Oregon, in common with other Pacific Northwestern states, has quantities of coal that have difficulty in finding a market. Reasons are principally: heat (B.t.u.) values are not as high as desired, and ash content is high. A recent study indicates that coals of this type may have economical use.

The method suggested would use two raw materials that Oregon could supply readily. One is electricity, the other is lignitic and sub-bituminous coal. The process as described by H. Stevens to the Electrochemical Society consists of heating the coal by electricity to secure coke, gas, and oil. The charge is heated from within by electricity, otherwise the process is generally similar to that used in the old byproduct coke-oven operations. Advantages of the electric process is that: (1) construction and maintenance costs are lower; (2) coke with uniform burning qualities is produced; (3) the oil is of superior quality; (4) the process is particularly useful to off-peak electric power.

Bonneville generators can turn up more power than can be disposed of at present. Even when this power is utilized, it will be on the basis of peak loads and some utilization of off-peak power will be a decided advantage. Utilization of Oregon coal that has difficulty in finding a market will be possible, to produce by-products that should find a ready consumption.

It should be remembered that this process has just undergone the experimental stage, and undoubtedly there are many "bugs" that must be ironed out before it will function under varying conditions. However, it does hold hope of future utilization of some of our raw materials. The Oregon State Department of Geology & Mineral Industries, in cooperation with the U. S. Bureau of Mines, has already undertaken a study of the characteristics of Oregon coal so that data will be available for any agency that may wish to use this fuel.

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ROCKY MOUNTAIN SPOTTED FEVER

Rocky Mountain Spotted Fever is a disease caused by the bite of an infected tick. It was originally discovered in the northern Rocky Mountain area but since that time has spread so that it has been reported from 31 of the 48 states. Originally the death rate was as high as 85% of authentic cases. It has since been reduced to about 20%. Nevertheless, the disease is one to be feared, and the following suggestions are made to guide prospectors in its prevention.

The United States Health Service has prepared a vaccine which protects against the disease. This vaccine may be obtained through the local physicians, is usually administered in three shots - a week apart - and takes about a month to build up immunity. This immunity will last about a year and the treatment should be repeated each field season. Those who are unable to take advantage of the vaccine for any reason should be constantly on the alert for presence of these ticks. They do not transmit the infection until about from 2 to 8 hours after getting on the skin, andprompt removal will save one from infection. The body and clothing should be examined at 2 to 4 hour intervals and any ticks removed by the use of tweezers or a piece of paper. Do not remove the ticks with the bare fingers

as the fingers may become infected. Further protection consists of wearing clothing in such a way that ticks cannot get on the body. High-topped leather shoes with the trousers tucked inside is a good preventive. Ticks are especially apt to fasten themselves on the back of the neck and along the hair line and it is seldom that one feels the presence of the tick.

To summarize the situation, Rocky Mountain Spotted Fever is transmitted by the bite of infected ticks, not by any certain species of tick. Protection may be secured by means of vaccine or by prompt removal of ticks from the body or clothing. Careful examination of clothing should be made at 2 to 4 hour intervals. The ticks should be removed with tweezers and never with the bare hands.

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* TO ALL EXCHANGE LIBRARIES *
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* Announcement is made of the release of Bulletin No. *
* 14-A, entitled, "Oregon Metal Mines Handbook, North-*
* eastern Oregon, East Half": by the Staff. Copies of*
* this bulletin will be mailed from this office on *
* July 12, 1939. If not received within 10 days from *
* the above date, advise this office immediately, *
* otherwise replacements for copies lost in the mail *
* or elsewhere cannot be made. *
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