

Territory of Alaska
Department of Mines

P. O. Box 1391
Juneau, Alaska

T D M BULLETIN

Vol. III

December 1955

No. 12

MINING ACTIVITIES

FIRST DIVISION - Climax Molybdenum Co.'s. drilling program on the Ross-Adams radio-active property, Prince of Wales Island, was halted for the winter last week. Present plans are for resumption of the drilling next spring, and possible construction of a tractor trail to the property.

THIRD DIVISION - The Kenai Chrome Co. closed down operations at Red Mountain for the winter on November 1. This year, they could not start until July 1 because of bad weather and snow conditions, but they report truck deliveries from the mine to the beach averaged 600 tons per week for the season, and hope to produce 7000 tons next year. They employ a crew of about 25 men when operating.

At last report, Moneta Porcupine Mines, Ltd., were still doing development work at the Red Top mercury property near Dillingham.

NATURAL RESOURCES AND THE PROPOSED ALASKA CONSTITUTION

Representatives of various segments of the mining industry have expressed concern over the proposed Lands and Resources Article for the Alaska Constitution now under consideration by the Constitutional Convention at College, Alaska. Should the presently proposed Enabling Act be adopted by Congress, approximately 27% of Alaska's land would be affected by the provisions of this Article. This area to be owned by the State would no longer be open to normal mineral entry or staking of mining claims by individuals. The remainder of the area within the State's boundaries would remain under Federal jurisdiction which does allow such mineral entry. The confusion of having to operate under two entirely different sets of mining laws in a large and unsurveyed State can easily be foreseen. Probably the best expression of the feeling of the mining industry as a whole is found in the Declaration of Policy by the American Mining Congress which was adopted at Las Vegas, Nevada, October 10 to 13, 1955. Very briefly, the policy statement in this regard is quoted as follows:

"We are opposed to any general cession to the various States of rights in public-domain lands within the several States that would interfere with mining locations under the General Mining Laws.

"We are opposed to extension of the Leasing Act system to minerals and metals locatable under the General Mining Laws."

Representatives of the oil industry, particularly those now active in Alaska, have also expressed concern over the wording of the Article. Such a tight control which would allow only leasing of State lands, and on a limited acreage basis, would be a very definite deterrent to exploration of our natural resources by private enterprise.

There is a general feeling on the part of many that the U.S. mining industry is being forced toward Alaska for the development of new mineral deposits

as U.S. deposits dwindle. This actually is not the case. Any expansion by investment capital outside of the U.S. for the development of future ore deposits is, and will be, into those countries which offer the most satisfactory tax atmosphere. Under present conditions, Alaska does not fit into this category. U.S. investment capital by the billions of dollars has gone into Canada and other foreign countries where tax incentives are offered and where general economic conditions are more favorable.

For several years, a large part of the relatively small amount of venture capital spent in Alaska in looking for favorable mineral deposits other than oil has been spent in merely researching old reports and making casual geological investigations. We must either make it attractive for new mining industry, or there will not be any new mining industry.

NEW DRILLING EQUIPMENT

Packsack Diamond Drills, Ltd., of North Bay, Ontario, has come out with a new Packsack drill, Model 2-AD, for short-hole core sampling underground. It is an air-driven Jackleg-mounted drill which weighs only 40 pounds complete with detachable Jackleg, and can be operated by one man. If used with a thin wall XRP bit, it produces 7/8" core.

Not new, but of possible interest to prospectors for hand-drilling shallow holes for blasting is a line of carbide insert chisel-type bits on short steel made by Brunner & Lay of 660 North Tillamook Street, Portland 12, Oregon. These items are referred to as "Whirli-bits" and are made for pneumatic hammers, but are small and light and could be used for hand drilling. They also list some longer steels that might be of interest. Information can also be obtained from Gardner-Denver Co., 615 Eighth Ave. South, Seattle 4, Washington. Canadian makers of carbide insert hand steel reported over a year ago are as follows: Kennametal Co. of Canada, Ltd., 1850 Blanshard St., Victoria, B. C.; and Air Equipment Service, Ltd., 1401 Hornby Street, Vancouver, B. C., attention Mr. Ken Newton.

U.S.G.S. NEWS

A report that will be of particular interest to prospectors in the vicinity of northwestern Chichagof Island has been released by the U. S. Geological Survey. It is a particularly good report from a prospector's standpoint, since it contains excellent geological descriptions of prospects of the district and practical prospecting information on favorable prospecting areas. The title is "Ore Deposits on Northwestern Chichagof Island, Alaska" by D. L. Rossman. It is on open file for study at the GS or TDM office in Juneau, or may be purchased by writing to the USGS at 4 Homewood Place, Menlo Park, California. The cost has not been learned.

The USGS has announced an examination for geologists GS-5 and GS-7 which will be given in Alaska on January 9. Prospective applicants for government positions in geology should file for the exam before the closing date, December 20, but we are informed that a 60-day extension period will apply for Alaskan residents who are unable to meet this closing date. Also has been announced a new examination for geologists GS-9 through GS-13, for which there is no closing date. For further information, contact your nearest USGS office, the TDM Juneau office, or write to the GS at 4 Homewood Place, Menlo Park, California.

ANTIMONY

The largest use of antimony is in alloys with lead where a lead-type metal is needed, but with greater strength and hardness than lead, in uses such as bearing metal, battery plates, printing type metal, solder, etc. Another use is in flame-proofing cloth.

Antimony is a strategic metal, as the mines of the U. S. produce relatively small quantities of antimony ores. China was the principal source before the war of the 10,000 to 18,000 tons of antimony used each year in the U.S. Since the war, Chinese supplies have been curtailed, and the U.S. has had to rely mostly upon Mexican, Bolivian, and South African sources, in addition to its own small output. U.S. supplies were greatly improved by development of the Yellow Pine mine at Stibnite, Idaho, and increased smelting facilities for foreign ores.

Problems of the antimony industry arise from its strategic nature. As we have depended largely on imported antimony ore and the demand has fluctuated sharply in periods of national emergency, the industry has gone through repeated cycles of activity and depression. Government restrictions and stockpiling programs have added to this instability. The problem continues because of the fact that U.S. reserves are small and low-grade as compared with those of the countries mentioned earlier. Thus the threat of overwhelming foreign competition is always of importance to U.S. producers.

The chief ore mineral of antimony is stibnite, which is antimony sulfide. There are complex sulfides with other metals and also several oxides, but these are relatively unimportant. Stibnite has a bright lead gray metallic luster on freshly broken surfaces, resembling galena, but is softer and lighter; crystals are prismatic or elongated rather than cubical, with striations perpendicular to the length. Often the crystals are curved or twisted. Hardness is 2, specific gravity is about 4.6, and streak is lead gray. Under heat, it will volatilize with white fumes which can be caught on charcoal.

Native antimony, a rare occurrence, is found in the K & D lode, owned by Herman Kloss at Sunset Cove, Petersburg district.

Stibnite is widely distributed, but its occurrence in large quantities is rare. It is commonly found in veins and fracture zones, but also as replacements in shales and limestones. It is of primary origin, and found most often with quartz. Sulfides of other metals are often present. In Alaska, stibnite is found associated with cinnabar in the Kuskokwim "mercury belt". Stibnite deposits are usually in small concentrations, pockety and irregular in form.

In Alaska, antimony has been found in workable quantities in several districts and is probably present in almost all others. It is present in the Hyder district, but has not been worked there. The Sleitmute district is mentioned above. Antimony mined with mercury there has not been saved. It has been mined in the Tok district, in the Sawtooth Mountains between the Livengood and Rampart districts, and a small amount in the Koyukuk near Wiseman. It has been mined from time to time in the Fairbanks district, where many small deposits exist.

Most of the actual production, however, has come from the Kantishna district, north of Mt. McKinley. Two mines here, the Stampede and the Slate Creek, have done the producing, with the Stampede doing by far the most. There is no antimony production at present in Alaska, but an exploration program is

going forward at the Stampede property, with the assistance of DMEA funds. A DMEA program was carried out two years ago on the Camaano Point prospect near Ketchikan. A good market would probably create many small antimony mining enterprises in Alaska. A local purchasing depot would beyond doubt be the answer.

Antimony references which may be of interest to the Alaskan prospector include the following: USGS Bulletin 936-N, Antimony Deposits of the Stampede Creek Area, Kantishna District, Alaska; USGS Open File Report, Antimony Ore in the Fairbanks District, Alaska; and USEM RI 4173, Antimony Deposits in Alaska. Other references can be supplied upon request.

The nearest smelter for antimony ores is at Stibnite, Idaho, but it is shut down at present. In September, 1954, the ODM announced that antimony was to be purchased on the open market from domestic sources for the "long term" stockpile and that it was on the suggested list of commodities to be obtained from foreign countries for the "supplemental" stockpile. However, to date there are no reports of any stockpile purchases of antimony for either program. The Mining World directory issue (April) lists seventeen possible purchasers of antimony. E&M currently quotes the following prices for antimony ore: "Per unit (20 lbs.) of antimony contained, 50 to 55%, \$3.20 @ \$3.35; min. 60% \$3.90 @ \$4.00; min. 65%, \$4.05 @ \$4.24." Antimony ore must be concentrated to at least a 50% product before shipping. A 50% product at the above prices would be worth \$160.00 per ton, and a 65% product should bring \$263.25 per ton less smelter charges, transportation costs, etc.

E. AND M. J. METAL MARKET PRICES

	Nov. 24 1955	Month Ago	Year Ago
Copper, per lb.	43.0¢	42.8¢	29.7¢
Lead, per lb.	15-1/2¢	15-1/2¢	15¢
Zinc, per lb.	13¢	13¢	11-1/2¢
Tin, per lb.	99-1/8¢	96-1/4¢	90-7/8¢
Quicksilver, per flask	\$280-284	\$276-281	\$318-322
Silver, foreign, New York	91-5/8¢	91-5/8¢	85-1/4¢
Silver, domestic, per oz.	90-1/2¢	90-1/2¢	90-1/2¢
Platinum, per oz.	\$97-114	\$91-102	\$77-84
Nickel, per lb.	64-1/2¢	64-1/2¢	64-1/2¢
Molybdenum, per lb.	\$3	\$3	\$3
Tungsten ore, per unit	\$63	\$63	\$63
Titanium ore (ilmenite) per ton	\$20	\$20	\$18-20
Chrome Ore (48%, 3 to 1 ratio) per ton	\$115	\$115	\$115