Territory of Alaska
Department of Mines

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T D M BULLETIN

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MINING ACTIVITIES

FIRST DIVISION - Preparations are under way for exploration by churn drilling of the placer part of the Klukwan iron deposit.

SECOND DIVISION - Second Division mining operators should be somewhat cheered by the news that the Senate has voted unanimously to continue operation of the Texas City tin smelter for another year to June 30, 1956.

THIRD DIVISION - Three Anchorage men have staked about 30 more claims in the vicinity of Shirley Lake, scene of a uranium scramble last fall. They report having found further radioactive indications there than were discovered previously, and are hopeful of the existence of a commercial grade deposit.

FOURTH DIVISION - The Gilmer Lode Mining Company has announced their intention of making an early shipment of ore to the Tacoma Smelter from the old Danzenger property in the Bonnifield District.

OIL NEWS

We thought we had waited long enough to be able to report on all the new legislation of mineral interest last month, but we "went to press" a little too early to catch the oil and gas tax that was passed late in the Special Session. It is a tax of one percent of the gross value of all oil and gas produced within the Territory. This will be in addition to the Oil and Gas Conservation Law tax of 1/2¢ per barrel of oil and per 50,000 cu. ft. of gas.

Everyone in Alaska knows by now of the gas that was struck at a depth of 200 feet by Mr. Seaton when drilling for water for his service station on the Alaska Highway near Northway. It has been found by analysis to contain 96.3% methane, but no one, to the best of our knowledge, has yet announced whether it is swamp or natural gas. At last report, it was still blowing. Applications for leases on over 200,000 acres in the vicinity were rapidly filed in the Fairbanks BLM office.

Richfield Oil Company has announced plans to drill a deep test well on the Kenai Peninsula this summer. They will also continue exploration with geological and geophysical methods and techniques.

It is reported that for one-half interest in Alaska Oil and Gas Development Company's holdings, the Aledo Oil Company of Fort Worth, Texas, will take over and finish drilling the first company's well near Eureka on the Glenn Highway.

Other newcomers to Alaskan oil activity are Sunray Oil Corp. of Los Angeles and General Petroleum Corp. Sunray has taken options on 100,000 acres and General has acquired leases on 38,400 acres, both in the same area on Kenai Peninsula. Other firms holding land on the Kenai are Shell, Union, Ohio, Standard, and Richfield oil companies.

NOTES FOR PROSPECTORS

Let's Go Prospecting by Edward Arthur is a new book which contains a summary of prospecting methods, uses, and marketing data of industrial minerals and metals likely to be found in California. Forty-six minerals are covered, and a description of the book indicates that it contains much information that would be of interest and help to the Alaskan prospector. Mr. Arthur will accept orders at 1151 South Broadway, Los Angeles 15. Price is $3.50.

Another new book which is very well recommended is Minerals for Atomic Energy, a 367 page volume by Robert D. Nininger. It is intended as a "guide to exploration for uranium, thorium, and beryllium" and is reportedly the most comprehensive treatise on the whole subject of prospecting, identifying, claiming, mining, and marketing of radioactive minerals published to date. Although the author of the book has a dim view of Alaska's possibilities (a view with which the TDM disagrees) it can be a very useful item for the truly serious Alaskan radioactive prospector.

The U. S. Geological Survey has released a new map which will be of interest to prospectors in west-central Alaska. It is the "Photogeologic Map of the lower Koyukuk Cretaceous Basin" by John T. Cass, and it may be obtained by writing George O. Gates, Chief, Alaskan Geology Branch, U.S.G.S., Menlo Park, California. Arrangements would then be made for a private reproduction company to supply a copy. It can be seen at TDM and USGS offices.

Representatives of mining companies who are interested in obtaining mineral deposits in Alaska are coming through our Juneau office again, and interest seems higher than ever. American Smelting & Refining Company are particularly interested in copper deposits. Cyprus Mines Corp. have a wider range of interests and will consider almost anything that shows promise of being a money-maker. Kennecott is coming back for further prospecting and exploration. American Metal Company is on the watch for promising prospects. Newmont has examined at least one copper show in Alaska lately. Inquiries have been received from Granby on deposits in SE Alaska. Steel and iron mining concerns are back this year on the hunt for iron deposits. Requests have been received for information on asbestos, quartz, gypsum, mica, and other nonmetallics as well as the metals that are in demand, from many companies and individuals in addition to those listed above.

Bonus payments to uranium miners in the U. S. have totaled over 5 million dollars in the past 4 years. The government market is guaranteed through March 31, 1962, and will probably go beyond that if sufficient commercial market has not been developed by then.

Two more publications that are reportedly good additions to the prospector's library are sold by the Arizona Bureau of Mines, University Station, Tucson, Arizona. They are Bulletin 139, Some Facts About Ore Deposits, 15¢; and Bulletin 157, Field Tests for the Common Metals, 30¢.

NEW PROSPECTING DRILL

The Diamond Drill Contracting Company of Box 4065, Station B, Spokane 31, Washington, is now manufacturing a small diamond core drill similar to the Canadian Packsack Drill on which we reported in our August 1954 Bulletin. The drill, water pump, and accessories, (but without rods, bits, and core barrels), sell complete for $735.00 f.o.b. Spokane. The Alaska Exploration and Development Corp. of 133 Fifth Avenue, or Box 1886, Anchorage, Alaska, has a distributorship for Alaska for this new drill (called the Super Pioneer Drill) as well as for the Packsack Drill.

The Super Pioneer appears to have a few improvements over the earlier drill such as a more powerful motor, lighter weight, and method of applying feed pressure to the bit. The motor is a 5 HP air cooled gasoline model, and the drill weight without rods is 34 pounds. The water pump weighs 49 pounds and has a 1-1/2 HP gas motor. Drill rods weigh 1.2 pounds per foot. Capacity is rated at 100 feet.

One of these drills was used last month in some exploration work in SE Alaska on a magnetite deposit. Six holes from 31 to 56 feet deep were drilled in 6 days for a total footage of 263 feet, and core recovery was 97% using a double tube core barrel. Bit life averaged 40 feet per bit, and bit cost was something less than 50¢ per foot, taking into account estimated salvage value of worn bits. One reaming shell at about $21.40 was sufficient for the job. The two motors consumed 4 gallons of gasoline per day. It should be noted however, that the driller was an experienced drill operator and was sent up by the company to do the work.

EQUIPMENT RENTAL PROGRAM PROGRESS

As reported last month, the TDM has been put into the prospecting equipment rental business as a result of a bill introduced in the Legislature by Senator Foster of Nome. Bids have been awarded for the purchase of mineralights and most of the Geiger counters which should be on hand in two months. Nucliometers will also be purchased (one for each Division) which will be sufficiently sensitive for airborne work. We are still shopping for drills to be sure we know about the most suitable and reliable models before calling for bids on them.

COMMENTS ON GEOCHEMICS

It was aptly stated in a paper given before the Annual Prospectors and Developers Association Convention at Toronto this winter that ".....traditional prospecting consists largely of looking for visible evidences of ore bodies, while geochemical prospecting, essentially, is the technique of discovering the invisible evidences of ore bodies. In other words, geochemical prospecting merely is an extension of traditional prospecting by means of appropriately sensitive techniques." However, many experts and authorities in the field of geochemics are becoming apprehensive that the large amount of publicity given to the promising aspects of the relatively new process will cause prospectors to expect too much of it, and when they are disappointed, they will condemn it. This is what happened in the early days of geophysical exploration, and it was very difficult for geophysics to make a comeback. It should be remembered that geochemics is, as stated above, "an extension of traditional prospecting" and that it is a mighty useful method in proper use, but that it is not fool proof nor will it always give the final answer.

TIN

The U. S. A. is the world's largest consumer of tin, and yet has substantially no tin ore within its borders except the deposits on the Seward Peninsula. The production from these deposits has been insignificant in comparison with the amount used. The world's chief source of supply is in Malaya and the East Indies, which countries are constantly in danger of being brought under Communistic rule. The next best source is Bolivia, whose mines have been nationalized. So it would appear that everything possible should be done to develop Alaska's tin resources.

Tin is used as a plating on steel in making "tin cans," as an alloy with copper to produce bronze, as an alloy to make bearings, in foil for preservation-wrapping, etc.

The principal mineral of tin is cassiterite, which is a tin oxide. It is distinguished by its high specific gravity (6.8 to 7.1), hardness (6 to 7), and by its yielding metallic tin when mixed with soda under the blowpipe. The blowpipe test, though, is somewhat difficult. Without soda, cassiterite cannot be altered with a blowpipe. A chemical test is one in which the material is placed in dilute hydrochloric acid together with a little metallic zinc and if the material is cassiterite it will become coated with the zinc. The color of lode cassiterite runs from a yellowish brown to black. The crystals often resemble some varieties of garnet, sphalerite, and black tourmaline. Placer tin or "stream tin," as found in Alaska is often in the form of small rounded grayish pebbles that are chiefly recognizable by their heavy weight. Placer tin can be easily distinguished, or found, by panning. Common associated minerals are scheelite, wolframite, and fluorite.

Placer tin is found in several localities in Alaska, but chiefly in the Hot Springs and Melozitna Districts and on the Seward Peninsula. Large reserves of placer tin are known in the latter location, and tin placer operations were carried on there almost steadily from early in the century until 1953. Probably the best of these was the Ramstad dragline-jig operation near Potato Mountain. The tin placer deposits carry small amounts of gold also.

Lode tin deposits, as known so far, are confined chiefly to the Port Clarence District on the Seward Peninsula. The district is one where tin-bearing granite intrusives underlie at shallow depths a series of limestones and slates and also break through to the surface. Tin has been found both at the contacts and in the adjacent sediments, and also within the granite itself. The Lost River operation is mining tin from a 12 to 14 foot dike of 70° dip where it runs from one to two percent. Nearby is a granite cupola, or dome, underlying the limestone, which contains tin.

Several years ago, a piece of cassiterite float was found at St. James Bay, Lynn Canal, SE Alaska, indicating a lode source somewhere in that district.

Th price of tin is presently 91-3/8¢ per pound, and has been between 90¢ and 95¢ for the past year or more. The ore is concentrated, then sent to the Texas City Smelter for reduction to metallic tin. If the Texas City Smelter closes, the ore must go to smelters at Singapore or Great Britain.

E. AND M. J. METAL MARKET PRICES

	April 28, 1955	Month Ago	Year Ago
Copper, per lb.	35.7¢	33.2¢	29.7¢
Lead, per lb.	15¢	15¢	14¢
Zinc, per lb.	12¢	11-1/2¢	10-1/4¢
Tin, per lb.	91-3/8¢	91-1/8¢	95-3/4¢
Quicksilver, per flask	$315-318	$320-323	$233-235
Silver, foreign, New York	87¢	88-1/2¢	85-1/4¢
Silver, domestic, per oz	90-1/2¢	90-1/2¢	90-1/2¢
Platinum, per oz	$76-80	$76-80	$84-87
Nickel, per lb.	64-1/2¢	64-1/2¢	60¢
Molybdenum, per lb.	$3	$3	$3
Tungsten ore, per unit	$63	$63	$63

NOTE: TDM Assayers will be absent from their offices from about the 7th to the 23rd of this month while they attend the geochemics course at the U. of A.