

Territory of Alaska  
Department of Mines

P. O. Box 1391  
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T D M BULLETIN

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MINING ACTIVITIES

FIRST DIVISION - The big news of the year to date is that commercial grade uranium-bearing material has finally been discovered in Alaska. The area as found thus far is limited and no tonnages have been blocked out (contrary to what some newspapers are reporting) but the grade is definitely commercial. The actual discovery of the radioactive mineral was made in May by Jan and Don Ross, a husband and wife team, flying aerial reconnaissance with a Nuclimeter instrument mounted in a Piper Cub aircraft. Acting on a strong aerial anomaly, the Rosses landed and staked the first claim. Another husband and wife team, Judy and Kelly Adams were flown to the area situated near the southern end of Prince of Wales Island, where they spent a number of days setting up a camp, conducting radiometric ground surveys, staking claims, blazing trails, etc. The Rosses assisted also in this later ground work. At the request of the discoverers, TDM personnel investigated the area, and found it to be very promising. A Colorado uranium company was then contacted by the discoverers, engineers were sent to the property, and a deal is now pending. The discovery (actually one of about four or five known occurrences of uranium minerals in South-eastern Alaska) adds further encouragement to the belief that commercial uranium production will eventually take place in the Territory.

American Metal Company, a multi-million dollar mining firm, has filed corporation papers to do business in Alaska, naming Juneau as their principal office.

SECOND DIVISION - The Northern Mining Co. is operating the Lomen Brothers dredge at Council this year.

Bill Munz has moved a small dredge from California Creek to Eldorado Creek (Bluff area) and will operate there this year.

Prospecting interest is running at a high pitch among the people at Kotzebue.

THIRD DIVISION - W. E. Dunkle and the Alaska Exploration and Development Corporation plan an extensive exploratory drilling program starting in July to determine the extent of coal beds at Dunkle's property at Broad Pass on the Alaska Railroad. The area to be investigated comprises over 1000 acres and it is expected to develop large reserves of strippable coal.

A group of 15 modern prospectors from Tennessee has arrived in Alaska for the purpose of uranium prospecting. They are reportedly very well equipped and have technical personnel among them. Presently based at Willow Lake on the Richardson Highway, they have plans for other specific areas in the Third and Fourth Divisions as snow conditions permit. Aerial work will also be done.

Prospectors Outfitters, Inc. is a new concern in Anchorage which will operate a retail store catering to prospectors and supplying all prospecting needs.

FOURTH DIVISION - Geochemical research is being carried on at an accelerated pace at the University of Alaska during the summer. A simplified field procedure for tungsten has been worked out, and research on other geochemical projects is underway.

#### OIL NEWS

Drilling will be under way shortly near Goose Bay, across Kuik Arm from Anchorage, by the Alaska Gulf Oil and Gas Development Company. A 76-foot rig capable of drilling to 6000 feet arrived in Anchorage by barge and is now being moved to the drill site.

Anchorage Gas and Oil Development, Inc., is also importing a rig for drilling at Houston, 30 miles north of Anchorage. When assembled, the rig weighs 86 tons, has a 126-foot derrick, and a 10,000-foot drilling capacity.

Department of the Interior is asking the views of four Congressional committees on the possible opening of the lands adjacent to the Pet 4 reserve that were withdrawn by Executive Order 82 during the war. The Navy has advised that it has no objection provided there is no effect on the original Pet 4 land. The oil land being sought by private enterprise amounts to about 2 $\frac{1}{2}$  million acres.

Oil well drillers may be interested in the following specifications and prices on barite for drilling mud quoted by the Yuba Milling Company, 1069 Second Street, Berkeley 10, California: Minimum of 4.2 specific gravity, ground to 95% through 325 mesh, FOB San Francisco port \$30.50/ton and Seattle port \$40.50/ton in 50 ton minimum shipments. \$2/ton extra if marine bags are used.

#### INFORMATION FOR URANIUM PROSPECTORS

The TDM has been somewhat concerned over two facts, namely, that most ore minerals of uranium are known to be quite soluble and thus readily leached from surface outcroppings, and that the majority of the world's known uranium discoveries have occurred in arid, or semi arid, regions. Recognizing these points, we've been watching the uranium prospecting activities in the heavy rainfall belt of South-eastern Alaska very carefully, hoping to get some clue that would answer the question "Will surface leaching in regions of excessive rainfall completely remove the uranium minerals and thus minimize chances for discovery with radiation detection instruments?"

Having now had the opportunity to investigate three prospects in the "rain-belt" we are satisfied that there is no further need for concern on this score. While some leaching undoubtedly does occur it is by no means complete. It constitutes no serious problem to prospecting with counters, either afield or airborne.

Samples taken at the surface of three widely separated prospects, in the region under consideration, revealed uranium contents ranging from very low grade up to a high of two percent. Two contained primary minerals within a foot or so of the surface and the other showed no primary mineralization but a pronounced development of the secondary minerals usually derived therefrom. At the surface of each of these prospects counter readings were found to be commensurate with the grade and volume of the material. Two of the showings were discovered by reconnaissance afoot, using single GM tube counters. The third, by a multiple tube airborne instrument flying 100 to 200 feet above the ground.

We hope to be able to publish a geological and mineralogical description of the newly-discovered Ross-Adams deposit in our next issue. This information cannot be released at the present time.

### USGS ACTIVITIES

The U.S. Geological Survey has published several open-file reports lately which will be of interest to prospectors. Among them are the following: "Geochemical Exploration for Antimony in Southeastern Alaska" and "Geology of Two Areas of Pegmatite Deposits in Southeastern Alaska" by C.L. Sainsbury, "Phosphate Deposits in Northern Alaska" by W.W. Patton, Jr., "Notes on a Coal Deposit on the Beluga River, Alaska" by F.F. Barnes, and "Preliminary Geologic Evaluation of the Chena Area, Alaska" by John R. Williams. These reports can be seen in the USGS offices at Juneau, Anchorage, and College, and at the Juneau TDM office.

The USGS reports that they flew 10,000 miles of aeromagnetic traverses in Alaska last year, mainly across sedimentary basins to determine possible favorable petroleum structures. Ground mapping will follow in areas where the aerial survey indicates such possibilities.

### ASBESTOS

A half dozen or more minerals are marketed as asbestos but broadly speaking they fall into two classifications, chrysotile and amphibole. The first is a fibrous serpentine of the composition  $H_4Mg_3O_9$ . It is characterized by the fineness of the fibers, silkiness, and high tensile strength. The amphibole asbestos is usually too harsh for spinning but is more resistant to heat and to acids. In this class is tremolite asbestos  $CaMg_3(SiO_3)$ .

Asbestos was known in Alaska in pre-historic times and has been found in excavations on ancient village sites between Shungnak and Kiana on the Kobuk River, the same area within which it is now beginning to be mined. Its presence on Dahl Creek was noted as early as 1910 but as the fiber was then judged unsuitable for spinning no further attention was paid to it until 1931 when Irving Reed of the Territorial Department of Mines visited the region. He sent to the Bureau of Mines at Washington samples of chrysotile asbestos of high quality. Later, as part of the search for the strategic minerals, both Territorial and Federal engineers and geologists examined the area in 1943 and 1944, and the work of the Bureau of Mines was continued into 1945.

The Kobuk River asbestos district is about 300 miles northeast of Nome or 150 miles east of Kotzebue on Norton Sound. It is easily accessible by plane or by river boat from Kotzebue. The deposits are found in a range of mountain paralleling the river and some 10 to 20 miles north of it. These are known as the Cosmos Hills at the east and Jade Hills at the west. The district is about 45 miles long from east to west and extends from the Kogoluktuk River to Jade Creek. The Cosmos Hills rise to about 2,000 feet, but the Jade Hills are higher. The range is cut by a number of southward-flowing streams--Kogoluktuk River, Dahl Creek, Wesley Creek, Camp Creek, Cosmos Creek, and Shungnak River--flowing across or out of the Cosmos Hills and Ambler River, Redstone River and Jade Creek cut through Jade Hills. The mountain mass consists of ancient sediments, graywackes, and limestone, now represented mainly by schist. These rocks were intruded by an ultrabasic rock, presumably a peridotite but now a mass of serpentine. In the Cosmos Hills the serpentine seems to be a sill resting on the metamorphic rocks. In this serpentine, both chrysotile

and tremolite asbestos has been found in the form of veinlets of cross fiber and as slip fiber along planes of movement. The surface is much covered by talus, and only small patches have been uncovered, but float asbestos is widespread. Jade is also found, in one place as a veinlet in asbestos but mainly in the form of large boulders of float. Though the Kobuk asbestos is the best known so far, other deposits are fairly widespread throughout Alaska. A deposit on Bear Creek, Admiralty Island, has been known for many years. A large deposit has been reported to exist north of the Yukon River in the vicinity of Rampart. A new asbestos deposit in the Mentasta Pass area was located in 1954. A deposit in the Hyder district has been optioned. Samples of asbestos, mostly of poor grade, are sent into the TDM assay office quite often from nearly all parts of Alaska.

Some of the physical properties that good asbestos must possess for various uses are as follows: good fiber length; good flexibility; fine fibers; silkiness; high tensile strength; resistance to acids, sea water, moist air, and heat; and good "spinnability". Fibers 1/4 inch or more in length and otherwise of good grade are of commercial interest. The quality of asbestos may be easily determined by a few simple tests. Visual inspection will determine length, color, silkiness, fineness, etc. Fibers can be separated by rubbing and crushing between the fingers. Single fibers may then be tested for flexibility and tensile strength. Several fibers may be twisted together, forming a yarn, to further check for strength and flexibility. Fibers should not be fusible with a blowpipe.

Price quotations for various grades vary from \$35 to \$1500 per ton. However, since prices and grades vary so widely in different localities, market quotations can be used only as a general guide. In actual practice, the prospector should submit samples of his asbestos to the various purchasers (of which there is a long list) and determine where he can get the best financial deal. (The first two paragraphs of this article were taken from Bureau of Mines Information Circular No. 7379).

#### E. AND M. J. METAL MARKET PRICES

	<u>June 23,</u> <u>1955</u>	<u>Month</u> <u>Ago</u>	<u>Year</u> <u>Ago</u>
Copper, per lb.	35.7¢	35.7¢	29.7¢
Lead, per lb.	15¢	15¢	14¢
Zinc, per lb.	12-1/2¢	12¢	11¢
Tin, per lb.	94-1/2¢	91-3/4¢	94-3/4¢
Quicksilver, per flask	\$281-283	\$300-302	\$275-280
Silver, foreign, New York	89-1/4¢	90-1/4¢	85-1/4¢
Silver, domestic, per oz.	90-1/2¢	90-1/2¢	90-1/2¢
Platinum, per oz.	\$78-80	\$76-79	\$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
Titanium ore (ilmenite) per ton	\$20	\$18-20	\$18-20