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DIVISION OF MINES AND MINERALS

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MINES AND PETROLEUM BULLETIN

March, 1964

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No. 3

MINING ACTIVITIES

Northwest - The drilling program through the ice of Norton Sound by Nome Enterprises and Shell Oil Company is under way. The drill is of the jet type and is proving capable of recovering cores in the shallow offshore deposits near Nome. The drill is skid mounted, enclosed and heated. The cores are taken ashore for concentration and evaluation.

DIVISION GEOLOGIC REPORT AVAILABLE

The first of a new series of geologic reports on field work done by the recently activated Geology Branch of the Division of Mines and Minerals is now available. It is "Geologic Report 3 - Geology of the Portage Creek-Susitna Area" by Donald H. Richter, Mining Geologist. The price is 75¢. It is available for over-the-counter sale at all Division offices, and by mail from the Juneau office only (Box 1391, Juneau, Alaska).

The report is based on 10 days' field work during July, 1963, in an area about 10 miles east of Chulitna, a station on the Alaska Railroad. The mapped area covers approximately 12 square miles between Devil Canyon and Portage Creek. The author describes the bedrock geology and mineralization, and deals with the economic mineral potential. Until now, no description of the known molybdenite occurrences or of the regional geology of this area has been available.

Several other geologic reports on last summer's field work are on the way, and will be announced in this Bulletin as they become available.

DIAMOND DRILLING PLANNED ON PRINCE OF WALES ISLAND

Seven thousand feet of diamond drilling is programmed on the Jumbo claims at Hetta Inlet on Prince of Wales Island. Bonanza gold, Inc., Spokane, Washington, has leased the claims from Eskil Anderson, mining engineer, who presently is developing the Little Squaw mine in the Chandalar. Bonanza Gold completed a geomagnetic survey during the summer of 1963. The drilling is to determine the extent of an anomaly found during the course of the geomagnetic program.

The Jumbo claims were first staked in 1898. The Alaska Industrial Company was organized by William Sulzer and production of copper ore began in 1907.

The ore was shipped to the Tyee smelter in British Columbia. The mine produced over a million dollars worth of copper and gold intermittently before it closed in 1919 due to the low price of copper.

GRANDUC MINES LTD. ANNOUNCES PLANS

The Granduc property is 25 miles northwest of Stewart, B.C., at the head of the LeDuc River. Reserves are estimated at 32,500,000 tons of nearly 2% copper. It is estimated that construction will cost \$46 million and take 3½ years to complete. Plans call for a production of 1,800,000 tons of ore the first year and 2,500,000 tons each year thereafter. The mill, surface plant, shops and housing for 275 employees will be erected at Tide Lake at the east portal of an 11.6 mile tunnel to the mine. Stewart, 29.5 miles to the south, will be connected to Tide Lake by an all-weather road. The balance of the estimated 500 employees will live in Stewart. Annual payroll is estimated at \$4 million. The company did not announce the starting date.

OIL NEWS

Since the last report, the following application for permit to drill has been approved:

Union Oil Company of California: Kasilof #1 - surface location, 460' N and 4000' W of SE corner, Section 28, T3N-R12W, S.M. Subsurface location, 1400' N and 750' E of SW corner, Section 29, T3N-R12W, S.M. This well will be directionally drilled from a patented surface location to an offshore State of Alaska lease.

Drilling Activity:

<u>Operator</u>	<u>Well Name & Number</u>	<u>Status 2/25/64</u>
Pan American Petroleum	Romig Park #1	Drilling
Humble Oil & Refining Co.	Susitna State Unit #1	Drilling
Mobil Oil Company	Salmon Berry Lake Unit #1	Drilling
SOCO	Beluga River Unit #14-19	Drilling
Pan American Petroleum	Tyonek State #2	Drilling
SOCO	Naptowne Unit 24-8	Location
Union Texas Petroleum	Kahiltna River Unit #1	Drilling
B.P. Exploration Co.	East Umiat #1	Drilling
B.P. Exploration Co.	Shale Wall Unit #1	Drilling
Union Oil Company	Kenai Unit #33-1	Drilling
Union Oil Company	Kasilof #1	Location

Production, Swanson River Field, Hemlock Zone:

	<u>Producing Wells</u>	<u>Oil-Barrels</u>	<u>Gas (MGF)</u>
January, 1964	54	945,348	254,830
Cumulative to February 1, 1964		29,051,266	6,248,816*

Production, Kenai Gas Field:

	<u>Producing Wells</u>	<u>Gas (MCF)</u>
January, 1964	3	487,886
Cumulative to February 1, 1964		5,285,792

Production, Sterling Gas Field:

January, 1964	1	4,072
Cumulative to February 1, 1964		74,982

Production, Swanson River Gas Field, Kenai Zone:

January, 1964	5	405,026
Cumulative to February 1, 1964		5,294,755*

Gas Injection, Swanson River Field, Hemlock Zone:

January, 1964	3	511,221
Cumulative to February 1, 1964		7,079,501

Production, Beluga River Gas Field, Kenai Zone:

January, 1964	1	31,918
Cumulative to February 1, 1964		45,118

*Cumulative errors corrected. Final revision.

First State Unit Agreement Signed - The unit operating agreement for the development and operation of the Susitna State Unit area was approved and became effective February 21, 1964. The unit area previously had been designated. Humble Oil and Refining Company is the unit operator and controls all but one lease in the 12,664-acre unit area. Union-Marathon controls the remaining lease.

Correction of well records and samples - Pan American, Tyonek State #1 release date of records incorrectly shown as 8-25-64. The records on this well will not be released until 3-4-65.

U. S. BUREAU OF MINES NEWS

Coal Fired Gas Turbine - The U. S. Bureau of Mines announced an experimental coal-fired gas turbine has completed its first extended tests. The longest continuous run of the coal turbine was 81½ hours. To achieve better performance, Bureau engineers are now preparing for a second test series by modifying certain turbine components, including the combustor and ash separators.

Besides stimulating coal output, successful development of a coal-fired gas turbine could mean increased efficiency and help to stabilize costs at coal burning power plants that generate commercial electricity. Combined with conventional steam turbines the gas turbine would permit more efficient utilization of the heat energy available when coal is burned.

Pneumatic Drill Muffler - In recent tests, a Bureau-devised muffler mounted on a typical drill's exhaust reduced noise to a level where the drill operator could hear warning shouts and bell and whistle signals. Because the new muffler bypasses the lower frequencies, it does not interfere with the column of air that makes a pneumatic drill function. In fact, a prototype muffler actually increased efficiency by preventing icing of the drill exhaust. Information on the muffler may be obtained by requesting Bureau of Mines Report of Investigations 6345, "Noise from Pneumatic Rock Drills: Analogy Studies of Muffler Designs," U. S. Bureau of Mines, 4800 Forbes Avenue, Pittsburgh, Pennsylvania.

NEW U. S. GEOLOGICAL SURVEY PUBLICATIONS

Bulletin 1108-D, Geology of the North Bradfield River iron prospect, southeastern Alaska, by E. M. MacKevett, Jr., and M. C. Blake, Jr.

Professional Paper 303-E, Geology of the Chandler River Region, Alaska Exploration of Naval Petroleum Reserve No. 4 and Adjacent Areas, Northern Alaska.

Water-Supply Paper 1779-A, Geologic Reconnaissance and Test-well Drilling Cordova, Alaska, by K. L. Walters.

These publications are available from the U. S. Government Printing Office, Washington, D. C. 20402

BRITISH COLUMBIA AND YUKON TERRITORY ACTIVITIES

The following statements were obtained from a publication by the British Columbia & Yukon Chamber of Mines concerning prospecting and exploration during 1963.

More than 500 prospectors and exploration geologists were in the field.

An estimated \$10,000,000 was spent in the search for new ore deposits.

14,250 claims were staked in British Columbia.

25 helicopters were in use by mining companies.

The number of assays was twice that of 1962.

Approximately 50% of the money invested was U. S. capital.

OFFSHORE PROSPECTING PERMIT CONVERTED TO MINING LEASE

The Division of Lands announced that the first application and the required survey plat for conversion of an Offshore Mining Prospecting Permit to a Mining Lease (gold) were received in January, and the Lease is being processed. This is located in Norton Sound off-shore of Nome.

TENTATIVE A.I.M.E. CONFERENCE PROGRAM

The Seventh Alaskan A.I.M.E. Conference will be held on the University of Alaska Campus, College, Alaska, March 18, 19, 20, and 21, 1964. It is being sponsored by the Alaska Section, AIME, the SW Alaska Section, AIME, and the University of Alaska.

March 18, 1964 - Registration, Traveler's Inn lobby.

March 19, 1964 - Registration continues in the Bunnell Building.

9:00-9:30 am...The Development and Use of the University of Alaska's Geochemical Methods, Leo Mark Anthony, University of Alaska.

9:30-10:00 am...The U. S. Geological Survey's Role in the Investigation and Appraisal of Alaska's Mineral Resources, George Gryc, G. Donald Eberlein, and George O. Gates, Alaskan Geology Branch, U. S. Geological Survey, Menlo Park, California.

10:00-10:30 am...Mining the Ross Adams Uranium Deposit, Kendrick Bay, Prince of Wales Island, Alaska, Tak Matsumoto, Superintendent, Standard Metals Corporation, Ketchikan, Alaska.

11:00-11:30 am...The Golden Goose (Oil in Alaska), Waring Bradley, Consulting Geologist, Anchorage, Alaska.

11:30-12:00 noon...Coal Mining in Alaska, Douglas W. Huber, Chief Engineer, Evan Jones Coal Mine, Anchorage, Alaska.

12:15-1:45 pm...Luncheon, University Student Union Building.

Welcome - Dr. Wm. R. Wood, President, University of Alaska

Address - Vernon E. Scheid, Dean, MacKay School of Mines, Reno, Nevada

2:00-2:30 pm...Current Japanese Mineral Requirements, Noburu Takasugi, Consul-General of Japan, Seattle, Washington.

2:30-3:00 pm...Tectonics, Igneous Rocks and Ore Deposits in Alaska, Gordon Herreid, Geologist, Division of Mines and Minerals, Anchorage.

3:30-4:00 pm...The Relation of Alaska to World Resource Markets, George W. Rogers, Research Professor of Economics, University of Alaska.

4:00-4:30 pm...Methods, Costs and Land Requirements in Regional Exploration for Base Metals, Paul A. Bailly, President of Bear Creek Mining Company, Salt Lake City Utah.

4:30-5:00 pm...Diamond Mining, Arthur F. Daily, Consulting Mining Engr., Oakland, California.

7:45 pm.....AIME Banquet, Commons, University of Alaska Campus

Address - Sandford S. Cole, President, AIME Society of Mining Engineers, National Lead Co., South Amboy, New Jersey.

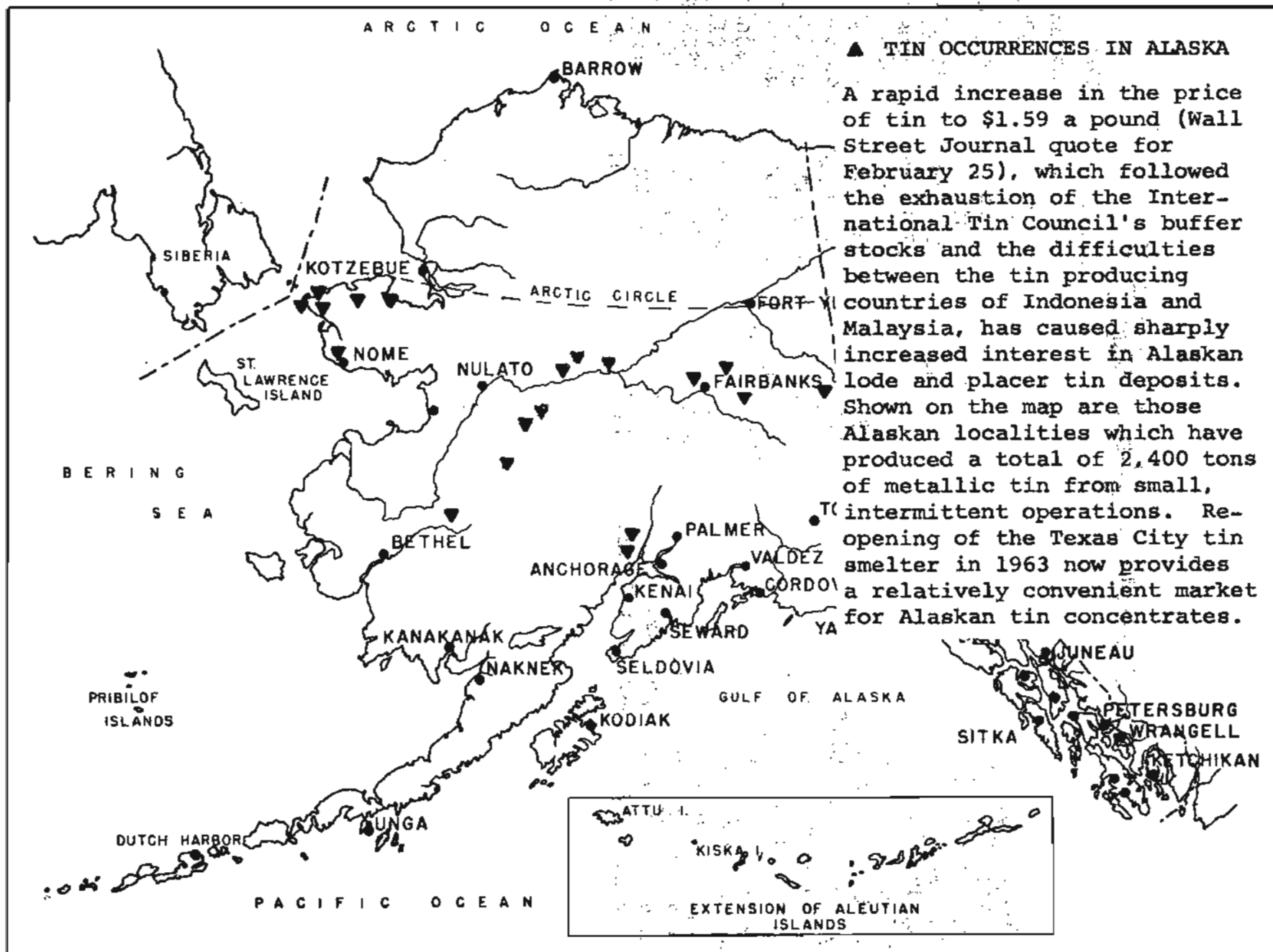
March 20, 1964 -

- 8:45-9:15 am...Oil and Gas Leasing on the North Slope, Alaska, Daniel A. Jones, U. S. Bureau of Land Management, Fairbanks, Alaska.
- 9:15-9:45 am...Bureau of Mines Exploration in Alaska, Jared Herdlick, U. S. Bureau of Mines, Juneau, Alaska.
- 9:45-10:15 am...Land Status Problems in Locating Mining Claims, Joseph Rudd, Attorney, Anchorage, Alaska.
- 10:45-11:15 am...Investment in Foreign Markets and its Relation to Investment in Alaska, Patrick H. O'Neill, Exec. Vice President, International Mining Corporation, New York.
- 11:15-11:45 am...Effect of Muskeg on Reflection Quality, O. J. Gross, District Geophysicist and S. N. Domenico - Pan American Petroleum Corp., Anchorage, Alaska.
- 11:45-1:15 pm...Open Lunch Hour
- 1:15-1:45 pm...A Possible Guide to Metal Deposits in Alaska, Charles F. Herbert, Deputy Commissioner of Natural Resources, Juneau, Alaska.
- 1:45-2:15 pm...Standard Oil Company's Refinery in Alaska, D. D. Drowley, Standard Oil Company of California, Kenai, Alaska.
- 2:15-2:45 pm...Exploration in British Columbia and Yukon Territory, Thomas Elliott, Manager, British Columbia and Yukon Chamber of Mines, Vancouver, British Columbia.
- 3:15-3:45 pm...Opportunities for Mining of Mineral Deposits in Offshore and Continental Shelf Areas, Richard G. Anderson, Battelle Memorial Inst., Columbus, Ohio.
- 3:45-4:15 pm...Mineral Industries Research Laboratory Projects, General discussion by Dr. Donald J. Cook, University of Alaska; and Petrography in Coal Preparation, Fred C. Hankinson, Graduate student, University of Alaska.
- 6:30 pm.....Happy Hour and Banquet
Address - Dr. Sydney Chapman, Chairman, International committee of IGY '58.

March 21, 1964 -

- 9:00-12:00 noon..Field trip - Tunnelling in Permafrost, USA, Cold Regions Research and Engineering Laboratories. Project 6.1, Goldstream, Jack McCoy, Project Leader; and National Aeronautical Space Agency's Data Acquisition facility, Gilmore Tracking Site, Fairbanks, Alaska, Fred Mercer, Operations Manager of NASA Acquisition Facility, Fairbanks.

(North American open Championship Sled Dog Races will be held on the afternoons of March 20, 21, and 22.)



▲ TIN OCCURRENCES IN ALASKA

A rapid increase in the price of tin to \$1.59 a pound (Wall Street Journal quote for February 25), which followed the exhaustion of the International Tin Council's buffer stocks and the difficulties between the tin producing countries of Indonesia and Malaysia, has caused sharply increased interest in Alaskan lode and placer tin deposits. Shown on the map are those Alaskan localities which have produced a total of 2,400 tons of metallic tin from small, intermittent operations. Re-opening of the Texas City tin smelter in 1963 now provides a relatively convenient market for Alaskan tin concentrates.

E. AND M. J. METAL MARKET PRICES

	<u>Feb. 24,</u> <u>1964</u>	<u>Month</u> <u>Ago</u>	<u>Year</u> <u>Ago</u>
Copper, per lb.	31¢	31¢	31¢
Lead, per lb.	13¢	13¢	10.5¢
Zinc, per lb.	13¢	13¢	12¢
Tin, Per lb.	144.00¢	134.25¢	108.1¢
Nickel, per lb.	79¢	79¢	79.0¢
Platinum, per oz.	\$88	\$88	\$80-85
Mercury, per flask	\$265-270	\$240-244	\$187-190
Antimony ore, per unit	\$4.80-5.50	\$4.80-5.50	\$4.25-4.50
Beryllium ore, per unit	Not Quoted	\$29-32	Not Quoted
Chrome ore, per long ton	Not Quoted	Not Quoted	\$36-38
Molybdenum conc., per lb.	\$1.40	\$1.40	\$1.40
Titanium ore, per ton	\$23-26	\$23-26	\$23-26
Tungsten ore, per unit	\$16-18	\$16-18	\$16-20
Silver, New York, per oz.	129.3¢	129.3¢	125.60¢
Silver, U. S. Treasury, per oz.	129.29¢	129.29¢	90.5¢