STATE OF ALASKA
Department of Natural Resources
Division of Geological Survey

MINES BULLETIN

VOL. XIX | February 1971 | No. 2

P.O. Box 5-300 | College, Alaska 99701

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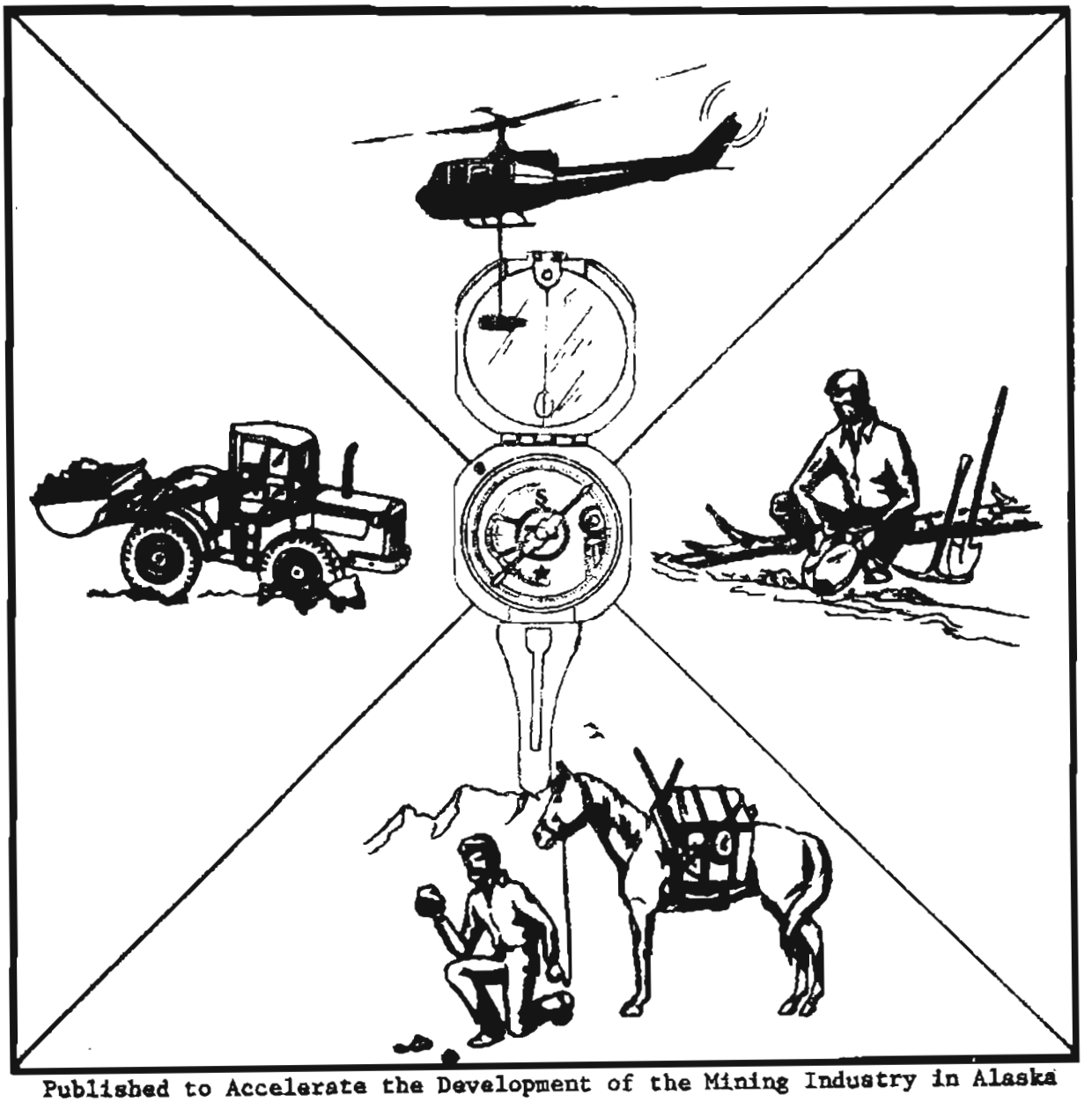


Published to Accelerate the Development of the Mining Industry in Alaska

William A. Egan - Governor

Charles F. Herbert - Commissioner | James A. Williams - Director

1970 ALASKA MINERAL PRODUCTION

The table below is taken from the preliminary annual report published by the U. S. Bureau of Mines. This report is prepared each year under a cooperative agreement between the Bureau of Mines and the Division of Geological Survey for collecting information on all minerals.

TABLE 1.--Preliminary estimate, mineral production in Alaska, 1970

Mineral	1969		1970 p/	
	Quantity	Value (thousands)	Quantity	Value (thousands)
Antimony ore and concentrate short tons, antimony content	47	$13	120	$100
Barite-----thousand short tons	W	W	150	1,875
Coal (bituminous)----thousand short tons	W	W	W	W
Gold (recoverable content of ores, etc.)--troy ounces	21,227	881	38,400	1,378
Lead (recoverable content of ores, etc.)---short tons	2	1	------	------
Natural gas-million cubic feet	50,864	12,665	59,185	14,855
Peat----------short tons	------	------	------	------
Petroleum (crude)----thousand 42-gallon barrels	73,953	214,464	82,250	241,815
Sand and gravel-------thousand short tons	16,205	18,615	20,365	26,070
Silver (recoverable content of ores, etc.)---thousand troy ounces	2	4	4	7
Value of items that cannot be disclosed: Gem stones, mercury, platinum-group metals, stone, tin, and values indicated by symbol W	XX	11,000	XX	13,272
Total	XX	257,643	XX	299,372

p/ Preliminary. W Withheld to avoid disclosing individual company confidential data.
XX Not applicable.

MINING POLICY LAW

After years of debate and hearings, Congress finally passed S. 719 to establish an official Federal mining and minerals policy. President Nixon signed it into law on December 31, 1970. It is Public Law 91-631 (84 Stat. 1876) and may be cited as the "Mining and Minerals Policy Act of 1970". It reads as follows:

> The Congress declares that it is the continuing policy of the Federal Government in the national interest to foster and encourage private enterprise in (1) the development of economically sound and stable domestic mining, minerals, metal and mineral reclamation industries,

(2) the orderly and economic development of domestic mineral resources, reserves, and reclamation of metals and minerals to help assure satisfaction of industrial, security and environmental needs, (3) mining, mineral, and metallurgical research, including the use and recycling of scrap to promote the wise and efficient use of our natural and reclaimable mineral resources, and (4) the study and development of methods for the disposal, control, and reclamation of mineral waste products, and the reclamation of mined land, so as to lessen any adverse impact of mineral extraction and processing upon the physical environment that may result from mining or mineral activities.

For the purpose of this Act "minerals" shall include all minerals and mineral fuels including oil, gas, coal, oil shale and uranium.

It shall be the responsibility of the Secretary of the Interior to carry out this policy when exercising his authority under such programs as may be authorized by law other than this Act. For this purpose the Secretary of the Interior shall include in his annual report to the Congress a report on the state of the domestic mining, minerals, and mineral reclamation industries, including a statement of the trend in utilization and depletion of these resources, together with such recommendations for legislative programs as may be necessary to implement the policy of this Act.

USBM LIAISON OFFICER

The U. S. Bureau of Mines has instituted a program of closer liaison and cooperation with the State governments in all mining States. To this end, a liaison officer has been, or will be, appointed in each State. Alfred Service, has been appointed for Alaska. His address is Room 50, Federal Building, Anchorage. "Al" is a graduate engineer from the University of Alaska, a former employee of the old Territorial Department of Mines (the forerunner of this Division), and lately has been employed at the USBM station in Spokane, Washington.

BOB THORNE CITATION

A Citation for Meritorious Service in recognition of significant contributions in the field of mineral resources with the Bureau of Mines, U.S. Department of the Interior, was posthumously awarded Robert L. (Bob) Thorne, Bureau of Mines Chief, Alaska Office of Mineral Resources. The award was accepted by Mrs. Alice Thorne for her late husband. The presentation was made at the Bureau of Mines Center on Juneau Island, Juneau in the presence of fellow employees, by Mr. Richard E. Shepherd, Anchorage, representative in Alaska for the Secretary of the Interior.

COPPER

Of the nonferrous metals, copper is second to aluminum in net dollar value of metal production in the United States, but there are probably more geologists looking for copper lodes in the United States than any other one metal. The reason has been a good price and market for copper. The earnings of the five major copper producers has been excellent for the first three quarters of 1970.

Profit for 9 Months of 1970

Kennecott	158.8 million dollars
Phelps Dodge	84.2
Anarco	78.2
Anaconda	72.1
Newmont	57.9

Kennecott as the largest domestic copper producer had a larger net profit than the largest domestic aluminum producer. Alcoa, whose net profit for the first nine months of 1970 was 122.3 million dollars.

In Alaska copper is second to gold in value of metal production. Almost 700,000 tons of copper have been produced in Alaska.

Kennecott started with a mine in Alaska at Kennicott. The Kennecott mines, which started operation shortly after the turn of the century, were unique in that they constituted the largest masses of almost pure copper ore that has ever been discovered. These mines were shut down in 1938, but the company continued to explore for copper and found another large deposit near Bornite, Alaska. Although no estimates of grade and reserve have ever been made public, indications have been made that there is a potential mine. Kennecott had started to put the mine in operation when an influx of water into the shaft stopped work. Not withstanding the difficulty that was encountered, exploration has continued as well as mining research.

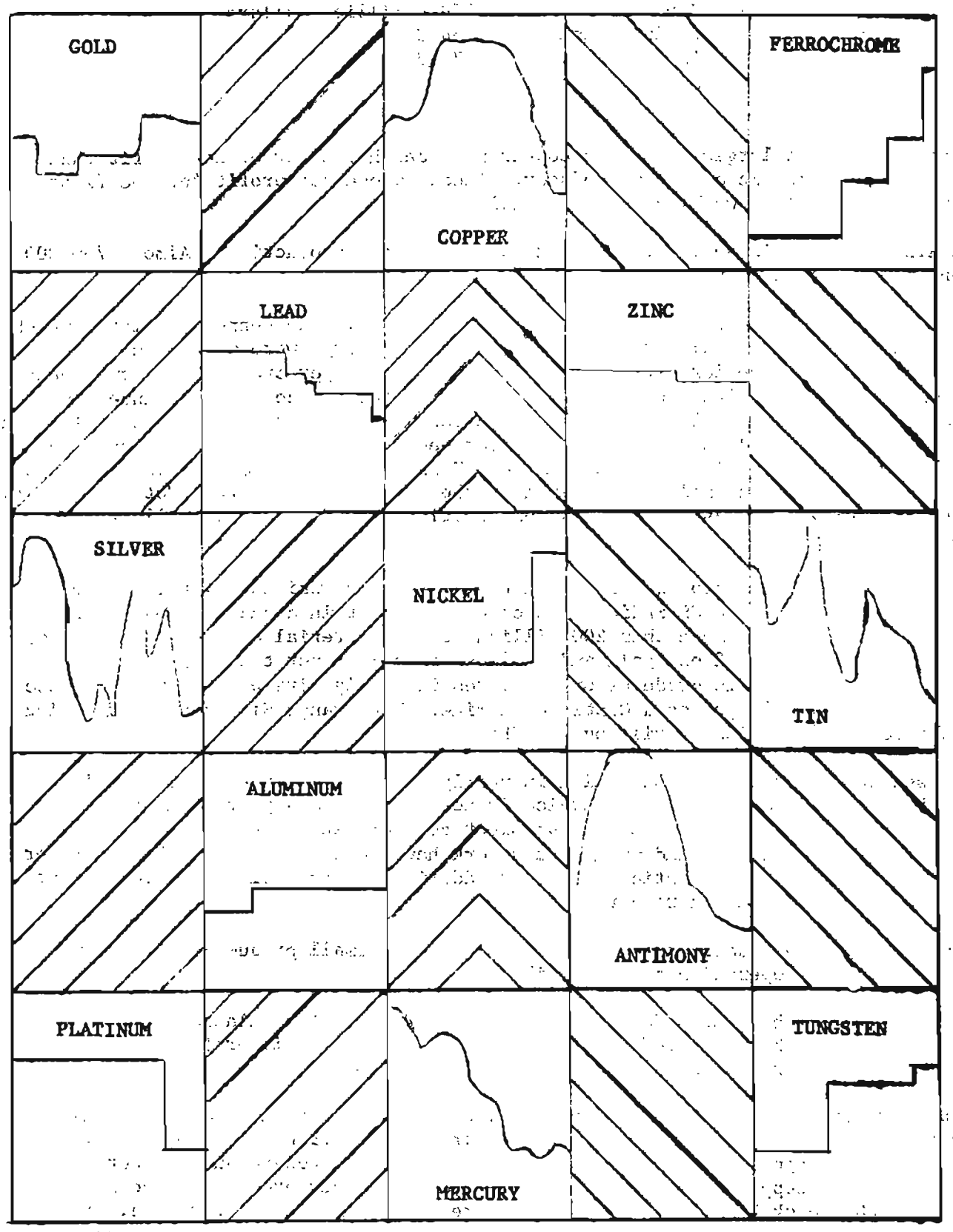
One low grade copper property is known to exist in the Chisana District. An investigation by the USGS indicates a copper prospect in a quartz diorite at Orange Hill contains more than 200 million tons of material averaging 0.4% copper, 0.02% molybdenum, 0.02 oz. gold and 0.08 oz. of silver per ton. On a copper equivalent basis, this grade of ore compares favorably with Duval's Cerrita Mine or Cities Service's proposed Castle Dome mine. The Orange Hill deposit is being explored with additional drilling by AMEX.

The search for copper is continuing in nearly all regions except the oil rich north slope of Alaska. Cities Service is active both in exploration and metallurgical research on a copper prospect near Denali, Alaska. Exploration including both drilling and underground work have been conducted each summer for several years and it is anticipated that additional work will be completed next summer including a truck road to the property.

Not all copper producers are giants. Alaska has a small producer reportedly seep going into operation near Ketchikan, Alaska.

Copper deposits have been found in the southwestern part of Alaska near Kontrashibuna Lake. A brief description of this prospect is written in Geochemical Report No. 20 by Gilbert R. Eakins.

Copper mineralization is widespread in Alaska. In fact each locality that has produced placer gold can be considered a target area for exploration for sulfide minerals and copper. Much of the ground is covered by tundra and the outcrops are poor, but copper minerals have been found and copper produced. The Kennecott find in the Kobuk River valley was in an area first prospected for gold. Both gold and copper minerals have been found in the Survey Pass quadrangle, now proposed as an area to be closed to mining. If the prospecting continues and areas are not closed Alaska should have major copper producers in the near future.



HOW THIRTEEN METAL PRICES BEHAVED IN 1970

MINING CLAIMS

Number of Claims	Creek or Area	Quadrangle	Date Notice Posted
2	Quartz Creek	Bendeleben	September, 1970
6	Texas Glacier	Bradfield Canal	September, 1970
12	Through Glacier	Bradfield Canal	September, 1970
3	Alder Creek	Eagle	July, 1970
2	Fortymile River	Eagle	August, 1970
10	Flume Creek	Eagle	June, 1970
9	Glory Creek	Fairbanks	October, 1970
115	Ester Dome	Fairbanks	October, 1970
1	Eldridge Glacier	Healy	September, 1970
10	Partin Creek	Healy	August, 1970
23	Timberline Creek	Healy	September, 1970
6	Gold Creek	Iditarod	September, 1970
7	George Inlet	Ketchikan	November, 1970
8	Styx River	Lime Hills	September, 1970
7	Boulder Creek	McCarthy	October, 1970
14	Dan Creek	McCarthy	September, 1970
2	Chistochina River	Mt. Hayes	September, 1970
36	Slate Creek	Mt. Hayes	October, 1970
2	Black Bear Creek	Nabesna	November, 1970
33	Monte Cristo Creek	Nabesna	August, 1970
10	Nabesna Glacier	Nabesna	May & June, 1970
40	Beaver Mountain	Nabesna	September, 1970
30	Chathenda Creek	Nabesna	August, 1970
42	Gravel Creek	Nabesna	August, 1970
41	Aurora Creek	Nome	September, 1970
1	Prospect Creek	Nome	October, 1970
8	Stony River	Sleetmute	August, 1970
2	Cache Creek	Talkeetna	September, 1970
12	Iron Creek	Talkeetna Mts.	September, 1970
207	McCord Creek	Tanacross	September, 1970
2	Fishhook Creek	Anchorage	October, 1970
11	Little Susitna River	Anchorage	October, 1970
1	Knik River	Anchorage	November, 1970
1	Bradfield Canal	Bradfield Canal	November, 1970
31	T11N, R10E, FM	Circle	August, 1970
1	Twelvemile Creek	Craig	August, 1970
2	Franklin Creek	Eagle	August, 1970
2	O'Brien Creek	Eagle	October, 1970
2	Fortymile River	Eagle	July, 1970
4	Engineer Creek	Fairbanks	October, 1970
9	Susitna Glacier-west fork	Healy	August, 1970
1	Moody Creek	Healy	June, 1970
8	Timberline Creek	Healy	Oct. & Nov., 1970
1	Costello Creek	Healy	September, 1970
1	Chulitna River	Healy	September, 1970

Number of Claims	Creek or Area	Quadrangle	Date Notice Posted
2	Magnetic Island	Kenai	September, 1970
3	Chatanika River	Livengood	November, 1970
3	Whistling Gulch	Medfra	October, 1970
12	Lemesurier Island	Mt. Fairweather	August, 1970
4	Chistochina River	Mt. Hayes	August, 1970
3	Chistochina River-east fork	Mt. Hayes	September, 1970
10	Nabesna River	Nabesna	September, 1970
1	Suslota Lake	Nabesna	August, 1970
1	Porcupine Creek	Nabesna	September, 1970
6	Lillian Creek	Nome	November, 1970
1	Lost Creek	Seward	November, 1970
2	Dahl Creek	Shungnak	August, 1970
1	Stranger River	Sitka	September, 1970
1	Kuskokwim River	Sleetmute	August, 1970
9	Newcomer's Creek	Sleetmute	July, 1970
2	Stephan Lake	Talkeetna Mts.	December, 1970
111	Taylor Highway	Tanacross	October, 1970
1	Gemuk Mountain	Taylor Mts.	August, 1970
266	Lost River & Rapid River	Teller	October, 1970
14	Cape Creek	Teller	November, 1970
1	Willow Creek	Tyonek	August, 1970

METAL MARKET

	January 25, 1971	Month Ago	Year Ago
Antimony ore, stu equivalent European ore	$12.05-14.73	$13.39-16.07	$30.36-32.14
Barite (drilling mud grade per ton)	$12-16	$12-16	$12-16
Beryllium powder 98% per ton	$54-66	$54-66	$54-66
Chrome ore per long ton	$31-35	$31-35	$31-35
Copper per lb.	50.3¢	53.1¢	55.9¢
Gold per oz.	$37.70	$37.70	$35.08
Lead per lb.	13.5¢	13.5¢	16.5¢
Mercury per 76# flask	$348-355	$350-375	$482-487
Molybdenum conc. per lb.	$1.72	$1.72	$1.72
Nickel per lb.	$1.33	$1.33	$1.28
Platinum per oz.	$120-135	$122-125	$130-135
Silver, New York, per oz.	158.3¢	162.0¢	189.2¢
Tin per lb.	161.2¢	160.5¢	187.2¢
Titanium ore per ton	$30-35	$30-35	$30-35
Tungsten per unit	$55.00	$55.00	$43.00
Zinc per lb.	15.0¢	15.0¢	16.0¢