STATE OF ALASKA
Department of Natural Resources
Division of Geological Survey



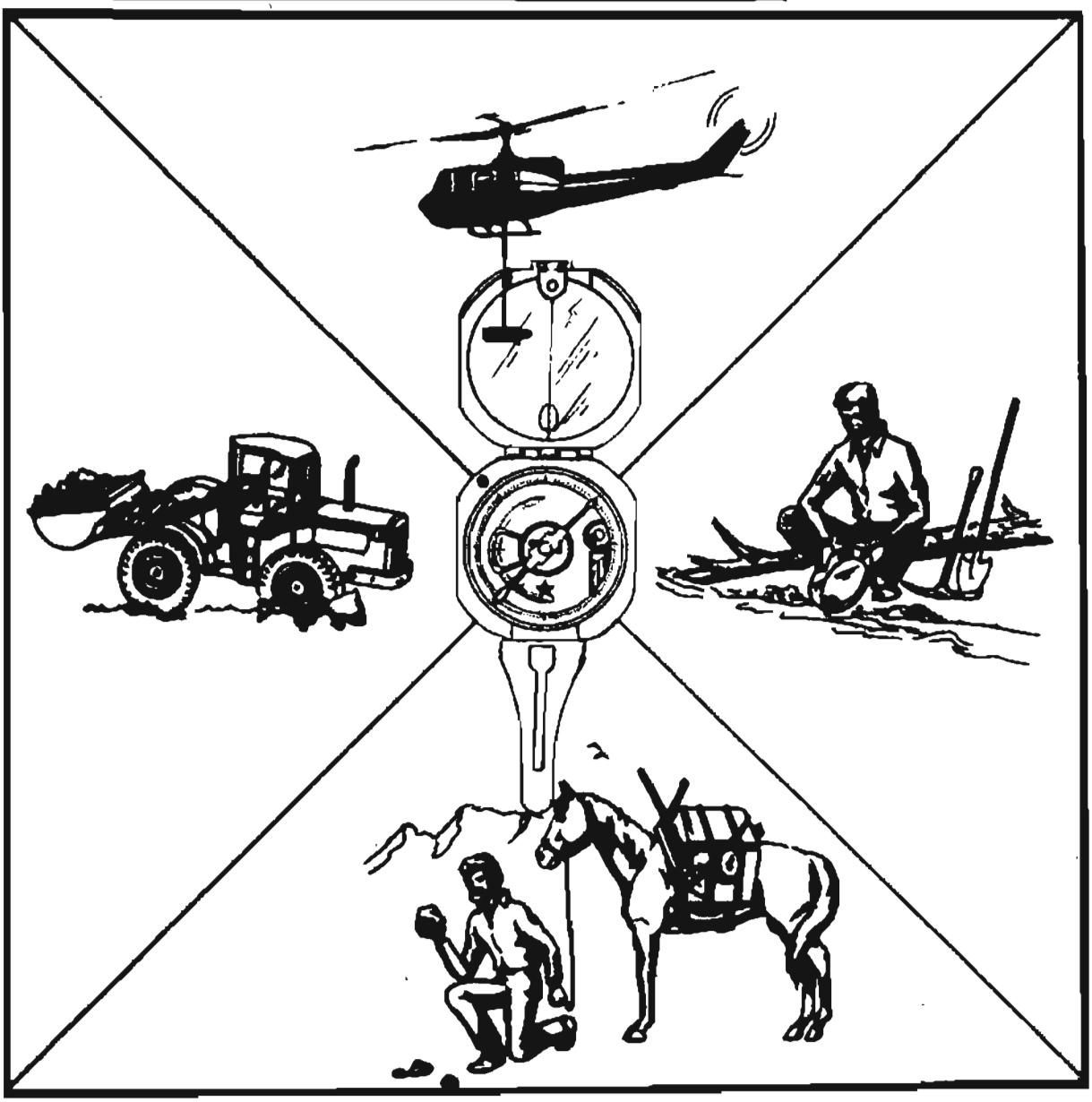
# MINES BULLETIN

VOL. XIX JUNE 1971 No. 6

P. O. Box 80007 College, Alaska 99701

IN THIS ISSUE





Published to Accelerate the Development of the Mining Industry in Alaska
William A. Egan - Governor
Charles F. Herbert - Commissioner James A. Williams - Director

## NEW DIVISION ADDRESS

Since moving to College Alaska in late 1967, life for the Division has been one of constantly changing names and addresses. We are now faced with another change in postoffice box numbers over which we have no control. This was caused by reconstruction of the College Post Office after a fire and a new numbering system designed for new postoffice electronic scanning equipment. We are informed that other postoffices will make similar changes in the near future. However, please note, our new address is P. O. Box 80007 (yes, three zeros), College, Alaska 99701.

## AEROMAGNETIC SURVEY PROGRAM

An Aeromagnetic Survey Program under the direction of Norman J. Veach - Geophysicist, is now underway in the State of Alaska. The contract for this program was issued to Lockwood, Kessler, and Bartlett. Two twin-engine Aero Commander aircraft, based at Northway, Alaska are presently surveying the entire Tanacross quadrangle and most of Nabesna quadrangle. Flight lines are north and south starting at the Canadian border. The lines 134 miles long, and spaced 3/4 miles apart, are flown at altitudes of 1000 feet where possible. An adjoining area on the west as far as McKinley Park will be surveyed from Big Delta, Gulkana, and Nenana airfields. The north and south flanks of the Alaska Range will be flown. However, the highest peaks and ridges will not be included in the survey. This same aircraft in late June will also survey the Nome area. An additional aircraft, a Cessna 205 under the same contract is enroute to Southwest Alaska for a magnetic survey in the Platinum-Goodnews Area.

Each aircraft carries one pilot and one instrument operator on flights of four to six hours. Aerial survey instruments aboard the aircraft consist of Gulf Fluxgate magnetometers which drive paper strip chart recorders, Minneapolis Honeywell radar altimeters also driving paper strip chart recorders, and an automatic 35 millimeter camera for continuous recording of the flight path. A ground station at Northway runs continuously to monitor and record variations in the magnetic field at the base station for correction of survey data. The contractor will compile contour maps of total magnetic field intensity. The maps will be available to the public and can be purchased from the Division of Geological Survey. A notice will be placed in this bulletin when these maps become available.

## NEW OPEN FILE RELEASE

The U. S. Geological Survey has released on open file the following reports:

1. Preliminary Bouguer anomaly and specific gravity maps of Seward Peninsula and Yukon Flats, Alaska, by David F. Barnes. 11 p., 4 maps, scale 1:1,000,000.

2. Analyses of stream-sediment and rock samples from the eastern part of the Eagle quadrangle, east-central Alaska, by Helen L. Foster. 54 p., including 44 p. tabular material, 2 figs.

3. Analyses of stream-sediment and rock samples from the northwestern part of the Eagle quadrangle, east-central Alaska, by Helen L. Foster. 72 p., including 65 p. tabular material, 2 figs.

4. Geology and geochemistry of the Sinuk River barite deposits, Seward Peninsula, Alaska, by D. A. Brobst, D. M. Pinckney, and C. L. Sainsbury. 29 p., including 2 figs., 2 tables.

5. The Shublik Formation and adjacent strata in northeastern Alaska, by Harry A. Tourtelot and Irvin L. Tailleur. 62 p., 1 fig., 1 table.

6. Magnetic susceptibilities of crystalline rock samples, Yukon River-Porcupine River area, east-central Alaska, by W. P. Brosge and Arthur Conradi, Jr. 8 p., 1 fig.

These reports can be seen in the following listed Alaskan offices of the USGS and ADGS and certain USGS offices in the other states.

| | |
|---|---|
| U. S. Geological Survey: | 402 Brooks Building, College<br>108 Skyline Building, Anchorage<br>441 Federal Building, Juneau |
| Division of Geological Survey: | College Road and University Ave., College<br>323 East 4th Ave., Anchorage<br>509 Goldstein Building, Juneau |

Material from which copy can be made at private expense is available at the Alaskan Mineral Resources Branch, USGS, 345 Middlefield Rd., Menlo Park, Calif., 94025.

## MINES BUREAU "HOTLINE"

Coal miners can now report violations of health and safety regulations, or hazardous underground conditions, on a special telephone that has been installed in the Washington, D.C., headquarters of the U. S. Bureau of Mines, the bureau has announced. The telephone number is 202/343-4864.

Under the new system, a miner calls collect, his complaint is recorded, and a top bureau official acts on the information the next working day.

The bureau noted that the new telephone hookup was installed as a convenience to miners. It supplements the miners' normal communications channels -- union, miners', and management health and safety representatives at the mine.

The new system provides the individual miner with a means of calling attention to a potential hazard that may persist in spite of his reporting it through normal channels. The bureau emphasized that the system should not be used for reporting accidents or other mine emergencies.

Miners who call must describe the hazard they report and must identify the mine in which it exists, although callers need not give their names.

"We want a miner to have every possible opportunity to report a condition which he feels is endangering his life or health in the mine where he is employed," Bureau Director Osborn explained. The special telephone number is being announced to mine workers through a notice posted by a bureau mine inspector on the bulletin board of each underground coal mine.

If worthwhile messages are received during the hotline's trial period at underground coal mines, the system will be expanded to include all mines and quarries in the nation, the bureau said. (American Mining Congress 5-21-71.)

## VISIT BY BUREAU OF MINES

Two key officials of the U. S. Bureau of Mines are scheduled to tour Alaska for up to two weeks this June. Coming are Thomas Henrie, deputy director of the bureau, and Sheldon Wimpfen, assistant to the director, in charge of mineral resource evaluation. They will review the bureau's programs here, visit some of the state's more prominent mining areas, and meet state officials in Juneau. They are set to leave Washington, D.C. about June 13 and depart Alaska June 23. (Alaska Construction and Oil Report 4-27-71.)

## BELUGA COAL FIELD

Sen. Ted Stevens of Alaska has requested a $422,000 feasibility study of the possibility of developing an approximately one-billion-ton bituminous coal reserve in the Beluga Field west of Anchorage. If such a project were approved, it would be financed under the office of coal research and conducted by the University of Alaska, according to Stevens.

The Beluga Field is located across Cook Inlet from Anchorage and about 25 miles to the west. (Alaska Industry May/1971 ).

The coal of the Beluga region occurs in a large but undetermined number of beds ranging from a few feet to more than 50 feet in thickness, interbedded with claystone, siltstone, sandstone, and conglomerate of the Kenai Formation. Because most exposures are in isolated outcrops of small extent, little is known directly of the continuity and uniformity of individual beds. However, inasmuch as the coal-bearing rocks of this region are considered to be correlative with similar rocks well exposed for miles along the shores of Cook Inlet and Kachemak Bay on the Kenai Peninsula, they are presumed to have been deposited under similar conditions and to have the same lenticular character, marked by rapid lateral changes in both thickness and composition.

As nearly as can be determined from widely separated and only roughly correlated stratigraphic sections, coal beds are rather uniformly distributed through the middle member of the Kenai Formation, but are rare or lacking in the conglomeratic lower member exposed on Straight Creek and the upper Chuitna, and in the conglomeratic upper member in the northern part of the Beluga-Yentna region. This vertical distribution of coal beds agrees with that noted in the logs of oil wells on the Kenai Peninsula where coal occurs in a relatively few thin beds in the upper and lower units and is most abundant in the middle unit. Geographically, coal beds of possible economic value are limited mainly to the southeastern parts of the Beluga and Chuitna River basins and to the upland just south of Capps Glacier. The thickest and most widely exposed coals mapped are the Chuitna bed, ranging from 20 to 52 feet in thickness, which was traced for about 7 miles along the Chuitna River; the Capps bed, with a maximum thickness of at least 50 feet, which was traced for about 4 miles along the face of the escarpment south of Capps Glacier; and the Beluga bed, with a maximum thickness of 30 feet, which was traced for about a mile along the east wall of the Beluga River gorge near Felt Lake.

The first coal mine in Alaska - and probably the oldest on the Pacific coast of North America - was opened by the Russians in 1855, at Port Graham on the southwest tip of the Kenai Peninsula, but it was abandoned after about 10 years of operation. In the period 1880-1915 coal mining was attempted or carried on for short periods at several localities, including Unga Island, Herendeen Bay, Chignik Bay, Kachemak Bay, and several points along the Yukon River. During this period the total annual production did not exceed a few hundred to a few thousand tons except in 1907, when a production of 10,000 tons was reported.

The era of sustained coal production in Alaska began with the completion of The Alaska Railroad to the Matanuska coal field in 1916 and to the Nenana field in 1918. The annual production curve reflects a general rise from about 60,000 tons in 1920 to 174,000 tons in 1940, followed by a more rapid rise, during and after World War II, to 412,000 tons in 1950. In response to an increasing demand for fuel for power generation and heating at the rapidly expanding military bases near Anchorage and Fairbanks - which more than offset the decrease in demand resulting from a changeover from coal-burning to diesel locomotives by The Alaska Railroad - the annual production more than doubled in the 3-year period ending in 1953, in which year a record production of 865,000 tons was attained. As the oil and gas fields were developed in the Cook Inlet area, coal production declined, and at the present time the annual production rate is 700,000 tons.

In the past 3 years there have been extensive leasing and drilling to prove coal reserves in the Beluga field. In many areas of the field the coal beds are overlain by less than 100 feet of overburden, relatively flat, and easily accessible for strip mining. The coals in general are low in sulphur and should provide an excellent source of coal for electrical power generating plants requiring a low sulphur coal as dictated by the present regulation to prevent $SO_2$ air pollution.

## GLEN MINE SOLD

Glen Explorations, Inc., president Jack R. Fraser has announced in Dallas, Texas, that Glen has entered into two significant agreements during the past month.

On April 23, Glen sold its mining equipment and 28 placer claims located north of McKinley Park, in Alaska. The consideration payable to Glen is $100,000 and an overriding royalty interest of $1 million out of ten per cent of the gross value of gold and other metals to be recovered from the properties, he said.

The buyer has obligated itself to complete the development of the properties begun by Glen in the summers of 1969 and 1970, and to bring the properties into a commercial producing status at once. The buyer is further obligated to operate the properties on a continuous basis or reassign them to Glen. (From Western Mining News.)

## SUMMER MAPPING

Alaska Division of Geological Survey field parties are leaving Fairbanks for their summer mapping programs.

Crawford E. Fritts, Gilbert R. Eakins and Robert R. Garland will combine their talents to map the Survey Pass Quadrangle. This area is being considered by the U. S. Bureau of Lands for classification as closed to mineral entry. (Please refer to our January Bulletin). After discussions between the BLM and Division of Geological Survey the BLM agreed to withhold public hearing on the land classification until the Division has an opportunity to evaluate the mineral potential of this relatively unexplored area. Gold placers have been found in this area. To the east, copper has been found in the Skajit limestone in the Wiseman quadrangle, and to the west, rocks in the Cosmos Hills appear to be stratigraphically equivalent to the Skajit formation, the host rocks, for the well known copper deposit at Bornite.

Gordon Herreid will continue his mapping in Southeastern Alaska. Ketchikan, Alaska continues to be an important headquarters area for geological field parties from private companies. Copper is the most sought after metal in this area. There is a producing uranium mine on Prince of Wales Island.

Cleland Conwell will start a mapping project in the Haines area if his other duties permit. The U. S. Geological Survey made a brief reconnaissance into this area last year including both mapping and geochemical sampling. Mr. Conwell will extend the geological mapping in this area.

## BIRCH KILLED IN PLANE CRASH

Frank E. Birch, 45, Spokane mining engineer, was killed during the month of May 1971, when his light plane crashed in the Chandalar Mining District of Alaska.

Eskil Anderson, an owner of the gold property which Birch was developing under a sub-lease with Little Squaw Mining Co. of Spokane, said he received the news of the crash from his partner, Edward H. Hoch of Fairbanks.

Birch, who had been flying for 10 years, crashed while on only a five-mile hop from his mining camp to a placer site, it was said. The Federal Aviation Administration is investigating.

Birch first went to the Chandalar District in 1959 for Little Squaw Mining Co. Several years ago, he organized Chandalar Gold Mining & Milling Co. to build a mill and put the property into production. He recently took a crew into the property 90 miles north of the Arctic Circle and was preparing to realize his ambition of recovering gold in the mill completed last fall. (Western Mining News, May 7, 1971.)

## GOLD FIRM BUT QUIET

Market activity was quieter, but uncertainty over the currency situation still prevails. Gold was quieter last week. The free market was almost subdued in comparison to the previous week's activity, when London climbed to $41.20 in the wake of a turbulent and uncertain currency situation.

After a slight setback on Monday, London rebounded to $41.20 on Tuesday, only to drop again to $40.50 the following day. Thursday's final fixing showed a bounce back to $41.50.

But the uncertainty that dominated the market a week ago and forced prices up still prevails. For one thing, speculators for the most part are still betting that the German mark will continue to rise, even though its appreciation since the unpegging hasn't been all that sharp. While this has contributed to the instability, many investors - growing impatient with the 3-5% rise in their marks - are now venting their speculative urges in free market gold. And talk continued last week that the mark would eventually return to its old parity level. Others, meanwhile, are still turning to gold as a haven for their funds. And some Americans are reportedly included in this group who hope to ride out the current storm in gold, despite US laws against free market holdings.

The uncertainty grew deeper on Monday, with the Commerce Dept.'s disclosure of first-quarter US balance of payments figures, revealing a record $5.51-billion deficit for the period. The shockingly high figure, shown on a seasonally-adjusted official settlements basis - which measures the amount of dollars built up in foreign central banks - compares with the old record set in the previous quarter of $3.3-billion. Treasury noted that the huge deficit reflected a large dollar outflow during the quarter, mainly as a result of "short-term funds attracted by higher interest rates abroad." (Metals Week, May 24, 1971.)

## MINING CLAIMS

| NUMBER OF CLAIMS | CREEK OR AREA | QUADRANGLE | DATE NOTICE POSTED |
|---|---|---|---|
| 4 | Pioneer Creek | Anchorage | April 1971 |
| 4 | Fox Creek | Eagle | February 1971 |
| 3 | Adler Creek | Eagle | April 1971 |
| 1 | Fortymile River | Eagle | April 1971 |
| 3 | Mosquito Fork | Eagle | April 1971 |
| 6 | Monte Cristo Creek | Fairbanks | April 1971 |
| 10 | Glory & Slide Creeks | Fairbanks | March 1971 |
| 26 | Granite Creek | Gulkana | January 1971 |
| 25 | Silverbow Creek | Solomon | February 1971 |
| 158 | Atsaksovluk Creek | Taylor Mountains | March 1971 |
| 4 | Smith Creek | Wiseman | April 1971 |
| 1 | Fay Creek | Wiseman | April 1971 |

## METAL MARKET

| Metals | May 30, 1971 | Month Ago | Year Ago |
|---|---|---|---|
| Antimony ore, stu equivalent European ore | $ 9.09-10.91 | $11.34-14.06 | $38.39-40.17 |
| Barite (drilling mud grade per ton) | $17-20 | $17-20 | $12-16 |
| Beryllium powder, 98%, per lb | $54-66 | $54-66 | $54-66 |
| Chrome ore per long ton | $25-27 | $25-27 | $31-35 |
| Copper per lb. | 52.8¢ | 56.6¢ | 59.7¢ |
| Gold per oz. | $40.93 | $39.24 | $36.17 |
| Lead per lb. | 13.5¢ | 13.5¢ | 16.5¢ |
| Mercury per 76# flask | $275-285 | $307-310 | $430-440 |
| Molybdenum conc. per lb. | $1.72 | $1.72 | $1.72 |
| Nickel per lb. | $1.33 | $1.33 | $1.28 |
| Platinum per oz. | $120-125 | $120-125 | $130-135 |
| Silver, New York, per oz. | 167.3¢ | 173.3¢ | 166.7¢ |
| Tin per lb | 165.8¢ | 169.5¢ | 174.8¢ |
| Titanium ore per ton (Ilmenite) | $30-35 | $30-35 | $30-35 |
| Tungsten per unit | $55.00 | $55.00 | $50-55 |
| Zinc per lb. | 16.0¢ | 15.5¢ | 16.0¢ |