

# MINES & GEOLOGY BULLETIN



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## DGGS Readies for Field Season

The 1979 field season kicked off in late May when the two-man party of T.K. Bundtzen and G.M. Laird loaded up Pilot Bread and Cutters to map and evaluate the mineral resources of the Kuskokwim River area, in the southwestern part of the state. This year's field-travel conveyances will range from helicopter (in the Brooks Range) to foot (in Southeastern) and will include canoe, inflatable boat, and trail bikes. The dates of some of the other field parties, which are doubtlessly as eager as Bundtzen and Laird to do annual battle with the bugs, bears, and beans, were, due to various budgetary problems, tentative at press time. The field season will end in mid-September.

Date	Personnel	Purpose
5/25 - 7/5, 8/1 - 8/30	Bundtzen, Laird	To complete the 1:63,360-scale geologic mapping and a mineral assessment of parts of the northwestern McGrath and northeastern Iditarod Quadrangles for the on-going state land resource-assessment program. (Foot, limited helicopter, motorbikes.) (Open file, October 1979.)
6/1 - 6/15	Long, Mayo (USGS)	To set up a glacial-advance monitoring system for Lake George. (Helicopter.)
6/9 - 6/21 7/25 - 8/7	Gilbert, Henning, Laird, Ferrel	To complete geologic mapping and mineral-resource evaluation along Cheenetchuk River in the Lime Hills and McGrath Quadrangles. An open-file report will be released in late 1979. (Helicopter.)
6/20 - 8/10	Dillon, Lueck	To complete 1:63,360-scale geologic mapping and reconnaissance geophysical and geochemical surveying of nine 15' southwestern Wiseman Quadrangles. Preliminary results are available in Geologic Report 61 (p. 7). An open-file report on the stream-sediment samples is scheduled for this fall; the maps will be open-filed in early 1980. (Foot, helicopter.)
6/20 - 7/4	Kline, Reger, Forbes	To map the surficial geology near Pilgrim Hot Springs, in the Bendeleben A-6 Quadrangle. The project is in support of geothermal investigations being carried on for the State by the UA Geophysical Institute. (Helicopter.)

Date	Personnel	Purpose
6/29 - 7/3	Riehle, Emmel	To investigate relationship between volcanic flows and high sea-level portions on Stuart Island, and to make gravity determinations between St. Michael and Unalakleet. Objectives: to study coastal-zone geology and volcanic hazards and take gravimeter readings. (Foot, boat.)
7/1 - 7/31	Pessel, Henning, Mc Gee	To map the eastern part of the Anchorage Quadrangle, in the northern Chugach Mountains, including the area near the Border Ranges fault, which juxtaposes upper Paleozoic and lower Mesozoic rocks on the north against upper Mesozoic and Tertiary rocks. The fault has been interpreted as a major plate boundary that developed near the close of the Mesozoic or early Tertiary. The main objectives are to determine the structural relationships between the two terranes and their potential for major base-metal occurrences. An open-file map showing gossans and anomalies will be published in early 1980. (Foot, helicopter.)
7/2 - 7/9, 7/21 - 7/22	Gilbert	To complete correlation and economic evaluation of early to mid-Paleozoic volcanic sequences in the central Alaska Range. End of 5-year project. To publish journal article in 1980. (Helicopter.)
7/6 - 7/30	Long, asst.	To collect discharge and sediment transport data from Matanuska drainage. The results will be published in a special report. (Helicopter.)
7/3 - 7/30	Hackett, Pearson-Davidson	To reoccupy and document gravity-base stations in the western and central Brooks Range to obtain regional and site-specific gravity-data voids. Project will start in Kotzebue and end in Bettles. Gravity-base stations and simple Bouguer gravity maps will be open filed during 1980. (Helicopter.)
7/4 - 7/18	Eakins, Kline	To investigate the economic geology and mineral potential of the proposed Hatcher Pass Recreational Area and to compile a history of the Willow Creek mining district. A geologic report will be published in 1981. (Foot, 1 day helicopter.)
7/15 - 8/7	Riehle, Emmel	To begin mapping (1:63,360-scale) an area of combined Tertiary and Quaternary volcanic rocks in the Unga Island-Balboa Bay region. Long-term objectives include baseline data for future minerals evaluation and geothermal energy studies. (Boat, fixed wing, foot.)
7/15 - 8/7	Lyle, Palmer, Bolm (USGS)	To examine, in a joint project with the USGS, the North Slope area near Kaktovik and collect samples for porosity and permeability studies, basin maturity, and oil and gas potential. (Helicopter.)
8/1 - 8/10	Eakins, Conwell	To survey the mining activity and geologic settings of active prospects in southeastern Alaska. Data will be published in DNR 1979 annual report on mineral activity and mineral resources. (Fixed wing.)
8/1 - 8/15	Long, Childers (USGS)	To collect samples and study hydrologic characteristics of Kobuk River in joint effort with the USGS. (Inflatable boat.)
8/10 - 8/20	Riehle, Emmel	Tentatively scheduled to join contracted team from UA, which will be acquiring field data for evaluation of volcanic hazards around Redoubt Volcano.
8/20 - 8/24	Reger, Kline	To complete mapping of the bedrock and surficial geology of the Big Delta A-4 Quadrangle. A geologic report will be published in 1980. (Canoe.)
8/25 - 8/27	Kline, Reger, Daniels	To profile lakeshores along Richardson Highway to establish a morphologic baseline to measure shoreline disturbances caused by iceshore activity during breakup. A detailed open-file report will be published in 1981. (Truck, canoe.)
9/3 - 9/18	Bundtzen, Gilbert, Eakins(?)	To begin a 1:63,360-scale geologic mapping program and mineral assessment of state lands in the Haines area for the DNR land resource assessment program. (Foot, inflatable boat.)
----	Eakins	To investigate uranium prospects in southeastern, northeastern, and interior Alaska. Date indefinite. (Fixed wing.)

## Pillar Mountain Geotechnical Committee Meets, Makes Recommendations

The Pillar Mountain Geotechnical Committee met for the second time on March 20 and 21. State Geologist Ross Schaff and DGGS geologist Randall Updike attended the meeting.

The committee concluded that there is enough information available to state that Pillar Mountain on Kodiak Island continues to fail. However, the collected information is insufficient as to the magnitude or frequency of failure.

The committee recommended that more data be collected to implement a remedial program as soon as funding is available. It was recommended that the following studies be initiated.

1. Preparation of an accurate, large-scale topographic map based on new aerial photography.
2. Preparation of an accurate, large-scale geological map.
3. Review of existing offshore data not now available to the committee.
4. Displacement investigations.
  - a. Continue and expand the DGGS monitoring system (surface surveys).
  - b. Obtain subsurface data and install drillable monitoring devices.
5. Perform laboratory tests of rocks and other materials.
6. Collect and analyze existing and possibly additional seismic data.
7. Collect and analyze hydrological data.

The committee also recommended that any remedial action taken should be the result of an evaluation and understanding based on the geotechnical data. A major question concerning the shape and depth of failures of Pillar Mountain must be answered before any attempts at remedial action are taken.

## 1,406 Claims Filed in Two Months

In April, 1,046 mining claims were filed, nearly a threefold increase over the previous month. The bulk of the activity in the Kotzebue area was due to Cominco. Last year at this time there were 2,314 new claims, up from the 1977 total of 1,646. The totals, by recording district, are:

Fairbanks	61	Talkeetna	199
Barrow	135	Palmer	28
Rampart	1	Nome	125
Manley	4	Juneau	10
Mt. McKinley	13	Ketchikan	56
Nenana	33	Kodiak	6
Kotzebue	731	Valdez	4

Of the top five minerals that the U.S. imports—platinum, mica, chromium, strontium, and cobalt—Alaska has deposits of them all.

## Alaskan Miners: Check Land Status Before Staking!

Because the land status is changing constantly, anyone who is planning to stake mining claims in Alaska is urged to check with the Bureau of Land Management prior to any planned exploration or claim staking.

After recordation of claims with the proper district recorder, one must also file with either of the following offices within 90 days of staking claims:

### Federal Lands

By law, Section 314 of P.L. 94-579 (Federal Land Policy and Management Act); claims located *before* October 21, 1976 should be recorded with the Bureau of Land Management by October 22, 1979. Claims located *after* October 21, 1976 should be recorded 90 days from date of location.

### State Lands

AS 38.05.020(b)(1) 11 AAC 86.130 Mining Rights: This law requires copies of mining documents to be filed with the State Division of Minerals and Energy Management at 703 W. Northern Lights Blvd, Anchorage 99503.

Locations made on lands selected by the state *prior to the state's receipt of tentative approval* for the selection are made at the locator's risk. However, these claims should be "state" and sent to the state office in Anchorage, because the Bureau of Land Management will eventually reject claims staked as "Federal" on state-selected land.

## Alaska Avalanche Warning System (AAWS) to be Implemented

The hazard of snow avalanches in Alaska is widespread, varied, and extremely serious. Thousands of avalanche courses exist within both heavily developed and undeveloped recreation areas in our state. Alaska's residents have lived with this danger for decades and have paid a high price in lost lives and ruined property.

Since 1970, snow avalanches have killed more people in Alaska than in any other state in the nation; at least 30 persons have died, more than 80 percent of whom were mountaineers.

According to avalanche experts, the potential for disastrous snow avalanches is greater in the area of our capital Juneau than anywhere else in North America. In all, more than 500 habitation structures in Alaska are directly exposed to destruction by snow avalanches, and at least 180 active avalanche paths cross our public highways, railroads, and pipelines. As our population inevitably increases and expands into avalanche-prone areas such as the drainage of Eagle River, the risk of serious or fatal encounters will increase. Clearly it is time to do something practical about the situation.

To reduce similar hazards, the states of Colorado, Oregon, and Washington have developed effective central warning systems to provide information on snow condi-

tions and avalanche potential to travelers and outdoor recreationalists.

A similar program is planned for Alaska. The inter-agency AAWS effort will be developed under the joint leadership of the U.S. Forest Service (Division of State and Private Forestry) and the National Weather Service (NWS). Cooperating agencies will probably include the Soil Conservation Service, the Bureau of Land Management, the National Park Service, the Alaska Railroad, the Alaska Departments of Natural Resources, Transportation and Public Facilities, and Public Safety, the City and Borough of Juneau, the Greater Anchorage Area Borough, and private organizations such as Alyeska Ski Resort. AAWS is scheduled to provide information beginning this coming winter.

The AAWS central office, to be located at NWS facilities in Anchorage, will initially be small, consisting of a project leader and two meteorologists. Their job will be to gather data on weather and snowpack conditions from six primary field stations (Girdwood, Juneau, Chugach State Park, McKinley National Park, Moose Pass, and Valdez) and 25 supplemental field stations and to evaluate these data so that avalanche alerts can be issued when and where appropriate. In addition, they will develop public education programs through lectures and formal schools. During the summers their data and analyses will be useful for forecasting mountain meteorology, potential flooding, and fire conditions.

Further information is available from Steve Hackett (DGGS, College) or Robert C. Janes, Deputy Director of State and Private Forestry; U.S. Forest Service; P.O. Box 1628; Juneau, Alaska 99802.

### Landslide Causes Dam on Inklin River

On April 6, DGGS received information that a large landslide had recently occurred on the Inklin River in British Columbia. The Inklin River, which is a major tributary of the Taku River that flows into Alaska and enters Taku Inlet near Juneau, passes through a rather narrow, deep WNW-trending valley with headwaters draining from snowfields and cirque glaciers. On reaching the Inklin River valley, DGGS geologist Randall G. Urdike found a large landslide, measuring 500 m down-slope, 100 m wide and 25 to 35 m thick, damming an extensive lake. The upper reaches of the lake were observed at the base of a small valley draining NE from King Salmon Lake. Downstream the lake was more clearly defined, covering the valley floodplain from valley wall to valley wall.

The slide occurred on the cutbank side of a meander with a tight arc of curvature. Undercutting of thick, poorly consolidated sediments caused progressive failure in an upslope sense. Movement was apparently rapid and some residual failures are continuing along the headwall. The sediment may have been saturated at depth because a small catchment basin exists upslope. Internal cohesion appears to have been relatively low and no

distinct plane of failure is obvious. Additional failures either upstream or downstream seem unlikely because the conditions producing the existing slide do not exist elsewhere.

Although some additional failure may occur, it should have little effect on additional river damming. The outlet is effectively lowering the lake level at a moderately slow rate so that catastrophic breakthrough of the dam seems unlikely. As lake level decreases the threat of a rapid outbreak will further diminish. The outlet will undoubtedly continue to get wider and deeper.

However, unless the natural dam is removed, more than \$300,000 in revenues generated by the chinook salmon gillnet fishery could be lost, according to Alaska and Canadian fish biologists. If the fish cannot reach their spawning grounds this spring, the 1979 king-salmon run would be eliminated, and local fishermen would begin to feel the effects in from 2 to 7 years—the time it takes king salmon to mature and return to spawn.

### Usibelli Opens New Pit This Year

*(from Alaska on Alaska, Apr. 9, 1979)*

Usibelli Coal Mines, Alaska's only operating coal mine, will begin a two-pit mining operation this summer at Healy—just north of Mt. McKinley National Park. The company's gigantic Bucyrus-Erie 1300 W walking dragline is building a ramp from the haul road into the new Poker Flat mining area located west of the Gold Run Pass pit which has provided Alaska's interior with coal for the past seven years. Gold Run Pass is expected to be depleted in two years. Until then, Usibelli will operate a two-pit operation. The new dragline will be used in the new pit to strip overburden with its 33 cu. yd. bucket. The machine was constructed between November 1977 and November 1978 at the mine. It operated 24 days late last fall excavating 500,000 cu. yd. of material before being shut down for the winter.

### AGS Symposium Successful

The seventh annual Alaska Geological Society Symposium, held in Anchorage April 23-25, proved highly popular with the geological and mining sector of the state. The conference was well attended, and papers presented ran the gamut from petroleum and hard-mineral resources to land legislation. Some of the presentations are excerpted below.

#### HARD MINERAL INVENTORY,

by Gilbert Eakins and Lloyd Eggan, DNR

The Statehood Act of 1959 granted Alaska the right to select 104 million acres of Federal land. In 1976, after implementation of the Alaska Native Claims Settlement Act and the d-2 bill, the Department of Natural Resources began making an inventory of 34 categories of natural resources on all lands in the state. This is part of the process for making State land selections and for dealing with the existing complex

land situation. Approximately 186 million acres of Alaska are estimated to have significant mineral potential. This paper described the portion of the program used in the spring of 1978 for the inventory of the hard mineral resources.

Seven criteria were used in scoring 18,000 townships. These criteria and their algorithm, or weighing factor, are:

Criterion	Algorithm
Industry nominations	1.0
Exploration activity	0.4
Claim density	0.8
Regional geology	1.4
Mineral indicators	1.2
Known reserves	1.4
Past production	1.0

The scoring provided relative rankings of areas for their mineral potential, not for a reserve estimate or a commodity inventory. Scores for each criterion were posted on separate 1:1,000,000 scale maps of the state with a township base. Details of the scoring process and sources of the basic data are described.

The seven resulting maps were submitted to the Planning and Research section of the Department of Natural Resources for computer processing. A printout listed each township by region together with its score for each criterion, computed raw score, normalized score, and rank of the number of land parcels having identical scores, land status, or ownership. A second printout listed each township in the order of its total score. These data, along with those for the other resources, were used at the d-2 hearings in Washington, D.C., in making state land selection, and for special site-location studies.

Provisions are built into the system for updating any of the data and for revising the scoring. A preliminary map showing the top four 10 percentiles was compiled by the Research and Planning Section, and more complete maps are planned.

The deficiencies and problems related to an inventory of this type that covers such an immense area are readily recognized. The Research and Planning Section is in the process of expanding the computer hardware and programs for handling resource data to serve many public and private needs.

#### GREENS CREEK PROJECT,

by John Dunbier, G.G. Snow, and T.A. Butler,  
Noranda Exploration

Greens Creek is located on northern Admiralty Island, 18 air miles southwest of Juneau. Seven prospects there, representing different depositional environments, have been identified to date. The most promising is the Big Sore, named for an oozing ferricrete deposit located where the mineralized bed crops out. Precious- and base-metal sulfides and sulfosalts are localized on a lower limb of an overhead anticline. The ore zone lies between a structural hanging wall of felsic tuffaceous volcanoclastic sedimentary and chemical exhalative

rocks and a footwall of black carbonaceous argillite. The mineral deposits formed on brine pools in a restricted intra-arc or backarc basin from hydrothermal solutions rising along faults. The mineralized zone was covered by the carbonaceous argillite and was likely deformed prior to lithification.

Sulfide-rich pods vary in thickness from 0.5-foot-thick, high-grade silver and gold-rich zones to 90-foot-thick base-metal zones. Drilling has delineated five ore pods which contain 2.1 million tons of 'drill-indicated' reserves whose average grade is 0.41% Cu, 3.29% Pb, 10.04% Zn, 9.46 oz/t Ag, and 0.13 oz/t Au. The ore zone is open down-dip below the 1,300-foot elevation and along strike to the south.

Helicopter-supported exploration has resulted in minimal surface disturbance. Presently, a 9- by 12-foot exploration adit is being driven 4,300 feet into the hanging wall to develop data for a feasibility study. Pending that study, and barring unfavorable political and environmental delays, the Big Sore deposit could be ready for production in 1983.

#### WASHABILITY OF ALASKAN COALS,

by P.D. Rao and E.N. Wolff,  
UA Mineral Industry Research Laboratory

In a program jointly sponsored by the Federal Department of Energy and Usibelli Coal Mines, Inc., 19 channel samples were obtained from the following locations: seven samples from the Nenana field, two samples from the Matanuska field, and one sample each from Wainwright on Kuk River, Meade River, Sagwan Bluff, Tramway Bar, Broad Pass field, Jarvis Creek field, Yetna Region near Fairview Mountain, Beluga field, Kenai field, and Little Tonzona coal bed.

Six 100-pound channel samples were collected, and three fractions of raw coal were made. The float-sink products were analyzed for ash, moisture, heating value, total sulfur, and pyritic sulfur. Proximate and ultimate analyses and hardgrove grindability determinations were made on raw coals.

The results show that significant improvements can be made in the heating value of the coal by removing ash by gravity separation. Most Alaskan coals are low in total sulfur and generally have very little or no pyritic sulfur. Reduction in sulfur is significant only with the high sulfur coal from Jarvis Creek.

#### CARBONIFEROUS METALLOGENY OF THE NORTHERN BROOKS RANGE,

by P.A. Metz and others,  
UA Mineral Industry Research Laboratory

Significant zinc-lead-copper-silver-barite-fluorite mineralization occurs in Carboniferous sedimentary volcanic rocks of the northern Brooks Range. The mineralization has been traced intermittently for 800 km in an east-west-trending belt from Porcupine Lake in the Arctic Quadrangle to the Wulik River in the DeLong Mountains Quadrangle.

The mineralization at Porcupine Lake, at the eastern end of the belt, consists of argentiferous tetrahedrite,

enargite, malachite, azurite, fluorite, and minor barite, bornite, chalcocite, covellite, and pyrite. In the Drenchwater Creek area, in the Howard Pass Quadrangle, major sphalerite and galena mineralization occurs associated with upper Mississippian dacitic flows and volcanoclastics.

In the Wulak River area of the DeLong Mountains Quadrangle, major sphalerite-galena-barite mineralization has been found at several localities.

The following generalizations can be drawn:

1. The copper-silver-fluorite-barite mineralization of the eastern Brooks Range is associated with carbonate-rich tuffaceous and silicified limestones of the Alapah Formation of the Lisburne Group.
2. The zinc-lead-barite mineralization in the DeLong Mountains is associated with volcanic and volcanoclastic rocks of the black-chert facies of the Lisburne Group.
3. The host rocks show strong local basinal affinities and the mineralization generally appears to be controlled by physiographic lows that may be aborted rift systems.
4. The extent of the mineralization is probably much larger than is obvious by surface exposure, since major geochemical anomalies are found in areas of low relief and tundra cover.
5. The elemental associations appear to differ over the length of the mineral belt with copper-fluorite-barite of greater abundance in the east end and zinc-lead-barite more prevalent near the western end of the belt.

#### ENVIRONMENTAL PLANNING AND MINERAL DEVELOPMENT

by Ronald C. Sheardown, Greatland Exploration

Major mineral developments in the undeveloped regions of Alaska inevitably require the preparation of a detailed environmental report prior to the issuance of Federal and State permits to operate the facility. The reports are utilized by Federal agencies for the preparation of an Environmental Impact Statement (EIS).

The nature and size of the project, land status, and types of discharges from proposed facilities determine what permits will be required. In general, if there is a process water discharge or a large air emission from fuel-burning equipment in the mill, permits and ultimately an EIS will be required.

Until recently, each Federal agency had its own requirements for the preparation of impact statements. After extensive review by industry, government, and the environmental community, the Council of Environmental Quality (CEQ) reversed the procedures and requirements for the preparation of impact statements and directed all Federal agencies to follow the same guidelines and procedures. This change has substantially improved the process and should ensure more expeditious processing of impact statements.

Anyone seriously considering the development of a mineral property in Alaska should evaluate the environ-

mental implications of the project at the same time the preliminary feasibility studies begin. Incorporating environmental planning at an early stage in project development insures that problems are uncovered when they are relatively easy to solve and facilitates the entire EIS permit process.

#### DGGS Lab Moves to New Site

The DGGS Minerals and Research Laboratory—more commonly known as the 'assay lab'—has moved from its former location in the Physical Plant at the bottom of the hill on the UA Fairbanks campus. The lab moved in late May to the second floor of the O'Neill 'Resources' Building on the West Ridge, where it will share space and facilities with UA Mineral Industry Research Laboratory (MIRL). The move was predicated chiefly on safety reasons. All lab personnel have moved with it.

The mining-information office is still located upstairs in the Physical Plant Building.

#### Mine Reclamation Paper Given

DGGS mining engineer Cleland Conwell recently coauthored a paper on reclamation in 'Stability in Coal Mining,' presented at the proceedings of the first International Symposium in Coal Mining, in Vancouver, B.C., in 1978. The article, 'Reclaiming mining lands in Alaska,' was coauthored by Stanley Weston, noted Canadian agronomist.

The article details the successful reclamation of the Usibelli Coal Mine, near Healy in the Interior. The project flourished to such an extent that the reseeded areas had to be declared a state game preserve by the Alaska Department of Fish and Game to save the Dall sheep that wintered there.

The paper concluded that:

1. The overburden above the coal can be reworked during stripping to provide a soil with enough silt and clay to hold moisture and enough sand for drainage.
2. Proper nutrients can be added to provide excellent plant growth.
3. The coal lands can be reclaimed for mining without saving topsoil.
4. Properly planned reclamation enables the land to yield more and better crops after mining than before.

Free reprints may be obtained from any DGGS mining-information office.

The town of Dawson, Y.T., was named by the early miners of the Klondike for a director of the Geological Survey of Canada, Dr. George M. Dawson. (But, trivia buffs, can you name which actor, long noted for his roles as a 'heavy' in action flicks, was born there? See col. 1, p. 9.)

## DGGS Offers Four New Publications

In terms of new documentation, DGGS has posted a hand of four aces—one new geologic report, one new special report, one new open-file report, and one new information circular. (And, as a bonus for high rollers there is an updated information circular.)

Just released is Geologic Report 61, 'Short notes on Alaskan geology - 1978,' the newest issue in the annual series of abbreviated articles on new finds in Alaskan geology. The 46-page book costs \$2.

Also recently published is Special Report 16, 'Surficial geology and processes, Prudhoe Bay Oil Field, with hydrologic implications,' by DGGS geologists R.G. Updike and M.D. Howland. This report is a folio that measures 16 by 20 inches and contains 6 pages of text with 14 foldout plates, scale 1:12,000. The deluxe atlas, which costs \$28 (\$29 postpaid), describes the sand and gravel resources, the water resources, and the surficial geologic processes of the Arctic coastal plain environment of the Prudhoe Bay Oil Field.

Somewhat more inexpensive is the new open-file report AOF-120, 'Portage Creek gold placers, Illamna district, Lake Clark Quadrangle,' by T.K. Bundtzen and J.T. Kline. The report has 13 pages of text and 1 blue-line plate, and costs \$2.

The new information circular is even less expensive. IC-24, 'Mining-claim recording districts of Alaska,' is a folded black-and-white map that shows the recording districts and gives the names and addresses of the various recording offices in the state. It is free.

Information Circular 7, 'Alaskan companies and prospectors, 1979,' has been updated. This digest-size 53-page booklet is also free.

### Mining Regs May be Relaxed

(from *ALASKA Magazine*, May 1979)

Prospects for mining in 56 million acres of newly created national parks and monuments improved in February and March. Only claims valid before the land designations were made December 1, 1978, may be worked.

The February issue of the Alaska Miners Association journal declared that "mining in parks and monuments is mostly a myth" under Park Service regulations in effect then, because complying with the regulations was sometimes burdensome, time-consuming or impossible.

Later, John Cook, new national park director for

Alaska, announced streamlined regulations to evaluate valid claims and let work proceed on them, the *Anchorage Times* said, and he planned to meet with the Alaska Miners Association to discuss the situation. Anchorage mining consultant C.C. Hawley subsequently told the *Times* that published regulations appear to clear the way for some mining this summer on Park Service-managed land.

## What Happens to Your New Claim Once it Gets to DGGS

In 1953 the Alaska territorial legislature appropriated money to establish a central recording and filing system for all mining-claim notices, assessment-work affidavits, and other documents affecting claim ownership. Since that time these files are updated monthly after the recorded mining documents are received from the various district recording offices throughout the state.

The central mine-information recording office is located in the College office (p. 1) on the Fairbanks UA campus. This is the nerve center of the system. There are three information suboffices, in Ketchikan, Juneau, and Anchorage (p. 1).

DGGS recently published a map showing the mining-claim recording districts, the recorders, and their addresses; the map, Information Circular 24, is free.

### Method

As the mining-claim documents are received by the College office, they are classified and filed. An entry is placed in our Kardex system. New mining claims are plotted by inch measurement on U.S. Geological Survey 1:250,000-scale quadrangle maps and given an X-Y coordinate (inch scale) to pinpoint the location of the mining claim (described in USGS Bull. 1139). The locations are then recorded in the Kardex system.

Next, the Kardex data—prospector name, claim name and location—of all mining-claim information, which includes new claims, affidavits of assessment work, ownership, and (if known) the type of mineral, are prepared for the computerized Minfile system. Every month, the printout of the Minfile is then microfiche and distributed to each DGGS office, thereby enabling the public to have quick and easy access to this basic claim information. (The microfiche files are available on a subscription basis through the Anchorage mining office.)

DGGS is the only agency in the United States that

## Definition of Geophysicist?

A "geophysicist" is a person who passes as an exacting expert on the basis of being able to turn out with prolific fortitude infinite strings of incomprehensible formulas calculated with micromatic precision from vague assumptions which are based on debatable figures taken from inconclusive experiments carried out with instruments of problematic accuracy by persons of doubtful reliability and questionable mentality for the avowed purpose of annoying and confounding a hopelessly chimerical group of fanatics known as geologists who are the lunatic fringe surrounding the honest and hard-working mine operator.—Anonymous (*Nevada Mining Ass'n Bulletin*, Feb. 1979)



provides this type of information on a readily retrievable basis for public use on both state and federal mining land.

In addition, the four offices have microfiche files of all our active-claim information on microfilm. Thus, people in Southeastern and in Anchorage can avail themselves of microfilmed copies of the *actual mining documents* that are located in the College office.

#### Information Source Only

The central recording system is a source of information. If your claim is not recorded properly, if you have overstaked another person, or if the land you staked on wasn't open for claiming or staking, DGGS cannot help you. We simply maintain the records. If you get a letter from the federal government saying your claim is invalid, you must take up your grievance with the Bureau of Land Management; for a similar letter received from the state, you'll have to contact the Division of Mineral and Energy Management. We do not take sides in any of these disputes.

#### Where to Stake

In closing, remember that the law of 1872 still applies. You can still locate a new mining claim on federal land, but only where public domain has not been withdrawn for other uses—and only for locatable minerals such as gold or silver. A mining claim should not be located for common minerals such as sand and gravel or for leaseable minerals such as coal, oil, and gas. The same is true with the state lands. The state has withdrawn many areas from mining location; these areas are published in the Alaska Administrative Code by the Division of Lands.

### Small Miners: A Vanishing Breed

By Steve Cowper

(Fairbanks Daily News-Miner, Mar. 31, 1979)

In the hearts of Americans, the cowboy rides forever as the symbol of a simpler and perhaps a more noble age. For Alaskans, the mythical prototype is the small miner, whose black bear and pick are memorialized by travel brochures, souvenir shops, and the wallpaper in hotel restaurants.

Like the cowboy, the Alaskan miner is becoming an endangered species. It is commonly said that the myth overshadows the reality; yet every summer up in the Wrangells, out on the Steese, and on nameless Arctic streams, perhaps 1,000 Alaskans work small claims with the eternal optimism of *Candide*. Such persistence is a peculiarly Alaskan kind of celebration of the spirit, at least more so than a cold-blooded business decision. Betting against the odds: that's what Alaska was all about once.

The future is full of ominous clouds for the small miner, not only in Alaska but in the lower 48. It is hard to dig something up from the ground without disturbing the surface. Talling pipes are not favored in Washington, nor are stream alterations and cat trails. Many members

of the Congressional ruling class were sent there to save the rest of America from whatever it was that created the disasters which are their home districts. The Interior Department, which administers most of the nation's public lands, is studded from top to midlevel with former vice-presidents of environmental organizations.

First of all, the United States has no minerals policy. This omission was forcefully brought to the attention of President Carter in June of 1977 by Rep. Jim Santina, a Nevada Democrat. The presidential response was to initiate a "Domestic Policy Review" of nonfuel mineral production under the direction of Secretary of the Interior Cecil D. Andrus. The major purpose of the study is to develop a domestic policy on hardrock mining.

Jim Holt, an Interior staffer in Washington who is in charge of the study, said last week that a draft report on Phase One ("problem analysis," according to Holt) had been sent to the White House for review. Holt couldn't discuss the contents, but after almost two years there's clearly a lot of "input," "interface," and "agency review" left to go. At its present velocity the study might still be lying around on somebody's desk at the end of President Carter's second term of office, if indeed he is so blessed.

Even though direct answers are difficult to obtain, a person of normal intelligence would conclude that Mr. Carter's administration regards mineral development in much the same way as a rural resident might feel about a wolverine in his cabin. Politically, the chief executive is a prisoner of the East, and in raw terms that means little or no commercial development of public lands in the West.

Jim Santina, on the other hand, believes there's a potential crisis brewing. He points out this country's increasing dependence on other nations for supplies of vital minerals, which has the effect of increasing our vulnerability to political upheavals and international cartels. Zaire, for instance, recently increased the price of cobalt by 600 per cent as the U.S., which imports most of its domestic supply from that country, first expressed indignation then paid up.

The groups which oppose mineral development in any form hasten to remind us that U.S. supplies of minerals are protected so long as we use foreign sources. The mining interests, in response to this argument, say that exploration cannot take place without the promise of later development, and they note that there's often a lead time of as much as 10 years before an ounce of ore can be removed from the ground.

The long delay between discovery and actual extraction is a good example of how the cards are stacked against the small miner. Surface-mining regulations are voluminous, sometimes unintelligible, and often contradictory. Armies of lawyers and accountants are needed to sort through federal safety (OSHA) regulations, clean-air, and clean-water mandates. And let's not forget state and municipal restrictions. The big boys like



Anaconda (owned, incidentally, by the Atlantic Richfield Co.) can afford all this, but small operators find it almost impossible.

Why doesn't the federal government make an attempt to consolidate all the various forms, applications, and general gobbledygook one must endure for the sake of digging on federal land? After all, the State of Alaska even got around to passing such a law. When I asked some people in Washington that question, they looked at me as if I had just strolled in from another galaxy. They had never thought about it, but no, they didn't see how it could possibly be done. It was not in their department anyway, they said.

Assuming that an applicant is able to wade through the initial barrage of paper, agency decisions are often painfully slow in coming. Sometimes a form will work its way almost to the end of the tunnel, only to find that a shuffle of agency brass means the whole process must be repeated for the new appointee. Lawsuits by environmental groups charging that the agencies failed to abide by their own regulations are often the next step, though these are usually aimed at the big operators.

At present, the law governing mining claims on federal land is the Mining Act of 1872, which provides for the patenting of claims when certain conditions have been met. Environmentally conscious officials believe that the law must be changed to provide for leasing with royalties to be paid to the government. Restrictions and tight environmental controls could then be built into the lease as contractual provisions.

The miners don't like that idea. Rep. Morris Udall, who needs no introduction to Alaskans, drew up such a bill a short time back, only to find the miners of Tuscon charging towards him in full battle regalia. Rep. Udall abruptly announced that he no longer thought a leasing bill was necessary, and was thereafter re-elected.

As a practical matter, Udall's final position on the matter was probably right. Development of a mining claim is so fraught with constraints—some necessary, others petty and trivial—that a leasing system might even be easier, particularly for the small operator. Although the Eastern press persists in sneering at the BLM's alleged industry bias, the new BLM Organic Act instituted such tight controls on the use of federal land that the abuses of the past are unlikely to ever be repeated. Add the clean air and water regulations noted above, and you have an awful lot of protection.

Who speaks for the miners in Washington? The American Mining Congress is the official industry lobby, but the big operators pay most of its bills. The AMC is regarded as something of a troglodyte by the slicker oil and gas lobbyists, whose clients got into subsidizing public television, university chairs, and symphonies years ago.

"It's a matter of sensitizing the mining companies to

political realities," said a D.C. lobbyist last week. "It's just never occurred to those guys that if they pour silt into a salmon stream, a whole bunch of fishermen are going to try to cut their throats."

The Bureau of Mines, which was originally created for the purpose of overseeing federal minerals policy, has been banished to the rear of the bus by the present crop of Interior policymakers. Often the Bureau's reports are ignored or suppressed, as was its Alaska mineral survey which had to be fished out of Interior through the use of a Freedom of Information request.

Lately, the small miners of Alaska have been fortunate in terms of representation in Washington. C.C. (Chuck) Hawley of Anchorage is as respected as anybody in the business on the Hill, and he perseveres in the face of ignorance, lack of interest, and downright hostility. But Hawley is, after all, only mortal, and any fundamental change in U.S. mining policy will have to come as a result of public pressure.

As things stand now, any change that the miners would regard as beneficial is at best a remote possibility. The general public simply doesn't understand why things like molybdenum and tungsten are necessary. It is, of course, customary in America to wait until the roof falls in before a problem is addressed with any sincerity of purpose.

As most of the private lands in America are being used to provide food and shelter for its inhabitants, mining by and large must either take place on public lands or not at all. Decisions as to whether to permit mining, and if so under what conditions, should be made openly, rationally, and quickly. Instead they are often made covertly and by deferring to emotionalism and political rhetoric, and slowly. Very slowly.

A National Park Service spokesman stated a few weeks ago that his agency would like to see the Kantishna miners continue to operate after the passage of the Alaska lands legislation, even though the miners would be completely encircled by a national park. He said that it would be interesting for the tourists to watch a real Alaskan mine.

Those fellows in Kantishna ought to build themselves some bleachers and buy a popcorn machine, and maybe bring in some elephants and lion tamers during the summer. If the present federal attitude towards mining continues, before long they might be the only show in town.

### Glacier Bay National Monument in Alaska has Mineral Resources

(from Dept. Interior news release, Apr. 23, 1979)

Glacier Bay National Monument in Alaska contains significant deposits of nickel, molybdenum, copper, zinc, gold, tungsten, silver, and lead, and may contain other valuable commodities according to a joint report by the U.S. Geological Survey and the Bureau of Mines.

The monument is a highly mineralized area that in-

Victor Jory, on November 23, 1902.

cludes a variety of geologic environments favorable for metallic mineral deposits, says the report.

Four deposits with known significant mineral resources are the Brady Glacier nickel-copper deposit in the Fairweather Range; the Margerie Glacier copper deposit near Tarr Inlet; the Orange Point zinc-copper deposit on John Hopkins Inlet; and the Muir Inlet Nunatak deposit containing minerals bearing molybdenum, a metal used for hardening steel.

Glacier Bay National Monument covers about 4,400 square miles (11,400 square kilometers) in the Pacific Border Ranges of mountains east-northwest of Juneau. The monument, one of the larger reserves in the National Park System, is known for its spectacular glaciers and fiords.

The study was done as part of a program by the U.S. Geological Survey and Bureau of Mines to evaluate the mineral potential of areas in or proposed for inclusion in the National Wilderness Preservation System. The study of the monument was directed by the Secretary of the Interior in June 1974, a time when the area was open to mining. The area was open to mining until the monument was established in 1925, and was again open from 1936 to 1976.

The authors report that:

- \* The Brady Glacier deposit is largely under thick ice but is available by tunneling. It has an estimated 90 million tons of "indicated" resources that contain 0.53 percent nickel, 0.33 percent copper, and an unknown amount of platinum-group metals. An additional 90 million tons of "inferred" resources of the same grade also are likely present.
- \* The Margerie Glacier deposit contains an estimated 160 million tons of inferred resources with 0.2 percent copper, 0.008 ounce gold per ton, 0.13 ounce silver per ton, and 0.01 percent tungsten.
- \* The Orange Point deposit has an estimated 270,000 tons of inferred resources with 2.7 percent copper, 5.2 percent zinc, 0.03 ounce gold per ton, and 1.0 ounce silver per ton. In addition, there are an estimated 530,000 tons of inferred resources with 0.4 percent copper, 0.3 percent zinc, 0.008 ounce gold per ton, and 0.35 ounce silver per ton.
- \* The Muir Inlet deposit has an estimated 145 million tons of indicated resources that contains 0.04 to 0.06 percent molybdenum and 0.02 percent copper accessible to surface mining. It also has an additional estimated 9 million tons of inferred resources containing 0.06 percent molybdenum and 0.02 percent copper below sea level near the shoreline.

The authors of the report said that the four deposits probably also contain associated significant undiscovered resources of the same minerals, usually in amounts equal to or greater than the identified resources.

Other commodities that could occur, based on the geology of the areas, are coal, oil, gas, nuclear fuels and

industrial minerals. Also, the area may have a geothermal energy potential. The mineral assessment study suggests, however, that none of these are likely to be present in amounts to be economically significant.

Copies of the report, USGS Open File Report 78-494, are available for public inspection at USGS Public Inquiries Offices (108 Skyline Bldg., 508 Second St.) and at the DGGs office (3001 Porcupine), both in Anchorage.

### **'Summary Reports' on Mineral Potential of Alaskan Areas now on Open File**

*(from Dept. Interior news release, Apr. 23, 1979)*

The mineral potential of 5.5 million acres in the Porcupine River region of Alaska, and of 14 million acres in the Tanana-Yukon Uplands region of the State, is appraised in two "summary reports" just placed on open file by the Interior Department's Bureau of Mines.

Both study areas are in eastern central Alaska. The Tanana-Yukon Uplands area extends from Fairbanks east to the Canadian border. To the north, the Porcupine River area extends from the vicinity of Ft. Yukon east to the border. Both areas include Federally owned land that has been proposed by the Interior Department for addition to the Nation's system of National Wildlife Refuges. Pending Congressional action on such proposals, the lands have been designated as special interest areas under Section 17(d)(2) of the Alaska Native Claims Settlement Act.

The appraisals were done by the Bureau on the basis of limited field investigations in areas of rock types favorable for mineral deposits. Results of previous mineral exploration and geologic aerial magnetic, radiometric, and photographic surveys were used to select favorable areas. On-the-ground investigations—including surface sampling of rocks, soils, and stream sediments—were done to follow up promising features and to check all previously known mineral occurrences.

According to the Bureau, the findings in both reports, although preliminary, serve as indicators of mineral deposits that may be present. Full reports now being prepared on the Bureau's studies of both areas will give detailed results of the Bureau's field work, plus prospect reports and sample data. However, the Bureau said, time and funds available for both mineral reconnaissance studies were limited. The studies of the two areas were intended as a general overview. Determination of the ultimate commercial significance of minerals in the two regions was beyond the studies' limits.

The summary covering the Porcupine River region says several parts of the area appear highly favorable for mineral deposits. The southern and southwestern parts of the study area extend into margins of oil and gas provinces.

The report on the Tanana-Yukon Uplands area says that mineralization is present in widely scattered locations throughout the region. Several parts of the study

area have deposits of metallic and nonmetallic minerals. Uranium and oil shale may occur east of the Nation River.

The summary reports are titled "Mineral Reconnaissance of the Porcupine River Region" and "Mineral Deposits of the Tanana-Yukon Uplands." Copies are on open file for public reference in Alaska at Bureau of Mines offices in Juneau, Anchorage (Suite 110, 2221 East Northern Lights Blvd.), and Fairbanks (205 Resources Building, University of Alaska).

Summary reports on five other Alaskan areas, all embracing lands of similar status, were placed on open file earlier by the Bureau and copies can be consulted at the same locations. Titles of the earlier reports are:

- Mineral Investigations of Certain Lands in the Eastern Brooks Range
- Mineral Appraisal of the Wrangell-St. Elias Region
- Geologic Map and Cross Sections of the Red Dog Prospect, DeLong Mountains, Northwestern Alaska
- Mineral Deposits of the Kanuti River Area
- Mineral Data Appraisal of the Proposed Noatak National Ecological Preserve, Alaska: A Preliminary Comment.

### Survival in the Wilderness

—First of all, do not attempt to walk out of a wilderness area. Wilderness areas are expanding and getting larger. Any successful hike across a wilderness area could dump you off in the ocean.

—If lost, it is still a good idea to follow a stream. This will not lead to civilization, but sooner or later you will find a member of the Sierra Club with a petition to sign.

—Pay no attention to eagles flying overhead. Do, however, follow a coyote. Eventually a coyote will lead you to a shepherd's camp.

—And, if you are really concerned, start a mine. Someone will reach you with a citation. You may be transplanted from the real wilderness to a maze of red tape, the final abyss.—Gale Chambers, in *The Mining Record*, Apr. 11, 1979.

### Norman Named Acting Director of USBM, Replaces Markle

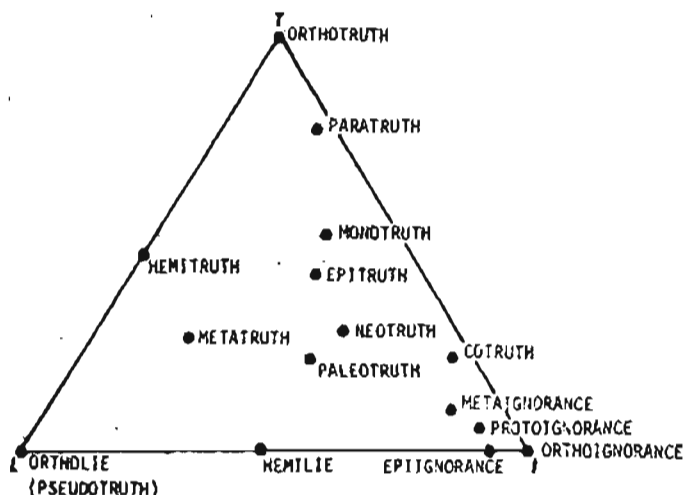
(from Dept. Interior news release, Apr. 11, 1979)

Interior Secretary Cecil D. Andrus today announced the appointment of Lindsay D. Norman as Acting Director of the Bureau of Mines, replacing Roger A. Markle, whose resignation for personal reasons has been accepted by the White House.

Norman, 41, is Chief of the Division of Metallurgy in the Bureau of Mines, and since August 23, 1978, has been Acting Assistant Director for Program Development and Evaluation. Norman joined the Bureau on October 31, 1960 as a metallurgy engineer in the College Park (MD) Metallurgy Research Center and since then has held positions of increasing responsibility.

### Geological T-L-I System Outlined

The truth-lie-ignorance (T-L-I) system in geology ranges from orthotruth to metaignorance, as shown in the graph below and accompanying glossary. This epitruithful system is reprinted courtesy of GEOLOG, the newsletter of the Geological Association of Canada.



- ORTHOTRUTH** - the real truth; withstands the most severe scrutiny. Rare in geology, e.g., crystal symmetry.
- PARATRUTH** - confused by most with orthotruth. Usually quantitative, well documented coincidence of several lines of evidence, but based in part on a supposition which may, in the future, prove to be incorrect. Most exact-looking disciplines in earth sciences (magmatic differentiation, geochronology, etc.).
- MONOTRUTH** - a hypothesis or idea not seriously contested, at present, by others (plate tectonics).
- EPITRUTH** - one hypothesis or interpretation among several others, e.g., submarine-exhalative origin of massive sulphide deposits.
- HEMITRUTH** - a halftruth; shows only one side of the picture.
- NEOTRUTH** - a paleotruith quickly redressed by using the fashionable recent rhetorics (present application of plate-tectonic principles to various continent-based features, e.g., ore distribution).
- PALEOTRUTH** - an archaic truth proved to be no more valid. Common with geologists whose geoknowledge has remained frozen since the time

- of graduation, e.g., idea that all ore deposits must be related to granites.
- METATRUTH** - any higher order truth knowingly metamorphosed to suit one's preconceived idea.
- COTRUTH** - a truth based on an evidence by comparison, when the standard is not commensurable with the compared subject, e.g., buoyancy of lithosphere on mantle compared with buoyancy of wood on water).
- ORTHOLIE** - (or PSEUDOTRUTH as used by gentlemen-geologists and the old-school Japanese): a straightforward lie. Rare in western geology. Has appeared from time to time in dogmatic and totalitarian societies, e.g. Earth as the center of the solar system.
- HEMILIE** - a lie with great degree of uncertainty.
- ORTHOIGNORANCE** - (or 'different opinion' by gentlemen); the zero knowledge without smokescreen.
- EPI-IGNORANCE** - the ignorant unaware (but the audience aware) of his ignorance.
- PHOTOIGNORANCE** - the ignorant aware of his ignorance but trying to make his listeners unaware.
- METAIGNORANCE** - ignorance substituted by a piece of unrelated knowledge; common in exams, e.g., when asked to define micrite, talks about microscopic techniques.

### Drill Bits...

(from *All-Alaska Weekly*, June 1, 1979)

\*Panarctic Oils Ltd. of Calgary, Alberta has announced the discovery of a major new reserve of natural gas in the Arctic Islands. Panarctic said the discovery was estimated at four to five trillion cubic feet but possibly could be double that. Charles Hetherington, president of Panarctic, said the level of the reserves in the islands now reached or exceeded that which would

make the proposed polar gas pipeline project feasible. The proposed pipeline would transport gas from the arctic islands to southern markets.

\*Husky Oil has just recently completed the Ingigok test, 50 miles northwest of Umiat, the deepest well ever drilled in Alaska. It took Husky 347 days to reach TD at feet.

And the test became the 14th dry hole drilled in the 23 million acre National Petroleum Reserve-Alaska (Pet 4) in the past three years. Seven of the holes were drilled under jurisdiction of the U.S. Navy and the other seven have been drilled since the Interior Department assumed jurisdiction in June of 1977.

\*Governor Hammond has signed into law a bill to provide a new method of royalty bidding and to validate retroactively the oil and gas leasing plan submitted to the 11th legislature.

### They Said It....

"This blend (the Udall proposal) of development-oriented uses and natural-area-dependent uses will provide the nation with a sound approach to the management of Alaska's public lands."—*National Wildlife Federation*, Apr. 13, 1979.

"Environmental restrictions on the use of western low-sulfur coal are 'insane' in a period when rising costs are endangering the U.S. economy, according to Dr. Alfred Kahn, President Carter's special assistant on inflation."—*The Mining Record*, Jan. 3, 1979.

"It illustrates once again that when the People get headed in a specific direction, special interests have only two choices—step out of the way or be flattened."—National Wildlife Federation, in speaking of passage of Udall-Anderson Alaska Lands Bill, May 25, 1979.

"'Fragile' just does not appear to be a proper term for a rugged, essentially uninvaded landscape covering tens of thousands of square miles—a place so vast and unpeopled that if anyone could figure out how to steal Italy, Alaska would be a place to hide it."—John McPhee, in *Coming into the Country*.

"The nation, if Andrus and Carter have their way, faces resource starvation because political plutocrats think the pretty cupboard doors covering the Alaska cupboard are more valuable than the cupboard's contents."—A.L. Porter, in *Alaska Industry*, Jan. 1979.

"Finally, wear heavy boots so the mosquitoes cannot

### Strip-Mine Golf Course

(from *Nevada Mining Assn. Bulletin*, Dec. 1978)

Golf course on a strip mine: Walter Heine, director of the federal Office of Surface Mining, recently noted that the general practice of society of yesteryear was to ignore reclamation of strip-mined lands. Industry today, however, is responding to requirements for reclamation, and society is enjoying side benefits from the mining of coal. He said one section of the Illinois coal country has been reclaimed to create a lush, green golf course. Other observers have noted that some soils, reclaimed and replanted after strip mining, are now producing larger and more vigorous harvests of crops than the undisturbed lands.

carry you away."—Advice to outdoorsmen, in *ALASKA Magazine*, June 1979.

### DOE Issues Report on Aerial Gamma Ray and Magnetic Survey of 14 Quadrangles in Alaska (from Dept. of Energy news release, May 1, 1979)

The Grand Junction, Colorado, Office of the U.S. Department of Energy (DOE) will place on open file on May 16, 1979, a report GJBX-48(79), covering 7,683 line miles of rotary wing aerial geophysical survey covering 14 National Topographic Map Series (NTMS) 1:250,000 quadrangles in the state of Alaska.

The 14 quadrangles, Skagway, Atlin, Mt. Fairweather, Juneau, Taku River, Sitka, Sumdum, Port Alexander, Petersburg, Bradfield Canal, Craig, Ketchikan, Dixon Entrance, and Prince Rupert, under the report title of "Southeastern Area - Alaska" is the fourth of four reports covering 29 quadrangles flown by LKB Resources during the summers of 1976 and 1977. This survey was flown as part of the National Uranium Resource Evaluation (NURE) program of the DOE's Grand Junction Office, which includes the acquisition and compilation of geologic and other information with which to assess the magnitude and distribution of uranium resources and to determine areas favorable for the occurrence of uranium in the United States.

For further information on volume content and price options, contact LKB Resources, 55 Buck Road, Huntington Valley, PA 19006.

### Our Gangue....

by Frank Larson, editor

Well, the big news here today is the apparent settlement of the Alaskan Lands Bill in Congress....It appears that the Udall-led conservationists carried the day. They spent money (obscene amounts), lobbied, cajoled, and twisted arms, and are now, as the Indians in the old westerns occasionally used to do, rejoicing by 'counting coups' (scalps). But little did the Noble Redskin of old know then but that his apparent victory would lead to eventual problems—long lines at the maize crib and severe shortages of hunting grounds, arrowheads, lodgepoles, and beaverskins. Perhaps today's granola-snapping 'victors' will first get their muted hints of the Orwellian future by the signs posted all over what used to be Alaska—'National Monument. No dogs or miners allowed. Trespassers will be violated.'....Eventually, the blithe, unknowing residents of the Lower 48 may painfully discover their folly—namely, that everybody in the Third World, from Lower Albania to Upper Zanzibar, has learned the newest immutable Golden Rule: 'Since the U.S. of A. won't process their own minerals, we'll sell them ours for the customary king's ransom.' Maybe then Joe and Mary Blow in suburban Hangnail View Estates will discover that they cannot 'users forever be'....Which brings to mind the most

famous of exceptions, Our Gal Sunday. Surely you remember her....She was the heroine of the old radio soap opera by the same name who, every weekday from 2:30 to 2:45, had concerned housewives all over America pondering (no, not *pandering*) the answer to age-old question, 'Can a girl from a small mining town in Colorado find happiness married to one of England's richest and handsomest lords, Lord Frothingslosh?'.... Well at first, you'll recall, Our Gal Sunday didn't fare too shabbily. Sure, Sunday had her share of dally domestic crises (a la soaper colleague Ma Perkins), but then again she also had some perks: a castle on the heath (complete with hot and cold running moat), a stable, some nags, a mess of tow-headed little snots (who were totally ignorant of their mother's humble beginnings), and a passel of servants, including one wizened, stooped retainer who had been with the family for 137 years, the wrinkled but lovable old butler, Raisin....As with Joe and Mary Blow, Sunday and her entourage also lived blithe, profligate lives—for many years. But how did they fare in the last thrilling installment? Well, most people have forgotten (mainly because of the advent of wrestling on the flickering blue eye in the living room), but I haven't....It seems Sunday and her noble brood fell on hard times. Lord Frothingslosh had, to the clamoring accolades of his peers, invested heavily in Chilean guano mines—rather than investing in the exploration of potential guano fields of nearby 'colonial' Belfast. The result? The Chilean operation was subsequently nationalized, leaving the family penniless. Next, the downtrodden prospectors of Belfast, tired of the oppressive regulations promulgated by the far-off 'home' government and weary of mindless absentee land barons, revolted—an act that distressed the Frothingsloshes even further, since they perennial took their fortnightly vacation there, camping in their Motor-manoir and fishing the mighty Spud River. At last sight, a pale and wan Lord Frothingslosh was taking in tourists, Lady Sunday was taking in laundry, and old Raisin was taking Bridget, the pantrygirl, off to southern California to join a 'Moonie' commune....The moral? Never trust absentee landlords—however noble they may appear—or anybody over 130....Not quite so old, however, is a prospect on Tracy Arm, south of Juneau, that may see claim action this summer if Placid Oil gets the go-ahead from the Forest Service to build a temporary base camp near it. Placid wants to further explore the lead-zinc-copper prospect if obtained last year....Whelan Mining has agreed with Little Squaw Gold Mining to explore and possibly mine their gold placer claims in the Chandalar district. More than 10 miles along the Big, Little Squaw, Big Squaw, and Tobin Creeks will be examined....Speaking of claims, this column was in error last issue: Mapco has 20,000 *acres* of claims, not 20,000 claims, as reported. Sorry. (If Mapco did have 20,000 claims, it could create *its own* national monument—Or at least send a Minister of Guano to Belfast.).....Cheers..

## Metals Market

	<u>May 25, 1979</u>	<u>Three Months Ago</u>	<u>Year Ago</u>
Antimony ore, stu equivalent			
European ore	\$ 17.37-19.50	\$ 17.90-19.00	\$ 16.20-18.20
Barite (drilling-mud grade			
per ton)	\$ 24-47	\$ 31.00	\$ 19-28
Beryllium ore, stu	\$ 50-55	\$ 50-55	\$ 40-42
Chrome ore per long ton (Transvaal)	\$ 54.00	\$ 54.00	\$ 54.00
Copper per lb. (MW-prod.)	\$ 0.90	\$ 0.92	\$ 0.64
Gold per oz.	\$270.90	\$251.00	\$173.99
Lead per lb.	\$ 0.515	\$ 0.44	\$ 0.31
Mercury per 76-lb flask	\$325.00	\$208.00	\$150.00
Molybdenum conc. per lb.	\$ 6.84	\$ 5.86	\$ 4.41
Nickel per lb. (cathode)	\$ 2.85	\$ 2.10	\$ 2.13
Platinum per oz.	\$449.00	\$423.00	\$222.00
Silver, New York, per oz.	\$ 8.768	\$ 7.85	\$ 5.05
Tin per lb., MW composite	\$ 7.38	\$ 7.19	\$ 5.78
Titanium ore per ton (ilmenite)	\$ 50.00	\$ 50.00	\$ 55.00
Tungsten per unit (GSA domestic)	\$125.00	\$120.00	\$124.00
Uranium per lb., MW US			
spot oxide	\$ 43.25	\$ 43.25	\$ 42.5-44
Zinc per lb. (MW-US PW)	\$ 0.39	\$ 0.36	\$ 0.29

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