STATE OF ALASKA

Department of Natural Resources

Division of Geological & Geophysical Surveys

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Bill Sheffield—*Governor* | Esther Wunnicke—*Commissioner* | Ross G. Schaff—*State Geologist*

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DGGS mining-information section 'transferred, but not moved'

On February 1, the Division of Minerals and Energy Management was divided into two new divisions within DNR. A side effect of the reorganization was the transfer of the DGGS Mining-information Section.

The reorganization made the Division of Oil and Gas responsible for matters relating to oil and gas and other leasable minerals except coal. A new Division of Mining houses all authorities relating to locatable minerals, offshore-prospecting permits and leases, coal leasing, and the Alaska Surface Coal Mining Control and Reclamation Act.

'Business as usual at DGGS'

"Basically, the reorganization will have no effect on the public sector," said DGGS Chief Mining Geologist Gil Eakins. "Mildred Brown, Carole Stevenson, and the rest of the staff throughout the state will still be doing the same thing, in the same offices, offering the same services to the public that they always have.

"They will be reporting to a new chief, that's all," added Eakins. The mining-information services were incorporated into the Division of Mining, headed by Pedro Denton, who is located in Anchorage.

DGGS's Fairbanks office was augmented by the transfer of mining engineer Jeff Burton and mining-information clerk Joy Zuke, formerly with DMEM in Fairbanks.

Eakins said that Commissioner Esther Wunnicke decided that the public would be best served by having the Fairbanks Mining Information Office remain in the DGGS office and by establishing offices for Burton and Zuke there, too.

"We now have two divisions in our office serving the mining public in a variety of capacities. It will be a good arrangement for both the public and DNR," Eakins said.

"Please stop by and get acquainted," he added.

Mining activity up over '83

The number of mining claims filed during 1984's first quarter totaled 2,431, less than half the amount filed last quarter but more than twice the 1,160 filed last year at this time.

Land Management Officer Mildred Brown said this drop is normal for the early part of the year. She predicted that the next two quarters will also be fairly slow.

Many of this quarter's new claims were concentrated in the Nulato and Fairbanks areas, mostly in January.

The claims by recording district are:

	Jan.	Feb.	Mar.
Fairbanks	118	110	73
Manley Hot Spr.	0	5	0
Nulato	1,026	0	0
Mt. McKinley	0	15	0
Nenana	1	0	0
Talkeetna	17	54	73
Palmer	7	13	7
Nome	0	33	38
Seward	223	0	63
Juneau	30	10	4
Haines	0	114	0
Petersburg	0	1	0
Ketchikan	25	0	6
Sitka	41	27	0
Anchorage	0	194	0
Cordova	0	15	0
Chitina	11	14	0
Valdez	2	0	41
Bethel	15	0	0
Kodiak	5	0	0
Totals	1,521	605	305

--from Geolog, *winter 1983.*

USGS, DGGS, to collaborate on GSA's 'Alaska Volume'

The GSA Decade of North American Geology (DNAG) Project has as its goal the preparation of a comprehensive synthesis of current information about the geology and geophysics of North America. The project is a celebration of the Centennial decade of the Geological Society of America.

The centerpiece of the DNAG Project is a 27-volume set of syntheses of the geology of North America. Major pledges of support have been received from the Geological Survey of Canada, the U.S. Geological Survey, the National Science Foundation, industry, and private individuals.

'Alaska Volume'

A volume on the Geology and Tectonic Evolution of Alaska will be one of the 27 volumes. The volume will be edited by George Plafker and David L. Jones, and will consist of about 400 pages of printed text and accompanying maps. The primary objectives of the Alaskan volume will be to provide a concise up-to-date synthesis of the geology, geophysics, and mineral resources of the state and to trace its geologic evolution. Emphasis will be placed on evaluating these data in the light of models of plate tectonics and the concept that much of Alaska is composed of tectonostratigraphic terranes.

Metallic Mineral Deposits and Terranes of Alaska

One of the major articles in the Alaskan volume will be on the metallic mineral deposits and terranes of Alaska. Most of the article will describe the location, geologic setting, host rock, and characteristics of about the 200 to 300 major mineral deposits of Alaska in a series of comprehensive tables and text. A final interpretative section of the article will discuss the relationship of the various

mineral belts to enclosing terranes.

A team of geologists from the Alaska Division of Geological and Geophysical Surveys and the U.S. Geological Survey has been assembled to compile data for mineral-deposit tables, to describe the mineral belts, and to interpret the data. The information will be compiled from a variety of sources, including unpublished data of the authors, data from scientific journals, trade journals, newspapers and newsletters, and unpublished data of geologists in various public agencies, universities, and private companies with permission and citation.

Contributions from geologists who have studied mineral deposits in various parts of Alaska will be requested by the authors responsible for compilation of data for a particular region of the state. Contributors will be listed as authors of individual tables or sections of the text.

Organization and Content

The areas and USGS compilers of mineral deposit data will be Brooks Range and Seward Peninsula (Donald Grybeck), east-southern Alaska (Warren Nokleberg), southeastern Alaska (Henry Berg), and placer deposits of Alaska (Warren Yeend).

DGGS contributors will be Tom Smith and Mark Robinson (east-central Alaska), Tom Bundtzen and Wyatt Gilbert (western and southwestern Alaska), and Robinson and Bundtzen (Alaska Peninsula and the Aleutians).

Compilers will contact potential contributors for each area, said Nokleberg, who is coordinating publication of the volume.

The Alaskan volume is scheduled for printing in late 1985 or early 1986.

For further information, contact the compilers listed above or:

Warren J. Nokleberg
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U.S. Geological Survey
Menlo Park, California 94025
(415)323-8111, ext. 4139

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State geologist warns of major quake fault near Anchorage

(from Anchorage Daily News, Apr. 6, 1984)

New research indicates that a major, active earthquake fault runs through the Chugach Mountains and probably passes near Anchorage, a state geologist is warning.

"We are living in one of the most exciting and dangerous cities in the nation," said Randall G. Updike, chief of engineering geology for the state Division of Geological and Geophysical Surveys.

Updike said that until his agency began its mapping work about 2 years ago, the fact that the fault was active was unknown.

That study indicates an active fault stretches close to the western front of the mountains, the side closest to Anchorage. The fault has moved several feet in the past 500 years, he said.

The research also indicates that a major earthquake in the range of 7 on the Richter scale could originate near Anchorage, he said.

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Big Lake is focus of study

(from the Mat-Su Valley Sun, Mar. 20-26, 1984)

State and federal geologists have been studying Big Lake over the past 15 months to find out more about how residential development affects lakes in Alaska.

George McCoy of the Alaska Division of Geological and Geophysical Surveys said Big Lake is a prototype for other Alaskan lakes and that information gained from studying it will be applicable to many lakes.

McCoy said he and Paul Woods of the U.S. Geological Survey have been

measuring rates of plant growth, or primary production, in Big Lake. They are trying to see how 'nutrient loading' influences primary production.

Nutrient loading is the introduction of an excessive amount of certain nutrients into an ecosystem such as Big Lake. The nutrients going into Big Lake come from fertilizer running off of people's lawns and from leaking septic tanks, McCoy said.

"Big Lake is one of the most highly developed, most intensively used recreational lakes in the state," he said. "We hope to see what the impact of this use will be.

"We are finding that in the east basin, where most of the development is, it is much more productive than the rest of the lake. This could be a result of the development or from the effect of Meadow Creek, which empties into the east basin.

"We need to study the lake over a number of years to find out what the reason is."

High productivity promoted by the addition of lawn fertilizers and sewage is undesirable from a recreational standpoint, McCoy said. The lake is more 'eutrophic' than originally was believed, he said.

A eutrophic lake is one that has an abundance of plant nutrients such as nitrogen and phosphorous, but has a deficiency of oxygen.

"When you just dump sewage into a lake, you get the wrong kind of plant growth," he said.

However, he said, "Nothing I have indicates Big Lake is going to turn into a sewer."

One of the findings of the study is that there is a pronounced layer of high productivity at a depth of 30 feet, McCoy said. Phytoplankton, which are microscopic plants, do better at the lower light levels of that depth.

He said the usual sampling technique used by the Environmental Protection Agency tends to underestimate total productivity because it does not account for this layer.

"Lakes in general are becoming more important, both as rearing habitat and for recreation. We are going to have to manage them very carefully," McCoy said.

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Meteor gives Pelican light show

(from the Juneau Empire, Mar. 20, 1984)

There was some extra entertainment and excitement Saturday night in Pelican and in Elfin Cove over the weekend as a meteor entered the atmosphere, burst into an intense flaming ball, and caused a blast that shook houses and woke people from their sleep.

"We had a real light show," said Joanne Curtiss of Pelican. "It lit up the sky for several seconds---people who were outside said it was so bright that they had to shield their eyes."

Two or maybe three minutes after seeing the fireball, a huge explosion rattled the windows of her house, Curtiss said. The explosion was followed by a short-lived hissing, or fire sound.

Another eyewitness, Terry Scott of Pelican, told the Empire that he was lying in bed looking out his window Saturday night when the "sky lit up like it was daylight."

"At first I thought it was someone playing with flares but then the noise hit and it shook the whole building," Scott said.

A meteor sighting such as the one Saturday with the intense light and sound is unusual in Alaska, said Roman Motyka, a geologist for the Alaska Division of Geological Survey.

Motyka said experts were unsure if the noise associated with the meteor was caused by a sonic boom or actual impact with the ground. If part of the meteor did make it to earth, it probably hit the ground just north of Cape Spencer, he said.

The meteor sighting was reported to the Smithsonian Institution, which

keeps track of such events, said Motyka.

"We're hoping that any fishermen or pilots that see any unusual rock in the area will report it to DNR," he said. "It would be a rare opportunity for us to study such rock."

Anyone spotting what they might think is meteor rock should contact the DNR in Juneau at 465-3600.

Motyka elaborates

(In a postpublication conversation, Motyka had some further comments on the fireball.--Ed. note.)

"The correct time is 1:30 a.m. local time, March 17.

"The fireball was observed by the pilot and crew of an Alaska Airlines flight en route from Fairbanks to Seattle. The aircraft was 50 mi south of Burwash Landing, flying at 33,000 ft, when the meteor was spotted. Captain Dave Archumbeau reported that a brilliant white light lasted for 20 sec before fading to red and disappearing. The fireball came down a considerable distance in front of the aircraft in a general S-N trajectory.

"The concussion of the fireball was felt as far away as Tenakee and Gustavus. The shaking reported by residents of Elfin Cove, Pelican, Tenakee, and Gustavus is thought to have been caused by the supersonic shock wave produced when the meteor entered the earth's atmosphere. It is also possible the concussion was produced by explosive impact. The first hypothesis is the more probable.

"Ms. Crampton of the Smithsonian Institute estimates that fireballs of this size occur on the average of three per month on a worldwide basis.

"Best estimate of 'impact' zone of the meteorite is north of Cross Sound between Cape Spencer and Dundas Bay."

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Hard work never killed anyone. (But why risk being first?)

DGGS musher completes first Yukon Quest race, brings home 'lantern'

Shirley Liss, a DGGS geological assistant, recently returned from 'vacation.'

Liss, a 2-year veteran of DGGS, took some annual leave and, with her eight sled dogs, ran the 1,000-mile-long Yukon Quest Dog Race.

The race, which runs from Fairbanks to Whitehorse, Yukon Territory, took Shirley and her team "about 19 days" to complete, she said. She won 'the lantern,' traditionally given to the last musher to complete the race.

"Actually," said Liss, "I got two lanterns. One from the folks in Carmacks, and another at Whitehorse."

Twenty-five mushers started the race. Liss was the 20th and last. Five entrants scratched for various reasons.

Shirley is no newcomer to mushing. Two years ago she mushed her team from Fairbanks to Nome, a distance of about 900 miles.

The year's race was the first in what folks along the Yukon River hope will be an annual event. It is the only dog race in which the direction changes on alternate years. The next Yukon Quest will start in Whitehorse and complete in Fairbanks, "a scenario that should encourage more Canadian mushers next year," said one mushing enthusiast.

Historic Trail

According to the Alaska-Yukon Trail Association, "early prospectors along the great 'Highway of the North' followed the big river from strikes on the Alaska side of the border into the Klondike and back again. Drifting back and forth, they were generally one and the same people, bonded together more in spirit as 'citizens of the far north' than to seats of government in far-away Washington and Ottawa."

This year's race was won by Sonny

Lindner of Johnson River, who completed the trek about a week before Liss.

"There was no way I wasn't going to finish," said the determined 39-year-old brunette.

When asked if she was going to enter next year's Yukon Quest, Shirley said, "I'm not real sure about the next Yukon Quest, but come next spring I'll be doing something. Depend on it."

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GSA Cordilleran Section sets annual meeting for May 30 - June 1

The Cordilleran Section of the Geological Society of America will meet May 30, 31, and June 1 at the Anchorage Convention Center with the Seismological Society of America, the West Coast Section of the Paleontological Society, and the Alaska Chapter of the Earthquake Engineering Research Institute.

The meeting is sponsored by DGGS, the University of Alaska-Fairbanks, and the Alaska Geological Society.

Symposia are being organized on the Yukon-Koyukuk Basin and metamorphic borderlands, paleogeography, Quaternary geology of the Copper River basin, geology of southwest Alaska (a memorial to Joseph M. Hoare), accreted terranes of the Alaska Range region, paleontology and paleoecology of active continental margins, and, with the Seismology Society of America, the Bering Sea and its margins.

Field trips are planned for Turnagain Arm to Portage, the Matanuska Valley coal-mining area, Willow Creek gold-mining district and Castle Mountain fault, Glenn Highway (bedrock and engineering geology, faulting), upper Cook Inlet Quaternary geology, Anchorage-area engineering geology (emphasizing earthquake effects), Copper River basin Quaternary geology, Anchorage-Seward-Resurrection Bay, Fairbanks mining district (Precambrian and Paleozoic geology, mining, permafrost), Cook Inlet volcanoes (overflight), and Tuxedni Bay and western Cook Inlet (Jurassic fossil locales).

There will be a welcoming party and early registration on Tuesday evening, May 29.

Detailed information will be published along with the preregistration forms and final announcement of the meeting in the March issue of the 'GSA News and Information.' Further information may be obtained from Cheryl Howard, ph. (907)474-7375.

Earthquake Engineering Seminar

Concurrent with the GSA meeting is a seminar on earthquake engineering in Alaska. The seminar, which is billed, "for and by planners, designers, architects, social scientists, emergency managers, and urban planners," will feature sessions on seismic design of buildings and bridges, on seismic-hazards mitigation, and on site evaluation for seismic design. For further information on the May 31-June 1 conference, contact John Aho, ph. (907)278-2551.

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Water Resources Board meets

The Alaska Water Resources Board met in Juneau on March 13-14 to review water-resources activities of state and federal agencies. The board, which includes several DGGS hydrologists, meets periodically to review water-resource activities. It prepares reports and makes recommendations to the governor.

The spring meeting focused on Alaska's emerging Dam Safety Program. Federal and state dam-safety programs were described by representatives of the U.S. Emergency Management Agency, the U.S. Army Corps of Engineers, the Alaska Power Authority, and the DNR. Department of Environmental Conservation personnel discussed water-quality programs. DNR divisions represented at the meeting included DGGS, Land and Water Management, and Parks.

DGGS hydrologists active

DGGS hydrologists Bill Long, Jim Munter, and Steve Mack described the AWARE (Alaska Water Resources Evaluation) 5-year plan, the Potter Marsh hydrological investigation, and the Delta Creek environmental base-line study.

The goals of the AWARE program for the next 5 yr are to provide water-resources information for all Alaskans through collection, analysis, and dissemination of water-resources data, special investigations, and coordination of interagency water-resources investigations.

Of 64 DNR projects, DGGS is involved with 56. These projects cost the state about $1.5 million. Federal matching funds and efforts raise the value of the projects to near $5 million.

Potter Marsh

An example of the hydrologic studies discussed was that of Potter Marsh, south of Anchorage. The man-made marsh, which developed when fill from the Alaska Railroad and the Seward Highway restricted waters from Rabbit Creek, Little Rabbit Creek, and the brackish high-tide waters from Cook Inlet, gradually became a waterfowl and bird-refuge wetland area. Environmentally concerned citizens requested that DNR and other agencies determine the effects of residential development in the basins draining into the marsh and that land managers take steps to ensure that the integrity of Potter Marsh is maintained.

The Board will meet again in September.

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"A dinosaur had a long tail which if you kicked it at the tip would leave you time to run round to the front of the animal and laugh in its face before it transmitted the shock to the brain. This led to its extinction."--Geological Howlers.

Alaskan transect

(from EOS, Feb. 28, 1984)

A cooperative geophysical-geological transect of the Alaskan crust and upper mantle is being organized by the U.S. Geological Survey (USGS), the Alaska Division of Geological and Geophysical Surveys (ADGGS), the University of Alaska, and Rice University.

The project is to be known as the Trans-Alaska Lithosphere Investigation (TALI). The route of TALI lies along the north-south corridor of the trans-Alaska pipeline between Prudhoe Bay and Valdez and extends offshore across the Pacific and Arctic continental margins. The transect will incorporate several supplementary profiles transecting the primary route. TALI is envisaged as a coordinated multidisciplinary effort among government, academic, and industry scientists and institutions.

To prepare a prospectus for the transect, a workshop will be held in Anchorage on May 29 prior to the meeting of the Seismological Society of America and the Cordilleran Section of the Geological Society of America (May 30-June 1). The National Science Foundation is cosponsoring the workshop.

Some of the studies that will constitute important elements of TALI are under way or will be initiated this year. Rice University and the University of Alaska are engaged in a cooperative study of the kinematics of deformation in the Brooks Range. ADGGS and USGS will continue geologic mapping and investigations in various areas along or near the transect route.

To help launch TALI, the USGS will start this summer its Trans-Alaska Crustal Transect (TACT) project to investigate the structure and evolution of the crust, using seismic refraction-reflection, geologic, gravity, and magnetic techniques. The TACT project will begin along the southern onshore segment of the tran-

sect, between Valdez and the Alaska Range; several investigators from other institutions will be directly involved. Other institutions, including Cornell University (COCORP), Lamont-Doherty Geological Observatory, and the University of Utah are exploring participation in TALI in 1985 and later years. The goal is to complete the transect by the end of this decade.

Geologists and geophysicists interested in participating in TALI or the May workshop should contact Robert Page, U.S. Geological Survey, MS 77, 345 Middlefield Rd., Menlo Park, CA 94025 (415-323-8111); or John Davies, ADGGS (907-474-6166) or David Stone, University of Alaska (907-474-7622), both at the Geophysical Institute, University of Alaska, AK 99701.

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DGGS publishes reports on Bootlegger Cove, Cheeneetnuk Limestone

Two Professional Reports highlight the production of DGGS publications the past quarter. DGGS also published six Reports of Investigation and two revised Information Circulars during the preceding 3 months.

Professional Reports

Professional Report 84, 'Subsurface structure of the cohesive facies of the Bootlegger Cove Formation, southwest Anchorage, Alaska,' was written by two DGGS Eagle River geologists, Catherine A. Ulery and Randall G. Updike.

The Bootlegger Cove Formation directly influences ground- and surface-water resources, construction design, and aggregate resources of southwest Anchorage. The formation encompasses a wide variety of sediment textures from numerous depositional regimes in a single glaciomarine-glaciodeltaic system. Eight geologic facies, each reflecting subtle variations in late Pleistocene glaciomarine environment, are defined. Three three-color plates (scale 1:15,840) are included with a 5-page text. Professional Report 84 sells for $3.

Professional Report 85, 'The Cheeneetnuk Limestone, a new Early(?) to Middle Devonian Formation in the McGrath A-4 and A-5 Quadrangles, west-central Alaska,' was written by Robert B. Blodgett, a University of Oregon graduate student, and Wyatt G. Gilbert, a Juneau-based DGGS geologist.

Professional Report 85 names and describes the Cheeneetnuk Limestone, which immediately overlies the uppermost dolomite unit in a stratigraphic column of lower Paleozoic strata exposed in the White Mountain area.

A two-color plate (scale 1:63,360) accompanies the 5-page report, which also describes various taxonomic groups of well-preserved, diverse silcified megafauna. PR-85 costs $3.

Reports of Investigation

Interior Alaska was the focus of the RI's published this quarter. Four of the six reports pertain to the Livengood or Fairbanks Quadrangles. They are:

.RI-84-1, 'Geology of the Old Smoky prospect, Livengood C-4 Quadrangle, Alaska,' by G.L. Allegro (10 p., 1 sh., scale 1:120). $1.

.RI-84-2, 'Photointerpretive map of morphological flood-plain deposits and material resources, Middle Kuskokwim River from Sleetmute to Kalskag, Alaska,' by K.J. Krause (4 p., 5 sh., scale 1:63,360). $6.

.RI-84-3, 'Geologic map of the Makushin geothermal area, Unalaska Island, Alaska,' by C.J. Nye, L.D. Queen, and R.J. Motyka (2 sh., scale 1:63,360). $2.

.RI-84-4, 'Stream-sediment, pan-concentrate, and rock-sample locations, upper Chena River, central Alaska,' by M.A. Albanese (29 p., 1 sh., scale 1:63,360). $2.

.RI-84-5, 'Potential for earthquake-induced liquefaction in the Fairbanks-Nenana area, Alaska,' by R.A. Combellick (10 p., 1 sh., scale 1:250,000). $2.

.RI-84-6, 'Surficial geology of the Livengood B-3, B-4, C-3, and C-4 Quadrangles, Alaska,' by C.F. Waythomas, N.W. Ten Brink, and D.F. Ritter (1 sh., scale 1:63,360). $1.

Information Circulars

Two revised IC's were printed during the quarter. They are:

.IC-18, 'Amateur gold prospecting' (5 p.). Free.

.IC-26, 'Investigate that claim before buying' (5 p.). Free.

In other publications news, DGGS Eagle River hydrologists Larry Dearborn and Bill Long published a 14-page chapter entitled 'Water resources' in the Alaska Rural Development Council's book, 'Alaska's agriculture and forestry.' ARDC's book, Publication 3 (220 p., 3 sheets, scale 1:500,000), is available from the University of Alaska Cooperative Extension Service, Fairbanks, AK 99701.

1983 Mineral Survey

Special Report 33, 'Alaska's mineral industry - 1983,' will soon be available. This is the third annual report produced jointly by DGGS and the Alaska Office of Mineral Development. The report summarizes exploration, development, production, and drilling activities (excluding oil and gas) of the Alaskan mineral industry during 1983. The report is scheduled to be available for inspection at any DGGS mining-information office by mid-June.

In a related note, the initial survey, 'Alaska's mineral industry - 1981-82,' was selected as Alaska's best document by the Alaska State Library and has been entered in the annual competition for best state-government document in the U.S. The 250-page report was chosen from over 1,500 state documents to represent Alaska at the national level, said State Librarian Lou Coatney.

Non-DGGS Publication

DGGS geologist Stuart E. Rawlinson has recently had a paper published by Sedimentary Geology, an international geological journal published in The Netherlands.

Volume 38 of Sedimentary Geology has Rawlinson's 21-page paper, 'Environments of deposition, paleocurrents, and provenance of Tertiary deposits along Kachemak Bay, Kenai Peninsula, Alaska,' on pages 421-442. The paper has 12 figures and a table.

Reprints may be examined at any DGGS office (p. 1).

Oil-and-gas briefs....

(Several items of interest on the petroleum scene have transpired since the last 'Mines & Geology' has been printed. A few of the more pertinent ones are synopsized below. --Ed. note)

Anchorage has 'first' oil rig

In late March, ARCO towed its drilling rig, the Key Hawaii, to the first drilling site that is visible to Anchorage residents. The well is being drilled in about 40 ft of water 4 miles southwest of Fire Island, near Anchorage. The well, which will be drilled to a depth of 11,000 ft, will take 2 or 3 months to complete, said ARCO spokesman Tom Wilkinson. Other rigs have previously been placed farther south in Cook Inlet.

Conoco to develop Milne Pt field

In late February, Conoco Oil announced that it and its partners are committed to spend up to $312 million to develop the Milne Point field over

the next 2 yr. Milne Point, 35 mi northwest of Prudhoe Bay, is expected to produce 30,000 bbl per day for at least its first decade, starting in 1986. The Milne Point project will be the biggest ever undertaken by Conoco Oil. (One month earlier, ARCO announced plans to spend at least $575 million to develop the Lisburne oil field, also on the North Slope.

Norton oil lease in works

The Interior Department is laying groundwork to develop another sale in Norton Sound next year. The sale, designated lease sale 100, is slated to be held in October 1985. The department issued a formal notice of intent to prepare an environmental-impact statement for a sale of up to 20 million acres in Norton Sound. In March 1983, oil companies paid $264 million for rights to explore for oil in the same basin.

Navarin Basin sale

Oil companies submitted more than $632 million in high bids April 17 for offshore tracts in the Navarin Basin federal oil-and-gas lease sale.

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State BLM chief named

(from Anchorage Daily News, Apr. 16, 1984)

Michael Penfold has been named the new director for the Bureau of Land Management in Alaska.

Penfold replaced Curtis V. McVee, who retired last month after 34 years of government service.

Penfold, 46, joined the BLM in 1979 to become director of the Montana state office. He will leave that post to begin his Alaska assignment on May 13.

A federal career employee, Penfold started work with the U.S. Forest Service in 1960 after earning a degree in forestry from Colorado State University.

Mount Veniaminof quiets down

(from Anchorage Daily News, Apr. 18, 1984)

Volcanic Mount Veniaminof on the Alaska Peninsula has quieted down after spewing some ash during the last few days of March, the U.S. Geological Survey reports.

Betsy Yount of the federal agency said weather had kept scientists from flying near the 8,225-foot peak for almost a week, but that clear skies allowed them to get a closer look at the mountain late last week. "We think it's pretty much over," she said.

Scientists had thought Veniaminof might be duplicating an eruption last June that prompted some of the 100 residents of Perryville to leave their homes in fear of a flood caused by melting ice on the mountain, a flood that did not materialize.

The village is about 20 miles southeast of the mountain.

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State says coal deal on with Korea

(from Fairbanks Daily News-Miner, Mar. 17, 1984)

State officials said Friday they are confident that a Korean shipping company now has sufficient financial backing to execute a contract calling for the first exports of Alaska coal.

Commerce Commissioner Dick Lyon said the state will award a $2 million contract Monday to Coast Marine Construction to build a 1,300-foot-long dock in Seward for a coal terminal.

He said the state decided to proceed with the contract after receiving assurances from Suneel Alaska and the U.S. State Department that the Korean trading company had entered into a partnership with Hyundai Merchant Marine, one of Korea's largest companies.

That should ensure there will be enough money for the rest of the export facility, expected to cost about $20 million.

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"Coal is decayed vegetarians." --Geological Howlers.

EPA will enforce new mining rules

(from Anchorage Daily News, Mar. 14, 1984)

Alaska placer miners will have to comply with a series of new water-quality standards beginning this summer or face court action, Environmental Protection Agency officials said Monday.

Miners, during a workshop on the government's new water-quality requirements, said the regulations may not be possible to meet, physically or economically, and could force some miners to close down.

But environmentalists argued the revamped regulations may violate federal law by being too lenient.

EPA officials were in Alaska to brief placer miners on a new water-quality permit process that the agency intends to implement by late spring.

Ed Coate, EPA deputy regional administrator, said the agency is willing to work with miners to give them time to purchase water pumps, if needed, to recycle the water used in placer mining. But he said the government is serious about cracking down and enforcing the new, somewhat less restrictive water standards being proposed.

"Miners expect us to relax the restrictions, but we aren't going to do it. There is a major environmental degradation inherent in placer mining. If not done well, it can foul the water for drinking and fish and wildlife downstream.

"We aren't here to help miners do things the same old way. We want them to do it better, using common sense and good mining practices," Coate said.

He said a small placer miner processing 1,000 cubic yards of earth per day during a 100-day season will dump 100,000 tons of dirt into a stream unless he uses settling ponds. Well designed ponds, according to the EPA, can remove 95 percent of those wastes.

Under EPA's new regulations, placer miners who move less than 20 cubic yards of gravel a day are exempt. Miners who can handle up to 1,400 cubic yards a day are considered to be small miners and are required to, at least, build settling ponds to let mining wastes settle out before used water is returned to streams.

Larger miners likely will have to build pumps to recycle at least 90 percent of the water they use so that highly mineralized water is not returned to streams.

Under the proposed standards, no more than an average of 0.7 milliliters of suspended particles per liter of water may be returned to streams each day, and no discharge may exceed 1.5 milliliters. That standard is more liberal than the current standard that limits discharges to 0.2 milliliters.

EPA at the same time is requiring miners to meet state standards against mercury and arsenic discharges and against mines producing increased cloudiness more than 500 feet downstream.

Coate said EPA this summer will have three two-man enforcement teams traveling around the state checking on the estimated 250 legal placer miners who will be in operation. They also will look for miners who are operating illegally.

Miners argued that on some narrow streams, which don't permit the ready construction of settling ponds, or on streams with low- or high-water volumes, where settling ponds don't work well, it will be impossible to meet the requirements. They argued that requiring recirculating pumping systems on smaller claims will definitely make mining too costly.

"Your regulations just will never work," said Anchorage miner Louie Knudsen. "You guys are trying to shove numbers down our throats without any guarantee that they are attainable on a specific stream. The regulations just aren't flexible enough."

Dru Malone, an Anchorage miner who works claims near Fairbanks,

argued there should be a variance process in the EPA regulations to take into account the quality of water miners take from streams. He said miners also shouldn't be required to improve the quality of water that is not used by humans, spawning fish, or other uses.

"If there are no fish in a stream and no conceivable use for the water, why should we have to meet such strict standards," Malone said.

Environmentalists, however, while supporting EPA's decision to require mining permits this summer, said the agency may have exceeded its authority by relaxing water-quality standards for suspended particles.

"The process is acceptable, but the Clean Water Act was set up to improve water quality, not to see it be legally lowered. The change in standards just seems like a violation of the law," said Jeff Eustis, an attorney with Trustees for Alaska.

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New DGGS-NOAA statewide geothermal map to come out in June

A new map, 'Geothermal resources of Alaska,' will be available in early June, said chief compiler Roman J. Motyka, geothermal geologist for DGGS.

The multicolored map, produced in conjunction with the National Oceanic and Atmospheric Administration at a scale of 1:2,500,000, is a summary of an assessment of Alaska's geothermal resources done jointly by DGGS and the UA Geophysical Institute between 1979 and 1983. Funding for the geothermal studies came from U.S. Department of Energy and the State of Alaska.

The work included reconnaissance of site geology and hydrology, thermal-spring and fumarole temperature and flow rates, and geochemical sampling of thermal waters of over 100 thermal-spring sites and fumarole fields.

Motyka said that generation of electricity is an important use of geothermal resources, "but an equally important use is for direct-heat applications, including greenhouses, aquaculture, and space heating."

"Our geothermal resources can play a significant role in meeting our energy needs, particularly in rural areas," Motyka said. "Although detailed site-specific work has been performed at over six locations, most of the state's geothermal resources still remain virtually unexplored."

"This map is primarily to aid potential users, to help them develop geothermal resources in a manner beneficial for all Alaskans," Motyka added.

The map provides the following information:

.General explanation of geothermal resources

.Location of geothermal sites

.Surface temperatures and flow rates of thermal springs

.Estimates of geothermal-reservoir temperatures

.Brief descriptions of major geothermal sites that are considered best suited for development

.A bibliography.

The map, which costs $5, is scheduled for delivery from the printer in early June. It will be available for examination and purchase at any DGGS office (p. 1) or from NOAA, Data Mapping Group, 325 Broadway, Boulder, CO 80303 (attn: Ronald H. Smith). Mail orders should be sent to the DGGS Fairbanks office.

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DGGS Fairbanks office sees new personnel

The Fairbanks office has two new clerk typists and an 'old' geologist.

Colette Hernandez, previously a secretary for the Civil Service, replaced Doris Isaacson, who transferred to the Department of Labor. Hernandez, 23, recently moved from Illinois with her 4-year-old daughter, Tierney. Colette is interested in computers and enjoys swimming, camping, and softball.

Sally Aasland began working for DGGS in February and spends most of her time handling public-assay samples at the DGGS geochemical lab. Sally, a 10-year Alaskan, likes to race bicycles, ski, sew, and cook (her specialty is cheesecake). Her future goal is to attend cooking school in Europe and start a catering business.

The 'old' face belongs to geologist Gar Pessel, who transferred from the Anchorage office. Gar has been with DGGS for 13 years. His wife, Jan, is an elementary school teacher and will follow him to Fairbanks when the Anchorage schools are dismissed.

In Anchorage, Publications Specialist Michael Armstrong left DGGS to return to the public sector. Michael is attending UA-Anchorage, where he is pursuing an advanced degree in English.

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Latest gold find ranks with best

(from Anchorage Daily News, Feb. 24, 1984)

A gold and precious metals deposit 140 miles southwest of Anchorage could rank among the richest ever discovered in Alaska.

But officials at Anaconda Minerals Co. and Cook Inlet Region Inc. said the value of their find will require 2 more years to be confirmed.

Anaconda announced the discovery of significant gold, zinc, copper, and lead deposits on part of 30,000 acres of land owned by CIRI in the Johnson River drainage, not far from Mount Iliamna.

"Our drilling has produced some spectacular grades of gold and fairly good grades of copper and lead," said David Heatwole, Alaska exploration manager for Anaconda. "Because of its quality and its nearness to tidewater, it could be an economically viable deposit, even given Alaskan costs. But we need to prove up additional gold."

Heatwole said one of the 14 test holes drilled revealed 30 feet of mineral deposits, which assayed 1.2 ounces of gold per ton. "Most gold mines in the Lower 48 operate on less than 0.2 ounces per ton," Heatwole said.

John Sims, director of the state Office of Minerals Development, said Anaconda's top assay showed a gold find nearly 12 times better than the ore body of Juneau's A-J Gold Mine---one of the world's largest low-grade gold mines before its closing. The find matches the gold finds from top mines in the Hatcher Pass and the Chandalar areas, Sims said.

In geological terms, the deposit may be unique. Heatwole said it is highly unusual to find substantial gold reserves in the same areas as lead, zinc, or copper. Tests indicate a zinc content of 24.8 percent, with minor copper and silver values.

Sims said the discovery could trigger a major shift in exploration efforts to the Aleutian Peninsula, since it represents a 'new type' of mineral structure not seen often anywhere.

While Heatwole and Roy Huhndorf, president of the Native corporation, termed the mineral finds significant, they said a decision on developing an underground mine isn't possible until more test holes are bored to determine the scope of the find.

The discovery is also unusual because the nearby Difficult Creek find contains gold, lead, and silver, based on surface tests. Heatwole said two drill rigs will work all summer at Johnson River and that trenching and shallow drilling will take place at Difficult Creek this summer.

A decision to develop a mine likely won't be made before 1987, Heatwole said, with production not likely until 1989.

Chances for mine development are improved by the fact that CIRI owns both sites and has access to a deep-water port about 12 miles away on Tuxedni Bay. Development may be hampered, however, since the find is in mountainous land that receives an

average of 20 feet of snowfall a year and deposits found so far are 800 feet below ground.

Heatwole said the snow may force ore concentrate milled at the site to be transported by underground tunnel or, possibly, by aerial tram. The mine is only the second major underground mine now under consideration for development in Alaska.

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Our Gangue....

By Frank Larson, editor

Bears are not the only ones to hibernate. Garages do, too. In the spring, though, garages awaken full. The result? Keepers of garages all across the land fill page after page of classified ads promoting that domestic counterpart to Roller Derby, the Garage Sale....The spring rut for garage-sale junkies arrives in April. I know. I am an admitted garage-sale addict....The true Garage Sale Freak (GSF) doesn't just casually drop in on a neighborhood sale. No way. The GSF plans his whole weekend around garage sales. He plots his way around town with as much exactitude as, say, that used in the famed Israeli raid on Entebbe. (Well, would you settle for the raid to free our prisoners in Iran?)....The GSF starts out by scrutinizing Friday's paper, underlining, circling, starring, and noting locations, times, and commodities available. In the GSF's mind, Saturday's blitzkrieg begins to take shape. Before turning in, he tops off his gas tank. By midnight, Friday, the GSF has completed the assault plan of 'Operation Junque.' He synchronizes three alarm clocks for 0700 hours Saturday....After a fitful sleep, Zero Hour arrives. The GSF sets out, map and chronometer in hand, warily searching for targets of opportunity. He follows his battle plan and his six basic tenets: don't dawdle, don't be hemmed in by LOL's, move, move, dicker, dicker....And so it goes, all across the land, every spring.... Garage sales have become an American institution, an industry. Why, you ask? Why has the allegedly civilized world gone ga-ga over garage sales? Why, for the same reason that drove Edward 'Blackbeard' Teach to sea: greed. Good old greed, pure and simple. You see, one never knows what booty may lurk behind that mildewed stack of National Geographics or beneath Aunt Mary's half-finished quilt and her old Toni Home Permanent kit....I can no way drive past a cardboard sign tacked to a telephone pole any more than a Harlem junkie can turn down free dope....My home decor is Early Garage Sale. (My bed is made of oak. Cost? $1.25.) My closet is a microcosm of fashions from all over town. (Eleven pr of faded Levis. Cost? $22.) My pantry is Dented Can City. My lawn gets cuts with a push mower. (Cost? $5.) In fact, my own garage now houses a treasure trove of artifacts, all 'imported'---a $15 fridge for beer, $35 clothes dryer, a $2 garden hose, $10 bunny boots, 25-cent woolen hats and gloves, 50-cent cans of paint, and numerous empty jars, 8-track tapes, paperback spy novels, and taped-up bags of dogfood. Some day, I'll have to have a garage sale of my own. Trouble is, I can't bear to part with any of the stuff.... My teenage daughter, of course, is of a different school. (All kids are. It's called the Wave-length Gap.). She'd rather freeze in the dark than wear something 'pre-owned.' She visibly shudders when she sees her old dad come staggering home, reeling under a load of goodies from a day's foray into the dark, cobwebby lairs of neighborhood housewives..."Look at this neat driftwood, Hon. Won't it look great in your room? It came from Clam Gulch."/"Ohhh, Daaaaaad. No way."/"Well, then, how about this nice pair of red vinyl mittens? Only used one winter."/"Daaaaaad."/"And lookee here, an almost new Walkman. It plays 8-track tapes. You don't see many of these any mo..."/(Slam.)/....Hmmm. She obviously equates spring with boys, not garage sales. Well, I'll

hang onto the red vinyl mittens. Maybe they'll fit me....In news around the 49th State, engineers believe an underwater landslide in January caused a partially built dock at Kake to collapse. Harold Andersen of Quadra Engineers said the weight of fill dirt probably caused the sea bottom to slide. Quadra is building a $1.5 million landfill dock for the SE community, located 100 mi south of Juneau.... Alaska Revenue Commissioner Bob Heath will resign after the current legislative session to pursue, among other things, part ownership in a gold mine near Fox....In a lawsuit filed in November, various environmental and Native groups charged Alaska's miners with violating the Statehood Act by failing to adopt a lease system for gold and other hard-rock minerals. If successful, the suit, which charges the state with "failure to collect rent and royalties, resulting in a massive loss of potential state revenues," could wipe out 45,000 state mining claims, said Alaska Miners Ass'n spokesman (and former DNR Commissioner) Chuck Herbert....Olympic medal winners, take heed: If you ever find yourself down and out, don't bother taking your medals to a smelter. There is only about $85 worth of gold in your gold medal; a silver medal will bring you only about $10. (The worth of your bronze medal? Don't even bother asking.)....On February 26, Anchorage had a 3.9 earthquake. Nothing rattled but dishes and a few oldtimers' nerves. On March 14, a quake measuring 4.5 rattled the Hatcher Pass area. The only casualties were two bottles of booze in a Willow lodge....Lawrence E. (Lonnie) Heiner was named 1985's Interior Business Leader of the Year by the UA-Fairbanks Associated Business Students. A 1961 UA grad, Heiner organized Resource Associates of Alaska in 1971 with less than $1,000. The firm (now NERCO Minerals) today has 80 employees and has invested $36 million in Alaskan mineral exploration. (NERCO, incidentally, recently acquired half interest in Nevada's Taylor Mine, which has produced more than 2.8 million oz of silver since May '81. Heiner thinks silver will rise to about $15/oz some time next year....The federal Office of Surface Mining gave the state $400,000 for completing design work for reclaiming 15 abandoned mine sites in south-central Alaska....The old A-J Mine in Juneau has been leased to Barrick Petroleum of Toronto in partnership with the Juneau City-Borough and the Alaska Electric Light & Power. The low-grade ore body, which yielded 7 million oz gold before it was shut down in WWII, may have upwards of $2 billion in it, sources report. Under the lease, Barrick must spend $1 million/yr for 9 yr....DNR Commissioner Wunnicke denied Sohio permission to use explosives to seismically test a 5-mi-long strip in Bristol Bay near Port Moller. Sohio was attempting to correlate known geologic data from four onshore wells with data from an offshore well before lease sales in 1985 (federal) and 1988 (state)....Oil firms have begun exploring 92,000+ acres inside the Arctic Nat'l Wildlife Refuge, 40 mi east of Prudhoe Bay. Chevron hopes to finish seismic work over a 30-mi stretch of tundra south of Barter Island soon. The studies were made possible by a land swap last year between the Dept. of Interior and the Arctic Slope Regional Corp....In another land swap, the feds agreed to exchange land with the NANA Regional Corp. to give the Native group the access route it needs to get minerals from its Red Dog lead-copper-zinc deposits to tidewater. If the exchange is approved in June as expected, the mine could begin producing in 4 yr. The feds will swap 95K acres in the northern part of the Cape Krusenstern Nat'l Monument for 101K acres in the NE section....Despite rumors to the contrary, there is no substance to the rumor that these land swaps were consummated over a cup of Saturday-morning coffee in a garage in suburban Chevy Chase, Maryland.....Cheers.

Metals Market

	Apr. 2, 1984	3 Months Ago (1/9/84)	1 Year Ago (4/18/84)
Antimony metal per lb (NY dealer)	$ 1.55	$ 1.27	$ 1.20
Beryllium ore, stu*	$100-120	$100-120	$100-130
Chrome ore per long ton (Transvaal)	$ 48-52	$ 48-52	$ 48-52
Copper per lb (MW-prod)	$ 0.78	$ 0.72	$ 0.76
Gold per oz (Handy & Harman)	$ 388.15	$ 376.88	$ 354.65
Lead per lb	$ 0.25	$ 0.26	$ 0.26
Mercury per 76-lb flask	$ 317.00	$ 315.00	$ 364.00
Molybdenum conc. per lb (MW oxide)**	$ 3.85	$ 3.75	$ 7.90
Nickel per lb (cathode)	$ 2.29	$ 2.20	$ 2.60
Platinum per oz (MW NY dlr)	$ 393.00	$ 380.00	$ 334.70
Silver per oz (Handy & Harmon)	$ 9.57	$ 8.44	$ 7.13
Tin per lb (MW composite)	$ 6.35	$ 6.24	$ 6.59
Titanium ore per ton (ilmenite)	$ 70-75	$ 70-75	$ 70-75
Tungsten per unit (GSA domestic)	$ 71.77	$ 64.48	$ 92.66
Zinc per lb (MW-US PW)	$ 0.53	$ 0.49	$ 0.35

* - Standard ton unit (20 lb).
** - Climax-concentrate list price suspended.

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