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MINERALS ACTIVITY SUMMARY

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Information is currently being compiled for the 1984 Minerals Review, a joint effort between the Department of Natural Resources and the Department of Commerce and Economic Development. Preliminary estimates indicate that 1984 mineral exploration expenditures totaled about $23 million, down about 35 percent from 1983 levels. Development expenditures in 1984 were $35 million, up 29 percent from 1983 levels. About 175,000 ounces of gold was recovered in 1984, up several percent from 1983 despite lower average bullion prices and a 15 percent drop in the number of placer mining operations. Individual successful placer mining companies had to substantially increase their outputs to offset decreases in the price of gold. Tin, silver, antimony, peat, soapstone and platinum were also produced. Coal production rose six percent to 849,161 tons (the largest statewide production since 1967) mainly because of initial Usibelli coal shipments to Korea that began in December. Preliminary estimates show sand, gravel, and stone production at about $105 million, down about 25 percent from 1983 levels. The total value for 1984 exploration development and production is expected to total approximately $275 million (excluding oil and gas).

Several of the most promising hardrock and coal developments highlight Alaska's current mining activities. Progress continues at the Red Dog zinc-lead-silver project in northwest Alaska, owned by NANA Corporation and operated by the Cominco Alaska Corporation. On site activity during 1984 included additional drilling of the ore bodies, foundation and pad drilling of infrastructure facilities and the mill site, and geotechnical studies of the proposed road which will link the mine with a seaport 55 miles to the west on the Chukchi Sea. The Final Environmental Impact Statement (FEIS) for the project was issued in 1984. A top priority for the project will be to gain an access corridor to the Chukchi Sea through a national conservation unit. A land exchange between NANA Regional Corporation and the National Park Service is being negotiated. Cominco has requested financial assistance from the state for the road and port facility. A report released by the Office of Mineral Development for the Governor forecast long term positive benefits that will pay back the initial state investment if the Red Dog mine proceeds to production. Cominco's decision to move into the development phase is pending and will be affected by the actions of the 1985 state legislature on the port and road proposals.

The Noranda Company proceeded with development of the Greens Creek silver-gold-base metal deposit 18 miles west of Juneau. In 1984, the company completed approximately 21,000 feet of surface and subsurface drilling and about 900 feet of underground drifting (or tunneling). The company discovered a new ore body in 1984, adding at least one million tons of ore to the existing reserve base of four million tons grading 12 oz/ton silver, 0.1 oz/ton gold, and 10 percent lead and zinc. The new ore body averages 16 oz/ton silver, 0.16 oz/ton gold, 14 percent zinc, and 3 percent lead, so the overall grades will increase. Recent cost and engineering studies have resulted in some revisions of proposed mining methods and daily output projections. A positive cash flow is indicated, and this may be the first of

the devolping hardrock mines to achieve production. A decision by Noranda to initiate construction of a road and a mill site, is said to be very near. The Greens Creek project was incorporated into a non wilderness area of Admiralty Island National Monument in 1980; in 1983, a draft EIS for the monument included a preferred alternative that would exclude 17,225 acres near the northern boundary including the Greens Creek Deposit and add 18,174 acres of the popular Young Lake area to the national conservation unit. The state has supported this boundary adjustment, which would eliminate costly exploratory efforts mandated by ANILCA.

U.S. Borax continued work on their Quartz Hill Project but on site work was less than previous years. To date the company has invested $100 million on exploration and development of what may be the world's largest molybdenum deposit. Much attention is now directed toward the site of submarine tailings disposal, with the two options being Boca de Quadra and Wilson Arm. Wilson Arm was initially ruled out because it contained an insufficient volume to contain all the the tailings; but company studies now show that Wilson Arm can contain all the mine tailings. Conservationists and fisherman have expressed opposition to the Wilson Arm option, but the Sheffield administration has indicated that it will consider the Wilson Arm option provided that appropriate research is conducted. Current plans call for the production of molybdenum by the early 1990's, but development scheduling will require a careful research of market demand and continuation of thorough environmental monitoring, which the company has performed in past years.

The coming year will be an important one for the coal industry. The Usibelli Coal mine's successful delivery of coal shipments bound for Korea has spurred optimism that an Alaskan mineral product can be exported to a circum pacific market. As of January 20th, three train shipments with 36,790 tons of coal had arrived at Seward and the loading of a 50,000 ton coal ship was well along. Despite minor technical problems at the port facility, characteristic of any new resource venture, Usibelli expects to eventually double his present production rate to 1.6 million tons annually from his mines at Healy under the 15-year contract with the Korea Electric Power Company. Expansion of the mine workforce and construction of the multimillion dollar facilities required for the increased production at Healy are complete.

The Diamond-Alaska Chuitna project in the Beluga Coal Field near Anchorage is preparing to submit major permit applications in 1985. The U.S. Environmental Protection Agency (EPA) will prepare a draft EIS for the project, by July 1985. Dames and Moore of Anchorage is project consultant for the draft EIS.

If major permits are acquired on schedule, design engineering and preproduction construction could begin by 1987 or 1988. The key to this and other state coal projects will depend on the construction of coal fired power projects in Taiwan and Japan custom designed to use very large tonnages of the Alaska coal. The Chuitna project plans for export of up to 15 million tons of coal annually, but it will be sometime before accurate needs of the Japanese and Taiwanese power complexes are ascertained. Alaska's coals are very favorably located to supply these potential markets.

Placer U.S. is exploring a much smaller export market of one million tons of coal annually from its Beluga coal field properties. This company is also interested in local mine-mouth power generation.

The feasibility of a mine mouth power plant in the Mantanuska field, is under evaluation by MPP Associates, a consortium of Signal, Cook Inlet Regional Inc., Rocky Mountain Energy Corporation, and the Hawley Resource Group. MPP is examining the feasibility of a 150 MW plant for Anchorage-south central power needs. Matanuska Valley coals are of very good quality and at one time supplied Anchorage power plants.

The Bering Development Corporation, a joint venture consisting of the Chugach Alaska Corporation and the Korean Alaska Development Corporation, completed over 22,000 feet of drilling during 1984, and feasibility studies for producing the Bering River coal field near Cordova. A state legislature funded transportation design study was completed by Whellabrator Coal Service Company for this project. The venture is planning to ship between 1.5 and 3 millions tons/yr to Korea.

Interest in offshore gold placers is high, and numerous offshore exploration permits are being sought from the state to explore Alaskan waters near earlier onshore mining districts. Power Resources Corp. is seeking permits to dredge 8,600 cubic yards per day in Norton Sound; Aspen Exploration Corp. has spent $400,000 testing material in the Cook Inlet; Noranda Exploration is looking offshore from Yakataga; and Juneau Gold Mining Company has constructed dredging and milling facilities to process four million tons of old mill tailings near Juneau. Concerns over the effects of dredging on marine life are delaying these projects.

Other highlights of the mineral industry include: (1) WGM Inc., operator of Camindex Mines, produced 20,000 ounces of placer gold from their Valdez Creek mine in south central Alaska. To our knowledge, this represents the largest gold production from a single mining operation in over 20 years. Several years of resources at this level of production is assured for this property. (2) The discovery of placer diamonds in the Circle District north of Fairbanks was confirmed in 1984. Bulk sampling and testing is anticipated in 1985. (3) Silverado Mines Ltd., TriCon Mining, and Aurex Inc. completed an extensive exploration program including drilling and subsurface drifting at the Grant Mine near Fairbanks. A substantial tonnage of mineralization was discovered from this work. A development - production decision is expected in 1985; if positive, a mill and other infrastructure would be constructed. (4) NERCO Minerals Inc. of Fairbanks awarded a $144,000 grant to the University of Alaska Mineral Industry Research Laboratory to establish a hydro-metalurgy research laboratory. Hydrometalurgy involves the chemical extraction of metal from mineral ores, in contrast to conventional smelting technology. UAF researchers will test several Alaskan complex ores as well as those from deposits of the western states. Positive results could revolutionize mining techniques in Alaska.

The state provided two new additions during the past year that are important to the mineral industry in Alaska. The Geologic Materials Center, a joint State Division of Geological and Geophysical Surveys and the U.S. Geological Survey project, is now functioning. The center will house rock samples and cores representing over one billion dollars worth of mineral exploration in Alaska, and will be a great asset to industry and the state when evaluating Alaska's mineral and petroleum resources. The center is located in Eagle River and operated by DGGS. Alaska's State Division of Mining was created in January 1984, by the Commissioner of the Department of Natural Resources in

order to provide a closer working relationship between the mineral industry and the state. The agency handles onshore and offshore mineral leasing, assists with permits, and operates the mining information offices and claim files.

Metals commodity markets continue to be depressed despite a nation wide economic recovery, and increased consumption of metals in 1984. Many mineral companies nationwide continue to show operating losses and some have gone out of business. Some substitutions of metals is taking place in some industries, but many analysts attribute the poor metal markets to the countries huge deficits, falling oil prices and the strong U.S. dollar, which allow virtually every country in the world to produce metals cheaper than our own mines. The development of a healthy mineral industry statewide will depend upon resolution of difficult problems including: establishing legal access to mineral properties across a variety of land classifications; designing workable mine and plant water discharge standards for Alaska's placer mining industry, and the creation of transportation systems. Strong support by the state and people of Alaska will be required.