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ALASKA'S MINERAL INDUSTRY 1986: EXECUTIVE SUMMARY

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Alaska Division of
Mining and Geological and Geophysical Surveys

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This document briefly highlights the activities of the Alaskan mineral industry during 1986. The staff of the Alaska Division of Mining and Geological and Geophysical Surveys and Alaska Division of Minerals and Forest Products has completed a more comprehensive summary that will be presented in mid-1987 in DMGGS Special Report 40, 'Alaska's Mineral Industry - 1986.'

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Alaskan-mineral industry activity during 1986 substantially declined from previous years. Expenditures for exploration, development, and production totaled $231.7 million, down from $269.8 million in 1985, a reduction of about 14 percent (table 1). The number of people employed in various aspects of the industry dropped from 3,680 in 1985 to 2,930 in 1986. Principal mineral commodities produced during 1986 were 20.9 million tons of sand and gravel valued at $75.8 million, 160,000 oz of gold valued at $60.8 million, and 1.49 million tons of coal valued at $40.1 million. Sand and gravel, gold, and coal account for 89 percent of the 1986 total production value of $198.5 million (table 2). Building stone, tin, silver, antimony, mercury, jade, soapstone, and peat make up the remaining 11 percent. Sand-and-gravel production dropped 26 percent from the previous year because of greatly reduced oil-and-gas infrastructure developments on Alaska's North Slope and reduced construction in urban areas of southcentral and southeastern Alaska. Both declines were caused by the plunge in oil prices during 1986.

Table 1. Total value of mineral industry in Alaska, 1984-86.

	1984	1985	1986
Exploration	$ 22,283,650	$ 9,150,000	$ 8,914,744
Development	53,348,055	34,120,775	24,331,972
Production	199,437,167	226,599,250	198,461,007
TOTAL	$275,068,872	$269,870,025	$231,707,723

Loss of total value, 1985-1986, is $38,162,302.
Percentage loss, 1985-1986, is 14.1 percent.

Table 2. Reported mineral production in Alaska, 1984-86.

Metals	Volume 1984	Volume 1985	Volume 1986	Value 1984	Value 1985	Value 1986
Gold (oz)	175,000	190,000	160,000	$ 63,000,000	$ 61,175,000	$ 60,800,000
Mercury (lb)	380	2,094	912	1,500	10,000	2,800
Antimony (lb)	135,000	65,000	45,000	225,792	98,000	67,500
Platinum (oz)	W	--	W	W	--	W
Silver (oz)	20,000	28,500	24,000	159,000	171,000	134,400
Tin (lb)	225,000	300,000	340,000	400,000	650,000	890,000
Tungsten (stu)	NR	NR	120	NR	NR	22,800
Subtotal				$ 63,786,292	$ 62,104,000	$ 61,917,500
Industrial minerals, coal, peat						
Jade, soapstone (ton)	5.5	W	2.0	$ 16,500	W	$ 12,000
Sand & gravel (mt)	27.0	28.2	20.9	95,000,000	112,062,750	75,761,507
Building stone (mt)	2.7	2.5	4.2	16,000,000	12,150,000	20,320,000
Subtotal				$111,016,500	$124,212,750	$ 96,093,507
Coal (ton)	849,161	1,370,000	1,492,707	$ 23,775,000	$ 39,730,000	$ 40,100,000
Peat (yd^3)	125,000	85,000	50,000	859,375	552,500	350,000
Subtotal				$ 24,634,375	$ 40,282,500	$ 40,450,000
TOTAL				$199,437,167	$226,599,250	$198,461,007

[a] Production data from 217 returned DMGGS questionnaires, U.S. Bureau of Mines statistics, precious-metal outlet data, interviews with mine operators, and other confidential sources.
[b] Average price of minerals in 1986 assumed to be gold = $380/oz; silver = $5.06/oz; antimony = $1.50/lb; mercury = $300/flask, tungsten = $190/stu; coal (FOB Healy) = $26.86/ton; peat = $7/$yd^3$; and building stone = $4.80/ton. Statewide sand and gravel averages $3.75/ton, but prices vary according to region.
NR = Not reported; W = withheld.

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The volume of gold production decreased 16 percent, and the number of mechanized placer mines—the principal producers of gold bullion—decreased 27 percent (table 3). Reasons for this decline are complex. Two federal lawsuits related to mining on federal lands in Alaska, along with continued uncertainties about state water-quality regulations, contributed to the decreased production. The Sierra Club vs. National Park Service (NPS) lawsuit was settled in 1985. With narrow exceptions, it prohibits mining in three national conservation units until the NPS completes comprehensive environmental assessments, which could take several years. Thirty mining companies were operating in Denali National Park and Preserve, Wrangell/St. Elias National Park and Preserve, and Yukon-Charley Rivers National Preserve in 1985. Only one small mine operated in 1986, which resulted in the loss of over 22,000 oz of gold production and 175 jobs. The 'BLM' lawsuit (Sierra Club vs. Penfold) that was filed in federal district court in Alaska in February challenged how BLM administers mining on federal lands. As a result of the lawsuit, BLM was required to make individual environmental assessments for every placer mine in Alaska and to enforce retroactive land reclamation. This lawsuit may be resolved in 1987.

Table 3. Reported refined gold production, number of operators, and industry employment in Alaska by region and mining district, 1985-86.[a]

Region and mining district	1985 Mechanized units	1985 Production (oz)	1985 Employment	1986 Mechanized units	1986 Production (oz)	1986 Employment
Northern	18	14,400	70	4	4,500	15
Chandalar						
Shungnak						
Koyukuk-Nolan						
Western	40	40,000	340	42	53,000	363
Nome						
Kougarok						
Koyukuk-Hughes						
Port Clarence						
Fairhaven						
Ruby						
Solomon						
Koyuk						
Council						
Eastern Interior	135	66,000	740	83	45,350	375
Circle						
Livengood-Tolovana						
Fairbanks						
Fortymile						
Manley-Eureka						
Richardson						
Bonnifield						
Kantishna						
Rampart						
Southcentral	38	52,500	263	30	39,000	268
Cache Creek						
Nizina						
Chistochina						
Valdez Creek						
Kenai Peninsula						
Nelchina						
Southwestern	32	17,000	125	33	18,000	128
Innoko-Tolstoi						
Iditarod-George River						
Moore Creek						
Nyac						
Crooked Creek						
Lake Clark-Mulchatna						
Southeastern and Alaska Peninsula	3	100	7	3	150	6
TOTAL	266	190,000	1,545	195	160,000	1,155

[a]This survey reports production from 192 mechanized placer and three small lode operations statewide. Many small 'recreational-assessment' projects that recover gold bullion from small-scale pick-and-shovel panning, long-tom, and suction-dredge activities are not included. We estimate that 95 operations employed 275 people in 1985, and that 80 operations employed 230 people in 1986.

Alaska's turbidity requirement for mine discharge water continued to be a source of concern for Alaska's miners. Although few miners have been prosecuted, most are not in compliance with state law and may face court action. The cumulative effect of these and other issues contributed to a loss of 390 jobs in Alaska's placer-mining industry between 1985 and 1986. The most telling decline in mining activity took place in the eastern interior region, which saw a 49-percent drop in employment from the previous year. In marked contrast is the placer-gold industry in Canada's Yukon Territory, which saw a 5-percent increase in activity from the previous year. This increase is attributed to the nearly 23 percent rise in the average price of gold from 1985 to 1986.

Exploration expenditures in 1986 ($8.9 million) were comparable to those of 1985 ($9.1 million), but development expenditures dropped 29 percent ($24.3 million in 1986 vs. $34.1 million in 1985). In contrast, exploration in British Columbia increased from $79 million in 1985 to $100 million in 1986; exploration in the Yukon Territory increased to $34 million in 1986 from $26 million in 1985.

Despite significant declines in mineral activity, several encouraging developments occurred in 1986, and there are several indications that 1987 may be a significantly better year. Important steps were taken to put the giant Red Dog zinc deposit in northwest Alaska into production. The initial construction phase of the port facility near Kivalina was completed, and contracts for design and construction were awarded to various contractors. On November 26, 1986, the Cominco Board of Directors approved the full development of the zinc-lead-silver mine, which will result in approximately $400 million in project-related construction expenditures over the next 4 yr. Initial production is scheduled for 1991.

A change in project ownership and the construction of the mine road highlighted 1986 developments at the Greens Creek gold-silver-base metals project on northern Admiralty Island in southeastern Alaska. After purchasing interests held by Noranda Mining, Inc., and Anaconda, Amselco Minerals, Inc. (a subsidiary of British Petroleum North America), owns 79 percent of the property. CSX Oil and Gas and Exalas Resources Corporation own the remaining 21 percent. Amselco, the project operator, constructed nearly 7 mi of road and prepared the site for a 6,000-ft-long adit that will be the main haulage way for the mine. Construction of the adit is scheduled to begin in the spring of 1987. This action is seen as an indication that full mine development will soon be approved by Amselco's board of directors. The company plans to spend $80 million during a 2-yr development phase and expects to ship concentrates in late 1988. The operation will be designed to produce 1,000 tons of ore per day and may create up to 225 jobs in the Juneau area.

In 1986, Inspiration Gold, Inc. (formerly Inspiration Mines, Inc.), initiated offshore mining operations in Norton Sound. Production tests were conducted using the world's largest gold dredge, the 'BIMA,' from mid-August to October; 86 people, including 44 Nome residents, were employed. Full-scale production may commence in 1987 when the 'BIMA' returns from Seattle, where it is currently undergoing technical modifications. The dredge, which is capable of processing 40,000 yd^3 of material per day, was formerly used to mine placer tin in Malaysia.

Valdez Creek Mining Company (formerly Denali Mines, Inc.) continued production and development of their properties in the Valdez Creek Mining District east of Cantwell. An estimated 136 employees contributed to the production of 30,000 oz of placer gold. Valdez Creek Mining Company was Alaska's largest gold producer for the third consecutive year.

Usibelli Mines produced 1.49 million tons of coal, over 700,000 tons of which were exported to the Korean Electric Power Company power plant in Honam, Korea. The export contract was successfully renegotiated in the fall, and increased production is planned.

Lost River Mining continued placer-tin mining on the western Seward Peninsula. Tin production from their operation was the largest in the state in nearly 40 yr.

Other continuing significant mineral developments include the Chichagof Joint Venture gold project north of Sitka, the Echo Bay Mines, Ltd. evaluation of the Alaska Juneau Gold Mine, the Quartz Hill molybdenum project near Ketchikan, the Fairbanks Exploration Company efforts in the Fairbanks Mining District, and several coal developments in the southcentral and eastern interior regions of the state.

Federal and state agencies conducted mineral-resource studies in Alaska under several cooperative programs. A 4-yr contract between the Alaska Department of Natural Resources Division of Mining and Geological and Geophysical Surveys (DMGGS) and the U.S. Bureau of Mines (USBM) calls for geologic and mineral studies in the Skagway area of southeastern Alaska. Under the agreement, DMGGS conducts geologic mapping, and the USBM conducts detailed examinations of mineral prospects and mines. Several reports related to the studies were released in 1986.

In 1985, the U.S. Congress appropriated funds to the U.S. Geological Survey (USGS) for geologic mapping and minerals evaluations of the Steese-White Mountains National Recreation area. DMGGS, under contract to the USGS, completed detailed geologic mapping, collected geochemical samples, and examined mines and prospects in the study area. A final report will be available in September 1987.

The USGS and DMGGS completed field work for a cooperative geologic and mineral-resource investigation in the Iditarod Quadrangle, which includes the historic Innoko and Iditarod Mining Districts. The USGS also issued a bibliography that summarizes data releases and folio reports for the Alaska Mineral Resource Assessment Program (AMRAP). This program spans more than a decade of Alaskan mineral research by that agency.

Several studies on Alaska's strategic-mineral resources were released by the USBM. Reports include the first documentation of an Alaskan niobium (columbium) resource near Manley Hot Springs and additional information on promising platinum resources north of Paxson and at Goodnews Bay.

In June 1986, the Board of Regents of the University of Alaska approved a one-year certificate program in Mining Technology at Tanana Valley Community College in Fairbanks. The objectives of the program are to provide entry-level training for technical and supervisory positions in exploration, mining, environmental, and consulting firms and to provide career development for those already active within the minerals community.

The Alaska Minerals Commission, which was created by the State Legislature in 1986, presented their findings to the Governor and Legislature in January 1987. The Commission is charged with making recommendations to mitigate the constraints on mineral development in Alaska.